Re: Newtown Creek Superfund Site, Kings County and Queens County, New York
Request for Information Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§9601-9675 Pertaining to Former Crane Co. Facility on the Dutch Kills Tributary of Newtown Creek

CRANE CO.'S RESPONSE TO REQUEST FOR INFORMATION

Crane Co. has performed a diligent search of its available corporate records for information responsive to the Request for Information. Upon information and belief, Crane Co. purchased the property located at 47-30 29th Street, Long Island City, New York, Borough of Queens, Block 115, Lot 239 on or about October 22, 1928 and sold the property and existing structures on or about November 3, 1959. As a result of the aforesaid, Crane Co. is not in possession of all of the necessary information to respond fully to each Request for Information and has provided responses based upon presently available information and documents. To the extent additional information becomes available in the future, Crane Co. will provide same.

Section 1.0 Company Information

1. Company Identification. Provide the following information with respect to the Company (see Definition 7).
   a. The full legal, corporate name and mailing address.

   Response:

   Crane Co.
   100 First Stamford Place
   Stamford, CT 06902

   b. The state and date of incorporation of the Company, the date of qualification to do business in the State of New York and the Company's agents for service of process in the state of incorporation and the State of New York.

   Response:

   Crane Co. is a corporation organized under the laws of the State of Delaware.

   c. The identity of the Chief Executive Officer or other presiding officer of the Company.

   Response:

   Chief Executive Officer - Eric C. Fast

100 First Stamford Place
Stamford, CT 06902

d. If the Company is a successor to any other entity by merger, asset or stock acquisition, change of name or other activity, identify each predecessor and identify the nature of the succession.

Response:

See attached long form of Certificate of Incorporation attached hereto as Exhibit "A."

e. If the Company is a subsidiary or division of another entity, identify each parent entity.

Response:

Crane Co. is a publicly traded company (NYSE: CR), which owns many operating subsidiaries that are unrelated to the property. Information about the Company can be found at craneco.com.

2. Future EPA Communications: If the addressee of this letter requests that future communications from EPA regarding the Site be sent to a particular individual or office, provide the name, address, telephone number, e-mail address and capacity of such individual or office.

Section 2.0 Company's Owner/Operator Information of the Facility and Newtown Creek

Response:

Anthony M. D'Iorio
Assistant General Counsel
Crane Co.
100 First Stamford Place
Stamford, CT 06902
(ph) (203)363-7243
(fax) (203)363-7350
ADiorio@craneco.com

With a copy to:

Timothy E. Corriston, Esq.
Connell Foley LLP
85 Livingston Avenue
Roseland, NJ 07068
(973) 535-0500
(973-535-9217 (fax)
TCorriston@connellfoley.com

3. Company's Relationship to the Facility. Identify the Company's relationship to the Facility, including:

   a. The Company's ownership and operational interest in the Facility including the corporate identity of the entity that holds or held such interest.

   Response:

   Upon information and belief, Crane Co. owned the Facility from in or about 1928 to in or about 1959.[1] Crane Co. operated a branch house at the Facility.

   b. Dates of acquisition, disposition and operation of the Facility and the identity and relationship, if any, between the Company and the transferor and transferee.

   Response:

   Upon information and belief, the property was purchased from the Degnon Realty Terminal Improvement Company on or about October 22, 1928 and sold to Harrison Products Corporation on or about November 3, 1959. There is no relationship between Crane Co. and the Degnon Realty Terminal Improvement Company or Harrison Products Corporation.

   c. Provide a copy of all deeds evidencing the acquisition or disposition of the Facility and of all leases relating to the operation of the Facility.

[1] **Crane is not presently in possession of the deeds evidencing the exact date of its acquisition and disposition of the Facility and is in the process of obtaining a title search.**

Response:

Crane is not presently in possession of the deeds evidencing the acquisition and disposition of this Facility.[2]

d. Identify any affiliates (see Definition 8) of the Company that may have owned or conducted business at the Facility (see Definition 9.a) or at any Other Newtown Creek Property (see Definition 9.b), and for any such affiliate, identify the nature of the relationship between the Company and the affiliate and the activities conducted by the affiliate at the Facility or at the Other Newtown Creek Property.

Response:

Not applicable.

4. Operations at the Facility.

a. Please identify the principal business operations conducted at the Facility by the Company and by any other individual or business organization operating at the Facility during the entire period that the Company operated at the Facility.

Response:

The Facility operated as a branch house for the wholesale distribution of Crane Co. products to its customers. Crane products included valves, fittings, piping equipment, plumbing fixtures and equipment; and heating systems, equipment and auxiliary apparatus.

b. Describe with specificity all pipe cutting and all plumbing manufacture business operations and all ancillary operations conducted at the Facility. Please identify all products manufactured by the Company at the Facility and the markets to which the Company sold such products.

Response:

Crane Co. does not presently have knowledge of the performance of pipe cutting or the manufacturer of any products at the facility.

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[2]**Crane is not presently in possession of the deeds evidencing the exact date of its acquisition and disposition of the Facility and is in the process of obtaining a title search.**

c. Describe the processes employed in manufacture and the waste streams resulting from such processes. If available to the Company, provide a copy of drawings illustrating the manufacturing processes at the Facility.

Response:

Crane Co. does not presently have knowledge of waste streams, if any, resulting from its operations at the facility.

d. Please indicate on the Facility Plan (see question 5, below, and Definition 12.a) areas at the Facility where specified operations were engaged in.

Response:

See response to (c).

e. Please provide copies of all literature in the Company's possession, including contemporary Company publications (e.g., Company annual reports, reports to shareholders, employee newsletters, Company magazines, SEC filings, and other literature or publications) which identify or discuss the Facility or operations at the Facility.

Response:

See documents produced herewith Bates labeled Crane-00001 through 01355.

5. Facility Plan and Historic Maps, Drawings. Surveys and Photographs of the Facility.
   a. Facility Plan. Please provide a Facility Plan, to the extent in the Company's possession, showing:
      i. Buildings and improvements,
      ii. Bulkheads,
      iii. Vessel loading and unloading and vehicle loading and unloading areas,
      iv. Sanitary and storm sewers,
      v. Below-ground infrastructure including tanks and pipes,
      vi. Above-ground infrastructure including tanks, spill containment facilities and pipes,
      vii. Over-water or in-water facilities (e.g., piers, docks, cranes), and
      viii. Discharge facilities including pipes discharging to Newtown Creek or NYC sewers and other discharge features.

b. Historic Photos. Maps, Surveys, Etc. Please provide such other maps, drawings, surveys (including Sanborn maps) and historic photographs (including aerial photos) in the Company's possession which provide information relevant to the layout, construction, processes, bulkheads, or vehicle activities (washing, servicing, fueling or storage), or· other operations at the Facility

Response:

Crane Co. does not presently possess a Facility Plan or any historical photographs, maps or surveys for the Facility.

6. Current and Historic Depiction of the Facility.

a. Provide a copy of schematic drawings or plans, in the Company's possession, *depicting the plumbing manufacturing processes and infrastructure employed in* business operations.

Response:

Crane Co. does not presently possess schematic drawings or plans for the Facility.

b. Please provide a copy of a survey print or other illustration showing the physical boundaries of the real property at the Facility.

Response:

Crane Co. does not presently possess a survey print or other illustration showing the physical boundaries of the real property at the Facility.

c. Please provide a copy of each "as-built" surveyor plan of the Property showing the property and its infrastructure as developed during the Company's tenure at the Facility.

Response:

Crane Co. does not presently possess a "as-built" survey or plan for the Facility

d. Provide such other drawings, maps, photographs and surveys, including, for example, Sanborn maps of the Facility, in the Company's possession showing features of the Facility either before or during the time of the Company's ownership or operation that would provide an understanding of the configuration

of and operations at the Facility.

Response:

Crane Co. does not presently possess other drawings, maps, photographs or surveys for the Facility.

7. Ownership of Newtown Creek. At the present time or at any past time, has the Company:

a. Owned any portion of Newtown Creek (see Definition 1, "Newtown Creek" includes Newtown Creek proper as well as Dutch Kills), or wetlands associated with Newtown Creek? Did the deed conveying the real property to the Company provide title to the bed of Dutch Kills?

Response:

Crane Co. does not presently have knowledge of owning any portion of the Newtown Creek or wetlands associated with the Newtown Creek. Additionally, Crane Co. is not presently in possession of any deeds pertaining to the Facility. However, see response to Request 3.c.

b. Did the Company control or assert exclusive rights to any area of Newtown Creek, for any purpose including, without limitation, berthing or loading barges, dredging or filling in Newtown Creek to maintain water depths, or for construction, maintenance or repair of any facility located in the waters or the associated wetlands or sediments of Newtown Creek, including, by way of example, bulkheads, rip rap, pipes, wharfs, piers, docking, loading or unloading facilities, cranes or other over-water facilities?

Response:

Crane Co. does not presently have information that it controlled or asserted exclusive rights to any area of Newtown Creek for any purpose.

c. If the answer to either subparagraph "a" or "b" of this paragraph is yes, please identify the areas owned or controlled by the Company, or over which the Company has or had a right to use, provide an explanation of how and from whom the Company acquired such ownership or control, provide a copy of all title documents, leases, permits or other instruments where such right was derived, show the areas on the Facility Plan, and describe all activities conducted pursuant thereto.

Response:

Not applicable.

8. Activities in Newtown Creek.
   a. Describe all activities at the Facility that were conducted by or for the Company over, on, under, or adjacent to Newtown Creek including dredging activities, construction or maintenance of bulkheads, rip rap, piers docking facilities, cranes, or other on water or under water activities? If so, provide details.

Response:

Crane Co. does not presently have information of any activities conducted over, on, under, or adjacent to Newtown Creek other than those activities previously set forth.

9. Bank Erosion, Overland Transport and Overwater Activities at or From the Facility to Newtown Creek.
   a. Description of Bulkheads and Bank Stabilization. Describe all bank stabilization systems at the Facility, including bulkheads, rip rap, vegetation or other systems, and the construction materials and mode of construction used. Identify on the Facility Plan the extent and type of shoreline stabilization at all areas of the Facility. State whether there has been or whether there is any ongoing bank erosion, and identify on the Facility Plan the location of shoreline erosion. Identify the Company's role and responsibility in building and maintaining the bulkheads and other shoreline stabilization systems. Describe the system, if any, for preventing materials upland of the bulkhead from releasing into Newtown Creek. State whether there are weep holes or gaps or openings in the bulkheads or shoreline stabilization systems and, if so, whether upland storm water, Facility materials or water from Newtown Creek passes through the bulkhead or shoreline stabilization system.

Response:

Crane Co. does not presently have a Facility Plan or information which enables it to respond to the request.

   b. Documents Relating to Bank Stabilization.
      i. Provide a complete set of construction drawings and specifications relating to bulkheads and other bank stabilization systems.
      ii. Identify all permits issued to the Company for bulkheads or other bank

stabilization systems and provide a copy of all permits and permit applications.
iii. Provide a copy of all correspondence with regulatory authorities relating
to bulkheads and bank stabilization, including, without limitation, notices of violation and their disposition.
iv. Provide a copy of all studies, reports or plans relating to the construction,
repair or maintenance of bulkheads and other shoreline stabilization systems.
v. Provide a copy of all contracts and invoices with third parties relating to repair or maintenance of bulkheads and other bank stabilization systems.

Response:

Crane Co. does not presently possess construction drawings, and specifications; correspondence with regulatory authorities relating to bulkheads and bank stabilization; studies, reports or plans related to construction, repair or maintenance of bulkheads and other shoreline stabilization systems; or contracts and invoices with third parties relating to repair or maintenance of bulkheads and other bank stabilization systems related to the Facility.

10. Outfalls into Newtown Creek. Identify and show on the Facility Plan all outfalls or discharge points from the Facility into Newtown Creek, including location of outfall, gallons per day and source of influent to Newtown Creek. Please, identify and provide a copy of all permits associated with each outfall and state whether any such outfall is or was permitted or not permitted. Provide a copy of all waste water management and drainage studies, reports or plans for all periods during the Company's ownership, occupancy and/or operation of the Facility.

Response:

See response to 9(a).

11. Construction, Excavation and Land Filling Activities.
    a. Describe all construction, excavation, and land fill activities undertaken by the Company at the Facility, including without limitation removal or installation of underground or above ground infrastructure.

Response:

Crane Co. does not presently have information regarding the construction, excavation, or land fill activities, if any, undertaken at the Facility.

b. Show on the Facility Plan where all activities described in subparagraph "a" occurred.

Response:

See response to 11(a)

c. State whether excavated materials or fill materials have ever been characterized and, if so, provide a copy of the sampling/characterization results.

Response:

Crane Co. does not presently have information whether excavated materials, if any, or fill materials, if any, were characterized.

12. Facility Storm Water Drainage.

a. Describe how storm water was managed and drained at the Facility and depict on the Facility Plan all drainage flow and drainage infrastructure including all receiving facilities for storm water. Separately explain and depict point source 'drainage through pipes or other conveyances as well as sheet flow or surface water runoff.

Response:

Crane Co. does not presently have any information pertaining as to how stormwater was managed and drained at the Facility.

b. Identify and provide a copy of all permits for drainage and provide a copy of all data from sampling discharges of storm water.

Response:

Crane Co. does not presently possess any permits pertaining to drainage at the Facility or data from sampling discharges of storm water at the Facility.

c. Provide a copy of all drainage studies, reports or plans for all periods during the Company's ownership, operation or occupancy of the Facility.

Response:

Crane Co. does not presently possess drainage studies, reports or plans pertaining to the Facility.

d. Identify on the Facility Plan elevations of the Facility relative to Newtown Creek. State whether elevations have changed during the period of the Company's ownership or operation of the Facility and describe all such changes.

Response:

Crane Co. does not presently have information pertaining to elevations of the Facility relative to Newtown Creek or whether there were any changes during the period of Crane Co.'s ownership or operation of the Facility.

13. Facility Process Water Management. Identify all waste water streams, other than sanitary waste water from rest rooms that was generated at the Facility, and identify the activities generating such waste water. Describe how process waste water was managed at the Facility and depict on the Facility Plan all process and waste water treatment and disposal facilities. Identify and provide a copy of all permits for management or drainage of process waste water. Provide a copy of all data from sampling discharges of waste water, including all data from sampling any process or business waste stream generated at the Facility. Provide a copy of all waste water management and drainage studies, reports or plans for all periods during the Company's ownership or occupancy of the Facility.

Response:

See response to 4(c).

14. Connections to New York City's sewer system.
    a. State whether the Facility was connected to the New York City sewer during the Company's ownership or operation and the date that the Facility was first connected.

Response:

Crane Co. does not presently have knowledge as to whether during its ownership or operation, the Facility was connected to the New York City sewer.

b. Identify the waste streams (sanitary, storm water, process water), if any, connected to the New York City sewer.

Response:

Crane Co. does not presently have knowledge of waste streams, if any, connected from the Facility to the New York City sewer.

c. Identify all liquid waste streams not connected to the New York City sewer and describe disposal of such waste streams.

Response:

Crane Co. presently does not have knowledge of the existence of waste streams at the facility connected or not connected to the New York City sewer.

d. State whether the Facility ever discharged any liquid wastes other than to the New York City sewer system and, if so, provide details on such discharges.

Response:

Crane Co. does not presently have knowledge of such discharges.

e. State whether the Facility participated in the New York City pretreatment program, and whether the Company was ever classified as a significant industrial user.

Response:

Crane Co. does not presently have knowledge whether or not the Facility ever participated in the New York City pretreatment program or whether the company was ever classified as a significant industrial user.

f. Provide copies of all permits and permit applications for New York City Industrial Wastewater discharge permits.

Response:

Crane Co. does not possess permits or permit applications for New York City Industrial Wastewater discharge permits for the Facility.

g. Provide copies of all notices of violations, correspondence, hearing transcripts and dispositions relating to the Company's use of the New York City sewer system.

Response:

Crane Co. is not presently aware of any notices of violations, correspondence, hearing transcripts and dispositions relating to its use of the New York City sewer system.

h. Provide copies of all surveys, reports or analyses delineating or characterizing the Company's liquid wastes.

Response:

Crane Co. does not presently possess any surveys, reports, or analyses delineating or characterizing the Company's liquid wastes, if any, at the Facility.

15. Other Newtown Creek Properties. Please identify each Other Newtown Creek Property (see Definition number 9.b for "Other Newtown Creek Property"), if any, currently or formerly owned or operated by the Company (including any affiliate (see Definition 8)), including:

a. Nature of the Company's interest in each Other Newtown Creek Property.
b. Corporate identity of the entity that holds or held such interest.
c. Address, Borough, Block and Tax Lot Identification of each Other Newtown Creek Property.
d. The principal business and each other line of business conducted at each Other Newtown Creek Property.
e. All deeds evidencing the acquisition or disposition of the Facility and all leases relating to the operation of the Facility, and provide copies of such deeds and leases.

Response:

Not applicable.

16. Storage and Combustion of Coal. Did the Company store or combust coal at the Facility during the time of its ownership or operation? If your answer is yes, please respond to the following requests for information and identify the following for all periods of time related to the responses:
    a. The purpose for which coal was present at the Facility.
    b. The annual volume and type or types of coal (Le. bituminous, anthracite, etc.) handled at the Facility.
    c. The location and manner of coal storage at the Facility
    d. The coal storage, shipment and transfer locations on the Facility Plan.

    Response:

    Crane Co. does not have any present knowledge that it stored or combusted coal at the Facility.

17. Historic Ownership and Operation of the Facility. Please identify, if known to the Company, the identity of prior owners or operators of the Facility, the nature of operations conducted, whether such prior owners or operators are in existence or, if not, whether they have been dissolved, merged or acquired by another entity, the existence of outfl:lils to Newtown Creek during such prior ownership or operation and contact information for such prior owners or operators.

    Response:

    See response to 3b.

Section 3.0 Company's Operational Activities

18. Vessels. Did the Company utilize barges, tankers or other vessels in any operations on Newtown Creek? If so, provide details of such operations. Identify whether the Company received or shipped materials from the Facility, the nature of the vessels used, and the identification of the materials transferred to or from vessels. Please describe spill prevention controls utilized by the Company and the dates that such controls were installed at the Facility and spill prevention controls utilized by the vessel owners or operators. Identify with specificity all vessel-related spills or discharges that may have occurred during the period of the Company's ownership or operation of the Facility.

Response:

Crane Co. does not presently have knowledge of utilizing any barges, tankers or other vessels in any operations on Newtown Creek.

19. Vehicles. Did the Company utilize vehicles in its operations at the Facility? If the answer is yes, please provide the following:
    a. Describe the purpose for the vehicles used in connection with operations at the Facility and identify the type and number of vehicles employed at the Facility.
    b. Identify whether the following activities were conducted: vehicle loading, vehicle unloading, vehicle maintenance, vehicle refueling, and vehicle washing. If yes, describe each such activity and identify on the Facility Plan the area where such activity occurred.

Response:

Crane Co. does not presently possess information regarding the extent to which it utilized vehicles in operations at the facility.

20. Bulk Storage Containers.
    a. If the Facilities had bulk storage of petroleum or chemicals, please show the location of each storage tank on the Facility Plan and describe each tank by volume, construction materials, spill prevention and containment systems and whether it is located above- or below- ground. Identify the materials currently and historically stored in each tank, including the types of petroleum products and additives handled at any time during the operation of the Facilities, and identify the purpose and use of such stored materials at the Facility. Provide a copy of the material safety data sheet ("MSDS") for each such material.

Response:

Crane Co. does not presently have knowledge of the use, if any, of bulk storage at its Facility.

    b. Provide all documents related to permitting, inspection, maintenance, cathodic protection, product inventory levels, spills, cleaning, and closure of such tanks and correspondence between the Company and regulatory authorities concerning the storage tanks.

Response:

Crane Co. does not presently possess documents responsive to this Request.

21. Chemicals and Other Materials Used, Produced and Generated at the Facility. Identify the compounds and chemicals received, stored and used at the Facility and the purpose that the compounds and chemical were acquired. '
    a. For receipt of materials, please identify all such materials, being specific in identifying such each item including brand name of any chemical or, if generic, the identity and description of such material, the purpose for which it was received and the process in which it was employed. Please provide copies of MSDSs for each such chemical. Identify the annual volume of receipt of such materials.
    b. Identify all products produced at the Facility or shipped from the Facility and, if applicable, provide copies of MSDSs. Identify the approximate annual volume of production at the Facility by product line.
    c. Describe in detail how and where the hazardous substances, hazardous wastes, and industrial wastes are or were generated at the Facility and how they were disposed. For each disposal location and method, state the nature and quantity or the material disposed on an annual basis.

    Response:

    Crane Co. does not presently have knowledge of the use of compounds and chemicals, if any, received, stored, or used at its Facility.

22. Oil/Water Separators. Identify all oil/water separators at the Facility during' the Company's ownership or operation including dates of installation, dates of replacement or major modification, purpose of installation and source of influent, and location of discharge. Provide a copy of each permit and permit application, influent and effluent sampling results and copies of all submissions to federal, state, city or county environmental agencies or public health agencies relating to oil/water separators.

    Response:

    Crane Co. does not presently have knowledge of the presence of any oil/water separators at the Facility.

23. Pipelines. Identify and depict on the Facility Plan each pipeline serving the Facility that is or was situated on the Facility property (either above- or below-ground) during the Company's ownership or operation and state what materials are delivered to the Facility by pipeline. State whether the Company removed any pipelines or other below ground infrastructure and, if so, the dates of such activities

Response:

Crane Co. does not have a Facility Plan.

24. Provide a copy, if applicable, of the Company SpilI Prevention Control and Countermeasure Plan and the Company's Storm Water Best Management Practices Plan for the Facility.

Response:

Crane Co. does not presently possess documents responsive to this Request.

Section 4.0 Civil Litigation, Administrative Enforcement and Criminal Matters

25. Civil Litigation. Administrative Enforcement and Criminal Matters:

a. Has the Company been a party to any litigation or involved in any other claim where an allegation by or against the Company included environmental contamination of Newtown Creek or contamination of the Facility or any other upland property within one thousand five hundred feet from Newtown Creek (whether or not such other property was owned or operated by the Company and whether the claim was based on the Company's alleged ownership, operation, transporter status, or arranger relationship to the Facility or some other basis)? If yes, identify such litigation or claim, briefly describe the allegation by or against the Company, the status of the litigation or claim, and provide a copy of the pleadings and any settlement agreement or court order.

Response:

Not to Crane Co.'s present knowledge.

b. Has the Company been identified by EPA or by any New York State or New York City agency as a party responsible for environmental contamination at or from the Facility upland property within the Newtown Creek drainage basin whether or not such other property was owned or operated by the Company (whether the claim was based on the Company's alleged ownership, operation, transporter status, or arranger relationship to the facility or some other basis)? If yes, state the Company's understanding of the basis for such notice of responsibility and provide a copy of any correspondence, orders or agreements between the Company and the governmental agency.

Response:

Not to Crane Co.'s present knowledge.

c. Has the Company or an employee, contractor or agent ever been accused of any criminal violation relating to illegal disposal or any other environmental matter in connection with any activity or operation at the Facility? If so, describe the disposition of such accusation and provide details on such accusation.

Response:

Not to Crane Co.'s present knowledge.

Section 5.0 Facility Releases, Investigations and Remediation

26. Releases at or from the Facility. Has the Company ever provided notice to or made a report to EPA or to any New York State or New York City agency concerning a spill or release involving the Facility or involving Newtown Creek? If so, describe each spill or release, the constituents of any material released, and provide copies of all communications between the Company and federal, state or local regulatory agency.

Response:

Not to Crane Co.'s present knowledge.

27. Soil Removal Actions. Has any contaminated soil ever been excavated or removed from the Facility? If yes, identify the reason for such soil action, the dates of such action, and whether the soil removal was performed under the oversight of EPA, NYSDEC or New York City Department of Environmental Protection ("NYCDEP") or any other regulatory agency and show the location of such actions on the Facility Plan. Provide copies of all reports containing a description of the soil excavation and all data and analyses and copies of any orders or agreements with any regulatory agencies that required or oversaw the work.

Response:

Not to Crane Co.'s present knowledge.

28. Groundwater Action. Has the Company treated, pumped, or taken any kind of response action on groundwater under the Facility? If yes, identify the reason for such groundwater action, the dates of such action, and whether the groundwater action was performed under the oversight of any EPA, NYSDEC or NYCDEP or any other regulatory agency and show the location of such actions on the Facility Plan. Provide copies of all reports containing a description of the groundwater action and all data and analyses, and copies of any orders or agreements with any regulatory agencies that required or oversaw the work.

Response:

Not to Crane Co.'s present knowledge.

29. Sediments. Has the Company taken any action with respect to sediments in Newtown Creek? Provide a copy of all reports, studies, correspondence or other information concerning the sediments adjacent to the Facility.

Response:

Not to Crane Co.'s present knowledge.

30. Releases into Subsurface units. Was there ever a spill, leak, release or discharge of waste, or process residue, including hazardous substances, pollutants, contaminants, industrial waste, or petroleum, into any subsurface disposal system or floor drain inside or under a building situated at the Facility? If yes, provide details of each event and any communication with any federal, state or city regulatory body.

Response:

Not to Crane Co.'s present knowledge.

31. Releases to Newtown Creek. Was there ever a spill, leak, release or discharge of a hazardous substance, industrial waste, petroleum or other waste or material into Newtown Creek from the Facility or from any equipment, structure, or activity occurring on, over, or adjacent to Newtown Creek? If yes, identify such release and provide copies of any documents regarding the nature of the material released, the dates of each such occurrence, the amount and location of such release, and whether there was any action to treat or recover any materials that were the subject of the release. Provide copies of all reports containing a description of the groundwater action and all data and analyses, and

copies of any orders or agreements with any regulatory agencies that required or oversaw the work.

Response:

Not to Crane Co.'s present knowledge.

32. Environmental Investigations at the Facility. Describe the purpose for, the date of initiation and completion, and the results of any investigations of soil, water (ground or surface), sediment, geology, hydrology, or air quality on or about the Facility. Provide copies of all data, reports, and other documents that were generated by the Company or any contractor or consultant, or by a federal or state or City regulatory agency related to the investigations that are described.

Response:

Crane Co. does not presently have knowledge of any environmental investigations at the Facility.

33. Monitoring Wells. Identify all groundwater monitoring wells located at the Facility, including locations at the Facility and the dates and purpose for which they were installed. Provide a copy of groundwater data generated from sampling of water from the monitoring wells, the purpose for collection of such data, and all reports prepared for the Company that utilized such data. Show the location of the monitoring wells on a Facility Plan.

Response:

Crane Co. does not presently have knowledge of any monitoring wells at the Facility.

34. Phase I, Phase II, EDR and Other Environmental Investigations. Please provide copies of all environmental investigation reports in the Company's possession relating to the Facility. Include, without limitation, Phase I and Phase II reports and any Environmental Data Resources study or report.

Response:

Crane Co. is not presently in possession of any documents responsive to this request.

Section 6.0 Regulatory Information

35. Regulatory Agencies with Jurisdiction over the Facility. Identify each federal, state and local authority that regulated environmental concerns relating to the ownership or operation at the Facility, the activity regulated and the applicable federal, state and local statute or regulation from which such regulatory authority was derived.

    Response:

    Crane Co. does not presently have knowledge of any federal, state or local authority that regulated environmental concerns at the Facility during its ownership or operation.

36. Notices of Environmental Violation, Deficiency or Accident. State whether the company ever provided notice to any regulatory agency, or received notice from any regulatory agency of any violation, deficiency or accident related to environmental concerns at the Facility including, without limitation, of any discharge to Newtown Creek. Provide a copy of each such notice and all further correspondence or communication relating to such notices of violation.

    Response:

    Not to Crane Co.'s present knowledge.

37. SPDES Permits.
    a. Did the Company ever have a permit for discharge of waters into Newtown Creek. If so identify and provide a copy of each such permit.

    Response:

    Crane Co. does not presently have knowledge of whether it had any permits for discharge of waters into Newtown Creek.

    b. Provide a list of all other local, state and federal environmental permits, other than permits identified pursuant to subparagraph a, above.

    Response:

    Crane Co. does not presently have knowledge of whether permits were issued for the Facility pursuant to subparagraph "a" above.

38. Ongoing Remediation. Identify and provide a copy of all cleanup agreements with federal, state or local environmental regulatory authorities to which the Company or the Facility was subject.

Response:

None to Crane Co.'s present knowledge.

Section 7.0 Persons with Responsibility for Environmental Matters; Insurance and Indemnification

39. Insurance and Indemnification:
    a. Provide a schedule of liability insurance policies that may provide coverage to the Company for environmental liability associated with Newtown Creek.
    b. Identify each entity that may have a duty to indemnify the Company for any potential environmental liability in connection with Newtown Creek, identify the circumstances giving rise to the indemnity, and provide a copy of any document that reflects a requirement to so indemnify the Company.
    c. Identify each entity that the Company has agreed to indemnify for any potential environmental liability in connection with Newtown Creek. Provide a copy of any document that reflects a requirement to indemnify by the Company.

Response:

To be provided.

40. Financial Information: Provide a copy of the Company's public financial statements for its most recent fiscal year.

Response:

To be provided.

CERTIFICATION OF ANSWERS TO REQUEST FOR INFORMATION
NEWTOWN CREEK SUPERFUND SITE

State of New York

County of New York

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document (response to EPA Request for information) and all documents submitted herewith, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete and that all documents submitted herewith are complete and authentic unless otherwise indicated. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. I am also aware that my company is under a continuing obligation to supplement its response to EPA's Request for Information if any additional information relevant to the matters addressed in EPA's Request for Information or the company's response thereto should become known or available to the company.

Anthony Pantaleoni
NAME (print or type)

Vice President, Environmental Health & Safety
TITLE (print or type)

Crane Co.
COMPANY NAME

SIGNATURE

Sworn to before me this 13th day of December, 2013.

Notary Public

MIRIAM C HAM
Notary Public, State of New York
No. 01HA6270259
Qualified in Bronx County
Commission Expires October 15, 2016

EXHIBIT A

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED ARE TRUE AND CORRECT COPIES OF ALL DOCUMENTS ON FILE OF "CRANE CO." AS RECEIVED AND FILED IN THIS OFFICE.

THE FOLLOWING DOCUMENTS HAVE BEEN CERTIFIED:

CERTIFICATE OF INCORPORATION, FILED THE THIRD DAY OF APRIL, A.D. 1985, AT 1 O'CLOCK P.M.

CERTIFICATE OF MERGER, CHANGING ITS NAME FROM "CRANE DELAWARE CO." TO "CRANE CO.", FILED THE FOURTEENTH DAY OF MAY, A.D. 1985, AT 11:16 O'CLOCK A.M.

CERTIFICATE OF AMENDMENT, FILED THE SEVENTH DAY OF MAY, A.D. 1987, AT 4:05 O'CLOCK P.M.

CERTIFICATE OF OWNERSHIP, FILED THE TWENTY-SIXTH DAY OF DECEMBER, A.D. 1991, AT 10 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF DECEMBER, A.D. 1991.

CERTIFICATE OF DESIGNATION, FILED THE TWENTIETH DAY OF AUGUST, A.D. 1996, AT 11 O'CLOCK A.M.

CERTIFICATE OF OWNERSHIP, FILED THE TWENTY-THIRD DAY OF

Jeffrey W. Bullock, Secretary of State

2058602 8100H

131386900

AUTHENTICATION: 0954532

DATE: 12-06-13

You may verify this certificate online at corp.delaware.gov/authver.shtml

Delaware

The First State

DECEMBER, A.D. 1996, AT 10 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF DECEMBER, A.D. 1996.

CERTIFICATE OF OWNERSHIP, FILED THE THIRTIETH DAY OF OCTOBER, A.D. 1997, AT 12 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF OCTOBER, A.D. 1997.

CERTIFICATE OF DESIGNATION, FILED THE SIXTH DAY OF JULY, A.D. 1998, AT 3:30 O'CLOCK P.M.

CERTIFICATE OF AMENDMENT, FILED THE TWENTY-FIFTH DAY OF MAY, A.D. 1999, AT 9 O'CLOCK A.M.

CERTIFICATE OF OWNERSHIP, FILED THE THIRTY-FIRST DAY OF JANUARY, A.D. 2003, AT 10 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID CERTIFICATES ARE THE ONLY CERTIFICATES ON RECORD OF THE AFORESAID CORPORATION, "CRANE CO.".

Jeffrey W. Bullock, Secretary of State

2058602 8100H

131386900

AUTHENTICATION: 0954532

DATE: 12-06-13

You may verify this certificate online at corp.delaware.gov/authver.shtml

$500432 [illegible]

FILED

APR 3 1985

[illegible]

CERTIFICATE OF INCORPORATION
OF
CRANE DELAWARE CO.

ARTICLE I

The name of the corporation (hereinafter called the "Corporation") is Crane Delaware Co.

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801. The name of the Corporation's registered agent at such address is The Corporation Trust Company. (New Castle County)

ARTICLE III

The purpose or purposes for which the Corporation is organized are to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of Delaware.

ARTICLE IV

The total number of shares of all classes of stock which the Corporation shall have authority to issue is 100 shares of common stock, par value $6.25 per share ("Common Stock"). The holders of Common Stock shall have the exclusive power to vote and shall have one vote in respect of each share of such stock held by them.

ARTICLE V

Board of Directors

Section 1. Number. The business and affairs of the Corporation shall be managed under the direction of the Board of Directors which shall consist of not less than three nor more than fifteen persons. The exact number of directors within the minimum and maximum limitations specified in the preceding sentence shall be fixed from time to time by the Board of Directors pursuant to a resolution adopted by a majority of the entire Board of Directors.

Section 2. Election and Terms. The directors shall be divided into three classes, as nearly equal in number as reasonably possible, with the term of office of the first class to expire at the 1986 Annual Meeting of Stockholders, the term of office of the second class to expire at the 1987 Annual Meeting of Stockholders and the term of office of the third class to expire at the 1988 Annual Meeting of Stockholders. At each Annual Meeting of Stockholders, directors elected to succeed those directors whose terms expire shall be elected for a term of office to expire at the third succeeding Annual Meeting of Stockholders after their election.

Section 3. Newly Created Directorships and Vacancies. Newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled only by a majority vote of the directors then in office, and directors so chosen shall hold office for a term expiring at the Annual Meeting of Stockholders at which the term of the class to which they have been elected expires. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

Section 4. Removal. Any director, or the entire Board of Directors, may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of at least two-thirds of the voting power of the shares then entitled to vote at an election of directors, voting together as a single class.

Section 5. Amendment, Repeal, etc. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article V.

ARTICLE VI

Stockholder Action

Any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders. Special meetings of stockholders of the Corporation may be called only by the Chairman of the Board of Directors or by the Board of Directors pursuant to a resolution approved by a majority of the

entire Board of Directors. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article VI.

ARTICLE VII

By-law Amendments

The Board of Directors shall have the power to make, alter, amend or repeal the By-laws of the Corporation by such vote as may be specified therein. The affirmative vote of the holders of two-thirds or more of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required for the stockholders to make, alter, amend or repeal the By-laws. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article VII.

ARTICLE VIII

The name and mailing address of the incorporator f the Corporation is John F. Johnston, 12th and Market Streets, Wilmington, Delaware 19801.

IN WITNESS WHEREOF, I, JOHN F. JOHNSTON, the sole incorporator of CRANE DELAWARE CO., have executed this Certificate of Incorporation this 3rd day of April, 1985, and DO HEREBY CERTIFY under the penalties of perjury that the facts stated in this Certificate of Incorporation are true.

John F. Johnston, Incorporator

8501340067

CERTIFICATE OF MERGER

OF

CRANE CO.

INTO

CRANE DELAWARE CO.

11:16 Am
FILED
MAY 14 1985

Pursuant to Section 252 of the
Delaware General Corporation Law

The undersigned corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That the name and state of incorporation of each of the constituent corporations of the merger is as follows:

Name	State of Incorporation
Crane Co.	Illinois
Crane Delaware Co.	Delaware

SECOND: That an Agreement and Plan of Merger, dated as of April 3, 1985, by and between Crane Co. and Crane Delaware Co., providing for the merger (the "Merger") of Crane Co. with and into Crane Delaware Co. has been approved, adopted, certified, executed and acknowledged by each of the

constituent corporations in accordance with the requirements of subsection (c) of Section 252 of the General Corporation Law of the State of Delaware.

THIRD: That the surviving corporation shall be Crane Delaware Co., which shall change its name in the Merger to Crane Co.

FOURTH: The Certificate of Incorporation of the surviving corporation, with such amendments as are effected by the merger, is attached to this Certificate of Merger as Exhibit A, and, as so amended, shall constitute the Certificate of Incorporation, as amended, of the surviving corporation. From and after the filing of this Certificate of Merger, and until further amended or provided by law, said Exhibit A may be certified as the Certificate of Incorporation of the surviving corporation, as amended, separate and apart from this Certificate of Merger.

FIFTH: That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation. The address of the principal place of business of the surviving corporation is 300 Park Avenue, New York, N.Y. 10022.

SIXTH: That a copy of the Agreement and Plan of Merger will be furnished by the surviving corporation, on

...st and without cost, to any stockholder of either constitutent corporation.

SEVENTH: The authorized capital stock of Crane Co. consists of 20,000,000 shares of common stock, $6.25 par value, and 600,000 shares of serial preferred stock, $5.00 par value.

EIGHTH: This Certificate of Merger is not to become effective until the issuance of a Certificate of Merger in respect of the Merger by the Secretary of State of the State of Illinois pursuant to the Business Corporation Act of the State of Illinois.

CRANE DELAWARE CO.

By _____
President

ATTEST:

By _____
Secretary

Exhibit A

CERTIFICATE OF INCORPORATION

OF

CRANE CO.

ARTICLE I

The name of the corporation (hereinafter called the "Corporation") is Crane Co.

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801. The name of the Corporation's registered agent at such address is The Corporation Trust Company.

ARTICLE III

The purpose or purposes for which the Corporation is organized are to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of Delaware.

ARTICLE IV

The total number of shares of all classes of stock which the Corporation shall have authority to issue is 40,000,000 shares of common stock, par value $6.25 per share ("Common Stock"). The holders of Common Stock shall have the exclusive power to vote and shall have one vote in respect of each share of such stock held by them.

ARTICLE V

Board of Directors

Section 1. Number. The business and affairs of the Corporation shall be managed under the direction of the Board of Directors which shall consist of not less than three nor more than fifteen persons. The exact number of directors within the minimum and maximum limitations specified in the

preceding sentence shall be fixed from time to time by the Board of Directors pursuant to a resolution adopted by a majority of the entire Board of Directors.

Section 2. Election and Terms. The directors shall be divided into three classes, as nearly equal in number as reasonably possible, with the term of office of the first class to expire at the 1986 Annual Meeting of Stockholders, the term of office of the second class to expire at the 1987 Annual Meeting of Stockholders and the term of office of the third class to expire at the 1988 Annual Meeting of Stockholders. At each Annual Meeting of Stockholders, directors elected to succeed those directors whose terms expire shall be elected for a term of office to expire at the third succeeding Annual Meeting of Stockholders after their election.

Section 3. Newly Created Directorships and Vacancies. Newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled only by a majority vote of the directors then in office, and directors so chosen shall hold office for a term expiring at the Annual Meeting of Stockholders at which the term of the class to which they have been elected expires. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

Section 4. Removal. Any director, or the entire Board of Directors, may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of at least two-thirds of the voting power of the shares then entitled to vote at an election of directors, voting together as a single class.

Section 5. Amendment, Repeal, etc. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article V.

ARTICLE VI

Stockholder Action

Any action required or permitted to be taken by the stockholders of the Corporation must be effected at

a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders. Special meetings of stockholders of the Corporation may be called only by the Chairman of the Board of Directors or by the Board of Directors pursuant to a resolution approved by a majority of the entire Board of Directors. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article VI.

ARTICLE VII

By-law Amendments

The Board of Directors shall have the power to make, alter, amend or repeal the By-laws of the Corporation by such vote as may be specified therein. The affirmative vote of the holders of two-thirds or more of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required for the stockholders to make, alter, amend or repeal the By-laws. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article VII.

ARTICLE VIII

The name and mailing address of the incorporator of the Corporation is John F. Johnston, 12th and Market Streets, Wilmington, Delaware 19801.

IN WITNESS WHEREOF, I, John F. Johnston, the sole incorporator of CRANE CO., have executed this Certificate of Incorporation this 3rd day of April, 1985, and DO HEREBY CERTIFY under the penalties of perjury that the facts stated in this Certificate of Incorporation are true.

/s/ John F. Johnston
John F. Johnston, Incorporator

877127027

FILED

MAY 7 1987

SECRETARY OF STATE

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

Crane Co. (the "Company"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That at a meeting of the Board of Directors of the Company held on February 23, 1987, resolutions were duly adopted setting forth proposed amendments of the Certificate of Incorporation of the Company, declaring said amendments to be advisable and calling a meeting of stockholders of the Company for consideration thereof. The resolutions setting forth the proposed amendments are as follows:

> RESOLVED, that the Certificate of Incorporation be amended by increasing the number of authorized shares of common stock from 40,000,000 to 80,000,000, decreasing the par value of the Company's Common Stock from $6.25 to $1.00 per share, splitting each issued common share, including shares held in treasury, into one and one-half Common Shares, par value $1.00 per share, for each share previously issued, thereby effecting a three-for-two Common Share stock split, and authorizing a new class of 5,000,000 shares of preferred stock, par value $.01; and
>
> FURTHER RESOLVED, that Article IV of the Certificate of Incorporation of the Company be amended in its entirety to read as follows:

ARTICLE IV

The total number of shares of all classes of stock which the Corporation shall have authority to issue is eighty million (80,000,000) shares of common stock, par value $1.00 per share ("Common Stock"), and five million (5,000,000) shares of preferred stock, par value $.01 per share ("Preferred Stock").

The following is a description of each of the classes of stock of the Corporation and a statement of the powers, preferences, and rights of such stock, and the qualifications and restrictions thereof.

(a) At all meetings of the shareholders of the Corporation the holders of the Common Stock shall be entitled to one vote for each share of Common Stock held by them respectively.

(b) Shares of the Preferred Stock may be issued from time to time in one or more series as may from time to time be determined by the Board of Directors of the Corporation. Each series shall be distinctly designated. Except as otherwise provided in the resolution setting forth the designations and rights of the series of Preferred Stock, all shares of any one series of Preferred Stock shall be alike in every particular, except that there may be different dates from which dividends (if any) thereon shall be cumulative, if made cumulative. The relative preferences, participating, optional and other special rights of each such series, and limitations thereof, if any, may differ from those of any and all other series at any time outstanding. The Board of Directors of the Corporation is hereby expressly granted authority to fix by resolution or resolutions adopted prior to the issuance of any shares of each particular series of the Preferred Stock, the designation, preferences, and relative, participating, optional or other rights, if any, or the qualifications, limitations or restrictions thereof, if any, of such series, including, but without limiting the generality of the foregoing, the following:

(1) the distinctive designation of, and the number of shares of the Preferred Stock which shall constitute the series, which

filing

number may be increased (except as otherwise fixed by the Board of Directors) or decreased (but not below the number of shares thereof then outstanding) from time to time by action of the Board of Directors;

(2) the rate and times at which, and the terms and conditions upon which, dividends, if any, on shares of the series may be paid, the extent of preferences or relation, if any, of such dividends to the dividends payable on any other class or classes of stock of the Corporation, or on any series of the Preferred Stock or of any other class or classes of stock of the Corporation, and whether such dividends shall be cumulative, partially cumulative or non-cumulative;

(3) the right, if any, of the holders of shares of the series to convert the same into, or exchange the same for, shares of any other class or classes of stock of the Corporation, and the terms and conditions of such conversion or exchange;

(4) whether shares of the series shall be subject to redemption and the redemption price or prices and the time or times at which, and the terms and conditions upon which, shares of the series may be redeemed;

(5) the rights, if any, of the holders of shares of the series upon voluntary or involuntary liquidation, merger, consolidation, distribution or sale of assets, dissolution or winding-up of the Corporation;

(6) the terms of the sinking fund or redemption or purchase account, if any, to be provided for shares of the series; and

(7) the voting powers, if any, of the holders of shares of the series which may, without limiting the generality of the foregoing, include the right, voting as a series by itself or together with other series of the Preferred Stock or all series of the Preferred Stock as a class, (1) to cast more or less than one vote per share on any or all matters voted upon by the shareholders, (2) to elect one or more directors of the Corporation in the event there shall have been a default in the payment of dividends on any one or more

series of the Preferred Stock or under such other circumstances and upon such conditions as the Board of Directors may fix.

(c) The relative preferences, rights and limitations of each series of Preferred Stock in relation to the preferences, rights and limitations of each other series of Preferred Stock shall, in each case, be as fixed from time to time by the Board of Directors in the resolution or resolutions adopted pursuant to authority granted in this Article IV, and the consent by class or series vote or otherwise, of the holders of the Preferred Stock of such of the series of the Preferred Stock as are from time to time outstanding shall not be required for the issuance by the Board of Directors of any other series of Preferred Stock whether the preferences and rights of such other series shall be fixed by the Board of Directors as senior to, or on a parity with, the preferences and rights of such outstanding series, or any of them; provided, however, that the Board of Directors may provide in such resolution or resolutions adopted with respect to any series of Preferred Stock that the consent of the holders of a majority (or such greater proportion as shall be therein fixed) of the outstanding shares of such series voting thereon shall be required for the issuance of any or all other series of Preferred Stock.

(d) Subject to the provisions of the preceding paragraph (c), shares of any series of Preferred Stock may be issued from time to time as the Board of Directors shall determine and on such terms and for such consideration, not less than the par value thereof, as shall be fixed by the Board of Directors.

Upon this amendment becoming effective, each of the issued Common Shares, par value $6.25 per share, of the Company, including the Common Shares held in the Company's Treasury (collectively the "Old Common Shares"), shall be reclassified without any action on the part of the holder thereof into one and one-half fully paid and non-assessable Common Shares, par value $1.00 per share, of the Company, authorized to be issued under the Certificate of Incorporation of the Company, as hereby amended (the "New Common Shares"), provided, however, that fractional shares shall not be issued and the Company shall appoint an agent to act on

behalf of the shareholders to arrange for the consolidation of fractional interests by providing forms for shareholders to elect either to sell their fraction or to buy additional fractions sufficient to make up a whole share. Each certificate representing one or more Old Common Shares issued at the time this amendment becomes effective shall automatically without the necessity of presenting the same for exchange thereafter represent the same number of New Common Shares. As soon as practicable following the date upon which this amendment becomes effective, the Company shall deliver to the persons entitled thereto certificates representing the additional whole New Common Shares to which they shall have become entitled by virtue hereof. The number of shares reserved for issuance under the Company's 1984 Stock Option Plan, outstanding stock options, convertible debentures and the Company's Shareholders Common Share Purchase Rights Plan shall be appropriately adjusted in accordance with the terms of their governing instruments.

RESOLVED, that the Certificate of Incorporation of the Company be amended by adding a new Article IX to such Certificate of Incorporation which shall read as follows:

ARTICLE IX

No director of the Corporation shall be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which the director derived an improper personal benefit. This paragraph shall not eliminate or limit the liability of a director for any act or omission occurring prior to the effective date of its adoption. If the General Corporation Law of the State of Delaware is hereafter amended to authorize corporate

action further limiting or eliminating the personal liability of directors, then the liability of a director to the Corporation shall be limited or eliminated to the fullest extent permitted by the General Corporation Law of the State of Delaware, as so amended from time to time. No repeal or modification of this Article IX, directly or by adoption of an inconsistent provision of this Certificate of Incorporation, by the stockholders of the Corporation shall be effective with respect to any cause of action, suit, claim or other matter, that, but for this Article IX, would accrue or arise prior to such repeal or modification.

SECOND: That thereafter, at a meeting of the stockholders of the Company duly called and held, the necessary number of shares as required by statute were voted in favor of the foregoing amendments.

THIRD: That the foregoing amendments were duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, Crane Co. has caused this Certificate to be signed by Paul R. Hundt, its Vice President and attested by Frances E. Edwards, its Assistant Secretary, this 30th day of April, 1987.

Crane Co.

By: _____
Vice President

ATTEST:

_____
Assistant Secretary

6807

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 10:00 AM 12/26/1991
721360100 - 2058602

CERTIFICATE OF OWNERSHIP AND MERGER

MERGING

LEAR ROMEC CORP., a California Corporation

INTO

CRANE CO., a Delaware Corporation

* * * *

CRANE CO., a corporation organized and existing under the laws of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That this corporation was incorporated on the 3rd day of April, 1985, pursuant to the Corporation Law of the State of Delaware.

SECOND: That this corporation owns all of the outstanding shares of the stock of LEAR ROMEC CORP., a corporation incorporated on the 10th day of September, 1987, pursuant to the General Corporation Law of the State of California.

THIRD: That this corporation, by the following resolutions of its Board of Directors, duly adopted at a meeting held on the 18th day of November, 1991, determined to and did merge into itself said LEAR ROMEC CORP.

> RESOLVED, that CRANE CO. merge, and it hereby does merge into itself LEAR ROMEC CORP., a California corporation and a wholly-owned subsidiary of CRANE CO., and CRANE CO. assumes all of the obligations of LEAR ROMEC CORP.;
>
> FURTHER RESOLVED, that said merger shall be effective on December 31, 1991;
>
> FURTHER RESOLVED, that the proper officers of this corporation be and they hereby are directed to make and execute a Certificate of Ownership and Merger setting forth a copy of the resolutions to merge said LEAR ROMEC CORP. and assume its liabilities and obligations, and the date of adoption thereof, and to cause the same to be filed with the Secretary of State and a certified copy recorded in the office of the Recorder of Deeds of New Castle County and to do all acts and things whatsoever, whether within or without the State of Delaware, which may be in anywise necessary or proper to effect said merger.

FOURTH: Anything herein or elsewhere to the contrary notwithstanding, this merger may be amended or terminated and abandoned by the Board of Directors of CRANE CO. at any time prior to the effective date of the merger.

IN WITNESS WHEREOF, said CRANE CO. has caused this Certificate to be signed by R. S. Evans, Chairman of the Board of Directors, and attested by Paul R. Rundt, its Secretary, this 20th day of December, 1991.

CRANE CO.

By _____
Chairman of The Board
of Directors

ATTEST:

By _____
Secretary

5107j

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY "CRANE CO." IS DULY INCORPORATED UNDER THE LAWS OF THE STATE OF DELAWARE AND IS IN GOOD STANDING AND HAS A LEGAL CORPORATE EXISTENCE SO FAR AS THE RECORDS OF THIS OFFICE SHOW, AS OF THE SIXTH DAY OF DECEMBER, A.D. 2013.

AND I DO HEREBY FURTHER CERTIFY THAT THE ANNUAL REPORTS HAVE BEEN FILED TO DATE.

AND I DO HEREBY FURTHER CERTIFY THAT THE FRANCHISE TAXES HAVE BEEN PAID TO DATE.

Jeffrey W. Bullock, Secretary of State

2058602 8300

AUTHENTICATION: 0954537

131388140

DATE: 12-06-13

You may verify this certificate online at corp.delaware.gov/authver.shtml

Delaware

The First State

I, JEFFREY W. BULLOCK, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED ARE TRUE AND CORRECT COPIES OF ALL DOCUMENTS ON FILE OF "CRANE CO." AS RECEIVED AND FILED IN THIS OFFICE.

THE FOLLOWING DOCUMENTS HAVE BEEN CERTIFIED:

CERTIFICATE OF INCORPORATION, FILED THE THIRD DAY OF APRIL, A.D. 1985, AT 1 O'CLOCK P.M.

CERTIFICATE OF MERGER, CHANGING ITS NAME FROM "CRANE DELAWARE CO." TO "CRANE CO.", FILED THE FOURTEENTH DAY OF MAY, A.D. 1985, AT 11:16 O'CLOCK A.M.

CERTIFICATE OF AMENDMENT, FILED THE SEVENTH DAY OF MAY, A.D. 1987, AT 4:05 O'CLOCK P.M.

CERTIFICATE OF OWNERSHIP, FILED THE TWENTY-SIXTH DAY OF DECEMBER, A.D. 1991, AT 10 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF DECEMBER, A.D. 1991.

CERTIFICATE OF DESIGNATION, FILED THE TWENTIETH DAY OF AUGUST, A.D. 1996, AT 11 O'CLOCK A.M.

CERTIFICATE OF OWNERSHIP, FILED THE TWENTY-THIRD DAY OF

Jeffrey W. Bullock, Secretary of State

2058602 8100H

131386900

AUTHENTICATION: 0954532

DATE: 12-06-13

You may verify this certificate online at corp.delaware.gov/authver.shtml

Delaware

The First State

DECEMBER, A.D. 1996, AT 10 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF DECEMBER, A.D. 1996.

CERTIFICATE OF OWNERSHIP, FILED THE THIRTIETH DAY OF OCTOBER, A.D. 1997, AT 12 O'CLOCK P.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE EFFECTIVE DATE OF THE AFORESAID CERTIFICATE OF OWNERSHIP IS THE THIRTY-FIRST DAY OF OCTOBER, A.D. 1997.

CERTIFICATE OF DESIGNATION, FILED THE SIXTH DAY OF JULY, A.D. 1998, AT 3:30 O'CLOCK P.M.

CERTIFICATE OF AMENDMENT, FILED THE TWENTY-FIFTH DAY OF MAY, A.D. 1999, AT 9 O'CLOCK A.M.

CERTIFICATE OF OWNERSHIP, FILED THE THIRTY-FIRST DAY OF JANUARY, A.D. 2003, AT 10 O'CLOCK A.M.

AND I DO HEREBY FURTHER CERTIFY THAT THE AFORESAID CERTIFICATES ARE THE ONLY CERTIFICATES ON RECORD OF THE AFORESAID CORPORATION, "CRANE CO.".

Jeffrey W. Bullock, Secretary of State

2058602 8100H

131386900

AUTHENTICATION: 0954532

DATE: 12-06-13

You may verify this certificate online at corp.delaware.gov/authver.shtml

FILED

APR 3 1985

CERTIFICATE OF INCORPORATION
OF
CRANE DELAWARE CO.

ARTICLE I

The name of the corporation (hereinafter called the "Corporation") is Crane Delaware Co.

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801. The name of the Corporation's registered agent at such address is The Corporation Trust Company. (New Castle County)

ARTICLE III

The purpose or purposes for which the Corporation is organized are to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of Delaware.

ARTICLE IV

The total number of shares of all classes of stock which the Corporation shall have authority to issue is 100 shares of common stock, par value $6.25 per share ("Common Stock"). The holders of Common Stock shall have the exclusive power to vote and shall have one vote in respect of each share of such stock held by them.

ARTICLE V

Board of Directors

Section 1. Number. The business and affairs of the Corporation shall be managed under the direction of the Board of Directors which shall consist of not less than three nor more than fifteen persons. The exact number of directors within the minimum and maximum limitations specified in the preceding sentence shall be fixed from time to time by the Board of Directors pursuant to a resolution adopted by a majority of the entire Board of Directors.

Section 2. Election and Terms. The directors shall be divided into three classes, as nearly equal in number as reasonably possible, with the term of office of the first class to expire at the 1986 Annual Meeting of Stockholders, the term of office of the second class to expire at the 1987 Annual Meeting of Stockholders and the term of office of the third class to expire at the 1988 Annual Meeting of Stockholders. At each Annual Meeting of Stockholders, directors elected to succeed those directors whose terms expire shall be elected for a term of office to expire at the third succeeding Annual Meeting of Stockholders after their election.

Section 3. Newly Created Directorships and Vacancies. Newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled only by a majority vote of the directors then in office, and directors so chosen shall hold office for a term expiring at the Annual Meeting of Stockholders at which the term of the class to which they have been elected expires. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

Section 4. Removal. Any director, or the entire Board of Directors, may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of at least two-thirds of the voting power of the shares then entitled to vote at an election of directors, voting together as a single class.

Section 5. Amendment, Repeal, etc. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article V.

ARTICLE VI

Stockholder Action

Any action required or permitted to be taken by the stockholders of the Corporation must be effected at a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders. Special meetings of stockholders of the Corporation may be called only by the Chairman of the Board of Directors or by the Board of Directors pursuant to a resolution approved by a majority of the

entire Board of Directors. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article VI.

ARTICLE VII

By-law Amendments

The Board of Directors shall have the power to make, alter, amend or repeal the By-laws of the Corporation by such vote as may be specified therein. The affirmative vote of the holders of two-thirds or more of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required for the stockholders to make, alter, amend or repeal the By-laws. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article VII.

ARTICLE VIII

The name and mailing address of the incorporator f the Corporation is John F. Johnston, 12th and Market Streets, Wilmington, Delaware 19801.

IN WITNESS WHEREOF, I, JOHN F. JOHNSTON, the sole incorporator of CRANE DELAWARE CO., have executed this Certificate of Incorporation this 3rd day of April, 1985, and DO HEREBY CERTIFY under the penalties of perjury that the facts stated in this Certificate of Incorporation are true.

John F. Johnston, Incorporator

8501340067

CERTIFICATE OF MERGER

OF

CRANE CO.

INTO

CRANE DELAWARE CO.

11:16 Am

FILED

MAY 14 1985

Pursuant to Section 252 of the
Delaware General Corporation Law

The undersigned corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That the name and state of incorporation of each of the constituent corporations of the merger is as follows:

Name	State of Incorporation
Crane Co.	Illinois
Crane Delaware Co.	Delaware

SECOND: That an Agreement and Plan of Merger, dated as of April 3, 1985, by and between Crane Co. and Crane Delaware Co., providing for the merger (the "Merger") of Crane Co. with and into Crane Delaware Co. has been approved, adopted, certified, executed and acknowledged by each of the

constituent corporations in accordance with the requirements of subsection (c) of Section 252 of the General Corporation Law of the State of Delaware.

THIRD: That the surviving corporation shall be Crane Delaware Co., which shall change its name in the Merger to Crane Co.

FOURTH: The Certificate of Incorporation of the surviving corporation, with such amendments as are effected by the merger, is attached to this Certificate of Merger as Exhibit A, and, as so amended, shall constitute the Certificate of Incorporation, as amended, of the surviving corporation. From and after the filing of this Certificate of Merger, and until further amended or provided by law, said Exhibit A may be certified as the Certificate of Incorporation of the surviving corporation, as amended, separate and apart from this Certificate of Merger.

FIFTH: That the executed Agreement and Plan of Merger is on file at the principal place of business of the surviving corporation. The address of the principal place of business of the surviving corporation is 300 Park Avenue, New York, N.Y. 10022.

SIXTH: That a copy of the Agreement and Plan of Merger will be furnished by the surviving corporation, on

...st and without cost, to any stockholder of either constitutent corporation.

SEVENTH: The authorized capital stock of Crane Co. consists of 20,000,000 shares of common stock, $6.25 par value, and 600,000 shares of serial preferred stock, $5.00 par value.

EIGHTH: This Certificate of Merger is not to become effective until the issuance of a Certificate of Merger in respect of the Merger by the Secretary of State of the State of Illinois pursuant to the Business Corporation Act of the State of Illinois.

CRANE DELAWARE CO.

By _____
President

ATTEST:

By _____
Secretary

Exhibit A

CERTIFICATE OF INCORPORATION

OF

CRANE CO.

ARTICLE I

The name of the corporation (hereinafter called the "Corporation") is Crane Co.

ARTICLE II

The address of the Corporation's registered office in the State of Delaware is Corporation Trust Center, 1209 Orange Street, Wilmington, Delaware 19801. The name of the Corporation's registered agent at such address is The Corporation Trust Company.

ARTICLE III

The purpose or purposes for which the Corporation is organized are to engage in any lawful act or activity for which a corporation may be organized under the General Corporation Law of Delaware.

ARTICLE IV

The total number of shares of all classes of stock which the Corporation shall have authority to issue is 40,000,000 shares of common stock, par value $6.25 per share ("Common Stock"). The holders of Common Stock shall have the exclusive power to vote and shall have one vote in respect of each share of such stock held by them.

ARTICLE V

Board of Directors

Section 1. Number. The business and affairs of the Corporation shall be managed under the direction of the Board of Directors which shall consist of not less than three nor more than fifteen persons. The exact number of directors within the minimum and maximum limitations specified in the

preceding sentence shall be fixed from time to time by the Board of Directors pursuant to a resolution adopted by a majority of the entire Board of Directors.

Section 2. Election and Terms. The directors shall be divided into three classes, as nearly equal in number as reasonably possible, with the term of office of the first class to expire at the 1986 Annual Meeting of Stockholders, the term of office of the second class to expire at the 1987 Annual Meeting of Stockholders and the term of office of the third class to expire at the 1988 Annual Meeting of Stockholders. At each Annual Meeting of Stockholders, directors elected to succeed those directors whose terms expire shall be elected for a term of office to expire at the third succeeding Annual Meeting of Stockholders after their election.

Section 3. Newly Created Directorships and Vacancies. Newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the Board of Directors resulting from death, resignation, retirement, disqualification, removal from office or other cause shall be filled only by a majority vote of the directors then in office, and directors so chosen shall hold office for a term expiring at the Annual Meeting of Stockholders at which the term of the class to which they have been elected expires. No decrease in the number of directors constituting the Board of Directors shall shorten the term of any incumbent director.

Section 4. Removal. Any director, or the entire Board of Directors, may be removed from office at any time, but only for cause and only by the affirmative vote of the holders of at least two-thirds of the voting power of the shares then entitled to vote at an election of directors, voting together as a single class.

Section 5. Amendment, Repeal, etc. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article V.

ARTICLE VI

Stockholder Action

Any action required or permitted to be taken by the stockholders of the Corporation must be effected at

a duly called annual or special meeting of stockholders of the Corporation and may not be effected by any consent in writing by such stockholders. Special meetings of stockholders of the Corporation may be called only by the Chairman of the Board of Directors or by the Board of Directors pursuant to a resolution approved by a majority of the entire Board of Directors. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article VI.

ARTICLE VII

By-law Amendments

The Board of Directors shall have the power to make, alter, amend or repeal the By-laws of the Corporation by such vote as may be specified therein. The affirmative vote of the holders of two-thirds or more of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required for the stockholders to make, alter, amend or repeal the By-laws. Notwithstanding anything contained in this Certificate of Incorporation to the contrary, the affirmative vote of the holders of at least two-thirds of the voting power of the then outstanding shares entitled to vote thereon pursuant to Article IV, voting together as a single class, shall be required to amend or repeal, or adopt any provisions inconsistent with, this Article VII.

ARTICLE VIII

The name and mailing address of the incorporator of the Corporation is John F. Johnston, 12th and Market Streets, Wilmington, Delaware 19801.

IN WITNESS WHEREOF, I, John F. Johnston, the sole incorporator of CRANE CO., have executed this Certificate of Incorporation this 3rd day of April, 1985, and DO HEREBY CERTIFY under the penalties of perjury that the facts stated in this Certificate of Incorporation are true.

/s/ John F. Johnston
John F. Johnston, Incorporator

877127027

FILED

MAY 7 1987

SECRETARY OF STATE

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

Crane Co. (the "Company"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That at a meeting of the Board of Directors of the Company held on February 23, 1987, resolutions were duly adopted setting forth proposed amendments of the Certificate of Incorporation of the Company, declaring said amendments to be advisable and calling a meeting of stockholders of the Company for consideration thereof. The resolutions setting forth the proposed amendments are as follows:

> RESOLVED, that the Certificate of Incorporation be amended by increasing the number of authorized shares of common stock from 40,000,000 to 80,000,000, decreasing the par value of the Company's Common Stock from $6.25 to $1.00 per share, splitting each issued common share, including shares held in treasury, into one and one-half Common Shares, par value $1.00 per share, for each share previously issued, thereby effecting a three-for-two Common Share stock split, and authorizing a new class of 5,000,000 shares of preferred stock, par value $.01; and
>
> FURTHER RESOLVED, that Article IV of the Certificate of Incorporation of the Company be amended in its entirety to read as follows:

ARTICLE IV

The total number of shares of all classes of stock which the Corporation shall have authority to issue is eighty million (80,000,000) shares of common stock, par value $1.00 per share ("Common Stock"), and five million (5,000,000) shares of preferred stock, par value $.01 per share ("Preferred Stock").

The following is a description of each of the classes of stock of the Corporation and a statement of the powers, preferences, and rights of such stock, and the qualifications and restrictions thereof.

(a) At all meetings of the shareholders of the Corporation the holders of the Common Stock shall be entitled to one vote for each share of Common Stock held by them respectively.

(b) Shares of the Preferred Stock may be issued from time to time in one or more series as may from time to time be determined by the Board of Directors of the Corporation. Each series shall be distinctly designated. Except as otherwise provided in the resolution setting forth the designations and rights of the series of Preferred Stock, all shares of any one series of Preferred Stock shall be alike in every particular, except that there may be different dates from which dividends (if any) thereon shall be cumulative, if made cumulative. The relative preferences, participating, optional and other special rights of each such series, and limitations thereof, if any, may differ from those of any and all other series at any time outstanding. The Board of Directors of the Corporation is hereby expressly granted authority to fix by resolution or resolutions adopted prior to the issuance of any shares of each particular series of the Preferred Stock, the designation, preferences, and relative, participating, optional or other rights, if any, or the qualifications, limitations or restrictions thereof, if any, of such series, including, but without limiting the generality of the foregoing, the following:

(1) the distinctive designation of, and the number of shares of the Preferred Stock which shall constitute the series, which

filing

number may be increased (except as otherwise fixed by the Board of Directors) or decreased (but not below the number of shares thereof then outstanding) from time to time by action of the Board of Directors;

(2) the rate and times at which, and the terms and conditions upon which, dividends, if any, on shares of the series may be paid, the extent of preferences or relation, if any, of such dividends to the dividends payable on any other class or classes of stock of the Corporation, or on any series of the Preferred Stock or of any other class or classes of stock of the Corporation, and whether such dividends shall be cumulative, partially cumulative or non-cumulative;

(3) the right, if any, of the holders of shares of the series to convert the same into, or exchange the same for, shares of any other class or classes of stock of the Corporation, and the terms and conditions of such conversion or exchange;

(4) whether shares of the series shall be subject to redemption and the redemption price or prices and the time or times at which, and the terms and conditions upon which, shares of the series may be redeemed;

(5) the rights, if any, of the holders of shares of the series upon voluntary or involuntary liquidation, merger, consolidation, distribution or sale of assets, dissolution or winding-up of the Corporation;

(6) the terms of the sinking fund or redemption or purchase account, if any, to be provided for shares of the series; and

(7) the voting powers, if any, of the holders of shares of the series which may, without limiting the generality of the foregoing, include the right, voting as a series by itself or together with other series of the Preferred Stock or all series of the Preferred Stock as a class, (1) to cast more or less than one vote per share on any or all matters voted upon by the shareholders, (2) to elect one or more directors of the Corporation in the event there shall have been a default in the payment of dividends on any one or more

series of the Preferred Stock or under such other circumstances and upon such conditions as the Board of Directors may fix.

(c) The relative preferences, rights and limitations of each series of Preferred Stock in relation to the preferences, rights and limitations of each other series of Preferred Stock shall, in each case, be as fixed from time to time by the Board of Directors in the resolution or resolutions adopted pursuant to authority granted in this Article IV, and the consent by class or series vote or otherwise, of the holders of the Preferred Stock of such of the series of the Preferred Stock as are from time to time outstanding shall not be required for the issuance by the Board of Directors of any other series of Preferred Stock whether the preferences and rights of such other series shall be fixed by the Board of Directors as senior to, or on a parity with, the preferences and rights of such outstanding series, or any of them; provided, however, that the Board of Directors may provide in such resolution or resolutions adopted with respect to any series of Preferred Stock that the consent of the holders of a majority (or such greater proportion as shall be therein fixed) of the outstanding shares of such series voting thereon shall be required for the issuance of any or all other series of Preferred Stock.

(d) Subject to the provisions of the preceding paragraph (c), shares of any series of Preferred Stock may be issued from time to time as the Board of Directors shall determine and on such terms and for such consideration, not less than the par value thereof, as shall be fixed by the Board of Directors.

Upon this amendment becoming effective, each of the issued Common Shares, par value $6.25 per share, of the Company, including the Common Shares held in the Company's Treasury (collectively the "Old Common Shares"), shall be reclassified without any action on the part of the holder thereof into one and one-half fully paid and non-assessable Common Shares, par value $1.00 per share, of the Company, authorized to be issued under the Certificate of Incorporation of the Company, as hereby amended (the "New Common Shares"), provided, however, that fractional shares shall not be issued and the Company shall appoint an agent to act on

behalf of the shareholders to arrange for the consolidation of fractional interests by providing forms for shareholders to elect either to sell their fraction or to buy additional fractions sufficient to make up a whole share. Each certificate representing one or more Old Common Shares issued at the time this amendment becomes effective shall automatically without the necessity of presenting the same for exchange thereafter represent the same number of New Common Shares. As soon as practicable following the date upon which this amendment becomes effective, the Company shall deliver to the persons entitled thereto certificates representing the additional whole New Common Shares to which they shall have become entitled by virtue hereof. The number of shares reserved for issuance under the Company's 1984 Stock Option Plan, outstanding stock options, convertible debentures and the Company's Shareholders Common Share Purchase Rights Plan shall be appropriately adjusted in accordance with the terms of their governing instruments.

RESOLVED, that the Certificate of Incorporation of the Company be amended by adding a new Article IX to such Certificate of Incorporation which shall read as follows:

ARTICLE IX

No director of the Corporation shall be liable to the Corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (i) for any breach of the director's duty of loyalty to the Corporation or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the Delaware General Corporation Law, or (iv) for any transaction from which the director derived an improper personal benefit. This paragraph shall not eliminate or limit the liability of a director for any act or omission occurring prior to the effective date of its adoption. If the General Corporation Law of the State of Delaware is hereafter amended to authorize corporate

action further limiting or eliminating the personal liability of directors, then the liability of a director to the Corporation shall be limited or eliminated to the fullest extent permitted by the General Corporation Law of the State of Delaware, as so amended from time to time. No repeal or modification of this Article IX, directly or by adoption of an inconsistent provision of this Certificate of Incorporation, by the stockholders of the Corporation shall be effective with respect to any cause of action, suit, claim or other matter, that, but for this Article IX, would accrue or arise prior to such repeal or modification.

SECOND: That thereafter, at a meeting of the stockholders of the Company duly called and held, the necessary number of shares as required by statute were voted in favor of the foregoing amendments.

THIRD: That the foregoing amendments were duly adopted in accordance with the provisions of Section 242 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, Crane Co. has caused this Certificate to be signed by Paul R. Hundt, its Vice President and attested by Frances E. Edwards, its Assistant Secretary, this 30th day of April, 1987.

Crane Co.

By: _____
Vice President

ATTEST:

_____
Assistant Secretary

BHC07

STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 10:00 AM 12/26/1991
721360100 - 2058602

CERTIFICATE OF OWNERSHIP AND MERGER

MERGING

LEAR ROMEC CORP., a California Corporation

INTO

CRANE CO., a Delaware Corporation

* * * *

CRANE CO., a corporation organized and existing under the laws of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: That this corporation was incorporated on the 3rd day of April, 1985, pursuant to the Corporation Law of the State of Delaware.

SECOND: That this corporation owns all of the outstanding shares of the stock of LEAR ROMEC CORP., a corporation incorporated on the 10th day of September, 1987, pursuant to the General Corporation Law of the State of California.

THIRD: That this corporation, by the following resolutions of its Board of Directors, duly adopted at a meeting held on the 18th day of November, 1991, determined to and did merge into itself said LEAR ROMEC CORP.

> RESOLVED, that CRANE CO. merge, and it hereby does merge into itself LEAR ROMEC CORP., a California corporation and a wholly-owned subsidiary of CRANE CO., and CRANE CO. assumes all of the obligations of LEAR ROMEC CORP.;
>
> FURTHER RESOLVED, that said merger shall be effective on December 31, 1991;
>
> FURTHER RESOLVED, that the proper officers of this corporation be and they hereby are directed to make and execute a Certificate of Ownership and Merger setting forth a copy of the resolutions to merge said LEAR ROMEC CORP. and assume its liabilities and obligations, and the date of adoption thereof, and to cause the same to be filed with the Secretary of State and a certified copy recorded in the office of the Recorder of Deeds of New Castle County and to do all acts and things whatsoever, whether within or without the State of Delaware, which may be in anywise necessary or proper to effect said merger.

FOURTH: Anything herein or elsewhere to the contrary notwithstanding, this merger may be amended or terminated and abandoned by the Board of Directors of CRANE CO. at any time prior to the effective date of the merger.

IN WITNESS WHEREOF, said CRANE CO. has caused this Certificate to be signed by R. S. Evans, Chairman of the Board of Directors, and attested by Paul R. Hundt, its Secretary, this 20th day of December, 1991.

CRANE CO.

By _____
Chairman of The Board
of Directors

ATTEST:

By _____
Secretary

5107j

BATES LABELED

CRANE-00001-00656

1855 SEVENTY-FIFTH ANNIVERSARY 1930

FOUNDED BY R. T. CRANE 1855

CRANE CO.

CRANE BUILDING
836 S. MICHIGAN AVE.

CHICAGO

1929

CRANE00001

OFFICERS OF CRANE CO.

R. T. Crane, Jr.	*President*
J. B. Berryman	*First Vice President*
C. A. G. Wayman	*Vice President, Manufacturing Division*
A. F. Gartz, Jr.	*Vice President, Manufacturing Division*
G. H. Periolat	*Assistant Vice President, Manufacturing Division*
C. D. Little	*Vice President, Sales Division*
H. W. Seymour	*Vice President, Sales Division*
C. R. Crane II	*Vice President, Sales Division*
W. J. Clark	*Vice President, Real Property*
P. T. Kelly	*Vice President, Finance Division*
R. B. Stiles	*Vice President, Branch House Division*
D. G. Park	*Vice President, Purchasing Division*
L. B. Peeples	*Vice President, Pacific Coast Zone*
W. Evensen	*Treasurer*
J. H. Steiner	*Assistant Treasurer*
R. O. Samuelson	*Assistant Treasurer*
H. P. Bishop	*Secretary*
J. S. Bell	*Assistant Secretary*
J. K. Prentice	*Assistant Secretary*
J. A. Brough	*Assistant Secretary*

DIRECTORS OF CRANE CO.

YEARS OF SERVICE INDICATED

J. B. Berryman, 43	W. Evensen, 32	J. A. Murphy, 44
W. J. Clark, 18	A. F. Gartz, Jr., 14	D. G. Park, 40
C. R. Crane II, 21	V. E. Flodin, 27	H. W. Seymour, 25
H. P. Crane	P. T. Kelly, 38	R. B. Stiles, 38
R. T. Crane, Jr., 33	C. D. Little, 35	C. A. G. Wayman, 47

AVERAGE YEARS OF SERVICE, 32

TO THE STOCKHOLDERS OF CRANE CO.

Your Directors submit herewith the Consolidated Balance Sheet of the Crane Companies for the year ending December 31, 1929. The consolidated Statement reflects the standing of the following corporations and their subsidiaries:

Crane Co.	Illinois
Crane Export Corporation	New York
Crane Enamelware Co.	Tennessee
Trenton Potteries Co.	New Jersey
Crane, Limited	Canada
Landon Radiator Co.	New York

The assets and liabilities of Crane Co. of Minnesota and Crane-O'Fallon Co. of Colorado are not included, but our interest therein is shown under the heading "Investments in other Companies."

The year 1929 was marked by a sharp recession in residential building which naturally lessened the demand for plumbing and heating material, but the shrinkage in that line was more than compensated by an increased demand from industrials, and we were able to operate the Chicago and Bridgeport plants well up to capacity for the greater part of the year.

The net earnings were much larger than in 1928, and after paying 7% on both Common and Preferred stocks, we were able to add $7,048,223 to the Surplus A/c, which now stands at $27,491,499, giving a book value of $36.41 per share to the Common stock, as compared with $33.71 at the end of 1928.

While we have had a very excellent year, the result has been an increase in capital assets rather than cash, for capital expenditures to increase avenues of distribution, or enlarge manufacturing facilities, can be financed only by the issue of new securities, or conservation of cash, and we have considered the latter course the better of the two.

The current assets (Cash, Government Securities, Accounts Receivable and Inventories) exceed the current and accrued liabilities by $50,443,142, a ratio of 6 4/5 to 1, compared with a ratio of 6 1/6 to 1 in 1928.

We closed the year with no liabilities to banks for borrowed money, nor bonded indebtedness.

EXPANSION

During 1929 we expended for increased manufacturing or distribution facilities, the following:

Land	$ 362,000
Buildings	2,050,000
Equipment and Machinery	3,125,000
New Branches and Plants	847,000
	$6,384,000

This amount was distributed as follows: $5,326,000 in the United States; $583,000 in Canada; $57,000 in England; $418,000 in France.

New distributing branches were opened at:

Anderson, Ind.
Aberdeen, Wash.
Binghamton, N. Y.
Charlotte, N. C.
Corpus Christi, Tex.
Detroit, Mich.—
2 outlying warehouses
Flint, Mich.
Harrisburg, Pa.
Jackson, Mich.
Muncie, Ind.
Milwaukee, Wis.
Nashville, Tenn.
New Haven, Conn.
New York—
Bronx Warehouse
Norristown, Pa.
Pueblo, Colo.
Stamford, Conn.
White Plains, N. Y.
Worcester, Mass.
Yakima, Wash.

MANUFACTURING

DOMESTIC

The demand for steel forgings is growing steadily and to meet it we are erecting at the Chicago Works a new Forge Shop 70 by 632 ft. This will relieve the Pipe Fabricating Shop which is now overcrowded. At Bridgeport we erected a new Steel framed building 120 by 500 ft., for the machining of radiators and boilers, and have remodeled the existing foundry space to care for the same line.

At Chattanooga, foundry No. 1 has been remodeled for the more economical production of small ware, and foundry No. 2 has been given over to other uses. This plant is now showing excellent costs.

At Trenton, a large addition was made to the Mutual plant of the Trenton Potteries Co., and steps have been taken to increase the Kiln capacity.

Our established policy of maintaining all plants on a highly efficient plane has been adhered to, and at the Chicago, Bridgeport, Chattanooga, Trenton and North Tonawanda plants we expended $2,162,000 for new machinery and equipment, and wrote off $1,256,000 for depreciation.

FOREIGN

The valve and fitting section of our new plant in Paris, France, is practically complete and the first iron was poured in December. A great deal of work has to be done yet, however, before the plant is put upon a production basis.

Our plant at Ipswich, England, has outgrown its facilities, and we are now increasing the capacity and adding buildings and machinery for the production of radiation.

ORGANIZATION

It gratifies me to state that the divisions of production and distribution were never better organized than at this time, and we are in an excellent position to meet any demands which may be made upon us.

R. T. CRANE, Jr.
President.

Chicago, Illinois, February 20, 1930.

CRANE CO.

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1929

ASSETS

CURRENT ASSETS:			
Cash		$ 5,789,177.04	
U. S. Government Securities		3,481,671.82	
Accounts and Notes Receivable	$15,551,777.29		
Less: Reserve for Doubtful Accounts	859,629.07		
		14,692,148.22	
Inventories of Raw Material, Work in Process, Finished Goods and Supplies valued at cost or market, whichever is lower		35,167,431.28	
			$ 59,130,428.36
FIXED ASSETS:			
Land and Land Improvements		$ 9,228,340.64	
Buildings	$35,910,311.13		
Less: Reserve for Depreciation	8,033,110.13		
		27,877,201.00	
Machinery, Equipment, etc.	$34,648,466.35		
Less: Reserve for Depreciation	17,492,773.62		
		17,155,692.73	
			54,261,234.37
INVESTMENTS IN OTHER COMPANIES			1,864,709.37
SUBSCRIPTIONS TO CAPITAL STOCK ON DEFERRED PAYMENT PLAN			662,487.00
			$115,918,859.10

LIABILITIES

CURRENT AND ACCRUED LIABILITIES:			
Accounts Payable, etc		$ 5,631,882.12	
Accrued General and Federal Taxes		3,055,404.62	
			$ 8,687,286.74
RESERVE FOR INVENTORY AND CONTINGENCIES			4,448,769.34
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES			279,703.58
CAPITAL STOCK:			
Preferred 7% Cumulative—(Authorized $15,000,000 par value $100 per share) Issued and Outstanding		$14,790,000.00	
Common—(Authorized $75,000,000 par value $25 per share) Issued and Outstanding	$59,417,700.00		
Subscribed for but not issued	803,900.00		
		60,221,600.00	
			75,011,600.00
SURPLUS, DECEMBER 31, 1929			27,491,499.44
			$115,918,859.10

We have examined the accounts and records of the Crane Co. and have examined the audited reports of its Subsidiary Companies for the year ended December 31, 1929, and certify that, in our opinion, the above Consolidated Balance Sheet is properly drawn up to correctly exhibit the financial position of the Company at December 31, 1929. The accounts of the Foreign Subsidiaries have been converted at the rates of exchange prevailing at December 31, 1929. The inventories of material, merchandise and supplies on hand as taken by Company's officials and employes have been valued at cost or market, whichever was lower.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

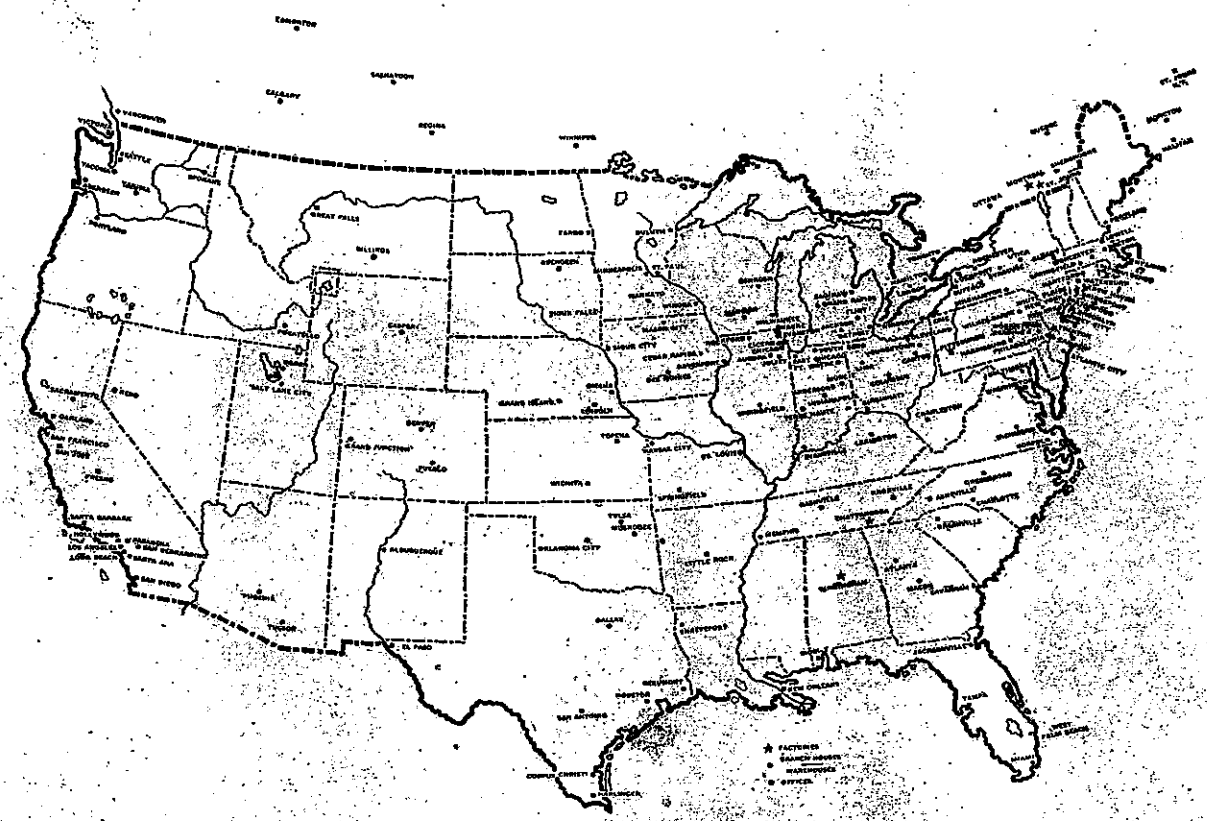
Chicago, Illinois, February 20, 1930.

THREE QUARTERS OF A CENTURY

WITH the close of 1929, the Company reaches its 75th Anniversary year. Few companies can show a record of more consistent year by year progress than can Crane Co. over its three-quarter century history. The small foundry established July 4th, 1855, has grown into great manufacturing establishments in Chicago, Bridgeport, Chattanooga, Trenton, Montreal, Quebec, St. Johns, Quebec, Ipswich, England, and Paris, covering in all 352½ acres. Distribution facilities include Branches and Sales Offices in 190 cities and stocks of merchandise at 148 points in the United States, 17 in Canada, 2 in Great Britain, 1 in France, 1 in Belgium, 1 in Mexico and 1 in Cuba. Physical growth has not been the whole story. Confidence in the Crane name has permeated the minds of customers as Crane products have penetrated the markets.

Number of Employes 1855	1
Number of Employes 1929	20,000

SCOPE OF CRANE SERVICE



CRANE-BENNETT, LTD.
LONDON, ENG.
BIRMINGHAM, LEEDS, MANCHESTER, ENGLAND
CARDIFF, WALES GLASGOW, SCOTLAND
★IPSWICH, ENG.
BOMBAY, CALCUTTA, KARACHI, MADRAS, INDIA
RANGOON, BURMA COLOMBO, CEYLON

CRANE CO.
FOUNDED BY R. T. CRANE, 1855
CRANE EXPORT CORPORATION
NEW YORK SAN FRANCISCO
MEXICO CITY HAVANA
SAO PAULO, BRAZIL
CIE CRANE
PARIS BRUSSELS

CRANE, LIMITED
CANADA

CRANE00008

FOUNDED BY R. T. CRANE 1855

CRANE CO.

CRANE BUILDING
836 S. MICHIGAN AVE.

CHICAGO

1930

OFFICERS OF CRANE CO.

R. T. Crane, Jr.	*President*
J. B. Berryman	*First Vice President*
C. A. G. Wayman	*Vice President, Manufacturing Division*
A. F. Gartz, Jr.	*Vice President, Manufacturing Division*
G. H. Periolat	*Assistant Vice President, Manufacturing Division*
C. D. Little	*Vice President, Sales Division*
H. W. Seymour	*Vice President, Sales Division*
C. R. Crane II	*Vice President, Sales Division*
W. J. Clark	*Vice President, Real Property*
P. T. Kelly	*Vice President, Finance Division*
R. B. Stiles	*Vice President, Branch House Division*
D. G. Park	*Vice President, Purchasing Division*
L. B. Peeples	*Vice President, Pacific Coast Zone*
P. R. Mork	*Vice President*
J. G. Ordway	*Vice President*
W. Evensen	*Treasurer*
J. H. Steiner	*Assistant Treasurer*
R. O. Samuelson	*Assistant Treasurer*
H. P. Bishop	*Secretary*
J. S. Bell	*Assistant Secretary*
J. K. Prentice	*Assistant Secretary*
J. A. Brough	*Assistant Secretary*

DIRECTORS OF CRANE CO.

YEARS OF SERVICE INDICATED

J. B. Berryman, 44	W. Evensen, 33	D. G. Park, 41
W. J. Clark, 19	A. F. Gartz, Jr., 15	H. W. Seymour, 26
C. R. Crane II, 22	V. E. Flodin, 28	C. R. Smith, 54
Cornelius Crane	P. T. Kelly, 39	R. B. Stiles, 39
H. P. Crane	C. D. Little, 36	C. A. G. Wayman, 48
R. T. Crane, Jr., 33	J. A. Murphy, 45	

AVERAGE YEARS OF SERVICE, 34

CRANE00010

TO THE STOCKHOLDERS OF CRANE CO.

Your Directors submit herewith the Consolidated Balance Sheet of the Crane Companies for the year ending December 31, 1930. The consolidated Statement reflects the standing of the following corporations and their subsidiaries:

Crane Co.	Illinois
Crane Export Corporation . . .	New York
Crane Enamelware Co.	Tennessee
Trenton Potteries Co.	New Jersey
Crane, Limited	Canada

The assets and liabilities of Crane Co. of Minnesota and Crane-O'Fallon Co. of Colorado are not included but our interest therein is shown under the heading "Investments in other Companies."

The year 1930 was very unsatisfactory in both volume and profit. The depression, which affected all industry more or less, was especially severe in building construction. Building reached a peak in 1928 and the volume steadily declined through 1929 and 1930. The extent of the recession may be illustrated by quoting from a report issued by the U. S. Department of Commerce, covering the shipments, by all manufacturers, of five staple lines—

Shipments of Cast Iron Boilers in 1930 were 22% less than 1929 and 36% less than 1928.

Cast Iron Radiators, 37% less than 1929 and 50% less than 1928.

Enamelware, 34% less than 1929 and 43% less than 1928.

Vitreous China Plumbers' Ware, 29% less than 1929 and 32.6% less than 1928.

Heavy Porcelain Plumbers' Ware, 39% less than 1929 and 62% less than 1928.

Unfortunately, this heavy shrinkage in Heating and Plumbing materials was not offset by an increased demand from industrials, as was the case in 1929, but industry, operating on short time, bought as little as possible.

We had to absorb, also, a very serious loss in inventory values brought about by the decline in basic materials. One striking example was Copper, which fell from 18 cents to 9½ cents per lb. As this affected all our brass stock from the material bins to the finished product on Branch House shelves, the loss was severe.

It is fortunate that these periods of depression come to an end after a time and our position is sufficiently strong to enable us to carry on until the return of a normal demand.

The full dividend on the Common Stock was paid during 1930, but not fully earned, the deficiency being taken out of the Surplus Account, which now stands at $24,016,521, giving a book value of $35.04 per share as compared with $36.41 at the end of 1929.

The current assets (Cash, Government and other Securities, Accounts Receivable, and Inventories) exceed the current and accrued liabilities by $53,743,016, a ratio of 9 9/10 to 1 compared with a ratio of 6 4/5 to 1 in 1929.

EXPANSION

During 1930 we expended for increased manufacturing or distribution facilities:

Land	$ 178,000
Buildings	2,570,000
Equipment and Machinery	3,571,000
New Branches and Plants	2,102,000
	$8,421,000

This sum was distributed as follows: $3,940,000 in the United States, $3,151,000 in Canada, $970,000 in England and $360,000 in France.

New distributing warehouses were opened at:

Frankford, Pa.	Waukegan, Ill.
Hempstead, N. Y.	Sherbrooke St. W. (Montreal)
Jackson, Miss.	Ft. William, Ont.
Lincoln, Neb.	Moncton, N. B.
Paterson, N. J.	St. John's, N. F.
Utica, N. Y.	Manchester, Eng.

MANUFACTURING

DOMESTIC

The new Forge Shop at Chicago Works was completed during the year and is now in operation. The Pipe Fabricating Shop has been remodeled and is prepared to handle, expeditiously, a much larger tonnage than in the past.

At Chattanooga additions to the mechanical equipment of our Enamelware plant have been made and some obsolete equipment scrapped with a view to decrease costs of production.

At Trenton, the Trenton Potteries Co. increased the kiln capacity and enlarged their facilities for the production of colored ware. This plant is in excellent condition.

At North Tonawanda, N. Y., the remodeling and re-equipping of our radiator plant has been completed.

At Bridgeport, Conn., the new department for cast iron radiation is in full operation. Production of Boilers will begin in 1931.

All Crane plants have been well maintained during the year and no effort spared to keep them efficient in both personnel and equipment. At Chicago, Bridgeport, North Tonawanda, Chattanooga and Trenton, we expended $2,195,000 for new machinery and equipment and wrote off $1,353,000 for depreciation.

CANADA

At Montreal (Crane, Limited) it was necessary to increase the foundry capacity and a new building was erected for the purpose.

At St. Johns, Que. (Canadian Potteries, Ltd.) it was necessary on account of increased business, to enlarge the plant and bring it up to date. As there was no room at the old location, we bought 20 acres in another locality and have erected a modern pottery plant with continuous kiln which will go into production early in 1931.

At Port Hope, Ont. (Port Hope Sanitary Mfg. Co.,) we acquired a going plant for the production of enameled ware. The plant has been successfully operated for many years and its purchase guarantees us a permanent source of supply for our Canadian trade.

OVER SEAS

At our plant in Ipswich, England, we remodeled and enlarged the Malleable Fittings foundry and added buildings and equipment for the production of cast iron radiation. This plant is rounding into shape.

At Paris, France, good progress has been made in the development of manufacturing facilities.

While 1930 was a year of depression which did not yield a return upon the capital or effort expended, yet we were never stronger in either production or distribution and can face the future with confidence.

R. T. CRANE, Jr.

Chicago, Illinois, February 20, 1931. President.

CRANE00013

CRANE CO.

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1930

ASSETS

CURRENT ASSETS:			
Cash		$ 6,138,185.44	
Marketable Securities—			
U. S. Government Obligations	$ 8,936,062.44		
Other Securities	424,945.90		
		9,361,008.34	
Accounts and Notes Receivable		11,214,884.14	
Inventories of Raw Materials, Work in Process, Finished Goods and Supplies valued at cost or market whichever is lower		33,035,809.58	
			$ 59,749,887.50
FIXED ASSETS:			
Land and Land Improvements		$ 9,345,946.90	
Buildings	$38,466,996.87		
Less: Reserve for Depreciation	8,428,165.20		
		30,038,831.67	
Machinery, Equipment, etc.	$37,760,942.32		
Less: Reserve for Depreciation	18,831,827.18		
		18,929,115.14	
			58,313,893.71
INVESTMENTS IN OTHER COMPANIES			1,855,319.37
			$119,919,100.58

LIABILITIES

CURRENT AND ACCRUED LIABILITIES:			
Accounts Payable, etc.		$ 4,362,043.92	
Accrued General and Federal Taxes		1,644,827.20	
			$ 6,006,871.12
RESERVE FOR INVENTORY, ACCOUNTS RECEIVABLE AND CONTINGENCIES			3,085,412.84
TEN YEAR 5% SINKING FUND GOLD NOTES DUE AUGUST 1, 1940			12,000,000.00
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES			288,845.61
CAPITAL STOCK:			
Preferred 7% Cumulative—			
(Authorized—$15,000,000 Par Value $100 per Share)			
Issued and Outstanding		$14,711,900.00	
Common—			
(Authorized—$75,000,000 Par Value $25 per Share)			
Issued and Outstanding		59,809,550.00	
			74,521,450.00
SURPLUS, DECEMBER 31, 1930			24,016,521.01
			$119,919,100.58

To the President and Board of Directors of Crane Co.,
Chicago, Ill.:

We have examined the accounts and records of Crane Co. and have examined the audited reports of its Subsidiary Companies for the year ended December 31, 1930, and certify that, in our opinion, the above Consolidated Balance Sheet is properly drawn up as to exhibit correctly the financial position of the Company at December 31, 1930. The accounts of the Foreign Subsidiaries have been converted at the rates of exchange prevailing at December 31, 1930. The inventories of material, merchandise and supplies on hand, as taken by Company's officials and employes have been valued at cost or market, whichever is lower.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

Chicago, Illinois, February 20, 1931.

CRANE00014

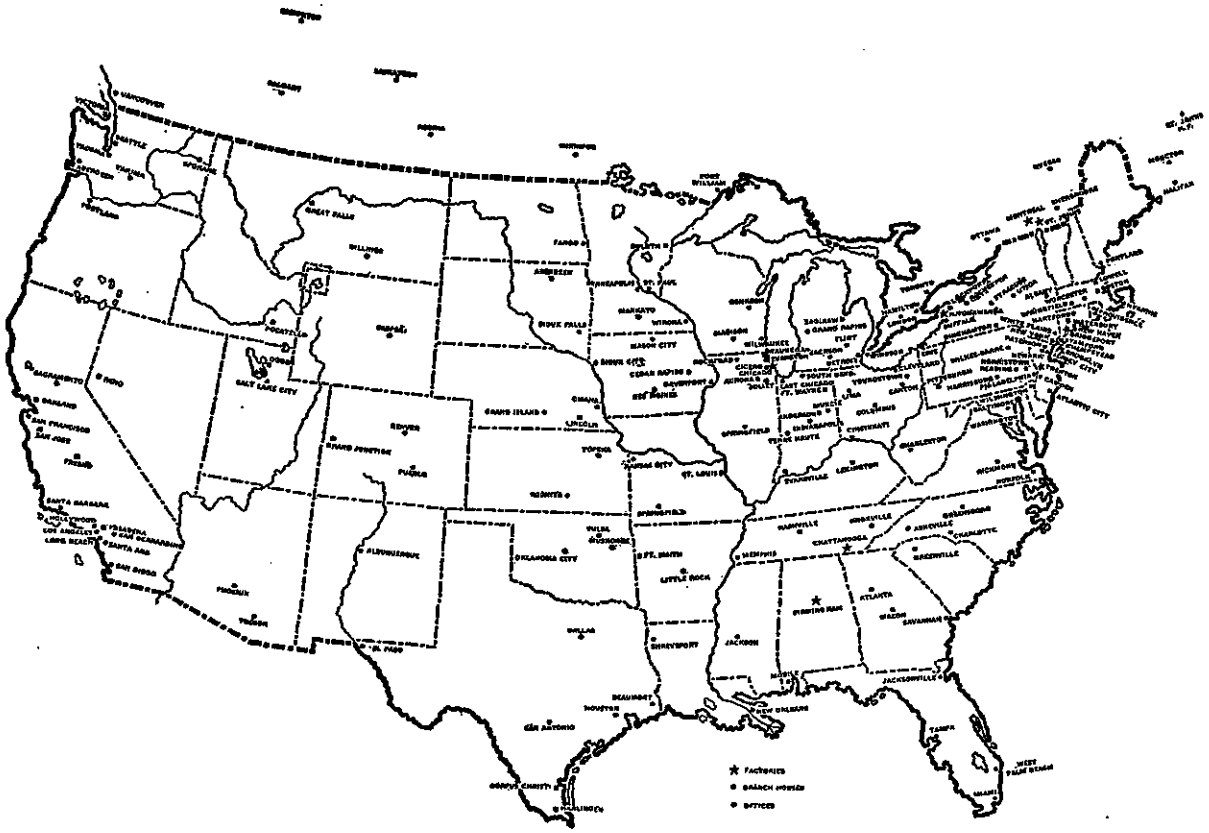
INCALCULABLE ASSETS

AT THE founding of the Company in 1855, the truism was recognized by the Founder that the most valuable asset any business could store up was the good will of those with whom it did business. Officers and employes since have kept this principle always before them. Each year has increased the confidence that consumers, engineers, architects, and contractors feel in the Crane name and in Crane products. 1930 has been no exception. Constant watchfulness of quality in products and constant care for truth in claims made for them through the year just past has added a full share to the incalculably valuable good will asset possessed by Crane Co.

Development of new products and betterment of old ones is a necessity if a company is to hold its good will and its business position in these rapidly moving times. The past year has been especially productive of such progress for Crane Co. In the industrial division, laboratories and engineers have contributed marked improvements in piping materials, which keeps this division well abreast of the advancing needs of modern industry. In the plumbing and heating section, new materials are on the market or waiting to be announced which will widely increase the scope of Crane service.

CRANE

SCOPE OF CRANE SERVICE



CRANE-BENNETT, LTD.
LONDON, ENG.
BIRMINGHAM, BRISTOL, LEEDS, MANCHESTER, ENGLAND
GLASGOW, SCOTLAND
★ IPSWICH, ENG.
BOMBAY, CALCUTTA, KARACHI, MADRAS, INDIA
RANGOON, BURMA COLOMBO, CEYLON

CRANE CO.
FOUNDED BY R. T. CRANE, 1855

CRANE EXPORT CORPORATION
NEW YORK MEXICO CITY SAN FRANCISCO
SAO PAULO, BRAZIL HAVANA, CUBA

CIE CRANE
PARIS BRUSSELS

CRANE, LIMITED
CANADA

CRANE00016

FOUNDED BY R. T. CRANE 1855

CRANE CO.

CRANE BUILDING
836 S. MICHIGAN AVE.

CHICAGO

1931

DIRECTORS OF CRANE CO.

E. M. Ashcraft, Jr.
J. B. Berryman
W. J. Clark
C. R. Crane, II
Cornelius Crane
H. P. Crane
W. Evensen
V. E. Flodin
A. F. Gartz, Jr.
P. T. Kelly
C. D. Little
J. A. Murphy
D. G. Park
E. A. Russell
H. W. Seymour
C. R. Smith
C. A. G. Wayman

OFFICERS OF CRANE CO.

J. B. Berryman . . . . . *President*
C. A. G. Wayman . . . . . *Vice President, Manufacturing Division*
A. F. Gartz, Jr. . . . . *Vice President, Manufacturing Division*
G. H. Periolat . . . *Assistant Vice President, Manufacturing Division*
C. D. Little . . . . . *Vice President, Sales Division*
H. W. Seymour . . . . . *Vice President, Sales Division*
C. R. Crane, II . . . . . *Vice President, Sales Division*
W. J. Clark . . . . . *Vice President, Real Property*
P. T. Kelly . . . . . *Vice President, Finance Division*
D. G. Park . . . . . *Vice President, Purchasing Division*
L. B. Peeples . . . . . *Vice President, Pacific Coast Zone*
P. R. Mork . . . . . *Vice President*
J. G. Ordway . . . . . *Vice President*
W. Evensen . . . . . *Treasurer*
H. P. Bishop . . . . . *Secretary*
J. H. Steiner . . . . . *Assistant Treasurer*
R. O. Samuelson . . . . . *Assistant Treasurer*
J. S. Bell . . . . . *Assistant Secretary*
J. K. Prentice . . . . . *Assistant Secretary*
J. A. Brough . . . . . *Assistant Secretary*

TO THE STOCKHOLDERS OF CRANE CO.

Your Directors submit herewith the Consolidated Balance Sheet of the Crane Companies for the year ending December 31, 1931. The consolidated statement covers the assets and liabilities of:

Crane Co.	Illinois
Crane Co.	Minnesota
Crane Export Corporation	New York
Crane Enamelware Co.	Tennessee
Crane, Limited	Canada
Crane-O'Fallon Co.	Colorado
Trenton Potteries Co.	New Jersey

For the first time since the Company was incorporated in 1865, we have to report an operating loss. The year 1931 was unsatisfactory in nearly all industries, especially so in the metal trades, and our business was no exception. Notwithstanding a reduction in overhead of $4,877,000 from that of 1930, the loss for the year was $7,985,329, made up as follows:

Operating loss	$6,149,329
Shrinkage in value of inventories (estimated)	1,836,000

In addition, there was an accounting loss of $1,222,901 on Foreign Exchange, arising through conversion of current assets and liabilities of Foreign subsidiary companies at ratio of exchange prevailing on Dec. 31, 1931. This amount has been charged against Surplus.

Several reasons may be given to account for these losses. The first and most important was the falling off in sales, due to the decline in building construction, and curtailing of purchases by Railroads, Utilities, Oil Companies and Industrials generally. The second was the decline in value of nearly everything purchased during the year. Values at the end of the period with those of a year ago show declines as follows:

Copper	35%
Zinc	23%
Lead	19%
Tin	21%
Mall. Iron Scrap	46%
C. I. Scrap	35%
Pig Iron	Even
Average of principal items of purchased goods for re-sale	16½%

The third was a recession in gross profits brought about, as is customary in times of stress, by manufacturers and dealers trying to force sales in a sterile market. There was, also, some selling, irrespective of price, by those wishing to turn inventories into cash. With business at a low ebb, it is extremely difficult to maintain a remunerative level of prices.

CURRENT ASSETS

The ratio of current assets to current liabilities, at the end of the year, was 10.27 to 1, compared with 9.9 to 1 in 1930, and 6.8 to 1 in 1929.

RESERVE

A reserve of $2,900,235 has been set up to take care of possible, though improbable, declines in the value of inventories, and for possible losses in accounts and other items which cannot be foreseen. The book value of the Common Stock, after setting up this reserve, is $29.93 per share.

EXPENDITURES

No large expenditures were authorized during the year, but we carried over from 1930 a considerable amount of building and equipment work which was completed and paid for during 1931, amounting to $4,780,000, distributed United States $2,855,000, Canada $1,194,000, England $491,000 and France $240,000.

Our expansion program, in both manufacturing and distributing, has been practically completed and very little will have to be expended in 1932.

DISTRIBUTION

Three small warehouses, authorized in 1930, were opened, in Wilmington, Del., Patchogue, N. Y., and Birmingham, England; and warehouses in Mexico City, Mex., Havana, Cuba, Aberdeen, Wash., Atlantic City, N. J. (not the Show Room) and Jersey City, N. J., were closed, as they had proved unprofitable.

MANUFACTURING

The plants of the Company have been maintained in equipment and personnel to our customary high standard. Large expenditures were made at Bridgeport, Conn., Chattanooga, Tenn., Trenton, N. J., Montreal, P. Q., St. Johns, Que., Paris, France, and Ipswich, Eng., with the object of either increasing capacity or decreasing costs.

Our new Pottery at St. Johns, Que., went into production about twelve months ago and has fulfilled expectations in the way of reducing costs and improving the quality of the product. This is the only modern tunnel kiln plant in the Dominion, producing plumbers' sanitary ware.

At Bridgeport, Conn., we entered upon the production of a full line of cast iron heating boilers for which we have been preparing for some time. The boilers have met with a favorable reception by the trade and will be a valuable addition to our lines.

ECONOMIES

As previously stated, we reduced operating overhead $4,877,000 during the year, and further economies are being made in all departments, including reductions in salaries of the Executive, Administrative, Selling, and Producing forces.

In our opinion, the Country has touched the bottom of the depression and we may anticipate, in the near future, a slow, steady ascent to a sound business level. There is banking up a potential demand for housing which must be eventually met, and in general industry reserves are exhausted and a rise in the operating ratio will necessitate the purchase of large quantities of material in our line. A very moderate increase in demand will put us on the right side.

We have a basic industry, necessary for the public welfare; purchases from us, or others in the same line, may be deferred for a time, but not indefinitely, unless the people of this Country shall decide that there shall be no more water, light, gas, sanitation, heating, transportation, or industrial production.

During the year it was our misfortune to lose Mr. R. T. Crane, Jr., President of the Company, who passed away last November. Mr. Crane had been active in the Company for the past thirty-four years and was elected President of the Company in 1914 and had continued to serve as its chief executive officer.

Mr. Crane was a man of exceptionally fine character, frank and honest, kindly and sympathetic. He distributed a large part of his personal stock holdings in the Company among the older employees during his lifetime and bequeathed additional amounts to them in his will. The welfare of the employees was close to his heart at all times. When he passed, we lost not a leader only, but a friend.

Your directors wish to record their appreciation of the efficient and loyal service rendered by the members of the organization.

J. B. BERRYMAN,
President.

Chicago, February 20, 1932.

CRANE CO.

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1931

ASSETS

CURRENT ASSETS:			
Cash		$ 3,692,378.22	
Marketable Securities at Cost—			
U. S. Government Obligations	$5,343,437.42		
Other Securities	462,192.65		
		5,805,630.07	
Accounts and Notes Receivable		9,285,254.64	
Inventories of Raw Materials, Work in Process, Finished Goods and Supplies valued at cost or market whichever is lower		25,374,461.15	
			$ 44,157,724.08
FIXED ASSETS, AT COST:			
Land and Land Improvements		$ 9,539,088.63	
Buildings		40,432,601.66	
Machinery, Equipment, etc.		40,386,583.57	
			90,358,273.86
SUNDRY INVESTMENTS AND OTHER ASSETS			212,583.25
			$134,728,581.19

LIABILITIES

CURRENT AND ACCRUED LIABILITIES:			
Accounts Payable, etc.		$ 2,753,339.43	
Accrued General and Federal Taxes		1,546,492.73	
			$ 4,299,832.16
RESERVE FOR INVENTORY, ACCOUNTS RECEIVABLE AND CONTINGENCIES			2,900,235.67
RESERVES FOR DEPRECIATION:			
Buildings		$ 9,151,724.49	
Machinery, Equipment, etc.		19,371,080.68	
			28,522,805.17
TEN YEAR 5% SINKING FUND GOLD NOTES DUE AUGUST 1, 1940			12,000,000.00
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES			1,504,571.74
CAPITAL STOCK:			
Preferred 7% Cumulative—			
(Authorized—$15,000,000 Par Value $100 per share)			
Issued and Outstanding		$14,688,900.00	
Common—			
(Authorized—$75,000,000 Par Value $25 per share)			
Issued and Outstanding		59,151,425.00	
			73,840,325.00
SURPLUS			11,660,811.45
			$134,728,581.19

To the President and Board of Directors of Crane Co.,
Chicago, Illinois.

We have examined the accounts and records of Crane Co. and have examined the audited reports of its Subsidiary Companies for the year ended December 31, 1931, and certify that, in our opinion, the above Consolidated Balance Sheet is properly drawn up as to exhibit correctly the financial position of the Company at December 31, 1931. The current assets and current liabilities of Foreign Subsidiary Companies have been converted at the rates of exchange prevailing at December 31, 1931. The inventories of raw materials, work in process, finished goods and supplies, as taken by Company's officials and employes have been valued at cost or market, whichever is lower.

ARTHUR YOUNG & CO.,

Chicago, Illinois—February 20, 1932. Certified Public Accountants.

WHERE ARE OUR MARKETS?

WHEREVER men build houses, cultivate fields, or employ power, is a potential market for some or all of our products. Without our industry, there could be no civilization as we know it today.

Society, as now constituted, is dependent upon power. Power means Steam, Electricity, Water, Oil or Gas. Steam is a product of coal, oil and gas. Electricity is a product of steam, water or internal combustion engines. Falling water is of itself a prime source of energy, but not available except through the medium of the industrial arts.

It is evident, if we are to maintain a fairly decent standard of living, modern methods of rapid production of foodstuffs have to be maintained or improved upon, that the necessary quantity of clothing could not be produced without textile mills and shoe factories, nor the demand for housing met without tools. It is equally evident that rapid transportation of products from the points of production to consumption is as important as production itself.

From this need came Railway Trains and Steamships, driven by steam or oil engines, but steam, oil, gas, air, water or any other source of energy is useless unless controlled, and control means pipe, valves and fittings.

It may be safely claimed that our industry is one which makes all other industries possible. Without us no railroad could operate, no steamship sail. Mines, oil wells, lumber mills, textile mills, machine shops, foundries, rolling mills, electric light plants, water works, would have to be shut down. Life, as we know it, would cease and what was left of the population would revert to the Stone Age.

We are operating a basic industry, which is essential to life. Wherever there is civilized man there must be consumption of our products; our market is everywhere.

In the last 100 years, the average duration of human life has been extended about 20 years. This lengthening of life has been brought about by the advancement of medical knowledge, in part, but principally through better living conditions.

The Sanitary Engineer and the Manufacturers of Sanitary Appliances have done a great work for mankind. People now live longer and happier because healthier and cleaner. Not even the Great, of one hundred years ago, had the comforts and sanitary conditions to be found in an American cottage at the present time.

The market for plumbing materials is a great and growing one. There is not only new construction, but an expanding demand for replacement of old-fashioned fixtures by those more modern and efficient. We must keep in mind that there are yet millions of houses in this country without plumbing, and we have much work to do for the saturation point will never be reached.

With sanitation, heating has gone forward to add to the comfort and health of our people.

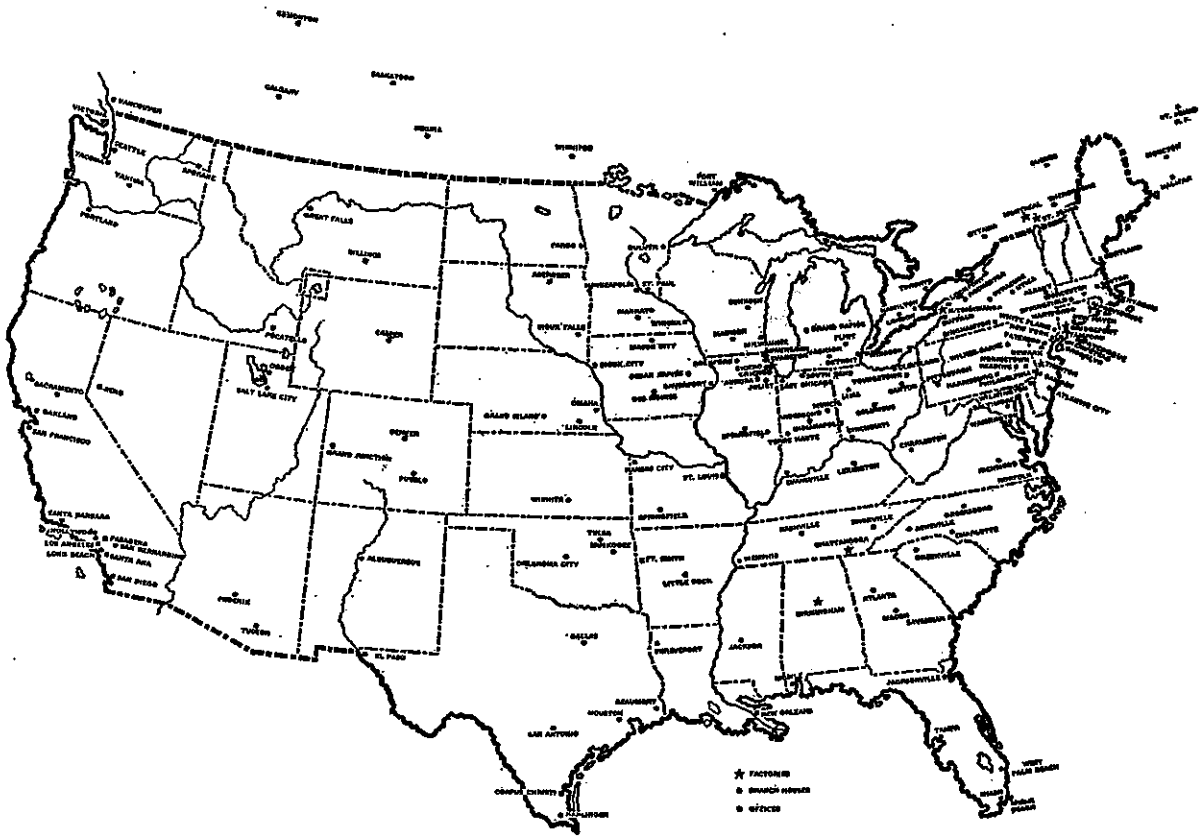
Crane Co. produces in its own shops valves and fittings for the control of Steam, Water, Oil, Gas or Air, in Iron, Steel and Brass, in all sizes and for all pressures—

Vitreous China plumbers' ware,	Plumbers' Brass goods,
Enameled Iron plumbers' ware,	Cast Iron Heating Boilers,
Heavy Porcelain ware,	Cast Iron Radiators,

and is the largest distributor of Commercial steel pipe in the world.

CRANE00023

SCOPE OF CRANE SERVICE



CRANE LTD. (GREAT BRITAIN)
LONDON, ENG.
BIRMINGHAM, BRISTOL, LEEDS,
MANCHESTER, ★ IPSWICH, ENG.
GLASGOW, SCOTLAND, BOMBAY INDIA

CRANE CO.
FOUNDED BY R. T. CRANE, 1855

CRANE EXPORT CORPORATION
NEW YORK SAN FRANCISCO

CIE CRANE
PARIS BRUSSELS

CRANE, LIMITED
CANADA

CRANE00024

FOUNDED BY R. T. CRANE 1855

CRANE CO.

CRANE BUILDING
836 S. MICHIGAN AVE.

CHICAGO

1932

CRANE CO.

DIRECTORS

E. M. Ashcraft, Jr.
J. B. Berryman
C. R. Crane, II
Cornelius Crane
W. Evensen
A. F. Gartz, Jr.
P. T. Kelly
M. W. Lowell
C. B. Nolte
D. G. Park
E. A. Russell
H. W. Seymour
C. A. G. Wayman

EXECUTIVE COMMITTEE

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C. B. Nolte
E. A. Russell
H. W. Seymour
C. A. G. Wayman

OFFICERS

J. B. Berryman ..... *President*
W. J. Clark ..... *Vice President*
C. R. Crane, II ..... *Vice President*
A. F. Gartz, Jr ..... *Vice President*
P. T. Kelly ..... *Vice President*
C. D. Little ..... *Vice President*
P. R. Mork ..... *Vice President*
D. G. Park ..... *Vice President*
L. B. Peeples ..... *Vice President*
H. W. Seymour ..... *Vice President*
C. A. G. Wayman ..... *Vice President*
H. P. Bishop ..... *Secretary*
W. Evensen ..... *Treasurer*
H. S. Campbell ..... *Comptroller*
G. H. Periolat ..... *Assistant Vice President*
J. S. Bell ..... *Assistant Secretary*
J. A. Brough ..... *Assistant Secretary*
J. K. Prentice ..... *Assistant Secretary*
R. O. Samuelson ..... *Assistant Treasurer*
J. H. Steiner ..... *Assistant Treasurer*

TO THE STOCKHOLDERS OF CRANE CO.

Your Directors submit herewith the Consolidated Balance Sheet of the Crane Companies for the year ending December 31, 1932. The statement covers the assets and liabilities of

Crane Co	Illinois
Crane Co	Minnesota
Crane Export Corporation	New York
Crane Enamelware Co	Tennessee
Crane, Limited	Canada
Crane-O'Fallon Co	Colorado
Trenton Potteries Co	New Jersey

For the second time since the Company was incorporated in 1865 we have to report an operating loss. Faced with the problem of adjusting to a small business an organization keyed up to produce and distribute a volume three or four times as large, your Directors found it necessary to close our plant in Bridgeport, except the boiler section; to close 19 small distributing warehouses; to reduce personnel, to reduce working time; to cut salaries and wages; to reduce pensions; to change the Group Life Insurance plan from one in which the whole burden was borne by the Company to a contributory system by which the burden is carried almost entirely by the Employees themselves; and to analyze and reduce all expense items of every kind. The result of this work has been a reduction in overhead of, approximately, $8,600,000 below 1931, and $15,000,000 below 1930.

We regret to report that even this drastic reduction in expenses was insufficient to overcome a very heavy loss of $7,536,868.43, made up as follows:

Loss before depreciation and interest		$5,504,571.50
ADD		
Depreciation	$1,411,045.01	
Interest	621,251.92	2,032,296.93
Total loss transferred to Surplus A/c		$7,536,868.43

There are two reasons for the loss (1) Insufficient volume of sales due to lack of demand. Our sales in 1932 were 43% less than in 1931 and 66% below the five year average. They were lower than in any similar period for the past 24 years. (2) Insufficient gross margin on what was sold. Unfortunately, small volume and small margins go together, for when everybody is scrambling for what little business there is, margins are pared down to the vanishing point. The gross margin is also affected by falling prices on all goods purchased.

Despite the heavy loss, it is gratifying to note that our cash position has been well maintained. At the close of the year we had cash, Government and other securities to the amount of $9,076,150.96 as compared with $9,498,008.29 at the end of 1931. This position was held, necessarily, by reducing inventories and accounts receivable.

CURRENT ASSETS

The ratio of current assets to current liabilities, at the end of the year, was 9.54 to 1. The book value of the Common Stock is $26.48 per share.

MANUFACTURING PLANTS

The buildings, equipment and machinery of the eleven manufacturing plants operated by your Company, have been maintained to a standard necessary for efficient operation.

RETROSPECT

The past year will go down in history as a period marked by the deepest depression ever known in this Country. Following the collapse of unreasonably inflated values in 1929, the business recession became more definite month by month, until July 1932, when the downward trend was checked. In August, September and the first half of October there was some improvement; after that, demand fell off again.

The long depression with the natural concomitant of unemployment, total or partial, has seriously impaired the buying power of the people and this Company, in common with other industrials, has suffered. We cannot create business; our industry follows, it does not lead. Before a demand reaches us, some one must have decided to erect a building, remodel an old one, install an engine, run a new pipe line or remodel an old one. The sales possibility in our industry rises and falls with the activity of the Country.

The products in which CRANE CO. is interested find a market, first, in industrial fields such as Steel Mills, Oil Refineries, Public Service Plants, Packing Houses, Railroads, Ships, Water Works, or any plant where water, air, gas, steam or oil has to be conveyed and controlled; second, in new buildings; third, in replacement and repairs in old buildings.

The opportunities in our first market—that of industry—are fairly well gauged by the operations of the steel plants, regarded as the barometer of business. These plants have not been able to market more than 15 to 20% of capacity. Oil Refineries have done much better, but profits have been small and retrenchment the order. Public Service Companies have not been buying because their plant capacity is in excess of the demand. This applies generally to all industrial lines. No new work is being done, and their requirements are confined to such replacements and repairs as cannot be avoided.

The second field is that of building construction. The major part this year has been construction by the Federal Government. We have had our share of the equipment, but competition on this class of work is so severe that it is unsatisfactory from the standpoint of profit.

In the Plumbing and Heating Division of our business, it is to residential construction that we look for volume. The peak of residential demand was reached in 1928; in 1929 there was a decrease of 32%, in 1930 60%, in 1931 70%, and in 1932 90% from this peak.

The effect upon Plumbing and Heating materials may be seen by comparing the total sales, in the United States, of enameled bath tubs which declined from 1,115,383 in 1928 to 236,210 in 1932, or 80%. Radiators from 161,489,000 sq. ft. in 1928 to 39,233,000 sq. ft. in 1932, or 76%. Cast Iron Heating Boilers from 248,123 tons in 1928 to 73,093 tons in 1932, or 70%.

In the third field—that of replacements and remodeling—we have held our own, but this field has been curtailed by the inability or disinclination of the people to spend money.

THE FUTURE

Whether deflation has run its full course, is yet to be determined, but the Country has gone a long way on the road to recovery. It is inconceivable that an alert, energetic nation of 120,000,000 people, occupying the most productive country in the world, will continue to stagnate indefinitely. The Country will, of course, emerge from this depression as from others preceding it. In the meantime, we are maintaining a reduced, but efficient organization, and our current position is sufficiently liquid to enable us to carry on.

Your Directors record their appreciation of the efficient and loyal service rendered by the organization in these trying times.

JOHN B. BERRYMAN,
President.

Chicago, February 20, 1933

CRANE CO.

CONSOLIDATED BALANCE SHEET--DECEMBER 31, 1932

ASSETS

CURRENT ASSETS:			
Cash		$ 4,424,603.60	
Marketable Securities, at Cost—			
U. S. Government Obligations (Market Value $4,289,591.88)	$ 4,264,609.29		
Other Securities (Market Value $395,815.89)	386,938.07		
		4,651,547.36	
Notes and Accounts Receivable—			
Trade	$ 6,993,001.36		
Sundry	231,996.10		
Employes (Partly Secured)	69,677.17		
	$ 7,294,674.63		
Less: Reserve for Doubtful Notes and Accounts	838,396.57	6,456,278.06	
Inventories of Raw Materials, Work in Process, Finished Goods and Supplies, taken by Company Officials and Employes and valued at the lower of cost or market		18,768,547.61	
			$34,300,976.63
FIXED ASSETS:			
Land and Land Improvements		$ 9,407,690.14	
Buildings	$40,206,159.55		
Less: Reserve for Depreciation	9,621,583.36		
		30,584,576.19	
Machinery, Equipment, etc	$40,174,005.43		
Less: Reserve for Depreciation	19,574,401.96		
		20,599,603.47	
			60,591,869.80
MISCELLANEOUS INVESTMENTS—AT COST			192,657.71
DEFERRED CHARGES			69,738.76
			$95,155,242.90

LIABILITIES

CURRENT AND ACCRUED LIABILITIES:			
Accounts Payable, etc.		$ 2,004,855.82	
Accrued Taxes		1,592,514.98	$ 3,597,370.80
RESERVES:			
For Inventories and Contingencies			806,760.19
TEN YEAR 5% SINKING FUND GOLD NOTES—			
AUTHORIZED AND ISSUED			12,000,000.00
Due $750,000 annually beginning August 1, 1934			
Balance due August 1, 1940			
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES			1,207,246.66
CAPITAL STOCK:			
Preferred 7% Cumulative, Par Value $100—			
Authorized 150,000 shs.			
Issued	149,610 shs.		
Less: In Treasury	3,721 shs.		
In Hands of Public	145,889 shs.	$14,588,900.00	
Common, Par Value $25—			
Authorized 3,000,000 shs.			
Issued	2,429,547 shs.		
Less: In Treasury	80,919 shs.		
In Hands of Public	2,348,628 shs.	58,715,700.00	73,304,600.00
SURPLUS:			
Earned Surplus		$ 2,751,709.34	
Capital Surplus		1,487,555.91	4,239,265.25

Dividends on Preferred 7% Cumulative Stock have not been paid since March 15, 1932. The dividends in arrears for the last three quarters of 1932 amount to $765,917.25.

Contingent Liability—
Customers' Notes Discounted under Partial Payment Plan, $637,491.62.

$95,155,242.90

To the President and Board of Directors of Crane Co.,
Chicago, Illinois:

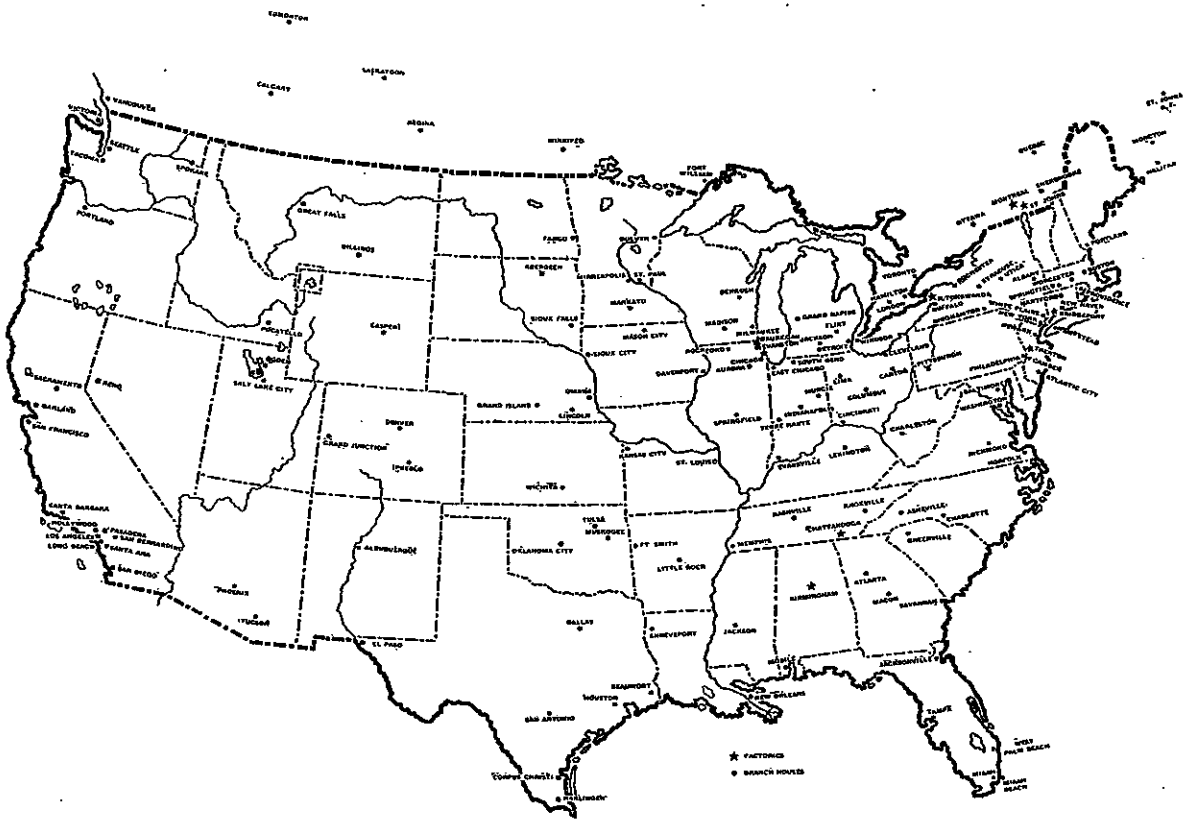
We have audited the accounts and records of Crane Co. and certain of its subsidiaries as at December 31, 1932, and have had submitted to us audit reports of other independent accountants covering the examination at that date of the subsidiaries not examined by us. Based on the foregoing, we have prepared the above Consolidated Balance Sheet which, in our opinion, sets forth the financial position of the Company and subsidiaries at December 31, 1932. The current assets and current liabilities of foreign subsidiary Companies have been converted at the rates of exchange prevailing at December 31, 1932.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

Chicago, Illinois—February 20, 1933.

CRANE00031

SCOPE OF CRANE SERVICE



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BIRMINGHAM, BRISTOL, MANCHESTER,
★IPSWICH, ENG.
GLASGOW, SCOTLAND

CRANE EXPORT CORPORATION
NEW YORK SAN FRANCISCO

CIE CRANE
PARIS BRUSSELS

CRANE, LIMITED
CANADA

CRANE00032

FOUNDED BY R. T. CRANE 1855

CRANE CO.

CRANE BUILDING
836 S. MICHIGAN AVE.

CHICAGO

1933

CRANE CO.

DIRECTORS

E. M. Ashcraft, Jr.
J. B. Berryman
C. R. Crane, II
Cornelius Crane
W. Evensen
A. F. Gartz, Jr.
P. T. Kelly
M. W. Lowell
C. B. Nolte
D. G. Park
E. A. Russell
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C. A. G. Wayman

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OFFICERS

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H. W. Seymour ..... *Vice President*
C. A. G. Wayman ..... *Vice President*
H. P. Bishop ..... *Secretary*
W. Evensen ..... *Treasurer*
H. S. Campbell ..... *Comptroller*
G. H. Periolat ..... *Assistant Vice President*
J. S. Bell ..... *Assistant Secretary*
J. A. Brough ..... *Assistant Secretary*
J. K. Prentice ..... *Assistant Secretary*
R. O. Samuelson ..... *Assistant Treasurer*
J. H. Steiner ..... *Assistant Treasurer*

TO THE STOCKHOLDERS OF CRANE CO.

Your Directors submit the Consolidated Balance Sheet of the Crane Companies for the year ending December 31, 1933. The statement covers the assets and liabilities of

Crane Co.	Illinois
Crane Co.	Minnesota
Crane Export Corporation	New York
Crane Enamelware Co.	Tennessee
Crane, Limited	Canada
Crane-O'Fallon Co.	Colorado
Trenton Potteries Co.	New Jersey

The net result of the Company's operations is much more satisfactory than that of the two prior years, showing, after interest charges and depreciation, a loss of $1,874,822.79 compared with a loss of $7,536,868.43 in 1932. During the first four months of the year this Industry passed through an unprecedented period of depression and our sales volume was so small that a heavy loss was inevitable. In fact, all the loss of the year was incurred in this period.

The Income Account shows as follows:

Net Income before depreciation and interest		$ 653,442.10
DEDUCT		
Depreciation	$1,933,032.14	
Interest	595,232.75	2,528,264.89
Net Deficit transferred to Surplus Account		$1,874,822.79

Our sales volume in 1933 was practically the same as in 1932, and the very large difference in the loss incurred was made up of a further reduction in overhead of $3,300,000, notwithstanding added cost during the last five months incident to the N. R. A.; greater economy in manufacturing, a better price structure after June, and the fact that on a rising market we do not have to absorb inventory losses.

The cash resources of the Company have not been affected. At the close of the year we had cash in banks, Government and other securities, to the amount of $8,804,475.53, and Crane Co. bonds bought for Sinking Fund $585,465.00 compared with $9,076,150.96 in 1932. Accounts Receivable increased $900,000 and inventories were $695,000 less.

CURRENT ASSETS

The ratio of current assets to current liabilities, at the end of the year, was $8.50 to $1.00, and the book value of the Common Stock $25.56 per share.

MANUFACTURING PLANTS

The buildings, equipment and machinery of the plants have been maintained to a standard necessary for efficient operation.

NEW PRODUCTS

During the year we placed on the market a new line of electrically driven Shallow and Deep Well Pumps, and a new line of Oil Burning Boilers, which have been well received. We also developed during the year an Air Conditioning Unit for the average home, which is moderate in price and very efficient. The Unit will be ready for general distribution this season.

RETROSPECT

In our report for 1932 we commented on the deep depression through which business had passed in that year. We were yet to experience the black days of the first four months of 1933 which were marked by acute public uneasiness and distrust of the future; an extraordinary number of bank failures and paralysis of trade.

In May there was a decided increase in the sales of such of our products as go into industrial plants, indicating replacements, repairs and overhauling of equipment, in anticipation of a rising demand. This section of our business experienced a moderate degree of prosperity for the remainder of the year; better than 1932, but much below normal.

The demand for plumbing and heating material was less in 1933 than in 1932. The building permits in 215 cities, reported by Dun & Bradstreet, were:

	1932	1933	
1st 4 months.....	$168,707,036	$ 74,796,606	— 55.6%
2nd 4 months.....	121,456,199	127,500,666	+ 5%
3rd 4 months.....	109,125,695	111,379,004	+ 2%
	$399,288,930	$313,676,276	— 21.4%

This amount of building is less than 10% of normal requirements and barely covered the loss by fire.

To bring a measure of prosperity to our Enamelware, Pottery, Boiler & Radiator plants, we need new construction, especially residential. The population increases every year and a demand is building up which will become active when money is again available.

The business outlook is brighter than it was a year ago and your Directors hope to be able to present a more satisfactory report at the end of 1934. The Management will make every effort to that end.

Your Directors record their appreciation of the efficient and loyal service rendered by the organization during the past year.

JOHN B. BERRYMAN,
President.

Chicago, February 26, 1934

CRANE00036

TO THE PRESIDENT AND BOARD OF DIRECTORS OF CRANE CO., CHICAGO

We have made an examination of the Consolidated Balance Sheet of Crane Co. (an Illinois corporation) and subsidiary companies as at December 31, 1933, and of the Consolidated Income and Surplus Accounts for the year 1933. In connection therewith, we examined or tested accounting records of the Company and of certain of its subsidiaries and other supporting evidence and obtained information and explanations from officers and employes of the companies; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions. We have had submitted to us audit reports of other independent accountants covering the examinations of the accounts of subsidiaries not examined by us.

The inventories have been valued at cost or market, whichever was lower. The quantities and condition of the inventories were certified to by the management and the prices and computations tested by us.

The current assets and current liabilities of foreign subsidiary companies have been converted at the rates of exchange prevailing at December 31, 1933 or par, whichever was lower.

The provision for depreciation for the year 1933 of $1,933,032.14 has been computed at the regular rates which are considered adequate. For the purpose of comparison it should be noted that the provision for 1932 was $1,411,045.01, based largely on the restricted use of the property.

In our opinion, based upon such examination, the accompanying Consolidated Balance Sheet and related Consolidated Income and Surplus Accounts fairly present, in accordance with accepted principles of accounting consistently maintained by the companies during the year under review, the financial position at December 31, 1933, and the results of the operations for the year.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

Chicago, Illinois, February 26, 1934

CONSOLIDATED INCOME AND SURPLUS ACCOUNTS FOR THE YEAR ENDED DECEMBER 31, 1933

CONSOLIDATED INCOME ACCOUNT

Net Income for the year before provision for Depreciation and Interest Charges		$ 653,442.10
DEDUCT:		
Depreciation	$1,933,032.14	
Interest	595,232.75	
		2,528,264.89
Net Loss transferred to Surplus Account		$ 1,874,822.79

CONSOLIDATED SURPLUS ACCOUNT

Earned Surplus at January 1, 1933		$ 2,751,709.34
DEDUCT:		
Net Loss for the Year		1,874,822.79
		$ 876,886.55
ADD:		
Profit on foreign exchange arising through conversion of current assets and current liabilities of foreign subsidiary companies at the rates of exchange prevailing at December 31, 1933 or par, whichever was lower	$ 722,372.95	
Discount on Gold Notes held for retirement	169,535.00	
Sundry Adjustments	20,467.13	
		912,375.08
		$ 1,789,261.63
DEDUCT:		
Abandoned and Obsolete Property written off		170,891.52
Earned Surplus at December 31, 1933		$ 1,618,370.11
Capital Surplus unchanged during the year		1,487,555.91
Total Surplus at December 31, 1933		$ 3,105,926.02

CRANE CO.

AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET--DECEMBER 31, 1933

ASSETS

CURRENT ASSETS:			
Cash		$ 5,707,558.54	
Marketable Securities, at Cost—			
U. S. Government Obligations (Market Value, $2,566,006.25)	$ 2,558,203.04		
Other Marketable Securities (Market Value, $519,176.10)	538,713.95		
		3,096,916.99	
Notes and Accounts Receivable—			
Trade	$ 8,046,751.00		
Sundry	170,035.98		
Officers and Employes (Partly Secured)	69,991.11		
	$ 8,286,778.09		
Less: Reserve for Doubtful Notes and Accounts	930,234.36		
		7,356,543.73	
Inventories of Raw Materials, Work in Process, Finished Goods and Supplies taken by Company Officials and Employes and valued at the lower of cost or market		18,072,796.34	
			$34,233,815.60
FIXED ASSETS:			
Land and Land Improvements		$ 9,401,973.05	
Buildings	$39,762,065.49		
Less: Reserve for Depreciation	10,003,556.34		
		29,758,509.15	
Machinery, Equipment, etc.	$39,871,314.83		
Less: Reserve for Depreciation	20,294,581.38		
		19,576,733.45	
			58,737,215.65
MISCELLANEOUS INVESTMENTS—AT COST			481,743.77
DEFERRED CHARGES			140,226.76
			$93,593,001.78

CRANE00038

CRANE CO.

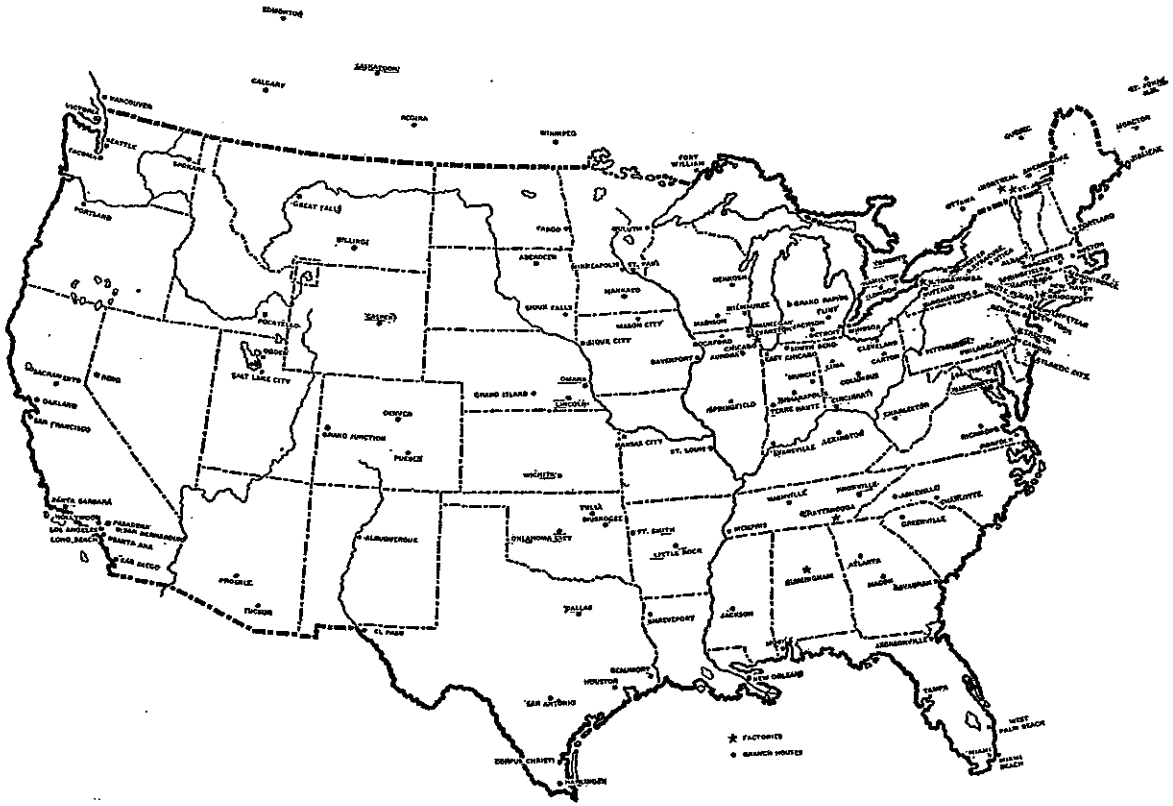
AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET--DECEMBER 31, 1933

LIABILITIES

CURRENT AND ACCRUED LIABILITIES:			
Accounts Payable, etc.		$ 2,391,747.07	
Accrued Taxes		1,633,551.18	
			$ 4,025,298.25
RESERVES FOR CONTINGENCIES			721,827.13
TEN YEAR 5% SINKING FUND GOLD NOTES—			
AUTHORIZED AND ISSUED		$12,000,000.00	
(Due $750,000 annually August 1, 1934 to 1939, balance due August 1, 1940)			
Less: Reacquired and held for retirement under Sinking Fund Plan		755,000.00	
			11,245,000.00
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES			1,190,350.38
CAPITAL STOCK:			
Preferred 7% Cumulative, Par Value $100:			
Authorized	150,000 shares		
Issued	149,610 shares	$14,961,000.00	
Less: In Treasury—			
Reacquired prior to Jan. 1, 1933	3,721 shares	372,100.00	
	145,889 shares	$14,588,900.00	
Common, Par Value $25:			
Authorized	3,000,000 shares		
Issued	2,429,547 shares	$60,738,675.00	
Less: In Treasury—			
Reacquired prior to Jan. 1, 1933	80,919 shares	2,022,975.00	
	2,348,628 shares	58,715,700.00	
			73,304,600.00
SURPLUS:			
Capital Surplus		$ 1,487,555.91	
Earned Surplus		1,618,370.11	
(Of which $2,395,075 representing the above treasury stock is restricted under The Business Corporation Act of Illinois of July, 1933, until such stock is sold or cancelled)			3,105,926.02
Cumulative dividends on the Preferred Stock of Crane Co. to December 31, 1933 amounting to $1,787,140.25 have not been declared or paid.			
Contingent Liabilities including Customers' Notes Discounted under Partial Payment Plan—$491,027.59.			
			$93,593,001.78

SCOPE OF CRANE SERVICE



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GLASGOW, SCOTLAND

CRANE EXPORT CORPORATION
NEW YORK SAN FRANCISCO

CIE CRANE
PARIS BRUSSELS

CRANE, LIMITED
CANADA

CRANE00040

FOUNDED BY R. T. CRANE 1855

CRANE CO.

CRANE BUILDING
836 S. MICHIGAN AVE.

CHICAGO

1934

CRANE CO.

DIRECTORS

E. M. Ashcraft, Jr.
J. B. Berryman
C. R. Crane, II
Cornelius Crane
W. Evensen
A. F. Gartz, Jr.
P. T. Kelly
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C. B. Nolte
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C. R. Crane, II ..... *Vice President*
A. F. Gartz, Jr. ..... *Vice President*
P. T. Kelly ..... *Vice President*
C. D. Little ..... *Vice President*
P. R. Mork ..... *Vice President*
D. G. Park ..... *Vice President*
L. B. Peeples ..... *Vice President*
H. W. Seymour ..... *Vice President*
C. A. G. Wayman ..... *Vice President*
H. P. Bishop ..... *Secretary*
W. Evensen ..... *Treasurer*
H. S. Campbell ..... *Comptroller*
G. H. Periolat ..... *Assistant Vice President*
J. S. Bell ..... *Assistant Secretary*
J. A. Brough ..... *Assistant Secretary*
J. K. Prentice ..... *Assistant Secretary*
R. O. Samuelson ..... *Assistant Treasurer*
J. H. Steiner ..... *Assistant Treasurer*

TO THE STOCKHOLDERS OF CRANE CO.

Your Directors submit the Consolidated Balance Sheet of the Crane Companies for the year ending December 31, 1934. The statement covers the assets and liabilities of

Crane Co	Illinois
Crane Co	Minnesota
Crane Export Corporation	New York and subsidiary
Crane Enamelware Co	Tennessee
Crane, Limited	Canada and subsidiaries
Crane-O'Fallon Co	Colorado
Trenton Potteries Co	New Jersey

The assets of our foreign companies have been converted into dollars at the par of exchange: Franc—.0393; Pound—$4.86. The rate of exchange on December 31st was Franc—.0661¾; Pound—$4.94¼. A valuation of foreign assets at the exchange rates then current, would have affected the balance sheet favorably, but advantage has not been taken of this.

INCOME

The operating profit in 1934 was		$3,634,164.81
LESS		
Depreciation	$1,784,192.53	
Interest on Gold Notes	548,266.81	
Provision for Income Taxes	280,162.15	2,612,621.49
Net Profit		$1,021,543.32

This compares with a net loss of $1,874,822.79 in 1933. The sales in 1934 were 33% greater than in 1933, but still subnormal and not more than 40% of the volume for which we have manufacturing and distributing facilities at regular running time. It is interesting to note that the sales in Canada and England increased by a larger percentage than our domestic sales.

Considering the restricted demand for all of our products, unprofitable prices for plumbing fixtures, the shrinkage in the value of our plumbing fixture inventories, and an increase in operating costs attributable to the N. R. A., the result of the year's work is very encouraging.

After three years of extreme depression, it is gratifying to report a profit instead of a heavy loss, and to feel that, in all probability, we are out in clear water again. In common with all companies producing durable or capital goods, we have suffered from lack of demand; this is especially true of that large part of our product entering into buildings. A chart showing the home construction in the United States for ten years is embodied in this report. The peak was reached in 1928 when homes to the value of $2,800,000,000 were constructed, and gradually declined to $248,000,000 in 1934—a shrinkage of more than 91%.

Home building in 1934 reached the lowest point, being slightly less than in 1933. In the last half of the year there was some increase in the demand for plumbing and heating material for repairs. This helped the volume in our Plumbing and Heating plants, but, owing

to price demoralization, did not affect the profits. There is a fairly good prospect for an increased business in both repairs and new construction in 1935.

The level of activity in the industrial field was higher in 1934 than in 1933, which afforded us an opportunity to market a larger volume of industrial products with a corresponding gain in net return.

FINANCIAL

The finances of your Company are in excellent condition. At the close of the year we had cash and liquid securities to the amount of $10,290,811.87 compared with $8,804,475.53 at the beginning. The net current assets (cash, securities, accounts receivable and inventories) at the end of 1934 were $36,026,914.94 compared with $34,233,815.60 on December 31, 1933, and the ratio of current assets to current liabilities was $8.79 to $1.00.

The book value of the Common Stock was $25.57 per share, compared with $25.56 a year ago. The unpaid cumulative preferred dividends were taken into account in figuring book value.

During the year $750,000 of our Debenture Notes were retired and canceled.

FOREIGN SUBSIDIARIES

CRANE LIMITED OF CANADA

Business in Canada was distinctly better in 1934. The Dominion is emerging from the depression as rapidly as the United States and the uplift was reflected in our sales. The outlook for 1935 is very encouraging.

CRANE LIMITED OF ENGLAND

General conditions in England were much improved and the percentage of increase in sales was greater than in the United States and Canada. The facilities at the English plant are being developed to take care of the increased demand. This company operated at a substantial profit in 1934 and is now well established, with excellent prospects.

COMPAGNIE CRANE—FRANCE

General conditions in France were rather poor last year and the Company sustained a small loss.

MANUFACTURING

The maintenance of the manufacturing plants has not been slighted; buildings, equipment and machinery have been kept up to our normal efficient standard.

GENERAL

Your Directors feel that progress has been made during the year, but a full measure of prosperity cannot be expected until there is a revival in the building industry. For the past five years new building has not been equal to the losses from fire and obsolescence, and as the population increases each year, a substantial amount of building will soon become a vital necessity.

Your Directors record their appreciation of the efficient and loyal service rendered by the organization during the past year.

JOHN B. BERRYMAN,
President.

Chicago, February 20, 1935.

TO THE PRESIDENT AND BOARD OF DIRECTORS OF CRANE CO., CHICAGO

We have made an examination of the Consolidated Balance Sheet of Crane Co. (an Illinois corporation) and subsidiary companies as at December 31, 1934, and of the Consolidated Income and Surplus Accounts for the year 1934. In connection therewith, we examined or tested accounting records of the company and of certain of its subsidiaries and other supporting evidence and obtained information and explanations from officers and employes of the companies; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions. We have had submitted to us audit reports of other independent accountants covering the examinations of the accounts of subsidiaries not examined by us.

The inventories have been valued at cost or market, whichever was lower. The quantities and condition of the inventories were certified to by the management and the prices and computations were tested by us.

The current assets and current liabilities of foreign subsidiary companies have been converted at the rates of exchange prevailing at December 31, 1934 or par, whichever was lower.

During the year under review the company made a study of its depreciation policy with the result that new rates were adopted for the company and its American subsidiaries for 1934 and future years. These new rates are based on estimated life tables in line with present income tax practice.

In our opinion, based upon such examination, the accompanying Consolidated Balance Sheet and related Consolidated Income and Surplus Accounts fairly present, in accordance with accepted principles of accounting consistently maintained by the companies during the year under review, the financial position at December 31, 1934 and the results of the operations for the year.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

Chicago, Illinois, February 20, 1935

CONSOLIDATED INCOME AND SURPLUS ACCOUNTS FOR THE YEAR ENDED DECEMBER 31, 1934

CONSOLIDATED INCOME ACCOUNT

Net Income for the year before provision for Depreciation, Interest on Gold Notes and Income Taxes		$3,634,164.81
Depreciation	$1,784,192.53	
Interest on Gold Notes	548,266.81	
		2,332,459.34
Net Income before provision for Income Taxes		$1,301,705.47
Provision for Income Taxes		280,162.15
Net Income for the Year		$1,021,543.32

CONSOLIDATED SURPLUS ACCOUNT

	Capital Surplus	Earned Surplus	Total
Surplus, December 31, 1933	$1,487,555.91	$1,618,370.11	$3,105,926.02
ADD:			
Net Income for the Year		1,021,543.32	1,021,543.32
	$1,487,555.91	$2,639,913.43	$4,127,469.34
ADD:			
Discount on Gold Notes held for retirement		22,573.75	22,573.75
Miscellaneous Credits		22,743.12	22,743.12
Excess of par value over cost of preferred stock of subsidiary companies purchased during year	45,631.00		45,631.00
Excess of net worth of subsidiary company over cost of stock acquired during year	43,510.74		43,510.74
	$1,576,697.65	$2,685,230.30	$4,261,927.95
DEDUCT:			
Loss on foreign exchange arising through conversion of current assets and current liabilities of foreign subsidiaries at the rate of exchange prevailing at December 31, 1934 or par whichever was lower		$ 91,860.11	$ 91,860.11
Miscellaneous Debits		12,302.81	12,302.81
	$	$ 104,162.92	$ 104,162.92
Surplus, December 31, 1934	$1,576,697.65	$2,581,067.38	$4,157,765.03

CRANE CO.
(AN ILLINOIS CORPORATION)
AND SUBSIDIARY COMPANIES
CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1934

ASSETS

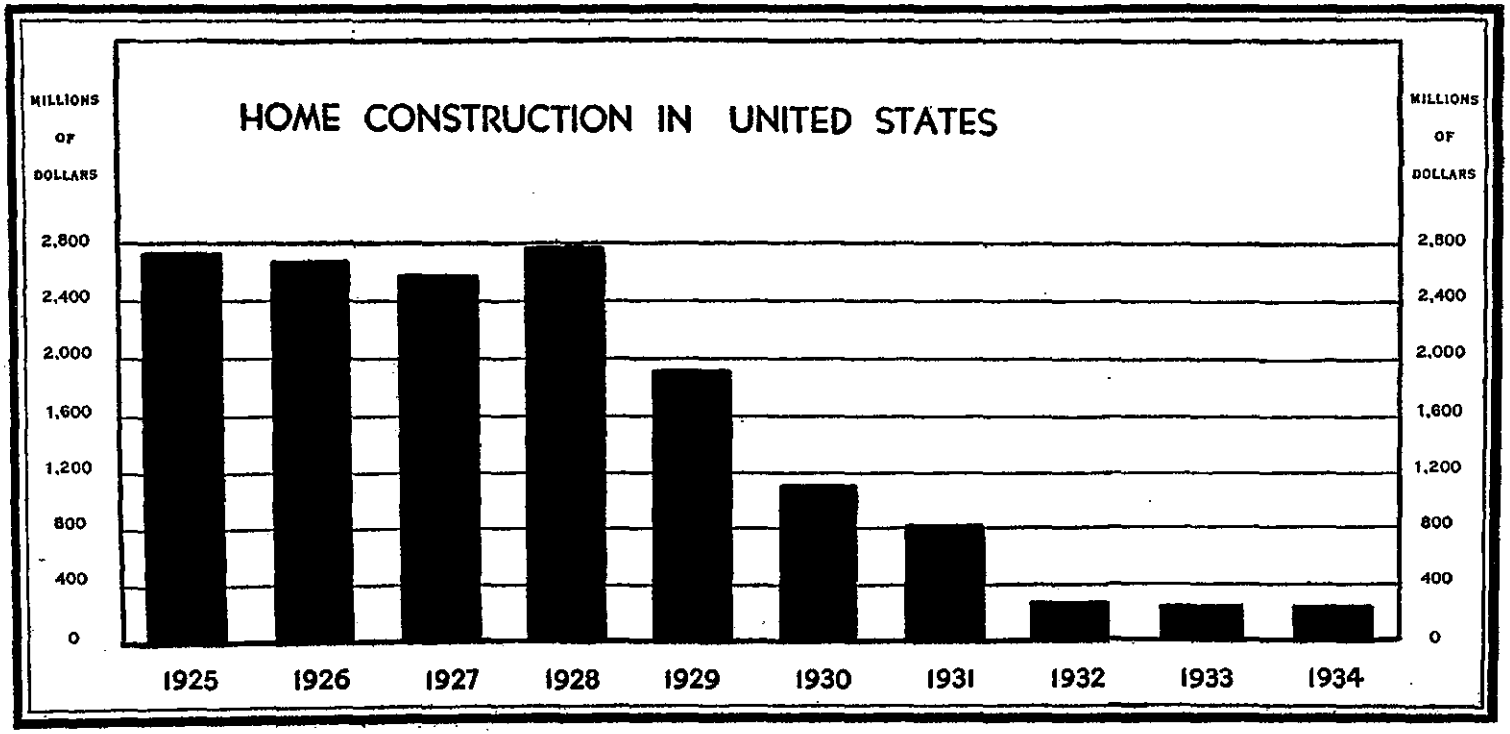
CURRENT ASSETS:			
Cash		$ 6,944,173.81	
Marketable Securities, at Cost— U. S. Government Obligations (Market Value, $2,788,851.80)	$2,770,095.32		
Other Marketable Securities (Market Value, $563,133.05)	576,542.74	3,346,638.06	
		$10,290,811.87	
Notes and Accounts Receivable—			
Trade	$7,817,306.75		
Sundry	169,929.17		
Officers and Employees (Partly Secured)	70,686.90		
	$8,057,922.82		
LESS: Reserve for Doubtful Notes and Accounts	903,679.14	7,154,243.68	
Inventories of Raw Materials, Work in Process, Finished Goods and Supplies Taken by Company Officials and Employes and Valued at the Lower of Cost or Market		18,581,859.39	$36,026,914.94
FIXED ASSETS—AT COST:			
Land and Land Improvements		$ 9,397,289.08	
Buildings	$39,714,435.48		
LESS: Reserve for Depreciation	10,583,185.18	29,131,250.30	
Machinery, Equipment, Etc.	$39,819,220.18		
LESS: Reserve for Depreciation	20,796,342.28	19,022,877.90	57,551,417.28
MISCELLANEOUS INVESTMENTS, ETC.—AT COST			502,080.85
DEFERRED CHARGES			142,624.64
			$94,223,037.71

CRANE CO.
(AN ILLINOIS CORPORATION)
AND SUBSIDIARY COMPANIES
CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1934

LIABILITIES

CURRENT LIABILITIES:			
Accounts Payable		$ 2,216,077.91	
Accrued Interest on Ten Year Sinking Fund Gold Notes		224,541.67	
Accrued Taxes		1,380,760.35	
Ten Year Sinking Fund Gold Notes —Sinking Fund Payment Due August 1, 1935	$ 750,000.00		
Less: Notes Held in Treasury	472,000.00		
		278,000.00	
			$ 4,099,379.93
RESERVE FOR CONTINGENCIES			696,179.11
LONG TERM OBLIGATIONS OF SUBSIDIARY COMPANIES			325,711.22
TEN YEAR 5% SINKING FUND GOLD NOTES —AUTHORIZED AND ISSUED		$12,000,000.00	
(Due $750,000 Annually August 1, 1935 to 1939, Balance Due August 1, 1940)			
Less: Redeemed	$ 750,000.00		
Held in Treasury for Retirement	472,000.00		
Balance of Sinking Fund Payment Due August 1, 1935 Provided Above	278,000.00		
		1,500,000.00	
			10,500,000.00
PREFERRED STOCK OF SUBSIDIARY COMPANY IN HANDS OF PUBLIC		$ 178,700.00	
MINORITY COMMON STOCKHOLDERS' EQUITY IN SUBSIDIARY COMPANIES		960,702.42	
			1,139,402.42
CAPITAL STOCK:			
Preferred 7% Cumulative, Par Value $100—			
Authorized .....150,000 shares			
Issued .....149,610 shares	$14,961,000.00		
Less: In Treasury, Reacquired Prior to Jan. 1, 1933. 3,721 shares	372,100.00		
145,889 shares		$14,588,900.00	
Common, Par Value $25—			
Authorized ...3,000,000 shares			
Issued .....2,429,547 shares	$60,738,675.00		
Less: In Treasury, Reacquired Prior to Jan. 1, 1933. 80,919 shares	2,022,975.00		
2,348,628 shares		58,715,700.00	
			73,304,600.00
SURPLUS:			
Capital		$ 1,576,697.65	
Earned		2,581,067.38	
(Of which $2,395,075 representing the cost of the above treasury stock is restricted under The Business Corporation Act of Illinois of July, 1933, until such stock is sold or cancelled)			4,157,765.03
Cumulative dividends on the preferred stock of Crane Co. to Dec. 31, 1934, amounting to $2,808,363.25 have not been declared or paid.			
Contingent liabilities—Customers' notes discounted under partial payment plan, etc.—$464,391.34.			$94,223,037.71

The chart shows total contracts for residential construction by years and indicates the drastic curtailment, almost to the vanishing point, of home building in the United States



CRANE00048

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER 31, 1935

CRANE CO.
CRANE BUILDING

836 SOUTH MICHIGAN AVENUE • CHICAGO

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER 31, 1935

CRANE CO.
CRANE BUILDING

836 SOUTH MICHIGAN AVENUE • CHICAGO

CRANE CO.

DIRECTORS

JOHN B. BERRYMAN, *Chairman*

CORNELIUS CRANE	MARK W. LOWELL
A. F. GARTZ, JR.	CHARLES B. NOLTE
P. T. KELLY	E. A. RUSSELL
F. R. LILLIE	C. A. G. WAYMAN

EXECUTIVE COMMITTEE

CHARLES B. NOLTE

JOHN B. BERRYMAN	MARK W. LOWELL
P. T. KELLY	E. A. RUSSELL

OFFICERS

CHARLES B. NOLTE	*President*
WM. J. CLARK	*Vice President*
J. H. COLLIER	*Vice President*
C. R. CRANE, II	*Vice President*
P. T. KELLY	*Vice President*
C. D. LITTLE	*Vice President*
P. R. MORK	*Vice President*
D. G. PARK	*Vice President*
L. B. PEEPLES	*Vice President*
H. W. SEYMOUR	*Vice President*
C. A. G. WAYMAN	*Vice President*
H. P. BISHOP	*Secretary*
W. EVENSEN	*Treasurer*
H. S. CAMPBELL	*Comptroller*
J. S. BELL	*Assistant Secretary*
J. A. BROUGH	*Assistant Secretary*
J. K. PRENTICE	*Assistant Secretary*
C. W. DITTMAR	*Assistant Treasurer*
R. O. SAMUELSON	*Assistant Treasurer*

ANNUAL REPORT

To the Stockholders of Crane Co.:

The management of your company recognizes that an important part of its responsibility to you is the presentation of the facts necessary for stockholders to obtain a correct understanding of the position of their company and conditions affecting it.

With this objective, this report has been prepared and is submitted to you by order of the Board of Directors.

FINANCIAL STATEMENTS

The Consolidated Balance Sheet of your company as of December 31, 1935, and Statements of Consolidated Income and Surplus are submitted herewith, together with Auditor's certificate.

Consolidated Income and Surplus:

The Income and Surplus Accounts are given for the year of 1935. The Income Account for the year of 1934 is shown on a comparative basis.

The Income Account shows a net income, before deduction of Extraordinary and Non-recurring charges, for the year 1935 of $2,590,288.68 as compared with Net Income figured upon the same basis for 1934 of $1,071,043.32. The final Net Income, after Extraordinary and Non-recurring charges, for 1935, is $1,442,637.27; equal to earnings of Eighteen Cents ($.18) per share on the 2,348,628 shares of Common Stock outstanding, after allowance for full dividend of the year 1935 on 145,889 shares of the 7% Preferred Stock.

Depreciation:

The charge for depreciation in 1935 has been increased by $189,311.71 over the charge for 1934. The management believes that the depreciation charge for the year 1935 adequately covers current depreciation, and makes proper allowance for machines either not now required or obsolete.

Extraordinary Charges- $1,147,651.41:

Inventory Adjustments: During 1935 a new Cost System was installed under the supervision of independent Cost Accountants. The application of the new System of Cost Accounting resulted in decreasing the value of the inventory, as determined under the previous method, by $436,704.77. This amount was charged off completely and is a non-recurring charge.

Obsolescence of Inventories: In connection with the compilation of the new 1936 General Catalogue, the sales, over several years, of every catalogue item were studied. The products which had become obsolete due to changing demand or those superseded by superior product were taken out of the inventory in an aggregate amount of $592,272.21.

Adjustment of Valuation of Exhibit Room Stocks: It was deemed advisable to reduce the book value of display stock in Exhibit Rooms to an estimated current salvage value which resulted in a charge-off of $118,674.43.

Earned Surplus:

During the year the building and leasehold known as 120 Pall Mall, London, England, was sold. This building was erected by Crane Limited for an International Exhibit, but had not been used since 1932. The property was subject to high taxes, ground rent and up-keep charges which were eliminated by the sale. The resultant loss of $261,327.43 was charged against Earned Surplus and is a non-recurring item.

Dividends:

Four dividends of $1.00 per share each, amounting to a total of $583,556.00, were declared ($437,667.00 paid in 1935; $145,889.00 paid January 25, 1936) during the year, upon 145,889 shares of the outstanding 7% Cumulative Preferred Stock. After these dividend payments, the dividend arrears on the Preferred Stock amount to $22.25 per share, or a total of $3,246,030.25 on the outstanding Preferred Stock.

No dividends were declared or paid on the Common Stock.

Consolidated Balance Sheet:

The Consolidated Balance Sheet includes the assets and liabilities of the parent company and its subsidiaries in the United States, Canada and Europe.

The assets and liabilities of the foreign subsidiaries have been converted into dollars at the par rate of exchange current before the devaluation of the dollar, viz:

Pound Sterling	$4.86
Canadian Dollar	1.00
Franc	0.0393

The financial condition of the company is strong, with cash and liquid securities of $10,852,353.05 on December 31, 1935, as compared with $10,290,811.87 on December 31, 1934; during 1935 the annual sinking fund requirement of $750,000.00 was paid on the Debenture Notes.

The company has no overdue accounts or obligations and no bank indebtedness.

The ratio of current assets to current liabilities was $7.22 to $1.00 on December 31, 1935.

Taxes:

During 1935 your company has paid, or there has been accrued, in different kinds of taxes approximately $1,635,000.00, representing Seventy Cents ($.70) a share on the outstanding Common Stock. Indications at this time are that progressively increasing taxes will be required from your company. Under the Federal Social Security Act a tax of 1% in 1936, which eventually reaches 6%, of the payroll will have to be paid in addition to all other taxes.

The burden of taxes is one of the most indeterminate and disturbing factors today to your company and industry in general.

OPERATING REVIEW

Sales Volume:

Sales in the United States were 15%, and consolidated sales 13%, greater in 1935 than in 1934.

While sales volume showed an improvement in 1935, it was still decidedly below a reasonable normal and far below the production capacity of the company. It is interesting to note that the greatest general increase in sales came in the latter part of the year.

All products showed an increased sale; the largest percentage of increase being in plumbing material due to remodeling and repairing, and some increase in new construction.

Manufacturing:

The plants of the company were reviewed carefully during the year, and improvements made in equipment and facilities with a schedule of further improvements when warranted by volume of orders. Buildings and equipment are being maintained in an efficient condition.

Research and Development:

The research and development work upon present, improved and new products was centralized and expanded during the year into a Division of Research and Development established at the Chicago (Corwith) Works.

Investment in Foreign Subsidiaries:

The European business in general continues upon a fairly satisfactory basis largely because of the high level of business in England. Increased sales have made necessary the construction of additions to the plant at Ipswich, England, and additional equipment. These improvements will be completed during the summer of 1936.

There was an improvement in business of Crane Limited (Canada), although the increase in general business in Canada during 1935 was below that in the United States.

GENERAL

While the demand for materials manufactured and sold by your company is improving, it is still far below a conservative normal. The facilities of your company are adequate to meet a greatly increased demand.

Statistics indicate an attractive potential demand for residential and general industrial construction, both of which fields constitute the principal markets for the products of your company.

Your company has outlets for much of its product apart from the building industry, but the construction of buildings has an important direct effect upon our sales, and also affects them indirectly through the stimulation of industry in general.

Building gives employment to so many men and requires such a quantity and variety of products originating in the Forest, Quarry or Mine that it is a vital element in the prosperity of the Country. It, therefore, is encouraging to note a definite upward trend in building permits.

In prior reports we have commented on the extraordinary decline in building permits. Residential building permits have declined 90% from an average in the years 1923-29; the average output during the 1923-29 period was sufficient to house about 400,000 families annually, while the average output during 1932-3-4 was sufficient only for some 25,000 families each year.

In the same depression years there was an estimated loss by fire of about 30,000 units yearly and an increase in population of some 7,000,000 people.

There is now a definite need for new construction.

Your management continues its efforts with the feeling that, barring national conditions that would affect adversely business in general, more favorable results will obtain during 1936 than reported herein for 1935.

CONCLUSION

Realizing the difficult conditions which have confronted business generally during the year, the management and Directors desire to record their appreciation of the efforts and loyalty of the organization and of the assistance of the customers and stockholders which made these results possible.

JOHN B. BERRYMAN
Chairman

CHARLES B. NOLTE
President

February 25, 1936

CRANE00056

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET — DECEMBER 31, 1935

ASSETS

CURRENT ASSETS:			
Cash		$ 8,517,082.38	
Marketable securities—			
U. S. Government obligations, at cost, less premium amortized (Market value $2,138,560)	$ 2,102,844.11		
Other marketable securities, at cost (Market value $243,466)	232,426.56		
		2,335,270.67	
		$10,852,353.05	
Accounts and notes receivable—			
Trade	$ 8,190,892.77		
Sundry	253,021.40		
Officers and employes (partly secured)	94,133.92		
	$ 8,538,048.09		
Less: Reserve for doubtful notes and accounts	572,569.33		
		7,965,478.76	
Inventories of raw materials, work in process, finished goods and supplies taken by company officials and employes and valued at the lower of cost or market		19,338,143.05	$38,155,974.86
MISCELLANEOUS INVESTMENTS, ETC.— AT COST			457,784.86
FIXED ASSETS—AT COST:			
Land and land improvements		$ 9,267,039.64	
Buildings	$39,383,754.11		
Less: Reserve for depreciation	11,226,024.82		
		28,157,729.29	
Machinery, equipment, etc.	$39,973,787.54		
Less: Reserve for depreciation	21,445,599.62		
		18,528,187.92	
			55,952,956.85
DEFERRED CHARGES			150,651.64
COMMON STOCK REACQUIRED AND HELD IN TREASURY AGAINST OUTSTANDING OPTION TO PURCHASE SAME AT $10 PER SHARE—50,000 SHARES—AT COST			475,000.00
			$95,192,368.21

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET — DECEMBER 31, 1935

LIABILITIES

CURRENT LIABILITIES:			
Accounts payable		$ 2,939,410.31	
Preferred dividend payable January 25, 1936		145,889.00	
Accrued interest on ten year sinking fund gold notes		209,541.67	
Accrued taxes		1,679,902.53	
Ten year sinking fund gold notes—sinking fund payment due August 1, 1936	$ 750,000.00		
Less: Notes held in treasury	442,000.00		
		308,000.00	
			$ 5,282,743.51
TEN YEAR 5% SINKING FUND GOLD NOTES—AUTHORIZED AND ISSUED (Annual sinking fund requirement, $750,000, due August 1 of each year to 1939, balance due August 1, 1940)		$12,000,000.00	
Less: Redeemed	$ 1,476,000.00		
Called (Cash deposited with trustee)	24,000.00		
Held in treasury for retirement	442,000.00		
Balance of sinking fund payment due August 1, 1936 provided above	308,000.00		
		2,250,000.00	
			9,750,000.00
LONG TERM OBLIGATIONS OF SUBSIDIARY COMPANIES			318,511.22
RESERVES FOR CONTINGENCIES			717,417.89
MINORITY INTEREST IN SUBSIDIARY COMPANIES:			
Preferred stockholders		$ 173,380.00	
Common stockholders		965,479.11	
			1,138,859.11
CAPITAL STOCK:			
Preferred 7% cumulative, par value $100—			
Authorized — 150,000 shares			
Issued — 145,889 shares		$14,588,900.00	
Common, par value $25—			
Authorized — 3,000,000 shares			
Issued — 2,348,628 shares		58,715,700.00	
			73,304,600.00
SURPLUS:			
Capital		$ 1,578,463.11	
Earned (Of which $475,000, representing the cost of 50,000 shares of treasury stock, is restricted under The Business Corporation Act of Illinois of July 1933 until such stock is sold or cancelled)		3,101,773.37	
			4,680,236.48
Cumulative dividends on the preferred stock of Crane Co. to December 31, 1935, amounting to $22.25 per share or $3,246,030.25 on all shares outstanding, have not been declared or paid.			
Contingent liabilities—customers' notes discounted under partial payment plan, etc.—$698,487.82.			
			$95,192,368.21

CRANE00058

CRANE CO.
(An Illinois Corporation)
AND SUBSIDIARY COMPANIES

COMPARATIVE CONSOLIDATED INCOME ACCOUNT
For the Years Ended Dec. 31, 1935 and Dec. 31, 1934

	Year ended Dec. 31, 1935	Year ended Dec. 31, 1934
Net operating profit after deduction of manufacturing, selling and administrative expenses, but before deduction of depreciation	$ 5,991,944.35	$ 4,016,230.56
Miscellaneous income:		
Interest	$ 106,367.09	$ 220,712.89
Cash discount received on purchases	521,904.67	449,340.05
Sundry	98,505.77	58,586.45
	$ 726,777.53	$ 728,639.39
	$ 6,718,721.88	$ 4,744,869.95
Depreciation, interest on gold notes and sundry charges:		
Provision for depreciation of plant and equipment	$ 1,973,504.24	$ 1,784,192.53
Interest on ten year 5% gold notes	523,900.00	548,266.81
Earnings and preferred stock dividends of subsidiary companies accruing to minority stockholders	13,722.62	3,286.18
Cash discounts on sales	873,877.26	692,488.22
Miscellaneous	294,454.51	356,249.33
	$ 3,679,458.63	$ 3,384,483.07
Net income before federal and foreign income taxes and extraordinary charges	$ 3,039,263.25	$ 1,360,386.88
Provision for federal and foreign income taxes	448,974.57	289,343.56
Net income before extraordinary charges	$ 2,590,288.68	$ 1,071,043.32
Extraordinary charges (inventory adjustments):		
Devaluation of inventories resulting from change in basis of computing costs	$ 436,704.77	
Provision for obsolescence of inventories	592,272.21	$ 49,500.00
Adjustment of valuation of exhibit room stocks	118,674.43	
Total extraordinary charges	$ 1,147,651.41	$ 49,500.00
Net income	$ 1,442,637.27	$ 1,021,543.32

CRANE CO.
(An Illinois Corporation)
AND SUBSIDIARY COMPANIES

CONSOLIDATED SURPLUS ACCOUNT—DECEMBER 31, 1935

	Capital surplus	Earned surplus	Total
Surplus, December 31, 1934	$ 1,576,697.65	$ 2,581,067.38	$ 4,157,765.03
Add:			
Net income for the year ended December 31, 1935		1,442,637.27	1,442,637.27
Miscellaneous adjustments	1,765.46		1,765.46
	$ 1,578,463.11	$ 4,023,704.65	$ 5,602,167.76
Deduct:			
Dividends declared on preferred 7% cumulative stock, $4 per share		$ 583,556.00	$ 583,556.00
Provision for unrealized loss on foreign exchange arising through conversion of current assets and current liabilities of foreign subsidiaries at the rate of exchange prevailing at December 31, 1935 or "par," whichever was lower		58,034.85	58,034.85
Loss on sale of London, England, property		261,327.43	261,327.43
Premium on ten year 5% gold notes called for redemption		9,000.00	9,000.00
Miscellaneous adjustments		10,013.00	10,013.00
		$ 921,931.28	$ 921,931.28
Surplus, December 31, 1935	$ 1,578,463.11	$ 3,101,773.37	$ 4,680,236.48

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To the President and Board of Directors of Crane Co., Chicago:

We have made an examination of the Consolidated Balance Sheet of Crane Co. (an Illinois corporation) and subsidiary companies as at December 31, 1935, and of the Consolidated Income and Surplus Accounts for the year 1935. In connection therewith, we examined or tested accounting records of the company and of certain of its subsidiaries and other supporting evidence and obtained information and explanations from officers and employes of the companies; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions. We have had submitted to us audit reports of other independent accountants covering the examinations of the accounts of subsidiaries not examined by us.

The inventories have been valued at cost or market, whichever was lower. The quantities and condition of the inventories were certified to by the management and the prices and computations were tested by us.

The current assets and current liabilities of foreign subsidiary companies have been converted at the rates of exchange prevailing at December 31, 1935 or "par," whichever was lower.

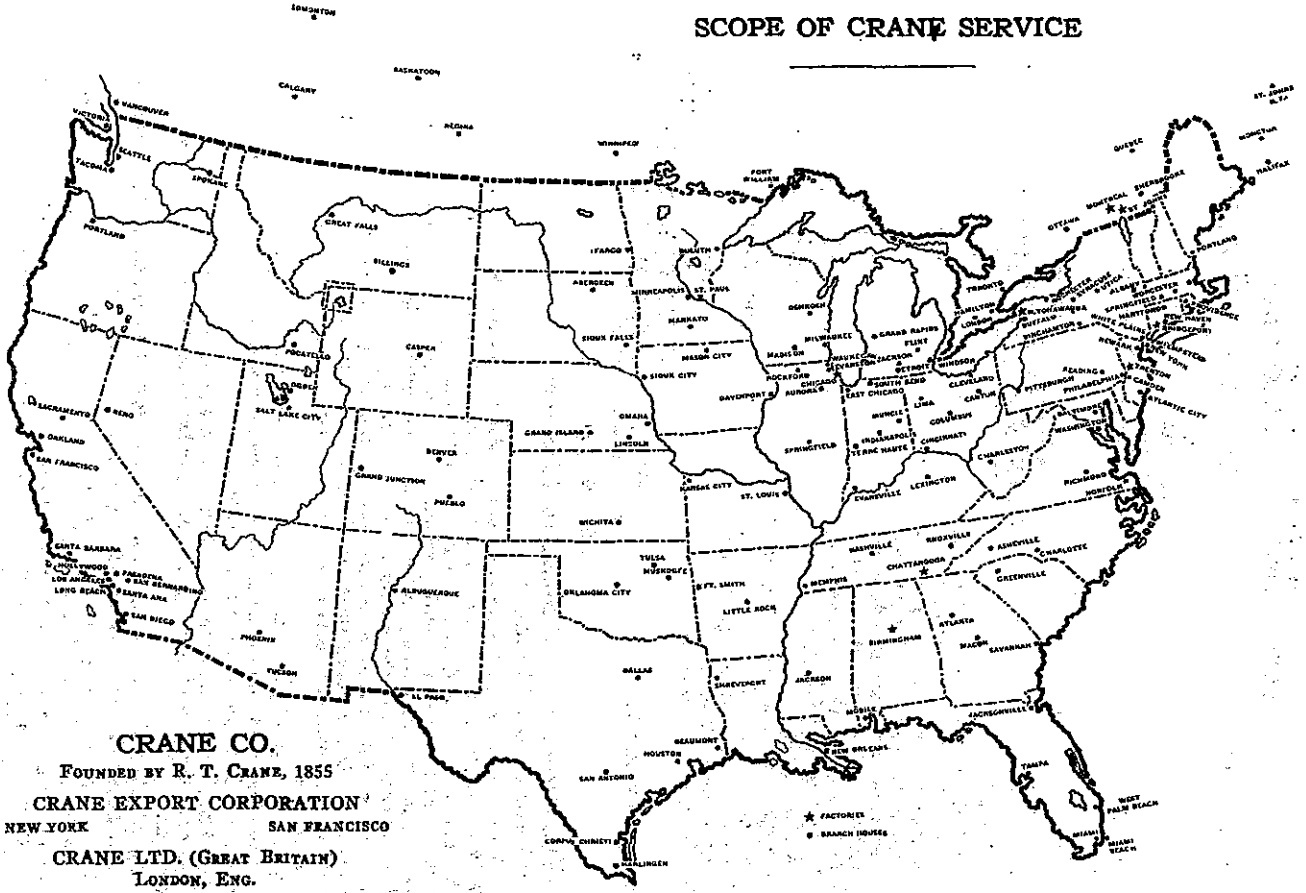
The provision for depreciation for the year 1935 of $1,973,504.24 has been computed at rates based upon estimated lives of depreciable property.

In our opinion, based upon such examination, the accompanying Consolidated Balance Sheet and related Consolidated Income and Surplus Accounts fairly present, in accordance with accepted principles of accounting consistently maintained by the companies during the year under review, the financial position at December 31, 1935 and the results of the operations for the year.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

Chicago, Illinois,
February 21, 1936.

SCOPE OF CRANE SERVICE



CRANE CO.

FOUNDED BY R. T. CRANE, 1855

CRANE EXPORT CORPORATION

NEW YORK SAN FRANCISCO

CRANE LTD. (GREAT BRITAIN)

LONDON, ENG.

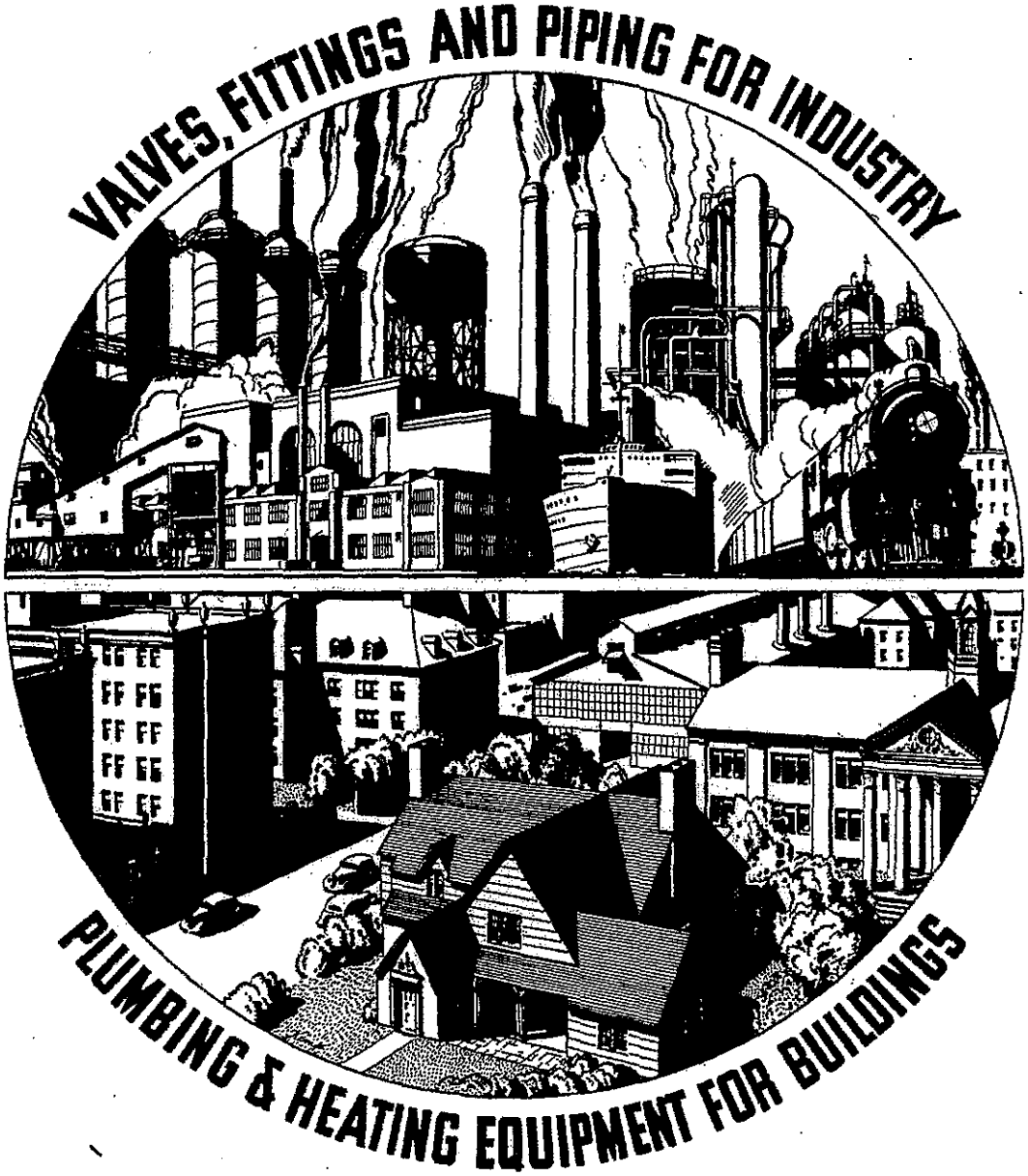
BIRMINGHAM, BRISTOL, MANCHESTER,
★IPSWICH, ENG.
GLASGOW, SCOTLAND

CRANE, LIMITED

CANADA

CRANE00061

CRANE CO.'S PART
In World Economic Revival



ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER 31, 1936

CRANE CO.
CRANE BUILDING

836 SOUTH MICHIGAN AVENUE • CHICAGO

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER 31, 1936

CRANE CO.
CRANE BUILDING

836 SOUTH MICHIGAN AVENUE • CHICAGO

CRANE CO.

DIRECTORS

JOHN B. BERRYMAN, *Chairman*

CORNELIUS CRANE
A. F. GARTZ, JR.
P. T. KELLY
F. R. LILLIE
MARK W. LOWELL
CHARLES B. NOLTE
E. A. RUSSELL
C. A. G. WAYMAN

EXECUTIVE COMMITTEE

CHARLES B. NOLTE

JOHN B. BERRYMAN
P. T. KELLY
MARK W. LOWELL
E. A. RUSSELL

OFFICERS

CHARLES B. NOLTE ..... *President*
J. H. COLLIER ..... *Vice President*
C. R. CRANE, II. ..... *Vice President*
P. T. KELLY ..... *Vice President*
P. R. MORK ..... *Vice President*
D. G. PARK ..... *Vice President*
L. B. PEEPLES ..... *Vice President*
H. W. SEYMOUR ..... *Vice President*
H. P. BISHOP ..... *Secretary*
WALTER EVENSEN ..... *Treasurer*
H. S. CAMPBELL ..... *Comptroller*
J. S. BELL ..... *Assistant Secretary*
J. A. BROUGH ..... *Assistant Secretary*
J. K. PRENTICE ..... *Assistant Secretary*
C. W. DITTMAR ..... *Assistant Treasurer*
R. O. SAMUELSON ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & CO.
Wall and Broad Streets
New York City

L. E. BAKER, *Transfer Clerk*
Crane Co., 836 South Michigan Ave.
Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK
Pine and Nassau Streets
New York City

CONTINENTAL ILLINOIS NATIONAL BANK
AND TRUST COMPANY OF CHICAGO
231 South LaSalle Street
Chicago, Illinois

ANNUAL REPORT

To the Shareholders
of Crane Co.:

In fulfillment of its obligation and desire to furnish full information to shareholders the management of your company, by order of the Board of Directors, presents its report for the year 1936.

FINANCIAL STATEMENTS

The Consolidated Balance Sheet of your company as of December 31, 1936, and Statements of Consolidated Income and Surplus are submitted herewith, together with Auditor's certificate.

CONSOLIDATED INCOME AND SURPLUS:

The Income and Surplus Accounts are given for the year 1936, together with the Income Account for the year 1935 for comparative purposes.

The Income Account shows a net income for the year 1936 of $5,802,170.01, equal to earnings of $2.04 per share on the 2,348,628 shares of Common Stock outstanding, after allowance for the full dividend for the year 1936 on the outstanding 145,889 shares of 7% Cumulative Preferred Stock.

Depreciation:

The charge for depreciation in 1936 was $2,182,902.19 compared with $1,973,504.24 for the year 1935. The management believes that the amount charged off for the year 1936 properly and fully covers current depreciation.

Taxation:

The increasing burden of taxation mentioned in the Annual Report for the year 1935 shows no tendency toward decline.

The Federal Revenue Act of 1936 imposed a new tax, hitherto never imposed—a tax on undistributed profits of corporations at progressive rates, dependent upon the percentage of net income not distributed currently to shareholders in dividends.

During the year 1936 your company paid or accrued in direct taxes of all kinds a total of $3,009,498.70. Taxes paid or accrued in 1936 were equivalent to $1.28 per share of Common Stock, or practically three times the regular dividend on the outstanding $14,588,900.00 of Preferred Stock.

Dividends:

The four regular quarterly dividends of $1.75 per share each, amounting to a total of $1,021,223.00, were declared during the year upon 145,889 shares of the outstanding 7% Cumulative Preferred Stock.

In addition, there was a dividend of $14.00 per share declared upon this stock, reducing the dividend arrears on the Preferred Stock at the end of the year to $8.25 per share, or a total of $1,203,584.25.

The indications of a continuance of increasing volume of business with resulting increased cash expenditures for larger Inventories and Accounts Receivable impelled your Directors to withhold from dividend distribution a reasonable portion of the 1936 earnings.

No dividend was declared or paid on the Common Stock.

CONSOLIDATED BALANCE SHEET:

The Consolidated Balance Sheet includes the assets and liabilities of the parent company and its subsidiaries in the United States, Canada and Europe.

The assets and liabilities of the foreign subsidiaries have been converted into dollars at the rates of exchange prevailing at December 31, 1936, or at former par rate of exchange, whichever was lower.

Inventories:

Inventories, valued at cost or market, whichever was lower, amounted to $24,572,588.16 on December 31, 1936 or $5,234,445.11 greater than on December 31, 1935.

This increase in Inventories during the year resulted from the desirability of increasing and completing stocks at all locations to give

prompt and efficient service upon the increasing orders of our customers.

Funded Debt:

On August 1, 1936, the company's outstanding Ten Year 5% Sinking Fund Gold Notes, due August 1, 1940, aggregating $10,058,000 were retired and replaced by an issue of $12,000,000 Fifteen Year 3½% Sinking Fund Debentures, due June 1, 1951.

By this refinancing an appreciable saving was made in interest and the sinking fund burden was reduced from $750,000 annually to $350,000.

Financial Condition:

The financial condition of your company is sound, with cash and liquid securities of $9,928,727.23 on December 31, 1936, as compared with $10,852,353.05 on December 31, 1935. It should be noted in this comparison that the increase of Inventories and Accounts and Notes Receivable over the increase in Current Liabilities amounted to $5,515,304.68; reflecting an increase in net working capital of $4,591,678.86 during 1936.

The company has no overdue accounts or obligations, and no bank indebtedness.

The ratio of current assets to current liabilities was $6.05 to $1.00 on December 31, 1936.

OPERATING REVIEW

SALES VOLUME:

The sales of your company and its subsidiary companies for the year 1936 amounted to $78,011,503.55, 36% greater than in 1935; the sales in the United States were 42% greater than in 1935.

While the dollar sales volume for the year 1936 showed a marked improvement over that for the year 1935, it is still below the desired level and the production capacity of the company.

All products showed increased sales; particularly valves and fittings, plumbing and heating materials. The sales of valves and fittings showed a materially greater increase in percentage for the last six months than for the first six months of 1936 over 1935.

Your company is operating 166 distributing branches, 134 being in the United States. During the year 1936 branches at Greensboro, N. C. and Reading, Pa. were re-opened.

MANUFACTURING:

Improvements and replacements of equipment and facilities have been made in the plants of the company wherever warranted by increasing business. During the year 1936 $1,993,300 was expended for this purpose, and $1,039,000 in the year 1935. The plants are in excellent condition.

EMPLOYEE RELATIONS:

In order to maintain the cordial relations existing between the company and its employees, and to insure every opportunity being given each employee to function to his best advantage, and advance upon the basis of merit, a department of employee relations was established in April, 1936.

In addition, this department established and supervises a definite course of education and training of technical graduate and other employees, to develop capable manufacturing, sales, engineering, accounting, etc. personnel. One of the objectives of your management is the selection, training and the gradual placing, as occasion arises, of young and promising personnel in positions of responsibility.

Your company is making and will continue to make every effort to treat every employee fairly, and as liberally as conditions will permit. Studies are made constantly with this objective in mind.

INVESTMENT IN FOREIGN SUBSIDIARIES:

The European business continued satisfactory, with a material increase especially in the business and profits of the English Company. Improvements scheduled were completed during 1936 at the plant at Ipswich, England, but additional sales demands have required planning further moderate expenditures for additional equipment at this plant during 1937.

The business of Crane Limited (Canada) improved during 1936, although the percentage of improvement was not as great as that in the United States.

LISTING OF SECURITIES:

In order to provide the shareholders and debenture holders with enlarged market facilities, the Common and Preferred Stock and the

Fifteen Year 3½% Debentures were listed for trading on the New York Stock Exchange in October of 1936.

GENERAL

The market for products manufactured and sold by your company improved materially in 1936; however, all departments are prepared to meet profitably the increasing demand.

Building construction has an important effect upon the business of the company. It decreased to the lowest level in 1934 and since has been progressively increasing. While it is true that our population is now increasing at a much smaller rate than formerly, it is also true that we have experienced many years of under-building. While the future of construction is not susceptible of mathematical determination, it is reasonable to expect that demand for the company's products will continue to increase during 1937.

In the eleven year period from 1925 to 1935, the amount spent on construction was almost evenly divided between public construction, utilities and all other private construction; all three classes require the products manufactured and sold by your company. Residential building, coming in the class of private construction, which started to decrease in 1925 to an unprecedented low in 1934, has shown a pronounced recovery. The indications are that the volume of residential building will continue its increase in 1937 but, undoubtedly, the degree of increase will be determined by the trend of building costs and individual prosperity. While public and utility construction may not attain the proportionate increase of residential building, there is evidence of a steady and material progress in these fields.

CONCLUSION

The management and Directors wish to record their sincere appreciation of the efforts and loyalty of the employees, and of the co-operation of the shareholders and the customer-public, all of which contributed so much to the results reported for the year 1936.

CHARLES B. NOLTE,
President.

JOHN B. BERRYMAN,
Chairman.

February 26, 1937.

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED INCOME ACCOUNTS

For the Years Ended December 31, 1936 and December 31, 1935

	Year ended Dec. 31, 1936	Year ended Dec. 31, 1935
Gross sales, less returns and allowances	$78,011,503.55	$57,494,421.63
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	67,084,840.17	51,502,477.28
	$10,926,663.38	$ 5,991,944.35
Provision for depreciation	2,182,902.19	1,973,504.24
Net operating profit	$ 8,743,761.19	$ 4,018,440.11
Other income:		
Cash discounts on purchases	$ 606,934.71	$ 521,904.67
Interest received	108,169.31	106,367.09
Profits on sales of securities	10,492.61	36,003.41
Miscellaneous other income	93,044.95	62,502.36
	$ 818,641.58	$ 726,777.53
	$ 9,562,402.77	$ 4,745,217.64
Deductions:		
Cash discounts on sales	$ 1,131,018.41	$ 873,877.26
Interest paid	528,065.52	561,379.42
Amortization of debt discount and expense	33,440.90	—
Losses on sale or disposition of fixed assets	261,954.48	97,313.27
Miscellaneous deductions	150,102.91	159,661.82
Minority stockholders' interest in net income of subsidiaries	84,920.82	13,722.62
	$ 2,189,503.04	$ 1,705,954.39
Net income before federal and foreign income taxes, extraordinary charges and special credits	$ 7,372,899.73	$ 3,039,263.25
Provision for federal and foreign income taxes:		
Federal and foreign income taxes	$ 1,263,791.41	$ 448,974.57
Federal surtax on undistributed profits	352,706.72	—
	$ 1,616,498.13	$ 448,974.57
Net income before extraordinary charges and special credits	$ 5,756,401.60	$ 2,590,288.68
Extraordinary charges:		
Devaluation of inventories resulting from change in basis of computing costs	$ —	$ 436,704.77
Provision for obsolescence of inventories	71,290.96	592,272.21
Adjustment of valuation of exhibit room stocks	—	118,674.43
	$ 71,290.96	$ 1,147,651.41
Net income before special credits	$ 5,685,110.64	$ 1,442,637.27
Special credits:		
Refunds and reductions of general tax accruals for prior years	117,059.37	—
Net income	$ 5,802,170.01	$ 1,442,637.27

CRANE CO.
(An Illinois Corporation)
AND SUBSIDIARY COMPANIES
CONSOLIDATED SURPLUS ACCOUNT—DECEMBER 31, 1936

	Capital surplus	Earned surplus	Total
Surplus, December 31, 1935	$1,578,463.11	$3,101,773.37	$ 4,680,236.48
Adjustments applicable to prior years:			
Credit to capital surplus and charge to earned surplus resulting from adjustment of prior year write-offs of differences between cost and book value of stocks of subsidiaries at dates of acquisition	112,237.15	*112,237.15*	
Additional provision for depreciation of $112,500 per annum for years 1934 and 1935		*225,000.00*	*225,000.00*
Miscellaneous adjustments (net)	10,000.00	*4,318.66*	5,681.34
Balance, December 31, 1935 as adjusted	$1,700,700.26	$2,760,217.56	$ 4,460,917.82
Net income for the year ended December 31, 1936		5,802,170.01	5,802,170.01
Fire insurance reserve transferred to earned surplus, all such insurance now being carried with outside companies		436,677.75	436,677.75
Discount on funded debt purchased for retirement		5,055.73	5,055.73
Miscellaneous adjustments	171.30	2,160.32	2,331.62
	$1,700,871.56	$9,006,281.37	$10,707,152.93
Deduct:			
Dividends declared on 7% cumulative preferred shares, par value $100 ($21 per share)		$3,063,669.00	$ 3,063,669.00
Provision for unrealized loss arising through conversion of items in foreign currencies		8,770.85	8,770.85
		$3,072,439.85	$ 3,072,439.85
Surplus, December 31, 1936	$1,700,871.56	$5,933,841.52	$ 7,634,713.08

To the President and Board of Directors of Crane Co., Chicago.

We have made an examination of the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiary companies as at December 31, 1936, and of the consolidated income and surplus accounts for the year 1936. In connection therewith, we examined or tested accounting records of the company and of its subsidiaries and other supporting evidence and obtained information and explanations from officers and employes of the companies; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions.

The inventories have been valued at cost or market, whichever was lower. The quantities and condition of the inventories were certified to by the management and the prices and computations were tested by us.

The current assets and current liabilities of foreign subsidiary companies have been converted at the rates of exchange prevailing at December 31, 1936 or former "par", whichever was lower.

The provision for depreciation for the year 1936 amounted to $2,182,902.19 as compared to $1,973,504.24 for the year 1935. This increase is chiefly due to (1) a change in policy by foreign subsidiaries in order to provide for depreciation of the full cost of all properties, which is the practice followed by Crane Co. and domestic subsidiaries, and (2) an additional special annual provision of $112,500 for depreciation on equipment of Crane Co. and domestic subsidiaries.

In our opinion, based upon such examination, the accompanying consolidated balance sheet and related consolidated income and surplus accounts fairly present, in accordance with accepted principles of accounting consistently maintained by the companies during the year under review, the financial position at December 31, 1936 and the results of the operations for the year.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

Chicago, Illinois,
February 23, 1937.

CRANE CO.
(An Illinois Corporation)
AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1936

ASSETS

CURRENT ASSETS:			
Cash		$ 8,539,392.07	
Marketable securities at cost (quoted market value, December 31, 1936, $1,422,628.85, including $1,177,319 for U. S. Government securities)	$ 1,409,490.24		
Less: Reserve for amortization of premium	20,155.08	1,389,335.16	
		$ 9,928,727.23	
Accounts and notes receivable—			
Trade	$10,698,935.94		
Sundry	128,850.09		
Officers and employes (partly secured)	29,806.20		
	$10,857,592.23		
Less: Reserve for doubtful accounts and notes receivable	470,768.84	10,386,823.39	
Inventories of raw materials, work in process, finished goods and supplies taken by company officials and employes and valued at the lower of cost or market		24,572,588.16	
Total current assets			$ 44,888,138.78
INVESTMENTS:			
Securities at cost or nominal value (less reserve for losses of $78,545)		$ 83,896.26	
Other investments at cost (less reserve of $5,601.33)		299,132.41	
			383,028.67
FIXED ASSETS, AT COST:			
Land, land improvements and leases		$ 9,226,040.17	
Buildings	$39,686,187.64		
Less: Reserve for depreciation	11,959,810.76	27,726,376.88	
Machinery, equipment, etc.	$40,909,867.27		
Less: Reserve for depreciation	22,725,193.00	18,184,674.27	
			55,137,091.32
PATENTS, LESS AMORTIZATION			1.00
CASH IN CLOSED BANKS, LESS RESERVE OF $29,000			1,388.80
DEFERRED CHARGES:			
Unamortized discount and expense on funded debt—Crane Co.		$ 635,336.74	
Subsidiary Company		12,156.97	
Rents, insurance and miscellaneous items paid in advance		84,682.40	
Catalogues, stationery supplies, etc.		81,210.15	
			813,386.26
COMMON STOCK REACQUIRED AND HELD IN TREASURY AGAINST OUTSTANDING OPTION TO THE PRESIDENT AND HIS ASSIGNS AND TO HIS HEIRS AND THEIR ASSIGNS, UNDER AGREEMENT MADE JANUARY 16, 1935, TO PURCHASE ALL OR ANY PART THEREOF, AT $10 PER SHARE, ON OR BEFORE MARCH 1, 1940:			
50,000 shares, at cost			475,000.00
			$101,698,034.83

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CRANE CO.
(An Illinois Corporation)
AND SUBSIDIARY COMPANIES
CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1936

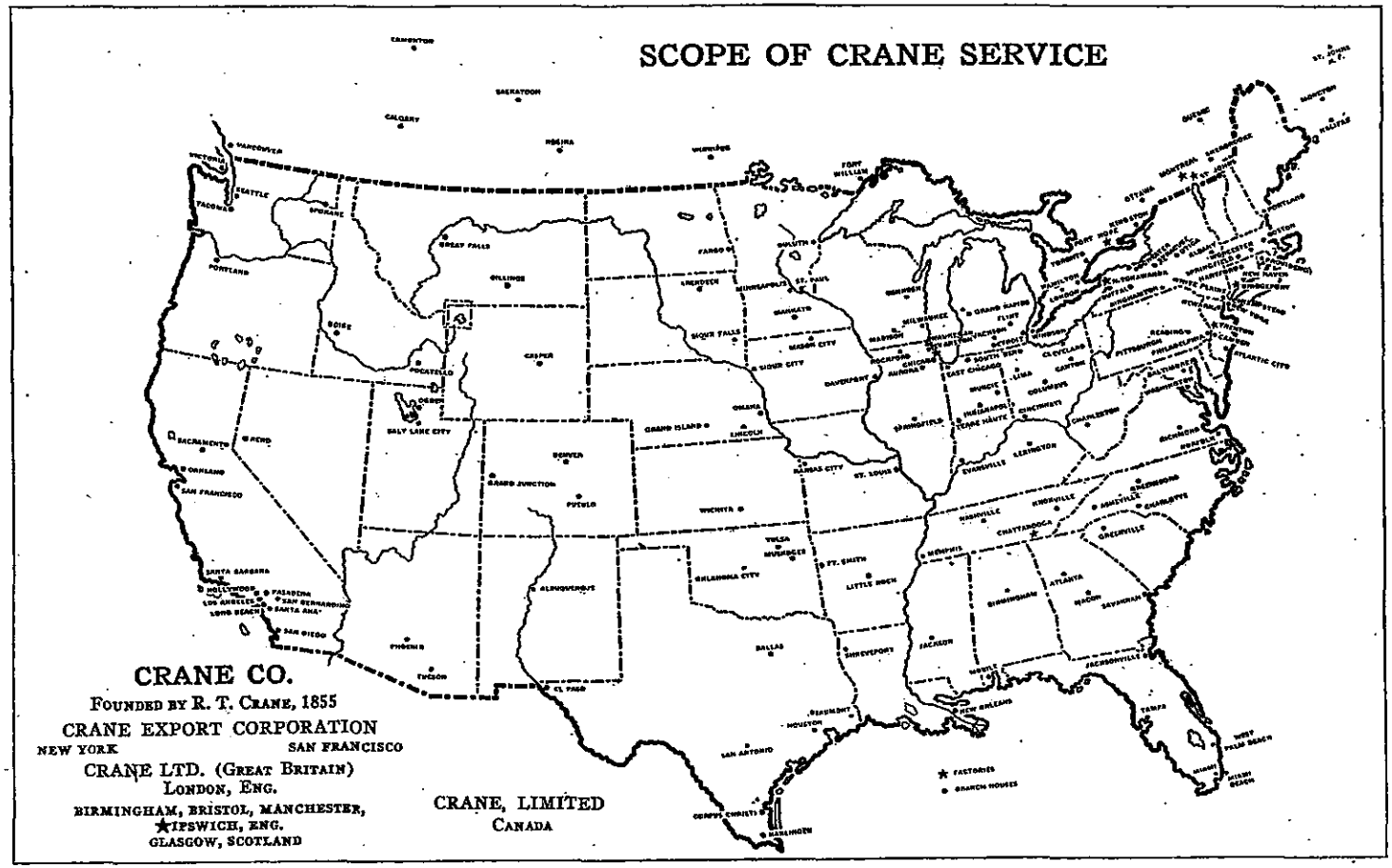
LIABILITIES

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls	$ 4,200,150.78	
Accrued taxes (general, federal and foreign income)	3,121,040.62	
Accrued interest on long term debt	36,882.17	
Sinking fund payment due April 20, 1937 on fifteen year sinking fund debentures (less debentures reacquired and held in treasury for retirement)	65,155.00	
Total current liabilities		$ 7,423,228.57
LONG TERM DEBT:		
Fifteen year 3½% sinking fund debentures, due June 1, 1951 (annual sinking fund payments of $350,000 due April 20 of each year from 1937 to 1950)—		
Authorized and issued	$12,000,000.00	
Less: Debentures reacquired and held in treasury for retirement, to be applied against sinking fund installment due April 20, 1937	285,000.00	
	$11,715,000.00	
Less: Balance of sinking fund installment due April 20, 1937, provided above	65,155.00	
	$11,649,845.00	
Funded debt of subsidiary companies, less amounts held in treasuries of Crane Co. and Subsidiaries, of which $174,000 principal amount has been called, subsequent to December 31, 1936, for payment in 1937 at a call price of $177,480	309,671.22	
Mortgage secured by real estate of subsidiary company	21,000.00	
		11,980,516.22
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Preferred stockholders	$ 162,500.00	
Common stockholders	987,451.85	
		1,149,951.85
MISCELLANEOUS RESERVES		205,025.11
CAPITAL STOCK:		
Preferred 7% cumulative shares, par value $100, callable at $110—		
Authorized—150,000 shares		
Issued —145,889 shares	$14,588,900.00	
Common shares, par value $25—		
Authorized—3,000,000 shares		
Issued —2,348,628 shares	58,715,700.00	
		73,304,600.00
SURPLUS:		
Capital	$ 1,700,871.56	
Earned (of which $475,000, representing the cost of 50,000 shares of treasury common stock, is restricted under The Business Corporation Act of Illinois of July, 1933, until such stock is sold or cancelled)	5,933,841.52	
		7,634,713.08

Cumulative dividends on the 7% cumulative preferred shares of Crane Co. to December 31, 1936, amounting to $8.25 per share or $1,203,584.25 on all shares outstanding, had not been declared or paid at that date.

Contingent liabilities—customers' notes discounted under partial payment plan, etc.—$1,045,923.02.

$101,698,034.83


SCOPE OF CRANE SERVICE
CRANE CO.
FOUNDED BY R. T. CRANE, 1855
CRANE EXPORT CORPORATION
NEW YORK
SAN FRANCISCO
CRANE LTD. (GREAT BRITAIN)
LONDON, ENG.
BIRMINGHAM, BRISTOL, MANCHESTER,
★IPSWICH, ENG.
GLASGOW, SCOTLAND
CRANE, LIMITED
CANADA
★ FACTORIES
• BRANCH HOUSES

CRANE00075

CRANE PRODUCTS SERVE

ALL TYPES OF INDUSTRY ● ***ALL CLASSES OF BUILDINGS***

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER 31, 1937

CRANE CO.

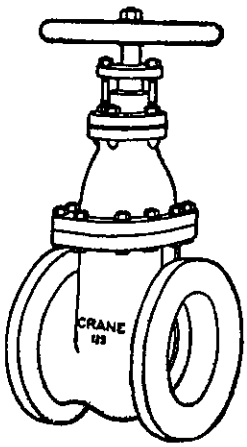
CRANE BUILDING

836 SOUTH MICHIGAN AVENUE CHICAGO

CRANE00077

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER 31, 1937



CRANE CO.

CRANE BUILDING

836 SOUTH MICHIGAN AVENUE • CHICAGO

CRANE CO.

DIRECTORS

JOHN B. BERRYMAN, *Chairman*

CORNELIUS CRANE
A. F. GARTZ, JR.
P. T. KELLY
F. R. LILLIE
MARK W. LOWELL
CHARLES B. NOLTE
E. A. RUSSELL
C. A. G. WAYMAN

EXECUTIVE COMMITTEE

CHARLES B. NOLTE

JOHN B. BERRYMAN
P. T. KELLY
MARK W. LOWELL
E. A. RUSSELL

OFFICERS

CHARLES B. NOLTE	*President*
J. H. COLLIER	*Vice President*
C. R. CRANE, II.	*Vice President*
P. T. KELLY	*Vice President*
P. R. MORK	*Vice President*
D. G. PARK	*Vice President*
L. B. PEEPLES	*Vice President*
H. W. SEYMOUR	*Secretary*
J. L. HOLLOWAY	*Treasurer*
WALTER EVENSEN	*Assistant Secretary*
J. S. BELL	*Assistant Secretary*
J. A. BROUGH	*Assistant Secretary*
J. K. PRENTICE	*Assistant Treasurer*
C. W. DITTMAR	*Assistant Treasurer*
R. O. SAMUELSON	*Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & CO.
Wall and Broad Streets
New York City

L. E. BAKER, *Transfer Clerk*
Crane Co., 836 South Michigan Ave.
Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK
Pine and Nassau Streets
New York City

CONTINENTAL ILLINOIS NATIONAL BANK
AND TRUST COMPANY OF CHICAGO
231 South LaSalle Street
Chicago, Illinois

ANNUAL REPORT

To the Shareholders
of Crane Co.:

The management of your company, by order of the Board of Directors, is pleased to present its report for the year 1937.

FINANCIAL STATEMENTS

The Statements of Consolidated Income and Surplus and the Consolidated Balance Sheet of your company, as of December 31, 1937, are submitted herewith, together with Auditor's Certificate.

CONSOLIDATED INCOME AND SURPLUS:

The Income and Surplus Accounts are given for the year 1937, together with the Income Account for the year 1936 for comparative purposes.

The Income Account shows a net income for the year 1937 of $9,765,126.54, equal to earnings of $3.63 per share on the 2,348,628 shares of Common Stock issued, after allowance of $1,245,248.97 for the dividend requirements on 145,889 shares of 7% Cumulative Preferred Stock and on 192,803 shares of 5% Cumulative Convertible Preferred Stock for the periods of the year such shares were outstanding.

Total Consolidated Surplus at December 31, 1937 amounted to $10,672,077.85, of which $970,537.72 is allocated as Capital Surplus, leaving $9,701,540.13 as Earned Surplus.

Depreciation:

The charge for depreciation in 1937 amounted to $2,112,107.55, compared with $2,182,902.19 for the year 1936.

The depreciation procedure of certain foreign subsidiary companies was amended to bring it more closely in conformity with that of the parent company, which resulted in a small difference in the total charge for depreciation.

Taxation:

The tide of taxation continues to rise steadily with no indication of abatement. During the year 1937 your company paid or accrued in combined direct taxes of all kinds a total of $4,695,788.13. This amount is equivalent to $2.00 per share, or a return of 8% on the par value of the Common Stock.

Dividends:

A total of $4,764,461.22 was paid in dividends during the year consisting of the following:

7% Cumulative Preferred Shares	
Three quarterly dividends of $1.75 per share	$ 763,241.47
Two dividends on accumulated arrears totalling $8.25 per share	1,203,584.25
5% Cumulative Convertible Preferred Shares	
Two quarterly dividends of $1.25 per share	482,007.50
Common Shares	
One dividend of $1.00 per share	2,315,628.00
TOTAL	$4,764,461.22

The dividend for the third quarter of the year and dividend arrears of $5.25 per share included above upon the 7% Cumulative Preferred Shares were distributed as a part of the redemption price of these shares, which were called for redemption and retirement on September 15, 1937.

The distribution of $5.25 per share paid the balance of the dividend arrears on the 7% Cumulative Preferred Shares.

The dividend of $1.00 on the Common Shares was the first since December 15, 1931.

CONSOLIDATED BALANCE SHEET:

The Consolidated Balance Sheet includes the assets and liabilities of the parent company and of all its subsidiaries, including those in Canada and Europe as well as in the United States.

The current assets and liabilities of the foreign subsidiaries have been converted into dollars at the rates of exchange prevailing at December 31, 1937, or at former par rates of exchange, whichever were lower.

Inventories:

Inventories, valued at cost or market, whichever was lower, amounted to $29,856,935.54 at December 31, 1937, an increase of $5,284,347.38 over the amount at December 31, 1936.

The increase in Inventories during the year reflects increases in both quantities and value. Greater quantities were required in order to efficiently serve the increased demands of customers; and substantial increases in wage rates, material prices and various items of expense brought about increases in the cost of the product.

Commitments for future requirements of raw materials such as steel, iron, copper and brass are made in order to assure, so far as practicable, an adequate supply at a predetermined price. The extent of the commitments varies, depending largely upon the potential requirements of the company, the supply of materials on hand and general market conditions. The commitments open at December 31, 1937 amounted to approximately $150,000.

There has been some reduction in inventories since December 31, 1937 due to the effect of curtailment of production to conform to the sales trend. In the opinion of the management, the inventories are not excessive for the present volume of business in view of the advisability of carrying adequate stocks at all distribution points.

Capital Stock:

In June 1937, the company issued 192,803 shares of 5% Cumulative Convertible Preferred Stock of $100 par value as a part of a refinancing program which embraced the redemption and retirement, as of September 15, 1937, of all of its other Preferred Stock, consisting of 145,889 shares of 7% Cumulative Preferred Stock of $100 par value.

Through this procedure net additional working capital of approximately $2,750,000 was obtained with an over-all reduction of approximately $57,000 in the annual Preferred Stock dividend requirement. A Common Share conversion feature was incorporated in the new Preferred Shares, looking toward a possible future establishment of the Capital Stock on a purely Common Share basis.

Financial Condition:

The financial condition of the company is sound. Total Current Assets amounted to $52,015,133.08 at December 31, 1937 with total Current Liabilities of $7,199,101.11 reflecting a net working capital of $44,816,031.97, of which $11,715,309.65 was in cash and liquid securities.

The net working capital shows an increase of $7,351,121.76 over the position at December 31, 1936. The increase resulted principally from the retention of earnings and the acquisition of additional capital through the change in the Capital Stock.

The ratio of current assets to current liabilities was 7.23 to 1.00 on December 31, 1937.

The company owes no overdue accounts or obligations, and has no bank indebtedness.

OPERATING REVIEW

SALES VOLUME:

The sales of your company and its subsidiary companies for the year 1937 amounted to $98,543,063.00, 26% greater than in 1936; the sales in the United States were 27% greater than in 1936.

The dollar sales volume showed a marked increase during the first part of 1937; however, a downward trend developed toward the end of the year necessitating a material reduction in the production level of the company. Sales of valves and fittings contributed most toward the improvement for the year.

Your company is operating 163 distributing branches, 134 being in the United States. Three branches in Canada were closed during the year 1937, the activities being transferred to adjacent branches.

MANUFACTURING:

Improvements and replacements of equipment and facilities have been made in the plants of the company wherever they appeared economically sound. Expenditures for this purpose amounted to $2,903,700.00 during 1937. The plants are being maintained in efficient condition.

The increase in the demand for new and special products has been met by improved manufacturing facilities so that manufacturing operations now cover efficiently not only regular catalogued articles, but also special products in our field, manufactured to unusual specifications.

ENGINEERING AND RESEARCH DIVISION:

Effective December 1, 1937, the various departments of research, development and product engineering of the company were consolidated into a single new Division of Engineering and Research. This Division occupies the entire Engineering Building at the Chicago

(Corwith) Works where new and completely equipped chemical, metallurgical, hydraulic, heating, plumbing and other research laboratories have been installed. All engineering activities will be coordinated to further the progress of the company in engineering research, experimentation, design and testing in order to develop improvements and originate new lines of products to assist industry and bring greater satisfaction to customers of the company.

EMPLOYEE RELATIONS:

The work of the Department of Employee Relations has been materially broadened since its inauguration in 1936, with increasing benefits to employees and gratification to the management. Intensive attention will continue to be given to the best interests of the employees, for whose confidence and loyalty the company is sincerely grateful.

INVESTMENT IN FOREIGN SUBSIDIARIES:

The combined earnings of the foreign subsidiaries for 1937 were the greatest in the history of the company. The English Company again realized a substantial increase in earnings, and the Canadian Company showed the greatest improvement in earnings over the previous year.

All of the companies operated at a profit for the year, and the plants have been maintained to a high standard.

OUTLOOK

After considering the sudden decrease to a materially lower level during the latter part of 1937, following the large volume of business prevailing during the greater part of the year, and in view of the uncertainties of the many factors affecting business generally and the existing doubts and obscurities of the immediate future, it seems

impracticable to attempt to predict the results of even the first half of the current year. The present business volume of the company is less than during the same period of 1937, but somewhat greater than for the corresponding period of 1936. There is no prospect at present of the peak of 1937 sales being reached. If some of the retarding uncertainties are cleared up by the middle of the year, and the Housing and Armament programs developed later in the year, the operations of the company for the year 1938 as a whole may be reasonably satisfactory.

CONCLUSION

The management and directors welcome the opportunity of expressing their genuine appreciation of the loyalty and cooperation of the company's employees, shareholders and customers who have been such important factors in the net results reported for the year 1937.

CHARLES B. NOLTE,
President.

JOHN B. BERRYMAN,
Chairman.

February 26, 1938.

To the President and Board of Directors
of Crane Co., Chicago.

We have made an examination of the consolidated balance sheet of Crane Co. (An Illinois Corporation) and subsidiary companies as at December 31, 1937, and of the consolidated income and surplus accounts for the year 1937. In connection therewith, we examined or tested accounting records of the company and of its subsidiaries and other supporting evidence and obtained information and explanations from officers and employes of the companies; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions.

The inventories have been valued at cost or market, whichever was lower. The quantities and condition of the inventories were certified to by the management and the prices and computations were tested by us.

The current assets and current liabilities of foreign subsidiary companies have been converted at the rates of exchange prevailing at December 31, 1937 or former "par", whichever was lower.

The provision for depreciation for the year 1937 amounted to $2,112,107.55 as compared to $2,182,902.19 for the year 1936. The procedures for computing provision for depreciation of certain foreign subsidiaries were amended during the year to bring them in line with those of Crane Co. and domestic subsidiaries, but the amendment effected a comparatively small change in the total provision for depreciation.

In our opinion, based upon such examination, the accompanying consolidated balance sheet and related consolidated income and surplus accounts fairly present, in accordance with accepted principles of accounting consistently maintained by the companies during the year under review, the financial position at December 31, 1937 and the results of operations for the year.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

Chicago, Illinois,
February 17, 1938.

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED INCOME ACCOUNT

For the Years Ended December 31, 1937 and December 31, 1936

	Year ended Dec. 31, 1937	Year ended Dec. 31, 1936
Gross sales, less returns and allowances	$98,543,063.00	$78,011,503.55
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	82,686,367.20	67,039,071.76
	$15,856,695.80	$10,972,431.79
Provision for depreciation	2,112,107.55	2,182,902.19
Net operating profit	$13,744,588.25	$ 8,789,529.60
Other income:		
Cash discounts on purchases	$ 800,527.84	$ 606,934.71
Interest received	79,226.13	108,169.31
Profits on sales of securities	14,188.55	10,492.61
Miscellaneous other income	74,080.24	93,044.95
	$ 968,022.76	$ 818,641.58
	$14,712,611.01	$ 9,608,171.18
Deductions:		
Cash discounts on sales	$ 1,479,346.68	$ 1,131,018.41
Interest paid	410,768.84	528,065.52
Amortization of debt discount and expense	69,893.37	33,440.90
Losses on sale or disposition of fixed assets	294,145.19	261,954.48
Miscellaneous deductions	81,422.73	150,102.91
Minority stockholders' interest in net income of subsidiaries	117,490.51	84,920.82
	$ 2,453,067.32	$ 2,189,503.04
Net income before federal and foreign income taxes	$12,259,543.69	$ 7,418,668.14
Provision for federal and foreign income taxes:		
Federal and foreign income taxes	$ 2,141,226.68	$ 1,263,791.41
Federal surtax on undistributed profits	353,190.47	352,706.72
	$ 2,494,417.15	$ 1,616,498.13
Net income	$ 9,765,126.54	$ 5,802,170.01

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED SURPLUS ACCOUNT—DECEMBER 31, 1937

	Capital surplus	Earned surplus	Total
Surplus, December 31, 1936	$1,700,871.56	$ 5,933,841.52	$ 7,634,713.08
Net income for the year ended December 31, 1937		9,765,126.54	9,765,126.54
Miscellaneous reserves no longer required		30,571.14	30,571.14
Charges and credits resulting from liquidation of subsidiary companies	*29,034.37*	42,594.96	13,560.59
Excess of selling price over cost to company of 17,000 common shares reacquired and sold under option agreement to the president	8,500.00		8,500.00
Discount on funded debt purchased for retirement		1,525.26	1,525.26
Excess of par value over cost of subsidiary's stock acquired during year	780.00		780.00
	$1,681,117.19	$15,773,659.42	$17,454,776.61
Deduct:			
Premium paid on redemption of preferred 7% cumulative shares	$ 250,043.45	$ 1,208,846.55	$ 1,458,890.00
Commission and expenses on sale of 5% cumulative convertible preferred shares	460,536.02		460,536.02
Premium on funded debt of subsidiary called for payment prior to maturity and unamortized discount and expense applicable thereto		15,636.97	15,636.97
Provision for unrealized loss arising through conversion of items in foreign currencies		83,174.55	83,174.55
	$ 710,579.47	$ 1,307,658.07	$ 2,018,237.54
	$ 970,537.72	$14,466,001.35	$15,436,539.07
Cash dividends—			
Preferred 7% cumulative shares—$13.50 per share (including $7.00 per share paid on redemption)		$ 1,966,825.72	$ 1,966,825.72
5% cumulative convertible preferred shares—$2.50 per share		482,007.50	482,007.50
Common shares—$1.00 per share		2,315,628.00	2,315,628.00
		$ 4,764,461.22	$ 4,764,461.22
Surplus, December 31, 1937	$ 970,537.72	$ 9,701,540.13	$10,672,077.85

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1937

ASSETS

CURRENT ASSETS:			
Cash		$11,539,011.09	
Marketable securities at cost (quoted market value, December 31, 1937, $182,570.75)		176,298.56	
		$11,715,309.65	
Accounts and notes receivable—			
Trade	$10,729,572.26		
Sundry	92,329.64		
Officers and employes (partly secured)	23,395.67		
	$10,845,297.57		
Less: Reserve for doubtful accounts and notes receivable	402,409.68	10,442,887.89	
Inventories taken by company officials and employes and valued at the lower of cost or market—			
Raw materials and supplies	$ 4,743,949.55		
Work in process	6,674,819.18		
Finished goods	18,438,166.81		
		29,856,935.54	
Total current assets			$ 52,015,133.08
INVESTMENTS:			
Securities at cost or nominal value (less reserve for losses, $115,260)		$ 46,181.26	
Other investments at cost (less reserve, $6,168.98)		234,104.81	
			280,286.07
FIXED ASSETS, AT COST:			
Land, land improvements and leases		$ 9,211,614.89	
Buildings	$39,639,171.47		
Less: Reserve for depreciation	12,478,776.86		
		27,160,394.61	
Machinery and equipment	$42,218,412.21		
Less: Reserve for depreciation	23,173,979.34		
		19,044,432.87	
			55,416,442.37
GOOD WILL			1.00
DEFERRED CHARGES:			
Unamortized debt discount and expense on fifteen year debentures		$ 565,443.37	
Rents, insurance and miscellaneous items paid in advance		60,534.45	
Stationery supplies and sundry deferred charges		16,445.14	
			642,422.96
COMMON STOCK REACQUIRED AND HELD IN TREASURY AGAINST OUTSTANDING OPTION TO THE PRESIDENT AND HIS ASSIGNS AND TO HIS HEIRS AND THEIR ASSIGNS, UNDER AGREEMENT MADE JANUARY 16, 1935, TO PURCHASE ALL OR ANY PART THEREOF, AT $10 PER SHARE, ON OR BEFORE MARCH 1, 1940:			
33,000 shares, at cost			313,500.00
			$108,667,785.48

CRANE CO.

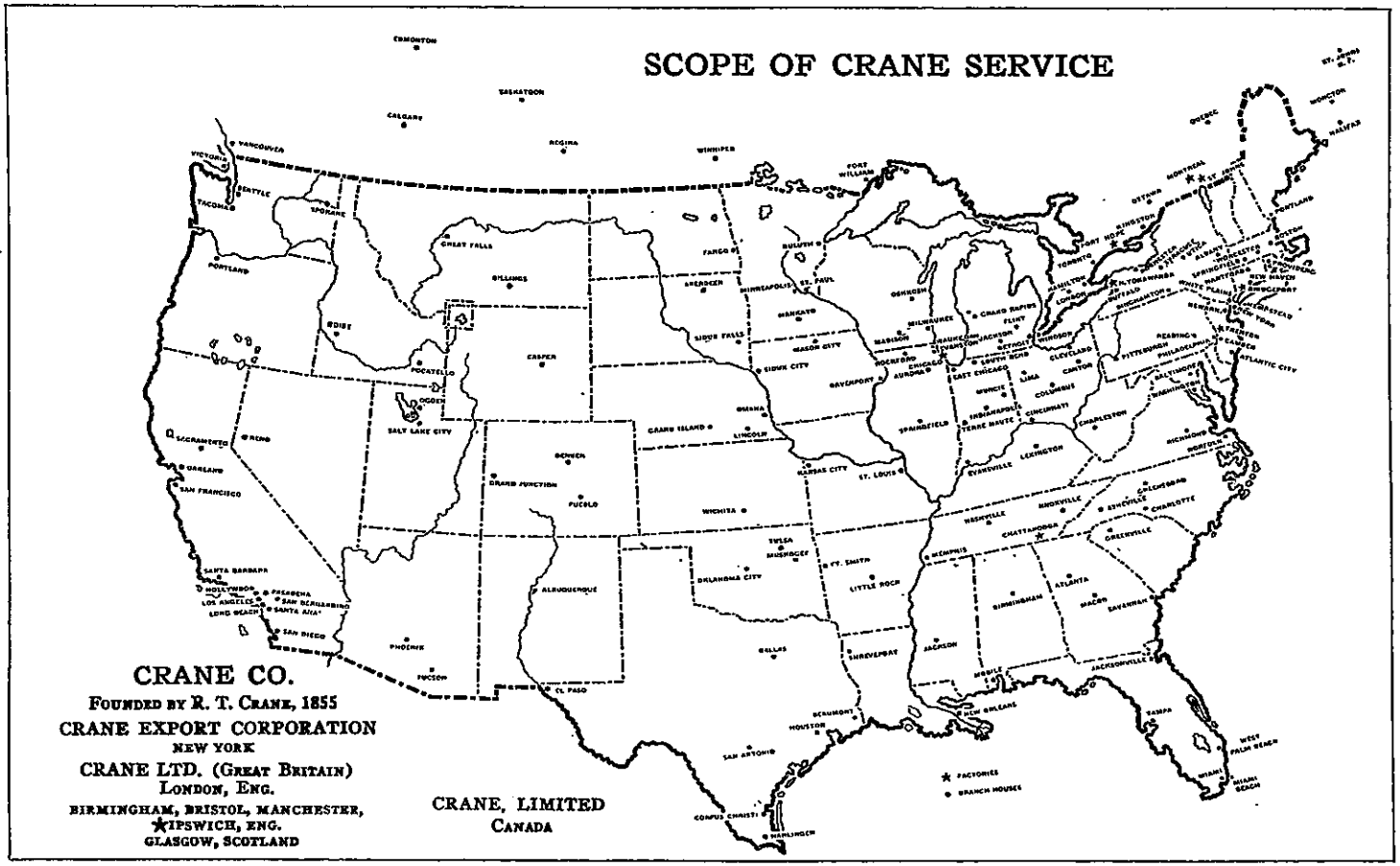
(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

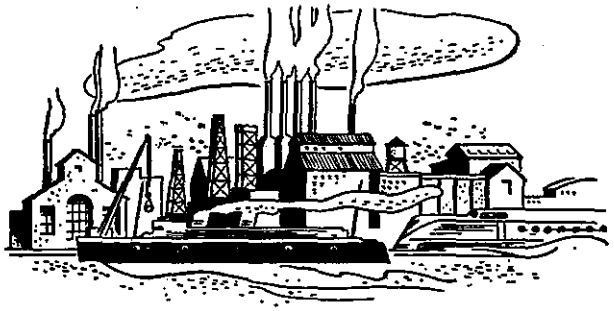
CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1937

LIABILITIES

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls	$ 3,010,230.33	
Accrued taxes (general, federal and foreign income)	4,155,802.45	
Accrued interest on long term debt	33,068.33	
Total current liabilities		$ 7,199,101.11
LONG TERM DEBT:		
Fifteen year 3½% sinking fund debentures, due June 1, 1951 (annual sinking fund payments of $350,000 due April 20 of each year from 1937 to 1950)—		
Authorized and issued	$12,000,000.00	
Less: Retired through sinking fund, April 20, 1937	350,000.00	
Outstanding	$11,650,000.00	
Less: Reacquired and held in treasury for retirement through sinking fund on April 20, 1938	350,000.00	
	$11,300,000.00	
Funded debt of subsidiary company, less amount held in treasury of subsidiary	107,087.00	
Mortgage secured by real estate of subsidiary	20,000.00	
		11,427,087.00
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Preferred stockholders (par value)	$ 161,200.00	
Common stockholders (par value, $1,006,700, plus equity in surplus, $15,598.10)	1,022,298.10	
		1,183,498.10
MISCELLANEOUS RESERVES		190,021.42
CAPITAL STOCK:		
Cumulative convertible preferred shares, par value $100, callable at $105—		
Authorized—200,000 shares		
Issued—192,803 shares, designated as 5% cumulative convertible preferred shares	$19,280,300.00	
Common shares, par value $25—		
Authorized—3,000,000 shares (385,606 shares are reserved for conversion of 5% cumulative convertible preferred shares)		
Issued—2,348,628 shares	58,715,700.00	
		77,996,000.00
SURPLUS:		
Capital	$ 970,537.72	
Earned (of which $313,500, representing the cost of 33,000 shares of treasury common stock, is restricted under The Business Corporation Act of Illinois of July 1933, until such stock is sold or cancelled)	9,701,540.13	
		10,672,077.85
CONTINGENT LIABILITIES:		
Customers' notes discounted under partial payment plan, etc.	$573,892.52	
Preferred 7% cumulative shares called for redemption on September 15, 1937, but not yet presented for payment, against which the company has deposited funds necessary for such redemption	$247,572.00	
		$108,667,785.48


SCOPE OF CRANE SERVICE
CRANE CO.
FOUNDED BY R. T. CRANE, 1855
CRANE EXPORT CORPORATION
NEW YORK
CRANE LTD. (GREAT BRITAIN)
LONDON, ENG.
BIRMINGHAM, BRISTOL, MANCHESTER,
IPSWICH, ENG.
GLASGOW, SCOTLAND
CRANE, LIMITED
CANADA
FACTORIES
BRANCH HOUSES

CRANE00092



CRANE PRODUCTS SERVE

All Types of Industry
All Classes of Buildings

VALVES • FITTINGS • PIPE

FABRICATED PIPE • AIR-CONDITIONING

PLUMBING • HEATING • PUMPS

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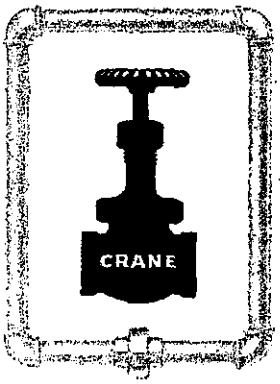
ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1938



CRANE CO.

CRANE BUILDING

836 SOUTH MICHIGAN AVENUE

CHICAGO

Annual Report

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1938

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CRANE CO.

CRANE BUILDING
836 SOUTH MICHIGAN AVENUE
Chicago

CRANE CO.

DIRECTORS

JOHN B. BERRYMAN, *Chairman*

ARTHUR O. CHOATE
CORNELIUS CRANE
A. F. GARTZ, JR.
F. R. LILLIE
MARK W. LOWELL
CHARLES B. NOLTE
J. L. PALMER
E. A. RUSSELL

OFFICERS

CHARLES B. NOLTE ..... *President*
J. H. COLLIER ..... *Vice President*
C. R. CRANE, II ..... *Vice President*
P. T. KELLY ..... *Vice President*
P. R. MORK ..... *Vice President*
D. G. PARK ..... *Vice President*
L. B. PEEPLES ..... *Vice President*
J. L. HOLLOWAY ..... *Secretary*
WALTER EVENSEN ..... *Treasurer*
F. H. KAISER ..... *Comptroller*
J. S. BELL ..... *Assistant Secretary*
J. A. BROUGH ..... *Assistant Secretary*
J. K. PRENTICE ..... *Assistant Secretary*
L. E. BAKER ..... *Assistant Treasurer*
C. W. DITTMAR ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & Co.
Wall and Broad Streets
New York City

W. E. PETERSON, *Transfer Clerk*
Crane Co., 836 South Michigan Ave.
Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK
Pine and Nassau Streets
New York City

CONTINENTAL ILLINOIS NATIONAL BANK
AND TRUST COMPANY OF CHICAGO
231 South LaSalle Street
Chicago, Illinois

CRANE00096

ANNUAL REPORT

To the Shareholders
of Crane Co.:

This annual report for the year 1938, covering the 74th year of the operations of your company since its incorporation, is presented by the management with the approval of the Board of Directors.

FINANCIAL REVIEW

Statements of Consolidated Income and Consolidated Surplus for the year and a Consolidated Balance Sheet as of December 31, 1938, together with a certificate of Arthur Young & Co., independent public accountants, are shown on pages 8 to 12.

CONSOLIDATED INCOME AND SURPLUS:

The statements of Income and Surplus are given for the year 1938, together with the Income Account for the year 1937 for comparative purposes.

The Income Account shows a net income for the year 1938 of $380,697.85, equal to $1.97 a share on the outstanding 5% Cumulative Convertible Preferred Stock.

Total Consolidated Surplus at December 31, 1938 amounted to $9,960,945.13 of which $1,037,189.39 is allocated as Capital Surplus, leaving $8,923,755.74 as Earned Surplus.

Depreciation:

The amount charged to operations for depreciation for 1938 was $2,158,-799.13 compared with $2,112,107.55 for 1937. The charge-off for depreciation of machinery and equipment is established on a basis of the estimated life of

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the individual item; these items are reviewed annually and the estimated remaining life revised where necessary. The provision for depreciation on buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction. This has been the general depreciation policy of your company during recent years.

Taxation:

During the year 1938 your company paid or accrued in combined direct taxes of all kinds a total of $2,602,981.53. This amount is equivalent to $1.11 per Common Share, and is particularly significant when compared with earnings of $380,697.85 for the year.

Dividends:

Regular quarterly dividends of $1.25 a share, amounting to a total of $964,015 for the year were paid on the 5% Cumulative Convertible Preferred Shares. No dividend was paid during the year on the Common Shares.

CONSOLIDATED BALANCE SHEET:

The Consolidated Balance Sheet includes the assets and liabilities of the parent company and of all its subsidiaries, including those in Canada and Europe as well as in the United States.

The current assets and liabilities of the foreign subsidiaries have been converted into dollars at the rates of exchange prevailing at December 31, 1938, which were lower than former "par" rates.

Inventories:

Inventories, valued at cost or market, whichever was lower, amounted to $24,707,679.58 at December 31, 1938, a decrease of $5,149,255.96 from the amount at December 31, 1937.

The decrease in Inventories during the year was brought about principally through a reduction in quantities. Values were slightly lower in the aggregate

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than at the end of the previous year, due to a minor decline in some raw material costs and reductions in other items of expense.

Open commitments for raw materials, made in the ordinary course of business, amounted to approximately $175,000 at the end of the year. Prices thereon were as a whole substantially the same as current market quotations.

Inventories have been increased moderately since December 31st and are considered adequate to efficiently serve the estimated demand for the near future.

Financial Condition:

The financial condition of your company is sound. Total Current Assets amounted to $49,499,795.10 at December 31, 1938 with total Current Liabilities of $5,240,206.73, reflecting a net working capital of $44,259,588.37, of which $15,373,671.66 was in cash. The net working capital shows a decrease of $556,443.60 from the position at December 31, 1937.

The ratio of current assets to current liabilities was 9.45 to 1.00 on December 31, 1938.

Your company owes no overdue accounts or obligations, and has no bank indebtedness.

OPERATING REVIEW

SALES VOLUME:

The sales of your company and its subsidiary companies for the year 1938 amounted to $74,307,090.07 being 25% below sales for 1937; the sales in the United States were 28% below sales for 1937.

The decline in dollar volume of sales for 1938 was due to a material decrease both in prices generally and quantities sold. The decrease in demand for industrial products, such as valves, fittings and pipe, was much greater than for plumbing and heating materials.

Your company is operating 162 distributing branches, 134 being in the United States.

CRANE00099

MANUFACTURING:

Your company is operating eleven manufacturing plants. Improvements and replacements of machinery and equipment have been made in all plants wherever they appeared to be economically sound. Expenditures for these purposes amounted to $1,744,800 during 1938.

EMPLOYEE RELATIONS:

Further progress was made by the Department of Employee Relations during the year. Among other things, the Group Life Insurance plan of the parent company and a number of its subsidiaries was revised to provide for increased insurance for all desiring it and to reduce the cost per thousand dollars of insurance to the employee. Under the revised plan employees are eligible in amounts commensurate with their annual earnings, for insurance up to a maximum of $3,000. Over 95% of the employees are voluntarily participating in this plan.

The confidence and loyalty of the employees have been most gratifying and their welfare will continue to receive constant consideration.

INVESTMENT IN FOREIGN SUBSIDIARIES:

While the combined earnings of the foreign subsidiaries for 1938 were materially below those for 1937, they did not decrease as sharply as the earnings of the company and its subsidiaries in the United States. Both sales volume and prices for products abroad were relatively higher than in the United States.

All of the companies operated at a profit for the year, and the plants and equipment have been maintained to a high standard.

OUTLOOK

The disturbed foreign conditions and the possible effect upon the general business in the United States make it difficult to predict results for 1939. Sales volume, in dollars, for the first six weeks of 1939, was slightly greater than for the same period of 1938. There is a good prospect of increased

CRANE00100

building construction which would add to the demand for the products of your company. The immediate outlook is definitely better than it was a year ago.

CONCLUSION

A brief review of the activities and policies of the company is presented as a supplement to this report in the pages following the financial statements. In this manner a concise, current view of the business as a whole is provided in one cover. The shareholders, many of whom are also employees and customers, own the company and all of its assets. It is hoped that this information will enable them to appraise more fully their position as proprietors, and that it will also be helpful to them in their continued efforts to increase the business of the company.

The management and directors are most appreciative of the loyalty and cooperation of the employees, shareholders and customers during the very trying year of 1938.

CHARLES B. NOLTE,
President.

JOHN B. BERRYMAN,
Chairman.

March 4, 1939.

CRANE00101

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED INCOME ACCOUNT

For the Years Ended December 31, 1938 and December 31, 1937

	Year ended Dec. 31, 1938	Year ended Dec. 31, 1937
Gross sales, less returns and allowances	$74,307,090.07	$98,543,063.00
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	70,408,334.47	82,686,367.20
	$ 3,898,755.60	$15,856,695.80
Provision for depreciation	2,158,799.13	2,112,107.55
Net operating profit	$ 1,739,956.47	$13,744,588.25
Other income:		
Cash discounts on purchases	$ 520,680.10	$ 800,527.84
Interest received	71,290.04	79,226.13
Profits on sales of securities	7,266.07	14,188.55
Miscellaneous other income	79,993.84	74,080.24
	$ 679,230.05	$ 968,022.76
	$ 2,419,186.52	$14,712,611.01
Deductions:		
Cash discounts on sales	$ 1,070,028.07	$ 1,479,346.68
Interest paid	406,862.57	410,768.84
Amortization of debt discount and expense	42,144.85	69,893.37
Losses on sale or disposition of fixed assets	63,388.19	294,145.19
Miscellaneous deductions	44,520.27	81,422.73
Minority stockholders' interest in net income of subsidiaries	46,639.30	117,490.51
	$ 1,673,583.25	$ 2,453,067.32
Net income before federal and foreign income taxes	$ 745,603.27	$12,259,543.69
Provision for federal and foreign income taxes	364,905.42	2,494,417.15
Net income	$ 380,697.85	$ 9,765,126.54

CRANE00102

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED SURPLUS ACCOUNT

December 31, 1938

	Capital surplus	Earned surplus	Total
Surplus, December 31, 1937	$ 970,537.72	$ 9,701,540.13	$10,672,077.85
Net income for the year ended December 31, 1938		380,697.85	380,697.85
Excess of selling price over cost to company of 10,000 common shares reacquired and sold under option agreement to the president	5,000.00		5,000.00
Discount on funded debt of subsidiary purchased for retirement		1,367.31	1,367.31
Excess of par value, plus surplus applicable thereto, over cost of subsidiary's stock acquired during year	61,651.67		61,651.67
	$1,037,189.39	$10,083,605.29	$11,120,794.68
Deduct:			
Provision for unrealized loss arising through conversion of items in foreign currencies		195,834.55	195,834.55
	$1,037,189.39	$ 9,887,770.74	$10,924,960.13
Cash dividends paid on 5% cumulative convertible preferred shares—$5 per share		964,015.00	964,015.00
Surplus, December 31, 1938	$1,037,189.39	$ 8,923,755.74	$ 9,960,945.13

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1938

ASSETS

CURRENT ASSETS:			
Cash		$15,373,671.66	
Marketable securities at cost (quoted market value, December 31, 1938, $28,073.50)		27,630.88	
		$15,401,302.54	
Accounts and notes receivable—			
Trade	$ 9,669,190.43		
Sundry	76,906.40		
Officers and employes (partly secured)	19,746.77		
	$ 9,765,843.60		
Less: Reserve for doubtful accounts and notes receivable	375,030.62	9,390,812.98	
Inventories taken by company officials and employes and valued at the lower of cost or market—			
Raw materials and supplies	$ 3,593,561.12		
Work in process	5,598,622.80		
Finished goods	15,515,495.66	24,707,679.58	
Total current assets			$ 49,499,795.10
INVESTMENTS:			
Securities at cost or nominal value (less reserve for losses, $118,575.00)		$ 37,806.26	
Other investments at cost (less reserve, $7,368.98)		227,254.52	
			265,060.78
FIXED ASSETS, AT COST:			
Land, land improvements and leases		$ 9,209,935.13	
Buildings	$40,249,765.76		
Less: Reserve for depreciation	13,551,408.51	26,698,357.25	
Machinery and equipment	$40,674,427.38		
Less: Reserve for depreciation	21,811,698.30	18,862,729.08	
			54,771,021.46
DEFERRED CHARGES:			
Unamortized debt discount and expense on fifteen year debentures		$ 523,298.52	
Rents, insurance and miscellaneous items paid in advance		213,925.40	
Stationery supplies and sundry deferred charges		30,706.40	
			767,930.32
COMMON STOCK IN TREASURY:			
Common stock reacquired and held in treasury against outstanding option to the president and his assigns and to his heirs and their assigns, under agreement made January 16, 1935, to purchase all or any part thereof, at $10 per share, on or before March 1, 1940—23,000 shares at cost			218,500.00
			$105,522,307.66

CRANE00104

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1938

LIABILITIES

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls	$ 2,914,148.46	
Accrued taxes (general, federal and foreign income)	1,923,691.94	
Accrued interest on long term debt	33,166.33	
Sinking fund payment, due April 20, 1939	350,000.00	
Mortgage, secured by real estate of subsidiary company, maturing in 1939	19,200.00	
Total current liabilities		$ 5,240,206.73
LONG TERM DEBT:		
Fifteen year 3½% sinking fund debentures, due June 1, 1951 (annual sinking fund payments of $350,000 due April 20 of each year from 1937 to 1950)—		
Authorized and issued	$12,000,000.00	
Less: Retired through sinking fund	700,000.00	
Outstanding	$11,300,000.00	
Less: Sinking fund payment, due April 20, 1939 shown as current liability above.	350,000.00	
	$10,950,000.00	
Funded debt of subsidiary company, less amount held in treasury of subsidiary	103,567.00	
		11,053,567.00
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Preferred stockholders (par value)	$ 49,800.00	
Common stockholders (par value $1,001,700, plus equity in surplus $18,626.82)	1,020,326.82	
		1,070,126.82
MISCELLANEOUS RESERVES		201,461.98
CAPITAL STOCK:		
Cumulative convertible preferred shares, par value $100, callable at $105—		
Authorized—200,000 shares		
Issued—192,803 shares, designated as 5% cumulative convertible preferred shares	$19,280,300.00	
Common shares, par value $25—		
Authorized—3,000,000 shares (385,606 shares are reserved for conversion of cumulative convertible preferred shares)		
Issued—2,348,628 shares	58,715,700.00	
		77,996,000.00
SURPLUS:		
Capital	$ 1,037,189.39	
Earned (of which $218,500, representing the cost of 23,000 shares of treasury common stock is restricted under the Business Corporation Act of Illinois of July 1933, until such stock is sold or cancelled)	8,923,755.74	
		9,960,945.13
CONTINGENT LIABILITIES:		
Customers' notes discounted under partial payment plan, etc.	$176,550.47	
Preferred 7% cumulative shares called for redemption on September 15, 1937, but not yet presented for payment, against which the company has deposited funds necessary for such redemption	$64,584.00	
		$105,522,307.66

CRANE00105

To the President and Board of Directors
of Crane Co., Chicago.

We have made an examination of the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiary companies as at December 31, 1938, and of the consolidated income and surplus accounts for the year 1938. In connection therewith, we examined or tested accounting records of the company and of its subsidiaries and other supporting evidence and obtained information and explanations from officers and employes of the companies; we also made a general review of the accounting methods and of the operating and income accounts for the year, but we did not make a detailed audit of the transactions.

The inventories have been valued at cost or market, whichever was lower. The quantities and condition of the inventories were certified to by the management and the prices and computations were tested by us.

The current assets and current liabilities of foreign subsidiary companies have been converted at the rates of exchange prevailing at December 31, 1938, which rates were lower than former "par."

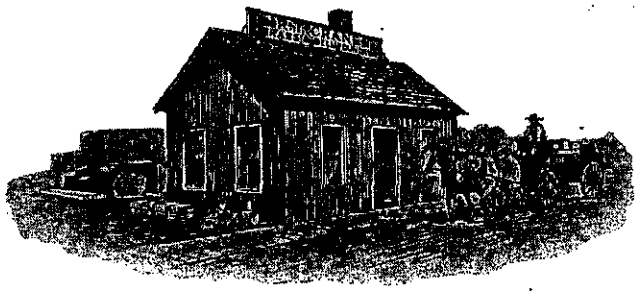
The basis used in computing depreciation was consistent with that of the previous year.

In our opinion, based upon such examination, the accompanying consolidated balance sheet and related income and surplus accounts fairly present, in accordance with accepted principles of accounting consistently maintained by the companies during the year under review, the financial position at December 31, 1938 and the results of operations for the year.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

Chicago, Illinois,
February 21, 1939.

CRANE00106



An Outline of the Business in General

Eighty-four years ago Richard Teller Crane built the small wooden shop, illustrated above, in a corner of his uncle's lumber yard in Chicago—a humble beginning from which has developed the Crane Co. of today.

The steady growth of this business has been due to many factors, underlying all of which have been

(1) the inherent quality of its products which is a natural reflection of the guiding principles laid down by the founder, and

(2) the adherence to lines of products which serve common, fundamental needs, and which are closely related to one another, either in actual use or in the channels of distribution.

In the following pages there is presented a very brief review of the Crane Co. of today: its products; the engineering and research back of those products; the manufacturing facilities for producing them; and the distribution system for selling them. In addition, there is a brief sketch of the extent and type of the company's markets and, in conclusion, a summing up of the company's general policies.

CRANE00107

PRODUCTS

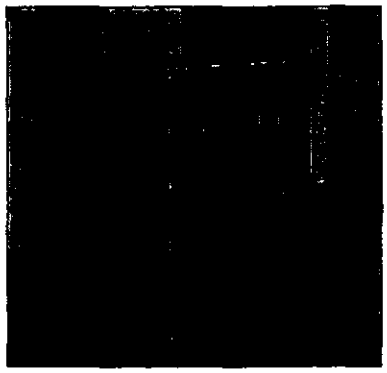
Today the company manufactures some 40,000 different items, and purchases for wholesale distribution many accessories and allied items manufactured by others with specialized production facilities.

The company's own products may be described broadly as follows:

VALVES, FITTINGS, PIPING EQUIPMENT AND STEAM SPECIALTIES for the control and conveyance of water, oil and other liquids, steam, air and gases. These are made both in standard types and sizes and specially to customer's requirements, of brass, malleable and cast iron, forged and cast steel, various steel alloys and other ferrous and non-ferrous metals for use under all possible pressures and temperatures and to resist many kinds of chemicals. The standard lines of valves and fittings range in size from 1/8" to 84" in diameter. Pipe, both regular and of many modern alloys, is shaped and fitted or otherwise fabricated in the company's shops to meet the current needs of industry which include a wide variety of piping requirements.

PLUMBING FIXTURES AND EQUIPMENT of sanitary enameled iron, vitreous china and porcelain, include bathtubs, lavatories, water closets, laundry tubs, kitchen sinks, drinking fountains, etc., and plumbers brass goods and supplies—such as faucets, shower heads, fittings and many kindred items.

HEATING SYSTEMS, EQUIPMENT AND AUXILIARY APPARATUS, including radiators and cast iron boilers for any fuel and any degree of automatic operation in domestic use.



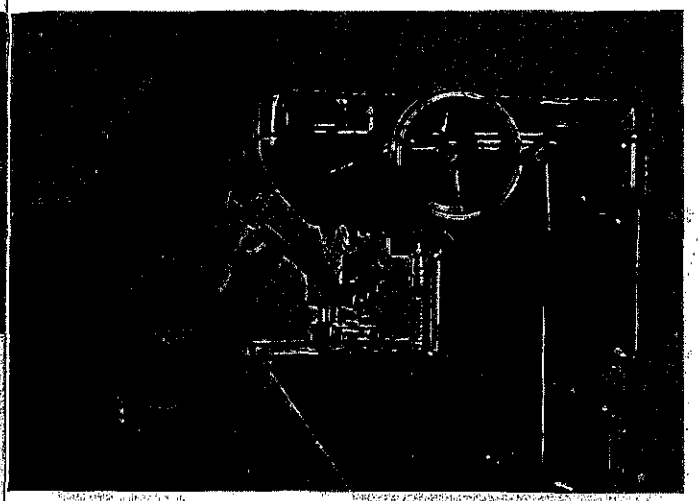
SHALLOW AND DEEP WELL PUMPS, which provide water supply on farms and in small urban or suburban communities not served by water systems.

CRANE00108

ENGINEERING AND RESEARCH

Since its beginning, the company has endeavored to make its products the best in their field. This has required, among other things, exhaustive research, investigation and testing.

The first chemical laboratory of the company was established fifty years ago, and just prior to the turn of the century, the then extraordinary step was taken of employing an engineer to handle research and engineering work. During the past few years activities in this direction have been reorganized and expanded in a Division of Engineering and Research, employing 255 persons, headed by outstanding experts and with laboratories equipped with the latest apparatus for the proper conduct of its diverse activities. In general, the functions of this division are:



To make possible improvements in existing products and invent, develop or design new products.

To provide the manufacturing division with information required to facilitate efficient and economical production and insure the product being made in accordance with designs and specifications.

To investigate and certify to the engineering soundness of the major products manufactured by other companies but sold by Crane Co.

To provide the sales division with information relating to the application, use and cataloging of products.

To effect and maintain close cooperation with the manufacturing, sales, purchasing, and other divisions of the company so that all products shall be of proper engineering design and shall effectually meet market demands.

This far-reaching search for the best for today and tomorrow is costly and would not be practicably possible, except that the company's large production volume makes the cost per item immaterial in terms of its value.

The company is convinced that sound engineering is the primary means of insuring quality, and that creative research is the only pathway to continued progress.

CRANE00109

PRODUCTION

The company owns and operates eleven manufacturing plants with a combined floor area of over 6,000,000 square feet. Here, findings of the Engineering and Research Division take form in hands having the benefit of the experience gained by the company during its long practice in its field.

Good man power is the first requisite of good production. Among Crane employees are many master craftsmen whose skill and long experience contribute so materially to the inherent quality of the product. But believing that

The Chicago Works.

good tools add to the capacity of even the best men, Crane uses the best tools it can buy or design, maintaining them in first-class operating condition.

The upper illustration on the opposite page shows a lathe built to Crane specifications in 1858 as the market at that time did not provide a suitable one. It was the first lathe built by an organization now recognized as one of the outstanding machine tool builders of this country.

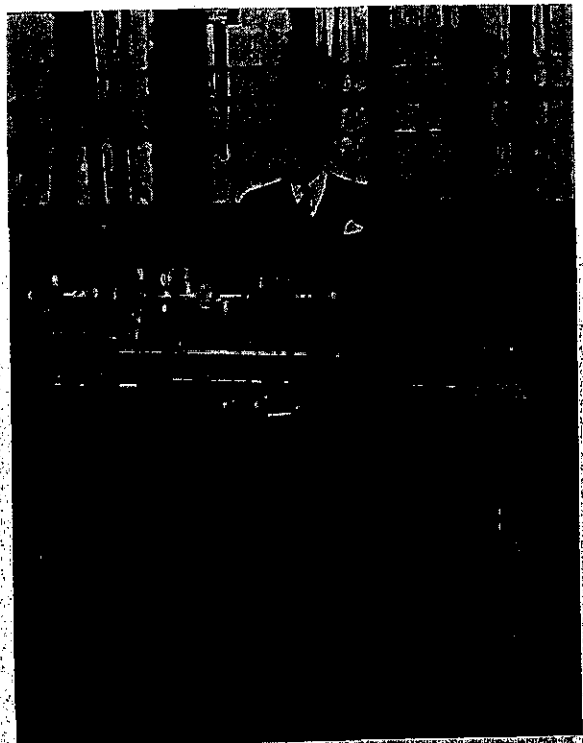
The picture opposite is that of a 1938 lathe, built as many intervening models were, to do a better job.

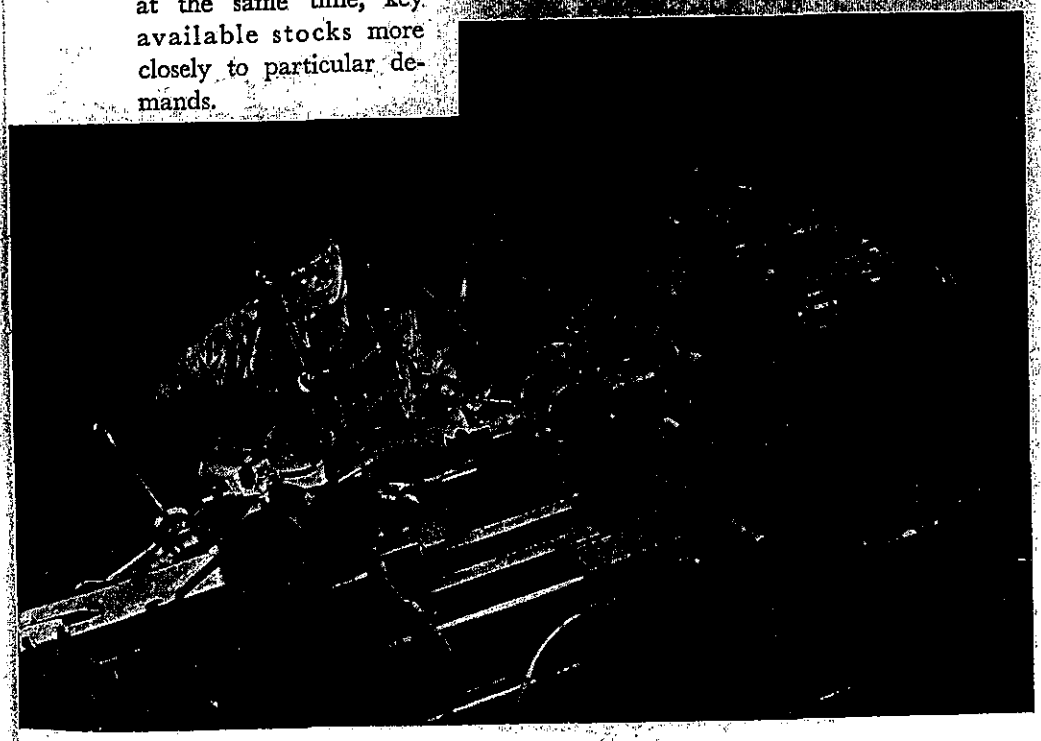
The uniformly high quality of Crane products, attributable to good man power and good equipment, is further safeguarded by an unusually complete system of independent inspection and testing.

CRANE00110

A reorganization of the company's largest plant located in Chicago was undertaken and practically completed in 1938. As a result, the already high efficiency of the plant was increased and it is now operated on a functional basis, with an outstanding expert in charge of each type of work and guiding all operations of that type throughout the entire plant.

Likewise, a new plan of production and inventory control has been adopted to more definitely level out production volume over a year, and at the same time, key available stocks more closely to particular demands.



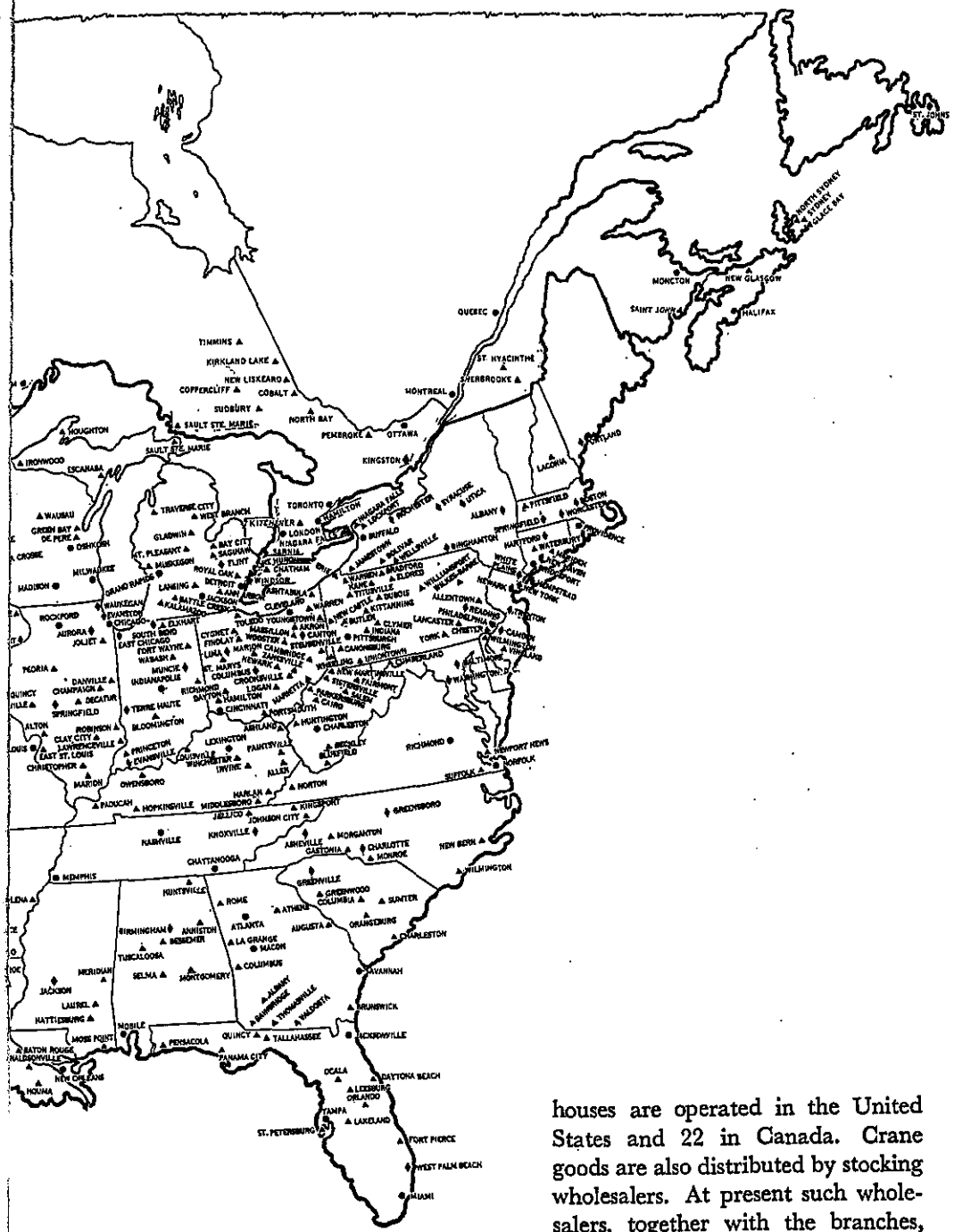


CRANE00111

DISTRIBUTION

Broadly speaking, Crane sales are made to two markets; (1) industrial users of valves, fittings, pipe and fabricated piping, and (2) plumbing and heating contractors who retail and install plumbing, heating and pumps. To

CRANE00112



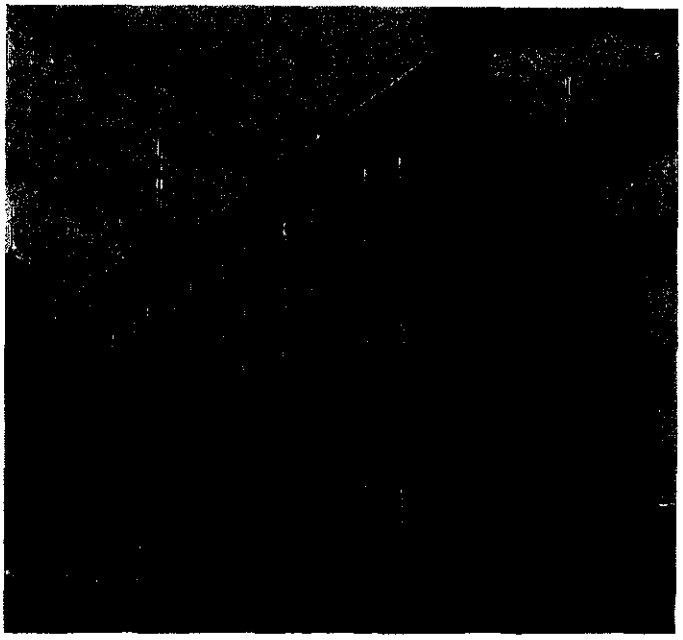
insure adequate and uniform distribution of products to these two large groups of customers, 134 branch houses are operated in the United States and 22 in Canada. Crane goods are also distributed by stocking wholesalers. At present such wholesalers, together with the branches, afford a source of supply of the company's products at 636 locations in 436 cities in the United States alone.

CRANE00113

The keynote of this distribution system is Service—to have available promptly in close proximity to every source of demand a supply of all the company's staple products suited to the needs of the territory; with a personnel trained to carry out the policy of rendering helpful service to all classes of customers, in the selection and application of the products. The markets of the past few years have furnished an extremely erratic demand. However, recent improvements in inventory control and the development of a basis for measuring nearby potential demands more accurately should make it possible to meet such abnormal fluctuations with a greater degree of efficiency.

Each Crane branch, while guided by the company's systems and methods, operates as a distinct entity and independent business. The branches are definitely members of their local communities working for the welfare of the community through active participation in Chambers of Commerce and other local civic and business organizations.

Sub-Branch Serving a Local Community in a Large Metropolitan Area.



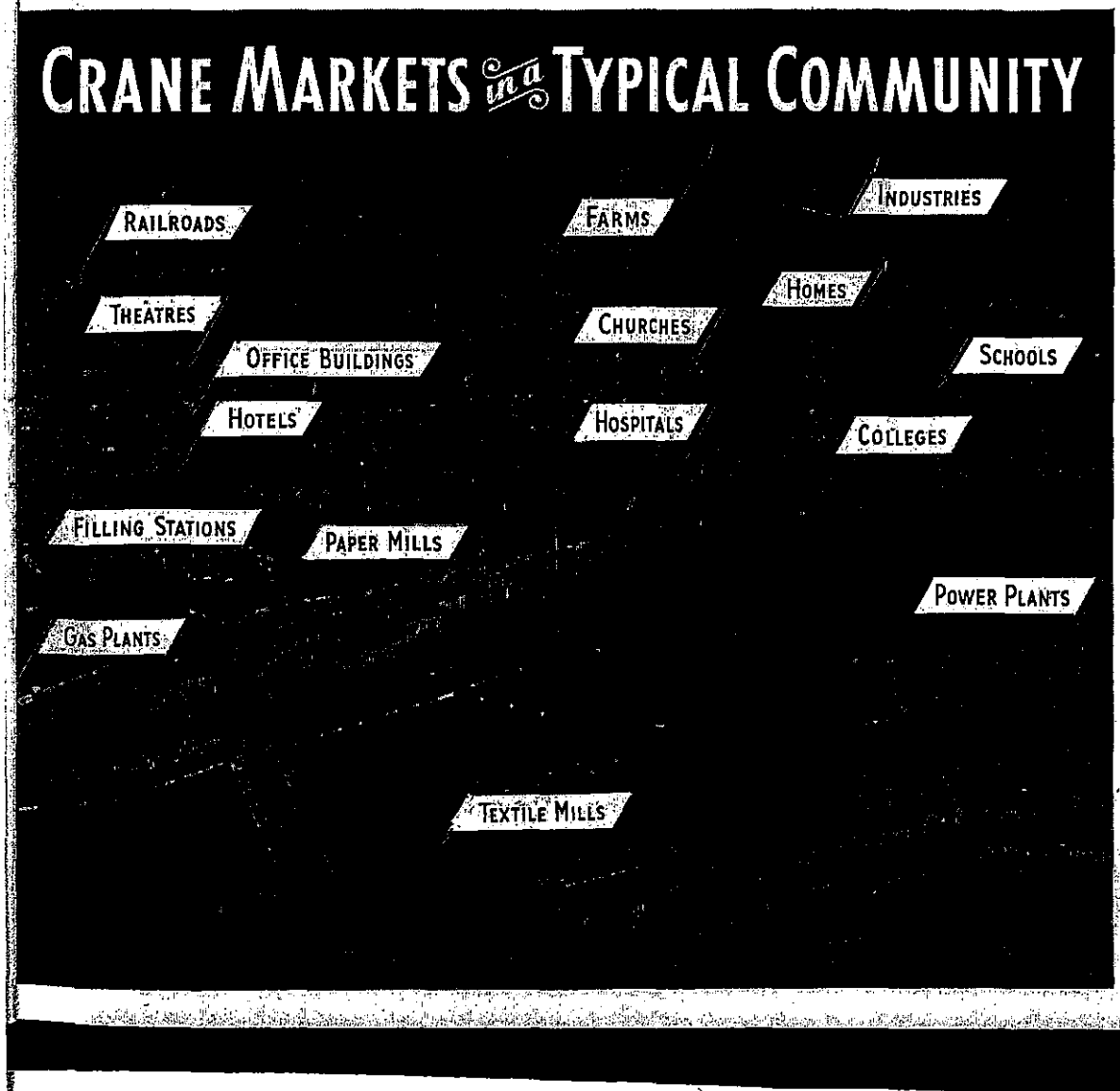
One of the Scores of Main Branches Located in Important Distributing Centers.

MARKETS

Most people in the United States and Canada are served in some way by products of the company, either directly in their homes or at their work, or in some indirect way, as Crane products are used in all major industries as well as for household, office building, hospital, and industrial building purposes. Among the major industrial markets are public utilities, railroads, water works, and the steel, shipbuilding, oil, chemical, textile, paper, and food products industries.

The old saying that every smokestack indicates a prospect for a Crane salesman is true, but his prospects are by no means limited by the smokestacks.

The following photograph of a Wisconsin city of some 25,000 inhabitants, selected solely as a typical illustration, affords another basis of conception of the field for the company's products.



In some of its industrial advertising during the past year, the company emphasized the importance of Crane products in the production of common items of daily use by quoting the number of valves used in typical enterprises. Here are a few of them:

A Glass of Tomato Juice —A typical food product plant, canning tomato juice only, uses 1,385 valves.

A Spoonful of Sugar —A sugar refinery, daily capacity 2,000 tons, uses 10,967 valves.

Gas for the Kitchen Range—The gas system in a city of 230,000 uses 51,561 valves.

A Glass of Water —The water system of a typical midwestern city of about 35,000 uses 18,392 valves.

A Yard of Cotton Cloth —A typical southern cotton mill has 1,472 valves.

Your Newspaper —One of the country's better known paper mills, producing 360,000 pounds of newsprint a day, uses 4,014 valves.

Five Gallons of Gasoline —An oil refinery with an annual 750,000 barrel capacity, has 9,016 valves.

EMPLOYEES, SHAREHOLDERS, MANAGEMENT

The character and progress of the company is a reflection of its employees of all ranks and in every type of work.

At the end of the year there were over 16,000 men and women employed by the company in every State of the Union as well as in several other countries.

It is the purpose of this group to produce and distribute goods of true value at a profit; for the public in the way of economically sound service; for themselves in the form of a wage or salary and the satisfaction of accomplishment; and for the shareholders in the form of dividends or added value to the company. Over a period of years there must be an equitable return to all or the company cannot continue to exist.

The profit to the Crane employee must include not only the pay envelope, but also healthy, safe and the best possible working conditions, opportunity for self development and advancement and security of employment; in short, a job of which every employee can be proud.

Crane Co. shareholders numbered over 11,000 at the end of the year, approximately 3,000 being employees. The record shows the names of people

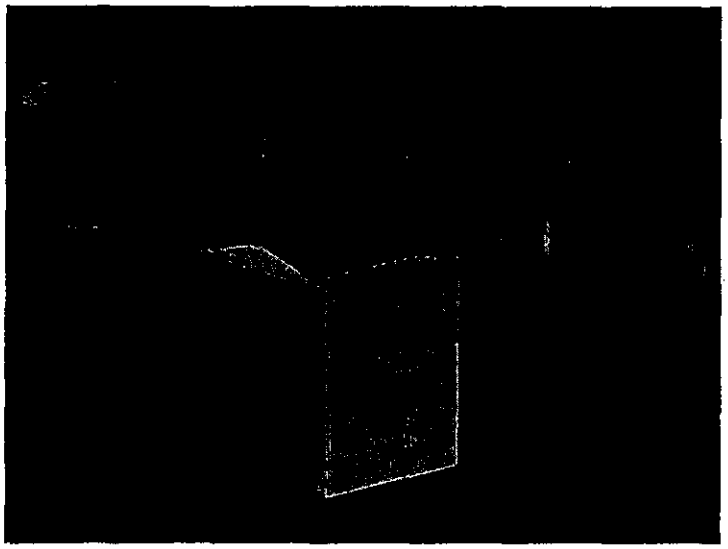
CRANE00116

representative of most of the walks of life and includes insurance companies, investment trusts and the like, who, in turn, represent many people.

The Crane management recognizes a great responsibility to the company's customers, employees, shareholders, and the commonwealth.

It aims to serve the customers efficiently with a better product of ever increasing value; to provide every employee an opportunity to realize full benefit of his productivity; to preserve the investment of the shareholders and earn for them a fair and equitable return thereon, and to continue to conduct the company's operation on such an economically sound basis that it is of unquestionable value to the commonwealth.

While it is given no value on the balance sheet, the company's greatest asset is good-will.



CRANE00117

Locations of

BRANCHES IN U. S. AND CANADA

Aberdeen ....South Dakota
Albany .....New York
Albuquerque ..New Mexico
Asheville ...North Carolina
Atlanta .....Georgia
Aurora .....Illinois

Baltimore .....Maryland
Beaumont .....Texas
Billings .....Montana
Binghampton ....New York
Birmingham .....Alabama
Boise .....Idaho
Boston .....Massachusetts
Bridgeport .....Connecticut
Buffalo .....New York

Calgary .....Alberta
Canton .....Ohio
Camden .....New Jersey
Casper .....Wyoming
Charleston ...West Virginia
Charlotte ...North Carolina
Chattanooga ....Tennessee
Chicago .....Illinois
Cincinnati .....Ohio
Cleveland .....Ohio
Columbus .....Ohio
Corpus Christi .....Texas

Dallas .....Texas
Davenport .....Iowa
Denver .....Colorado
Detroit .....Michigan
Duluth .....Minnesota

East Chicago .....Indiana
Edmonton .....Alberta
El Paso .....Texas
Evanston .....Illinois
Evansville .....Indiana

Fargo .....North Dakota
Flint .....Michigan
Ft. Smith .....Arkansas
Fort William .....Ontario

Grand Island .....Nebraska
Grand Junction ...Colorado
Grand Rapids ....Michigan
Great Falls .....Montana
Greensboro ..North Carolina
Greenville ..South Carolina

Halifax .....Nova Scotia
Hamilton .....Ontario
Harlingen .....Texas
Hartford .....Connecticut
Hempstead .....New York
Hollywood .....California
Houston .....Texas

Indianapolis .....Indiana

Jacksonville .....Florida
Jackson .....Michigan
Jackson .....Mississippi

Kansas City .....Missouri
Kingston .....Ontario
Knoxville .....Tennessee

Lexington .....Kentucky
Lima .....Ohio
Lincoln .....Nebraska
Little Rock .....Arkansas
London .....Ontario
Long Beach .....California
Los Angeles .....California

Macon .....Georgia
Madison .....Wisconsin
Mankato .....Minnesota
Mason City .....Iowa
Memphis .....Tennessee
Miami .....Florida
Milwaukee .....Wisconsin
Minneapolis ....Minnesota
Mobile .....Alabama
Moncton ...New Brunswick
Montreal .....Quebec
Muncie .....Indiana
Muskogee .....Oklahoma

Nashville .....Tennessee
Newark .....New Jersey
New Haven ....Connecticut
New Orleans .....Louisiana
New York .....New York
Norfolk .....Virginia

Oakland .....California
Ogden .....Utah
Oklahoma City...Oklahoma
Omaha .....Nebraska
Oshkosh .....Wisconsin
Ottawa .....Ontario

Pasadena .....California
Philadelphia ..Pennsylvania
Phoenix .....Arizona
Pittsburgh ....Pennsylvania
Pocatello .....Idaho
Portland .....Maine
Portland .....Oregon
Providence ...Rhode Island
Pueblo .....Colorado

Quebec .....Quebec

Reading .....Pennsylvania
Regina .....Saskatchewan
Reno .....Nevada
Richmond .....Virginia
Rochester .....New York
Rockford .....Illinois

Sacramento .....California
St. John's ...Newfoundland
St. Louis .....Missouri
St. Paul .....Minnesota
Santa Ana .....California
San Antonio .....Texas
San Bernardino..California
San Diego .....California
San Francisco....California
Santa Barbara ...California
Saskatoon ....Saskatchewan
Savannah .....Georgia
Salt Lake City.....Utah
Seattle .....Washington
Shreveport .....Louisiana
Sioux City .....Iowa
Sioux Falls...South Dakota
South Bend .....Indiana
Spokane .....Washington
Springfield .....Illinois
Springfield ...Massachusetts
Syracuse .....New York

Tacoma .....Washington
Tampa .....Florida
Terre Haute.....Indiana
Toronto .....Ontario
Trenton .....New Jersey
Tucson .....Arizona
Tulsa .....Oklahoma

Utica .....New York

Vancouver.British Columbia
Victoria...British Columbia

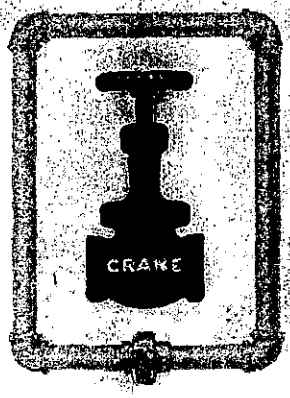
Washington .....D. C.
Waukegan .....Illinois
West Palm Beach...Florida
White Plains ....New York
Wichita .....Kansas
Windsor .....Ontario
Winnipeg .....Manitoba
Worcester ...Massachusetts

CRANE00118

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1939



CRANE CO.

CRANE BUILDING

836 SOUTH MICHIGAN AVENUE

CHICAGO

Annual Report

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1939

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CRANE CO.

CRANE BUILDING

836 SOUTH MICHIGAN AVENUE

Chicago

CRANE CO.

DIRECTORS

JOHN B. BERRYMAN, *Chairman*

ARTHUR O. CHOATE
J. H. COLLIER
A. F. GARTZ, JR.
F. R. LILLIE
MARK W. LOWELL
SYDNEY G. MCALLISTER
P. R. MORK
CHARLES B. NOLTE
WILLIAM R. ODELL
E. A. RUSSELL

OFFICERS

CHARLES B. NOLTE ..... *President*
J. H. COLLIER ..... *Vice President*
C. R. CRANE, II ..... *Vice President*
P. R. MORK ..... *Vice President*
D. G. PARK ..... *Vice President*
J. L. HOLLOWAY ..... *Secretary*
WALTER EVENSEN ..... *Treasurer*
F. H. KAISER ..... *Comptroller*
J. S. BELL ..... *Assistant Secretary*
J. A. BROUGH ..... *Assistant Secretary*
J. K. PRENTICE ..... *Assistant Secretary*
L. E. BAKER ..... *Assistant Treasurer*
C. W. DITTMAR ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & CO.
Wall and Broad Streets
New York City

W. E. PETERSON, *Transfer Clerk*
Crane Co., 836 South Michigan Ave.,
Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK
Pine and Nassau Streets
New York City

CONTINENTAL ILLINOIS NATIONAL BANK
AND TRUST COMPANY OF CHICAGO
231 South LaSalle Street
Chicago, Illinois

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ANNUAL REPORT

To the Shareholders
of Crane Co.:

This Annual Report covering the operations of your company for the year 1939 is presented by the management with the approval of the Board of Directors.

FINANCIAL REVIEW

Statements of Consolidated Income and Consolidated Surplus for the year, and a Consolidated Balance Sheet as of December 31, 1939, together with a certificate of Arthur Young & Co., independent public accountants, are shown on pages 8 to 12.

These statements present the results of operation and the financial condition of the company and all its subsidiaries on a fully consolidated basis, consistent with the practice followed in annual and interim reports of the company for some years. However, in view of the European conflict and regulations imposed on transactions in the currencies of the belligerent countries, the results of operation and the financial condition of the subsidiary companies located in foreign countries are given on page 12.

The amounts quoted throughout the narrative of this report are for the most part, and in all instances except where otherwise specified, on a consolidated basis.

CONSOLIDATED INCOME AND SURPLUS:

The statements of Income and Surplus are given for the year 1939, together with the Income Account for the year 1938 for comparative purposes.

The Income Account shows a net income for the year 1939 of $4,612,554.56 equal to earnings of $1.55 per share on the 2,348,628 shares of Common Stock after allowance for the dividend requirements of the 192,803 shares of 5% Cumulative Convertible Preferred Stock. Such net income included

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$1,068,360 net income of the subsidiary companies in Canada, England and France converted at the rates of exchange current at December 31, 1939. Dividends received from these subsidiaries during 1939 amounted to $900,000.

The decline in the conversion value of Net Assets of foreign subsidiaries amounting to $840,565, resulting from the decline in foreign exchange rates, has been provided for through a charge to surplus, consistent with the practice heretofore followed by the Company.

Total Consolidated Surplus at December 31, 1939 amounted to $11,373,256.21 of which $1,049,589.39 is allocated as Capital Surplus, leaving $10,323,666.82 as Earned Surplus.

Depreciation:

The amount charged to operations for depreciation was $2,227,562.54 for 1939 compared with $2,158,799.13 for 1938. The charge-off for depreciation of machinery and equipment is established on a basis of the estimated life of the individual item; these items are reviewed annually and the estimated remaining life revised where necessary. The provision for depreciation on buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction. This has been the general depreciation policy of your company during recent years.

Taxation:

During the year 1939 your company paid or accrued in combined direct taxes of all kinds a total of $3,614,995. The seriousness of this burden upon operations may be better realized by appreciating that it amounts to $1.54 per common share compared with the net income of $1.55 per common share.

Dividends:

Regular quarterly dividends of $1.25 per share, amounting to $964,015 for the year were paid on the 5% Cumulative Convertible Preferred Shares.

A dividend of 60 cents per share, amounting to $1,409,176.80, was paid on the Common Shares on December 20, 1939.

These dividends totalled $2,373,191.80 for the year.

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CONSOLIDATED BALANCE SHEET:

Inventories:

Inventories, valued at cost or market, whichever was lower, amounted to $27,754,974.02 at December 31, 1939, an increase of $3,047,294.44 from the amount at December 31, 1938.

The increase in Inventories during the year reflects principally an increase in raw materials and supplies. Values of Products were slightly higher in the aggregate than at the end of the previous year, due to an increase resulting from raw material costs.

Open commitments for raw materials, made in the ordinary course of business, amounted to approximately $350,000 at the end of the year. Prices thereon were as a whole substantially the same as current market quotations.

Financial Condition:

The financial condition of your company is exceptionally sound. Total Current Assets amounted to $54,304,849.78 at December 31, 1939 with total Current Liabilities of $8,076,884.85, reflecting a net working capital of $46,227,964.93, of which $14,608,237.20 was in cash. The net working capital shows an increase of $1,968,376.56 from the position at December 31, 1938.

The ratio of current assets to current liabilities was 6.72 to 1 on December 31, 1939.

Your company owes no overdue accounts or obligations, and has no bank indebtedness.

Investment in Foreign Subsidiaries:

The net worth of the foreign subsidiary companies as included in the Consolidated Balance Sheet amounted to $15,567,960 at December 31, 1939, computed upon a basis of net current assets and other assets converted into U. S. Dollars at year end rates of exchange and fixed assets less accrued depreciation at U. S. Dollar cost at date of acquisition. This total net worth

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consisted of net assets of Canadian subsidiaries $10,414,624, net assets of the subsidiary in England $3,919,661, and net assets of the subsidiary in France $1,233,675.

OPERATING REVIEW

SALES VOLUME:

The sales of your company and its subsidiary companies for the year 1939 amounted to $88,182,232.15, being 18.7% above sales for 1938.

The dollar sales volume showed an increase for each month of the year compared with that of the previous year; however, the major increases occurred during the latter months when there was a decided rise in the general business level.

Your company is operating 160 distributing branches, 133 being located in the United States and the District of Columbia.

MANUFACTURING:

Improvements and replacements of machinery and equipment have been made in all plants wherever they appeared to be economically sound. Expenditures for these purposes during 1939 amounted to $1,939,245.89. All the plants are being maintained in efficient condition and are fully equipped to meet the diversified requirements economically.

RESEARCH:

The company has continued its activity in research. Engineering specialists are conducting investigations constantly in modern, well-equipped laboratories in an endeavor to improve its established products, reduce the cost of manufacture and to develop new products.

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EMPLOYEE RELATIONS:

Mutually satisfactory relations between the company and its employees continued throughout 1939. Every attention will be given to maintaining this gratifying condition, as such a relationship is invaluable to both the employees and the company.

OUTLOOK

There is a prospect of at least some continuation of the higher level of building construction of 1939. Sales volume, in dollars, for the first six weeks of 1940, was moderately greater than for the same period of 1939. While present indications seem to show that business for 1940 may be somewhat better than for 1939, there are many uncertainties with the resulting difficulty of foreseeing definite trends at long range. We are endeavoring to be prepared to cope as efficiently as possible with sharp and comparatively short swings in business volume.

CONCLUSION

A brief view of what might be termed the physical side of the business is presented in pictures of the company's products in the course of manufacture and in use, in the pages following the financial statements. It is hoped that this, together with the financial data and the comments in the preceding pages will enable the shareholders, many of whom are also employees and customers, to truly appraise their position as proprietors.

The Management and Directors genuinely appreciate the loyalty and concerted cooperation of the employees, shareholders and customers during the year.

CHARLES B. NOLTE,
President.

JOHN B. BERRYMAN,
Chairman.

March 5, 1940.

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED INCOME ACCOUNT

For the Years Ended December 31, 1939 and December 31, 1938

	Year ended Dec. 31, 1939	Year ended Dec. 31, 1938
Gross sales, less returns and allowances	$88,182,232.15	$74,307,090.07
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	78,891,373.55	70,408,334.47
	$ 9,290,858.60	$ 3,898,755.60
Provision for depreciation	2,227,562.54	2,158,799.13
Net operating profit	$ 7,063,296.06	$ 1,739,956.47
Other income:		
Cash discounts on purchases	$ 662,688.81	$ 520,680.10
Interest received	55,796.74	71,290.04
Miscellaneous other income	87,160.17	87,259.91
	$ 805,645.72	$ 679,230.05
	$ 7,868,941.78	$ 2,419,186.52
Deductions:		
Cash discount on sales	$ 1,221,507.53	$ 1,070,028.07
Interest paid	399,990.77	406,862.57
Amortization of debt discount and expense	57,047.84	42,144.85
Loss on sale or disposition of fixed assets	109,549.92	63,388.19
Miscellaneous deductions	21,803.46	44,520.27
Minority stockholders' interest in net income of subsidiaries	67,973.22	46,639.30
	$ 1,877,872.74	$ 1,673,583.25
Net income before federal and foreign income taxes	$ 5,991,069.04	$ 745,603.27
Provision for federal and foreign income taxes	1,378,514.48	364,905.42
Net income	$ 4,612,554.56	$ 380,697.85

NOTE: The above net income for the year 1939 includes net income of foreign subsidiaries, converted at year end rates of exchange, amounting to $1,068,360. This amount is before provision for decline in conversion value of net current assets, the treatment of which is explained in the accompanying notes.

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED SURPLUS ACCOUNT

December 31, 1939

	Capital surplus	Earned surplus	Total
Surplus, December 31, 1938	$1,037,189.39	$ 8,923,755.74	$ 9,960,945.13
Net income for the year ended December 31, 1939		4,612,554.56	4,612,554.56
Excess of selling price over cost to company of 23,000 common shares reacquired and sold under option agreement to the president	11,500.00		11,500.00
Discount on funded debt of subsidiary purchased for retirement		4,613.11	4,613.11
Excess of par value over cost of subsidiary's preferred stock acquired during the year	900.00		900.00
	$1,049,589.39	$13,540,923.41	$14,590,512.80
Deduct:			
Provision for decline in conversion value of foreign net assets	$	$ 840,564.79	$ 840,564.79
Premium on funded debt purchased for retirement		3,500.00	3,500.00
Cash dividends paid—			
On 5% cumulative convertible preferred shares, $5 per share		964,015.00	964,015.00
On common shares, $.60 per share		1,409,176.80	1,409,176.80
	$	$ 3,217,256.59	$ 3,217,256.59
Surplus, December 31, 1939	$1,049,589.39	$10,323,666.82	$11,373,256.21

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1939

ASSETS

CURRENT ASSETS:			
Cash		$14,608,237.20	
Marketable securities at cost (quoted market value, December 31, 1939, $24,234.72)		23,877.73	
		$14,632,114.93	
Accounts and notes receivable—			
Trade	$12,271,663.20		
Sundry	60,763.64		
	$12,332,426.84		
Less: Reserve for doubtful accounts and notes receivable	414,666.01	11,917,760.83	
Inventories taken by company officials and employes and valued at the lower of cost or market—			
Raw materials and supplies	$ 5,197,406.48		
Work in process	7,082,937.52		
Finished goods	15,474,630.02	27,754,974.02	
Total current assets			$ 54,304,849.78
INVESTMENTS:			
Securities at cost or nominal value (less reserve, $140,167.76)		$ 16,157.14	
Other investments at cost (less reserve, $5,456.12)		233,051.28	
			249,208.42
FIXED ASSETS, AT COST:			
Land, land improvements and leases		$ 9,216,149.85	
Buildings	$40,417,129.83		
Less: Reserve for depreciation	14,179,087.51	26,238,042.32	
Machinery and equipment	$41,603,772.05		
Less: Reserve for depreciation	22,929,577.55	18,674,194.50	
			54,128,386.67
DEFERRED CHARGES:			
Stationery supplies and sundry deferred charges		$ 39,925.80	
Rents, insurance and miscellaneous items paid in advance		221,505.12	
Unamortized debt discount and expense on fifteen year debentures		466,250.68	
			727,681.60
			$109,410,126.47

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARY COMPANIES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1939

LIABILITIES

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls	$ 4,674,074.25	
Accrued taxes (general, federal and foreign income)	3,020,873.10	
Accrued interest on long term debt	31,937.50	
Sinking fund payment, due April 20, 1940	350,000.00	
Total current liabilities		$ 8,076,884.85
LONG TERM DEBT:		
Fifteen year 3½% sinking fund debentures, due June 1, 1951 (annual sinking fund payments of $350,000 due April 20 of each year to 1950)—		
Authorized and issued	$12,000,000.00	
Less: Retired through sinking fund	1,050,000.00	
Outstanding	$10,950,000.00	
Less: Sinking fund payment, due April 20, 1940 shown as current liability above	350,000.00	
	$10,600,000.00	
Funded debt of subsidiary company	91,805.00	
		10,691,805.00
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Preferred stockholders (par value)	$ 48,000.00	
Common stockholders (par value $1,001,700, plus equity in surplus $3,886.45)	1,005,586.45	
		1,053,586.45
MISCELLANEOUS RESERVES		218,593.96
CAPITAL STOCK:		
Cumulative convertible preferred shares, par value $100, callable at $105—		
Authorized—200,000 shares		
Issued —192,803 shares, designated as 5% cumulative convertible preferred shares	$19,280,300.00	
Common shares, par value $25—		
Authorized—3,000,000 shares (385,606 shares are reserved for conversion of cumulative convertible preferred shares)		
Issued —2,348,628 shares	58,715,700.00	
		77,996,000.00
SURPLUS:		
Capital	$ 1,049,589.39	
Earned	10,323,666.82	
		11,373,256.21
CONTINGENT LIABILITIES:		
Customers' notes discounted under partial payment plan, etc.	$82,186.52	
Preferred 7% cumulative shares called for redemption on September 15, 1937, but not yet presented for payment, against which the company has deposited funds necessary for such redemption	$6,903.00	
		$109,410,126.47

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NOTES TO FINANCIAL STATEMENTS

All subsidiaries (domestic and foreign) controlled by Crane Co., either directly or through one or more intermediaries, have been consolidated as heretofore.

The foreign subsidiaries (all 100% owned) are located in Canada, England and France. These countries have enacted certain exchange regulations restricting the withdrawal of funds, etc., and the investments in and profits of the companies located therein are subject to such restrictions.

The net operating income of the foreign subsidiaries for the year ended December 31, 1939 [converted into U. S. dollars at the year end rates of exchange], according to location, amounted to: Canada $611,744, England $425,079, France $31,537, total $1,068,360.

During the year 1939 Crane Co. received dividends from Crane, Limited (Canada) aggregating $900,000.

In conformity with the company's established practice, provision for decline in conversion value of foreign net assets is made by direct charge to earned surplus. The provision for the year 1939 amounted to $840,564.79, consisting of $498,400.52 for assets in Canada, $251,018.77 for assets in England and $91,145.50 for assets in France.

The net assets of the foreign subsidiaries at December 31, 1939 are as summarized below:

	Canada	England	France	Total
Fixed assets less accrued depreciation, at U. S. dollar cost at date of acquisition	$ 5,433,947	2,101,261	769,963	8,305,171
Net current assets at year end rates of exchange	4,919,240	1,781,167	463,487	7,163,894
Other assets at year end rates of exchange	61,437	37,233	225	98,895
	$10,414,624	3,919,661	1,233,675	15,567,960

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. (an Illinois Corporation) and Subsidiary Companies as at December 31, 1939, and the consolidated income and surplus accounts for the year then ended, have reviewed the system of internal control and the accounting procedures of the companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the companies and other supporting evidence, by methods and to the extent we deemed appropriate.

Our examination included tests of accounts receivable by direct correspondence with debtors and tests of the inventories at locations selected by us, by count and by observation of the taking of the physical inventories by the company.

In our opinion, the accompanying consolidated balance sheet and related consolidated income and surplus accounts present fairly the position of Crane Co. and its subsidiaries at December 31, 1939, and the results of their operations for the year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & Co.
Certified Public Accountants.

Chicago, Illinois, February 23, 1940.

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CRANE PRODUCTS

THEIR IMPORTANCE TO INDUSTRY
THEIR RELATION TO DAILY LIFE
THEIR SIGNIFICANCE TO EMPLOYEES
AND SHAREHOLDERS

The foregoing pages tell the financial story of the company. A story of dollars, how many of them the company has, where they came from, how they are employed, how many are in the bank, how many are invested in inventories of raw materials, product and plant and equipment, and so forth.

The following pages tell a brief story of some of the products of the company, that dollars are used to produce and distribute.

Behind the dollars and products is the real drama of the 16,000 and more employees to whom the company is a vital interest, the people who bring to the company their ability and look to it in turn for a livelihood and a future. They supply that intangible factor which cannot be specifically earmarked in the financial statements or photographed in the product, but which builds character into things of iron, steel, brass and clay that endures over the years.

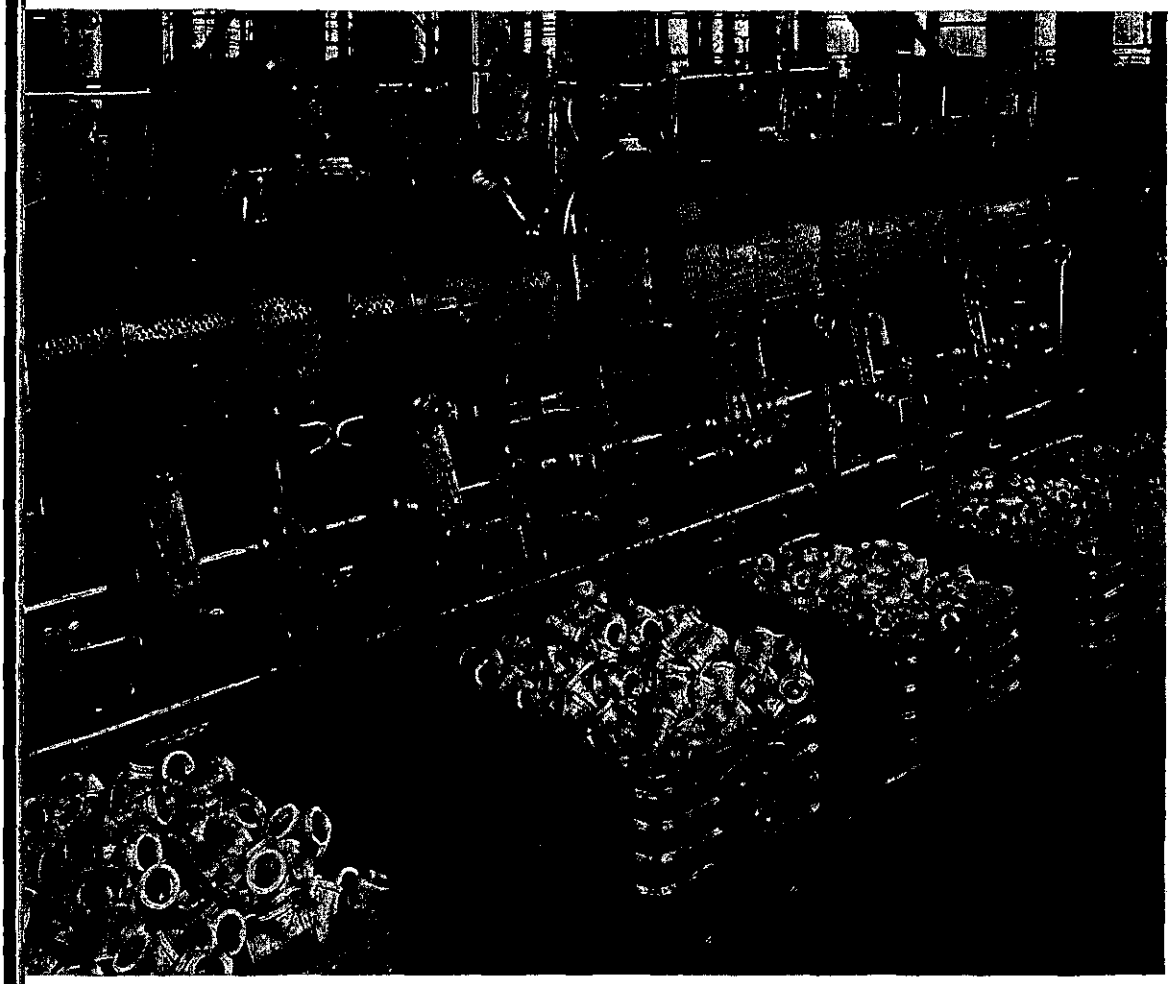
The company as a whole is the property of the shareholders of whom there were over 12,000 at the end of the year. Each share of stock represents a proportionate interest in the tangibles and intangibles, profits and losses of the company. Whatever the shareholders may do to increase the use of the company's products will react to their benefit and also to that of the employees and the consuming public.

CRANE00132

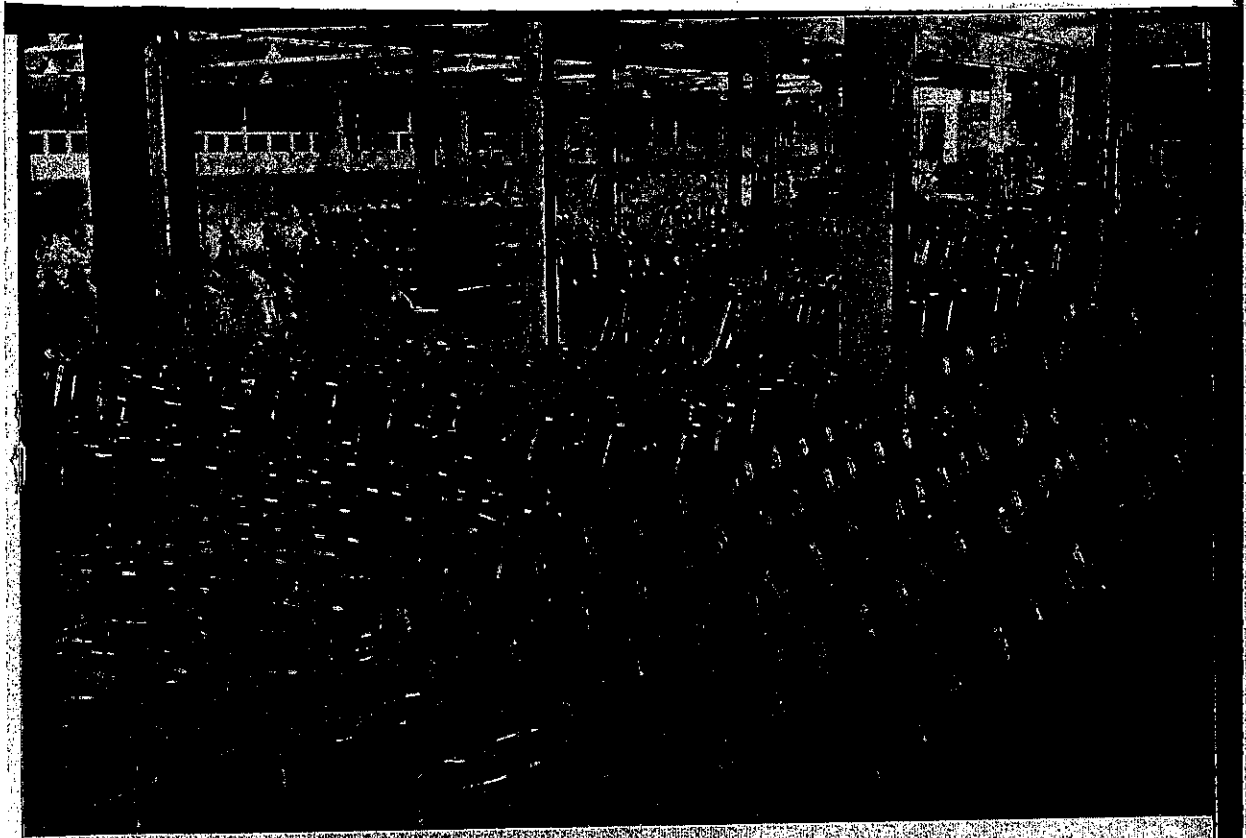
MILLIONS OF VALVES AND FITTINGS FLOW OUT TO INDUSTRY

The largest Crane plant is the Chicago works, with 47 buildings and 72 acres of floor space. Daily from this giant plant move thousands of valves and tens of thousands of pipe fittings—of all sizes and types, destined for use in every state of the union—in Canada and other countries as well.

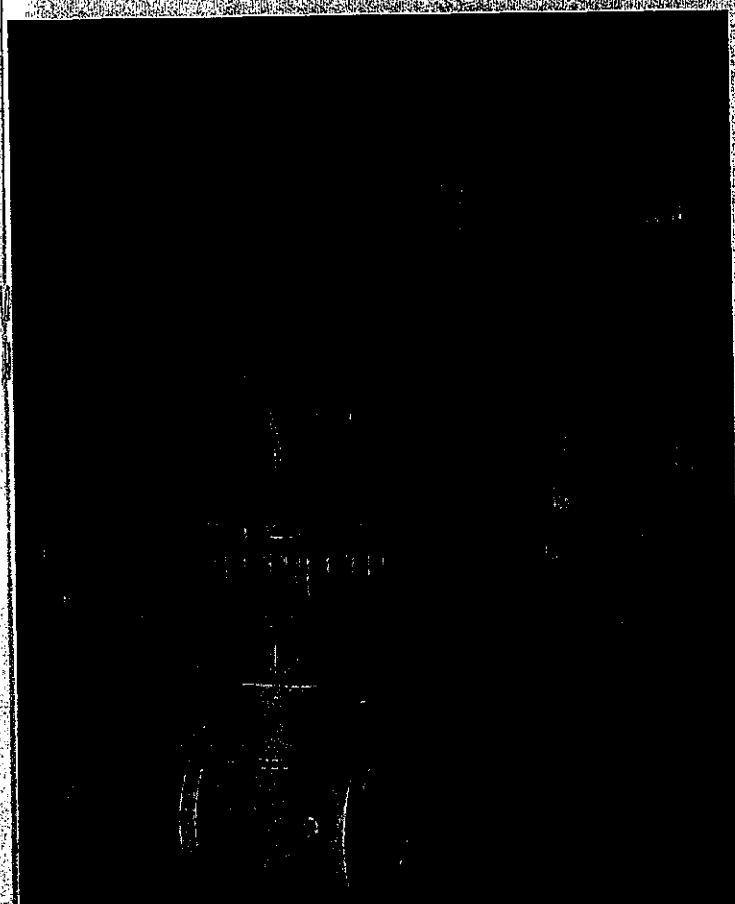
The universal recognition of the high quality found in Crane valves and fittings is due to the constant care that has characterized Crane manufacture for 85 years, plus the exhaustive research in Crane Laboratories which is constantly striving to make Crane products better.



After scores of manufacturing operations in foundry and machine shop these thousands of fittings are about ready for the stock room.



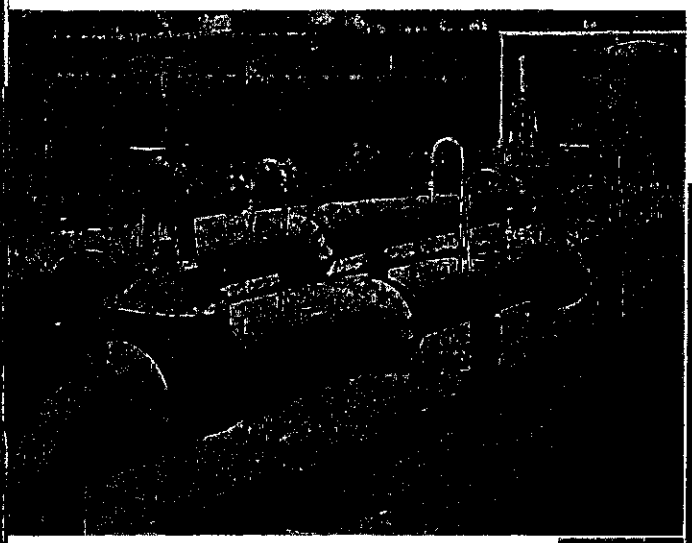
Crane Co. must have available vast stocks of valves to meet customer requirements. This view is typical of many in the Chicago plant. Branches also stock a wide variety of types and sizes.



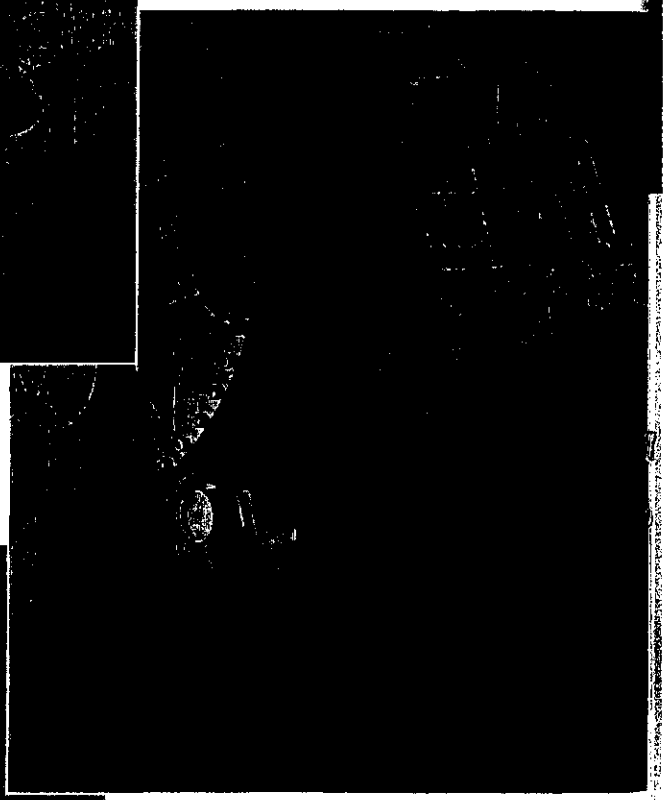
On this "assembly line" for large steel valves, mechanical handling equipment facilitates rapid, though careful adjustment of operating parts. In addition to the numerous inspections and checks at every step in manufacturing the parts, finished valves are subjected to rigid final tests.

CRANE VALVES AND FITTINGS SERVING ALL INDUSTRIES

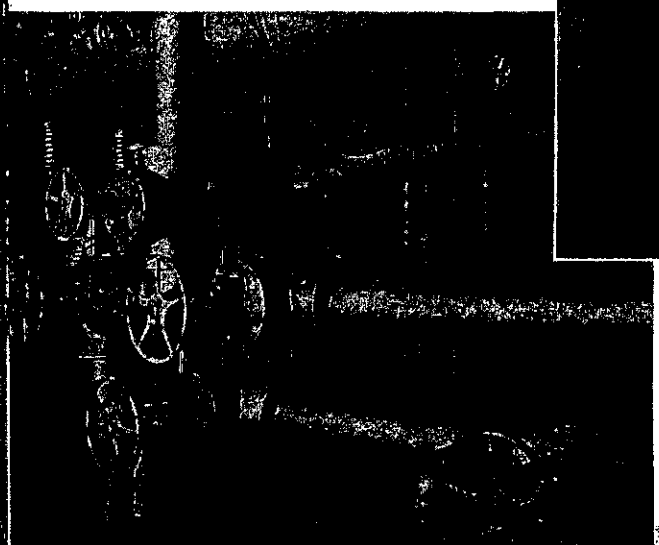
When you turn the handle of your gas stove to cook the morning breakfast, gas flows because thousands of valves have operated properly. Other thousands of valves are responsible for water gushing from the sink faucet, when you draw a glass of water. For, without valves, water, steam, oil, air and gas would cease to flow—without valves there would be no steam trains, no boats, no oil for your motor car. Here are shown a few of the many ways in which valves serve industry.



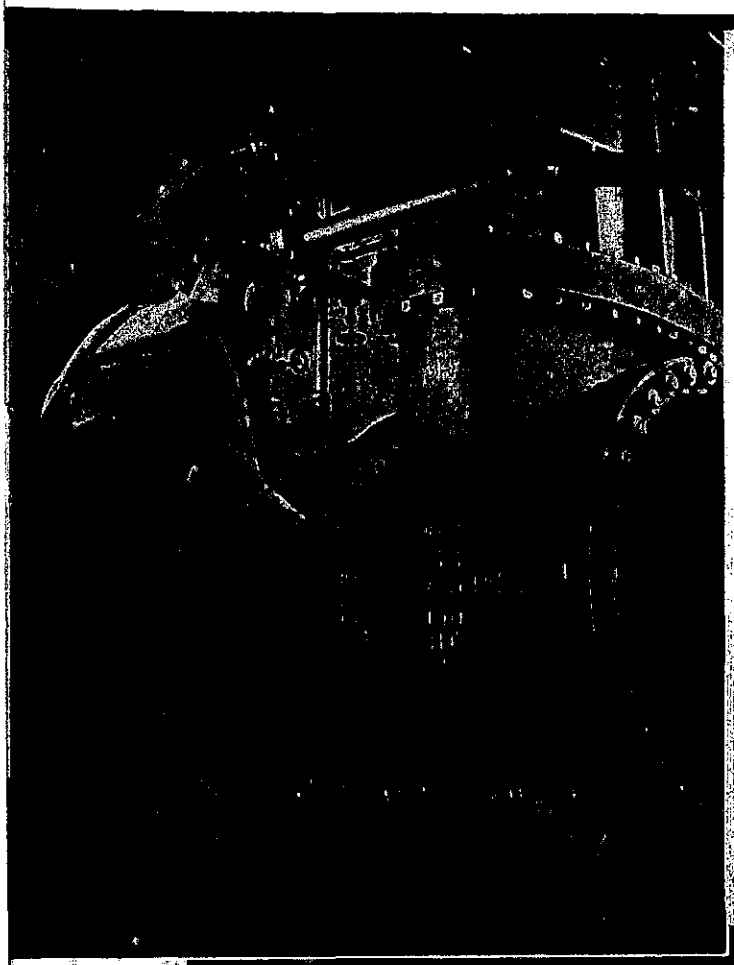
Valves constantly control the flow of natural gas from the field until it is ready to serve you.



These Crane giants are guarding the health of millions in one of the world's largest sewage disposal plants.

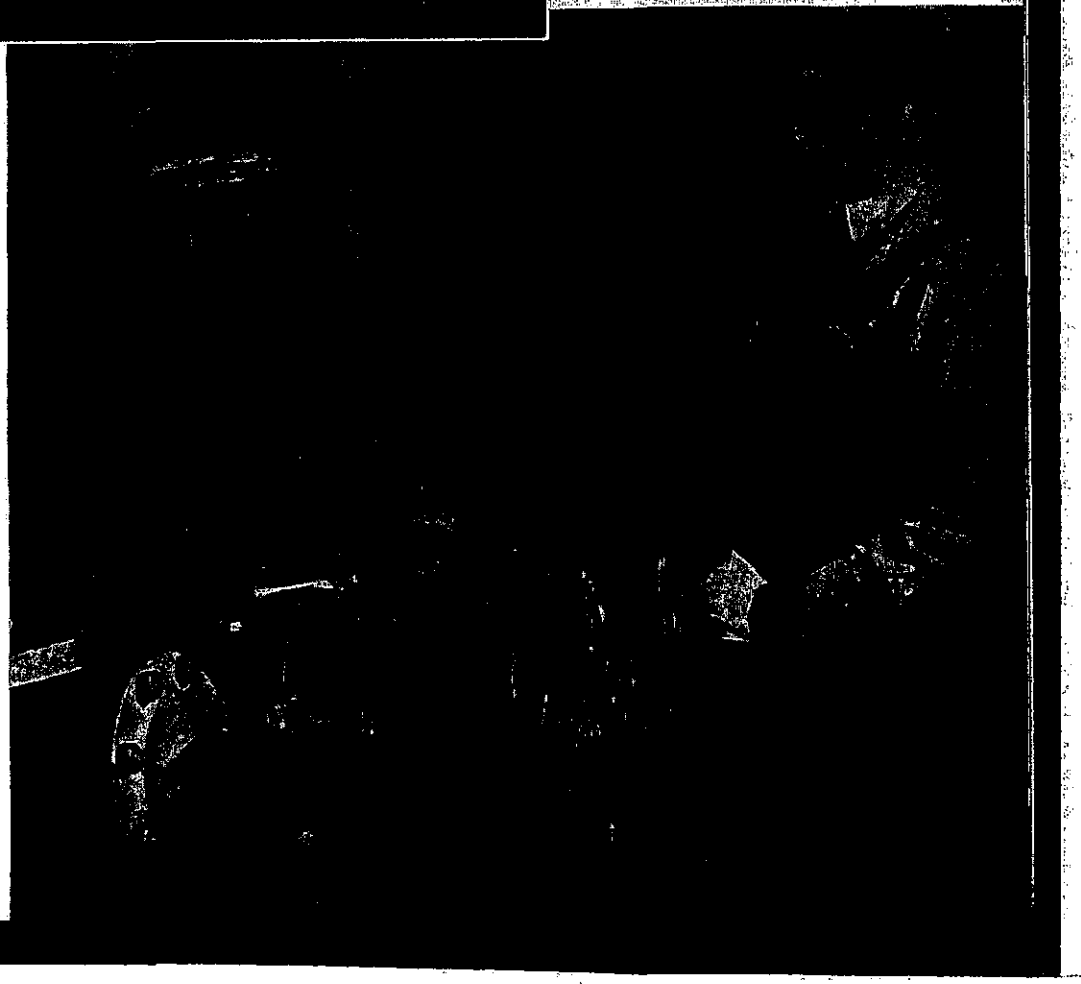


Here, Crane valves are efficiently performing the difficult task of controlling high pressure superheated steam, preventing shutdowns, guarding property.



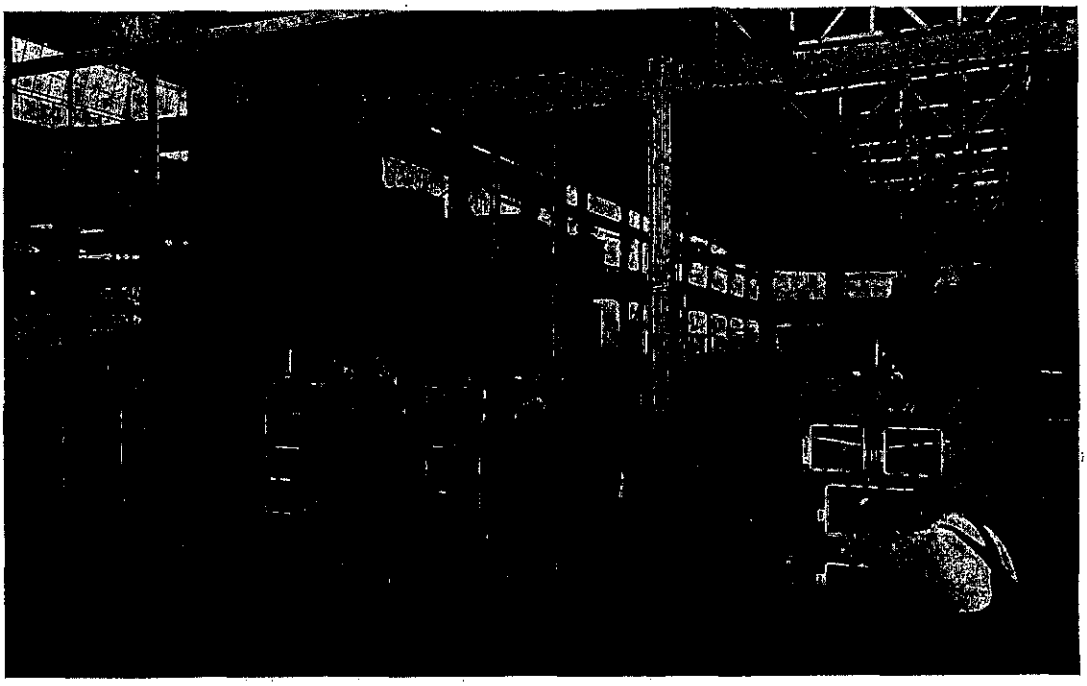
Some of the largest Crane valves made are used in delivering fresh, pure water to your house. Often these are so large that a man can walk through them without stooping.

Every oil refinery is a maze of piping—a forest of valves as well. From the time the crude is received by tank car or pipe line, until it leaves as finished gasoline and oil, valves have guided it, step by step.



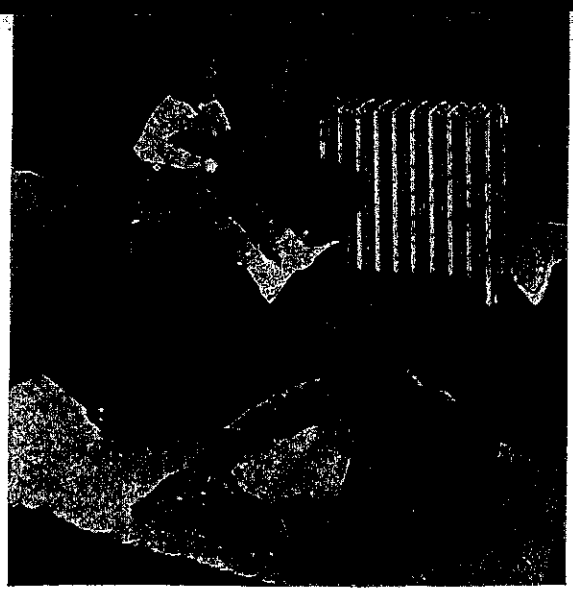
BOILERS AND RADIATORS IN SIZES AND STYLES FOR EVERY NEED

Crane Co. makes a wide range of boilers using wood, coke, coal, oil or gas as fuel, in sizes and types to suit any home. Its line of radiators and convectors is complete. This equipment and the accessories made for and tested by Crane have an excellent reputation and a wide distribution.



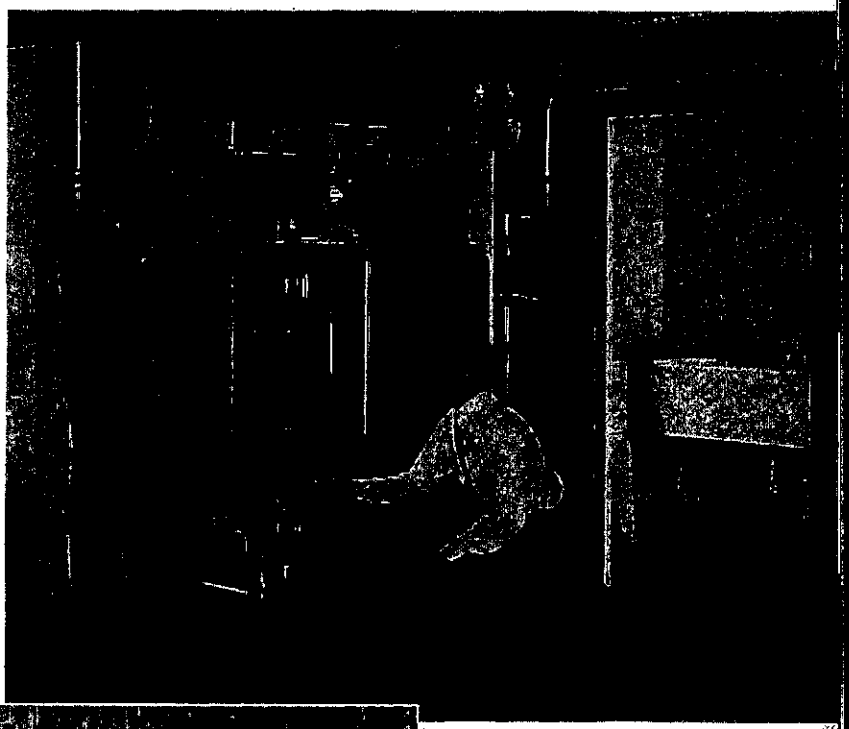
Assembled boiler units being tested in the Bridgeport, Conn., plant.

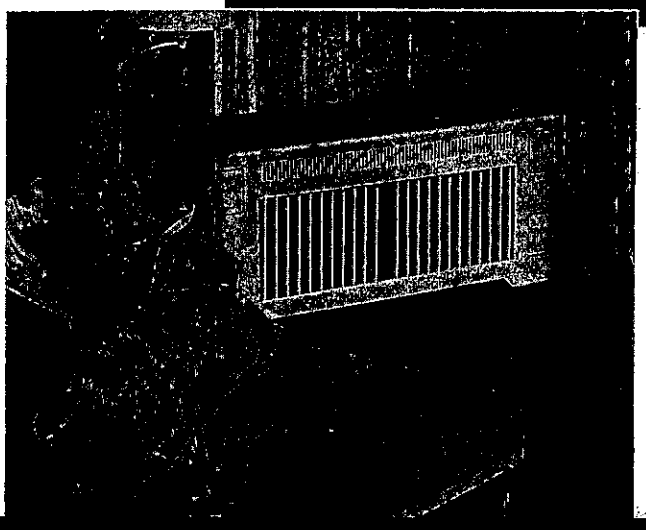
Machining individual radiator sections, preparatory to assembly, in the Crane radiator plant, North Tonawanda, N.Y.



Crane radiators are made in all sizes and styles for any type of installation.

Crane has recently developed a new line of all-fuel boilers—modern in design and high in heating efficiency. The one pictured is equipped with the Conserv-oil Burner.



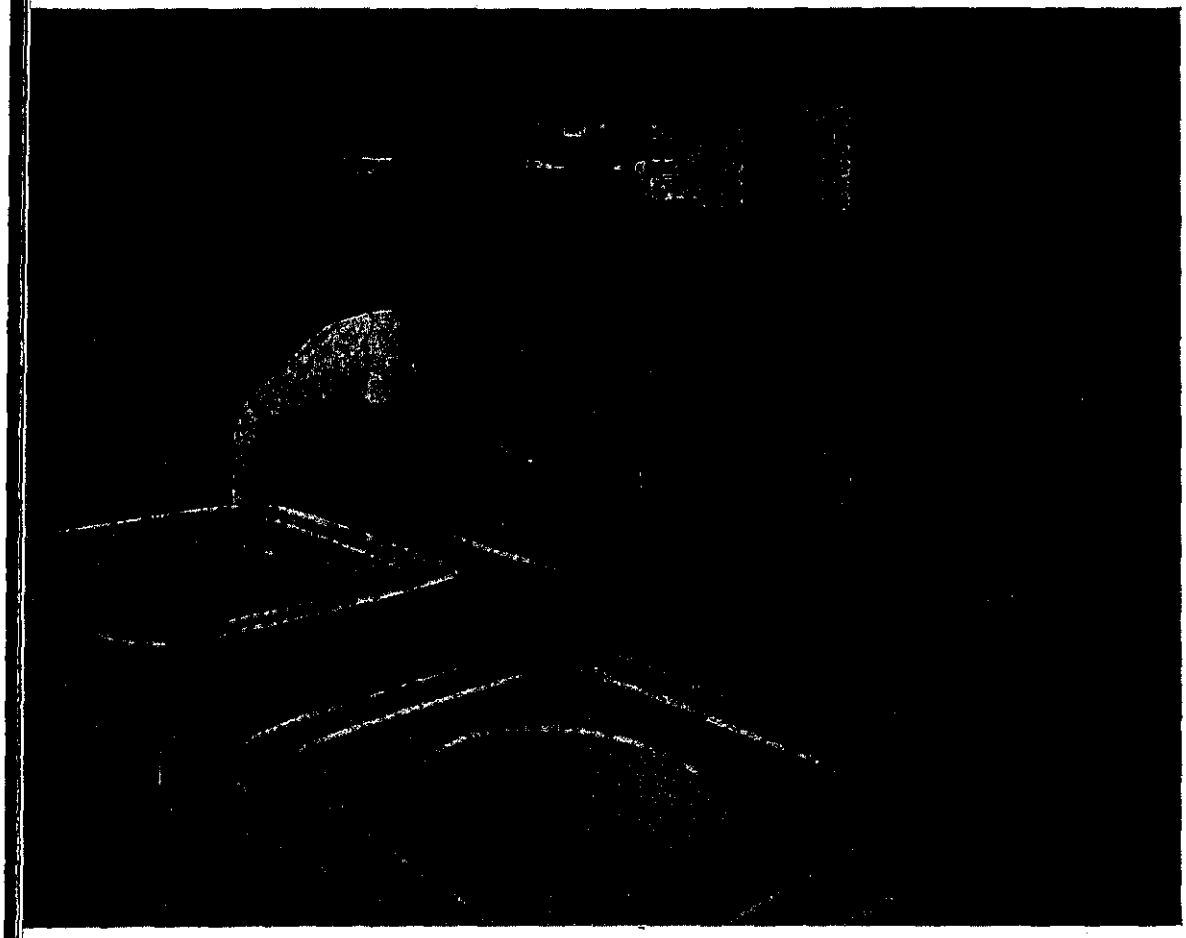


The new Crane "Compac" radiator offers modern beauty as well as greater comfort.

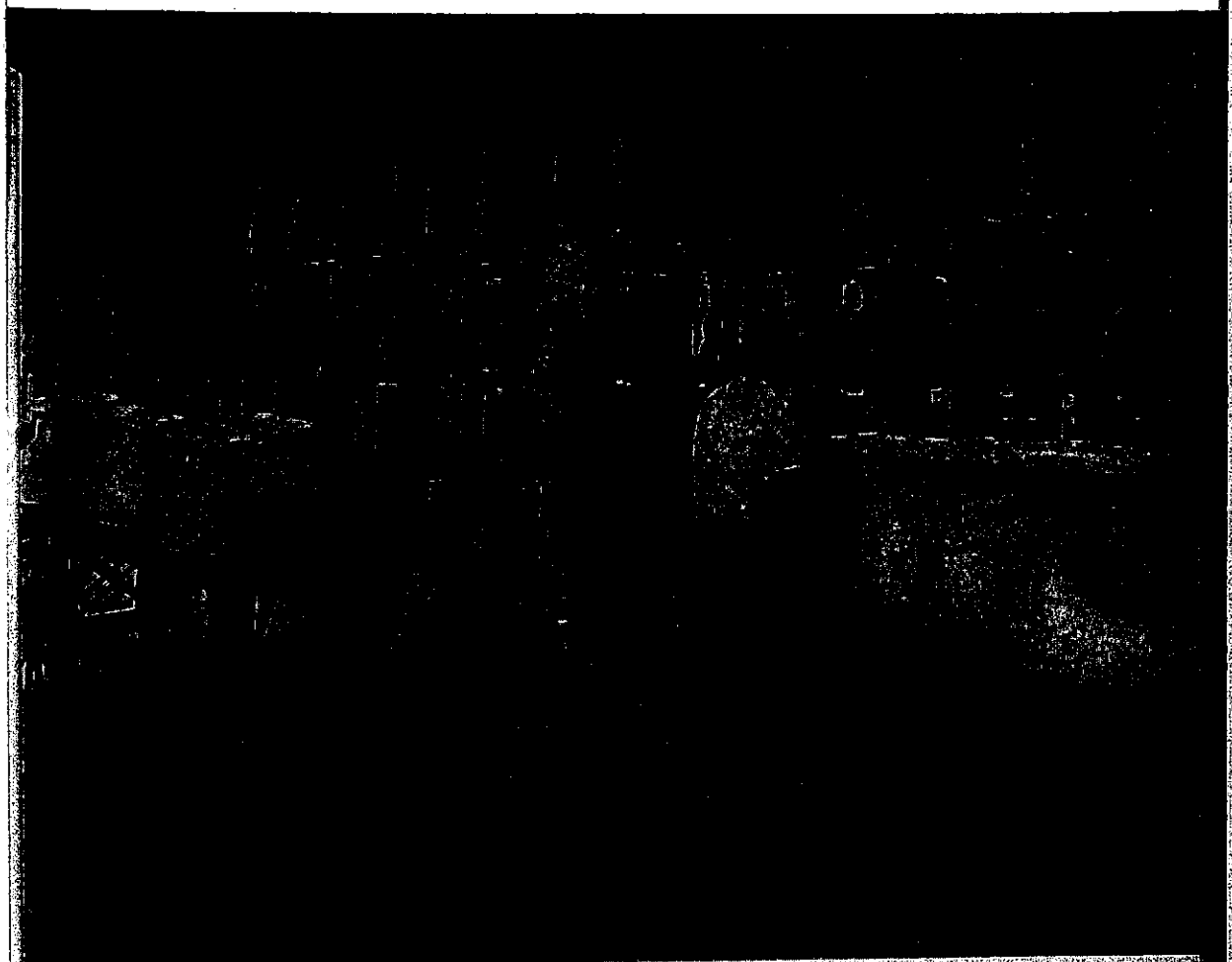
CRANE00138

LARGE MODERN PLANTS PRODUCE CRANE PLUMBING FIXTURES

A constant flow of plumbing fixtures of all types comes from the Crane plants. In Trenton, N. J., the vitreous china line is produced in potteries combining the ancient art of the potter with the most modern facilities. In Chattanooga, Tenn., the porcelain enamel plant casts the iron and applies the enamel surface to all the varied items in this line. Step by step, through every phase of manufacturing process, these fixtures are inspected and reinspected to make sure that they are up to the standard on which the Crane reputation for high quality is based.

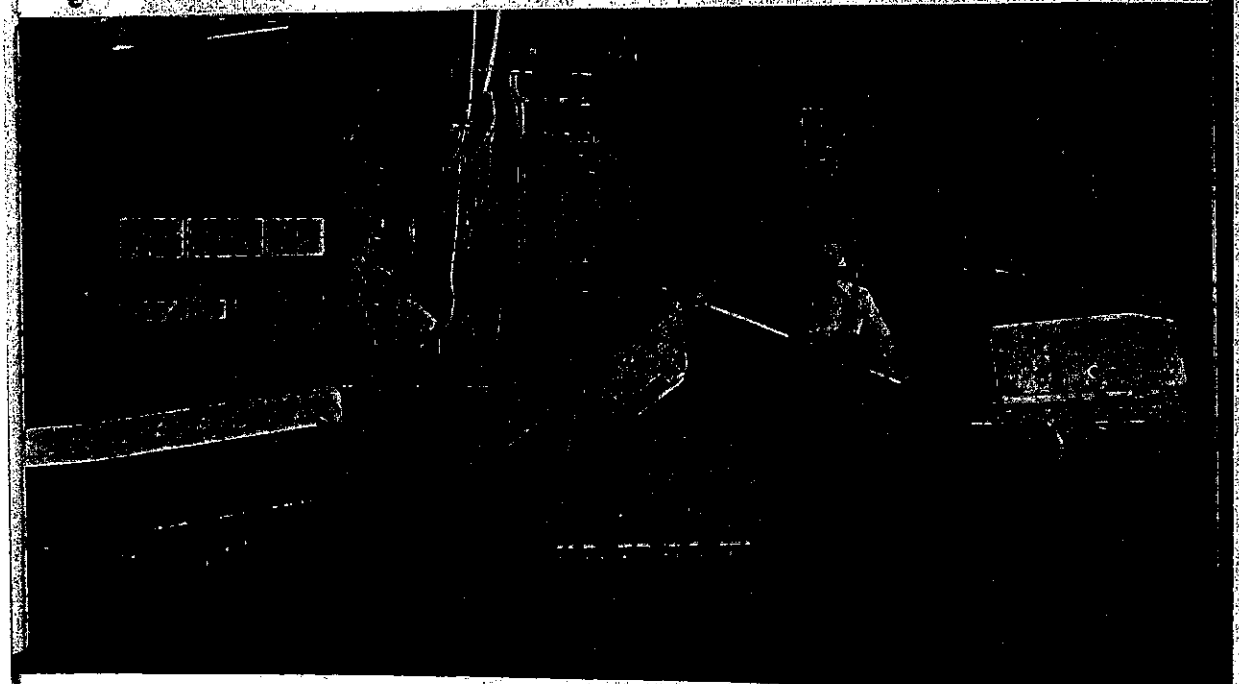


Skilled potters in the Trenton plant cast the clay for these lavatories, which will eventually grace modern bathrooms.



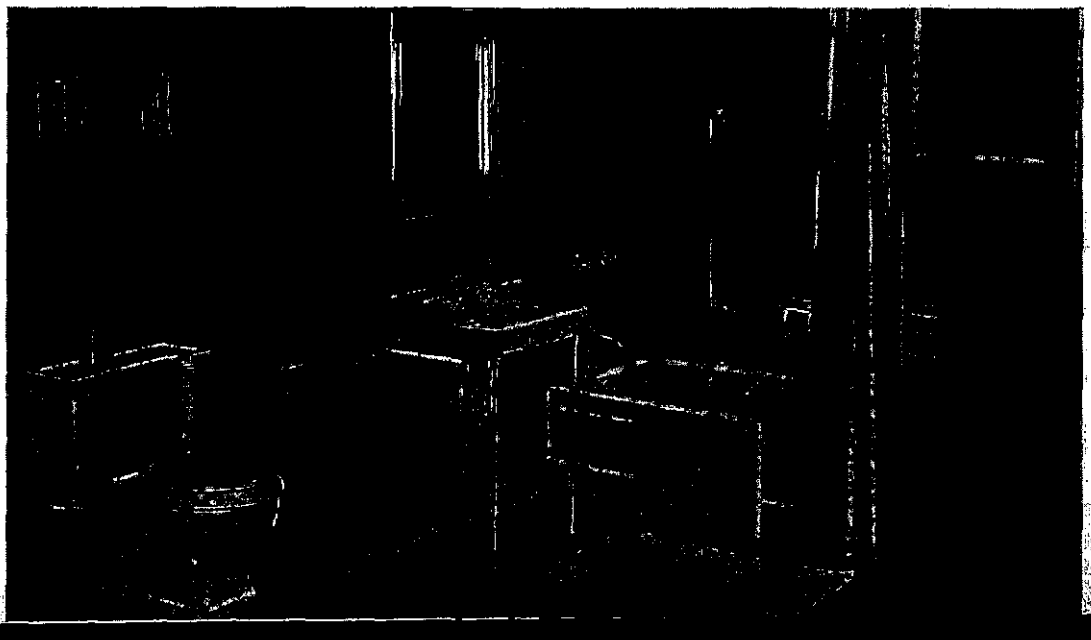
Ready for the kiln—these green clay castings will soon receive their first firing—to become vitreous china.

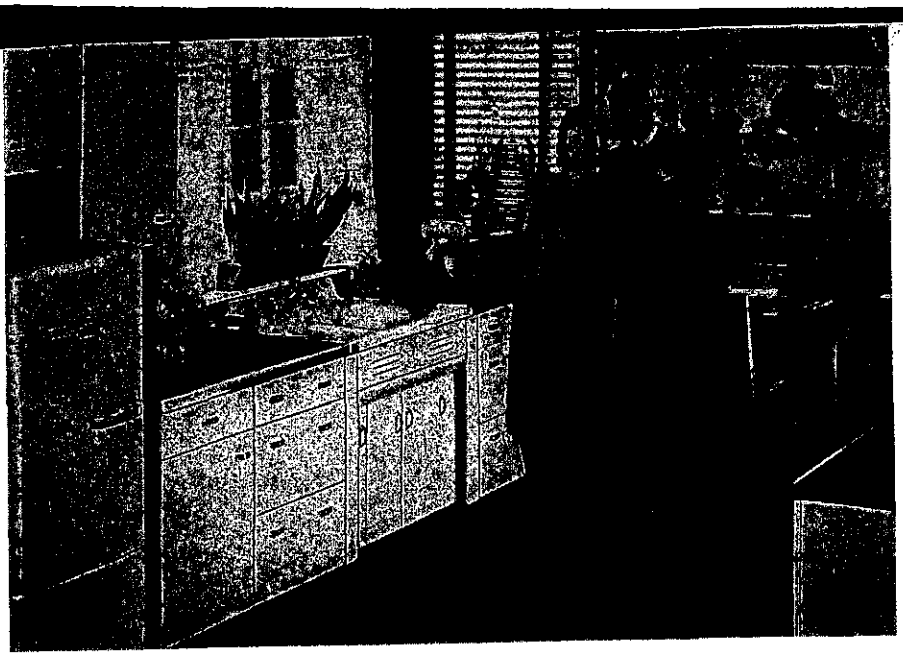
Applying the enamel to a red hot iron bath tub casting at the Chattanooga porcelain enamel plant.



IN EVERY TYPE OF BUILDING— IN HOME, INSTITUTION OR INDUSTRIAL PLANT—THERE ARE CRANE FIXTURES

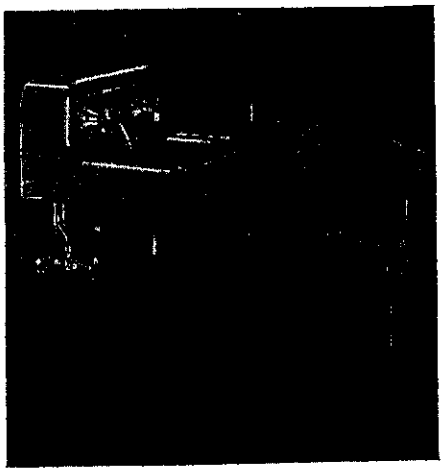
Crane plumbing fixtures for the home cover every price range.





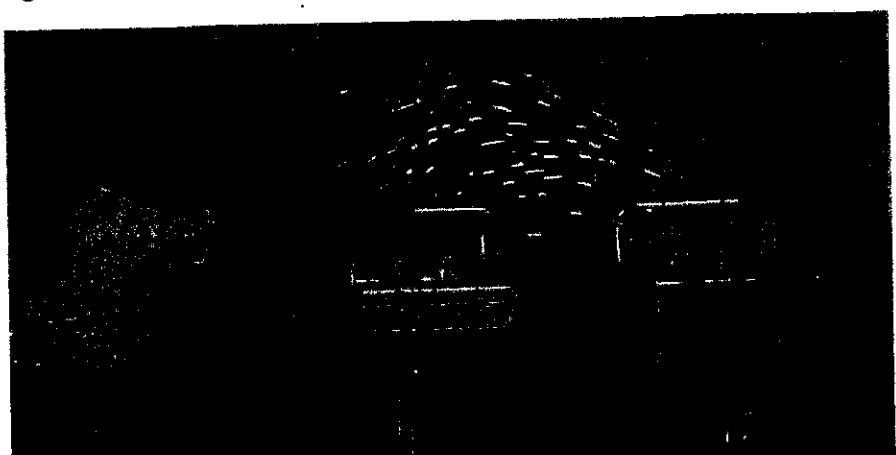
Anyone can enjoy the convenience of a beautiful Crane kitchen at a modest cost.

Care of the teeth is aided by this Crane dental lavatory.



Hospital fixtures in the Crane line are built to the highest standards and are approved by the American College of Surgeons.

Crane school equipment meets the rigorous tests of hard usage.



Locations of

BRANCHES IN U. S. AND CANADA

Aberdeen ...South Dakota
Albany .....New York
Albuquerque ..New Mexico
Asheville ...North Carolina
Atlanta .....Georgia
Aurora .....Illinois

Baltimore .....Maryland
Beaumont .....Texas
Billings .....Montana
Binghamton .....New York
Birmingham .....Alabama
Boise .....Idaho
Boston .....Massachusetts
Bridgeport .....Connecticut
Buffalo .....New York

Calgary .....Alberta
Camden .....New Jersey
Canton .....Ohio
Casper .....Wyoming
Charleston ..West Virginia
Charlotte ..North Carolina
Chattanooga ....Tennessee
Chicago .....Illinois
Cincinnati .....Ohio
Cleveland .....Ohio
Columbus .....Ohio
Corpus Christi .....Texas

Dallas .....Texas
Davenport .....Iowa
Denver .....Colorado
Detroit .....Michigan
Duluth .....Minnesota

East Chicago .....Indiana
Edmonton .....Alberta
El Paso .....Texas
Evanston .....Illinois
Evansville .....Indiana

Fargo .....North Dakota
Flint .....Michigan
Ft. Smith .....Arkansas
Fort William .....Ontario

Grand Island ....Nebraska
Grand Junction ..Colorado
Grand Rapids ....Michigan
Great Falls .....Montana
Greensboro ..North Carolina
Greenville ..South Carolina

Halifax .....Nova Scotia
Hamilton .....Ontario
Harlingen .....Texas
Hartford .....Connecticut
Hempstead .....New York
Hollywood .....California
Houston .....Texas

Indianapolis .....Indiana

Jackson .....Michigan
Jackson .....Mississippi
Jacksonville .....Florida

Kansas City .....Missouri
Kingston .....Ontario
Knoxville .....Tennessee

Lexington .....Kentucky
Lima .....Ohio
Little Rock .....Arkansas
London .....Ontario
Long Beach ....California
Los Angeles ....California

Macon .....Georgia
Madison .....Wisconsin
Mankato .....Minnesota
Mason City .....Iowa
Memphis .....Tennessee
Miami .....Florida
Milwaukee .....Wisconsin
Minneapolis ....Minnesota
Mobile .....Alabama
Moncton ...New Brunswick
Montreal .....Quebec
Muncie .....Indiana
Muskogee .....Oklahoma

Nashville .....Tennessee
Newark .....New Jersey
New Haven ...Connecticut
New Orleans ....Louisiana
New York .....New York
Norfolk .....Virginia

Oakland .....California
Ogden .....Utah
Oklahoma City ..Oklahoma
Omaha .....Nebraska
Oshkosh .....Wisconsin
Ottawa .....Ontario

Pasadena .....California
Philadelphia ..Pennsylvania
Phoenix .....Arizona
Pittsburgh ....Pennsylvania
Pocatello .....Idaho
Pomona .....California
Portland .....Maine
Portland .....Oregon
Providence ..Rhode Island
Pueblo .....Colorado

Quebec .....Quebec

Reading .....Pennsylvania
Regina .....Saskatchewan
Reno .....Nevada
Richmond .....Virginia
Rochester .....New York
Rockford .....Illinois

Sacramento .....California
St. John's ..Newfoundland
St. Louis .....Missouri
St. Paul .....Minnesota
Salt Lake City .....Utah
San Antonio .....Texas
San Bernardino ..California
San Diego .....California
San Francisco ...California
Santa Ana .....California
Santa Barbara ...California
Saskatoon ...Saskatchewan
Savannah .....Georgia
Seattle .....Washington
Shreveport .....Louisiana
Sioux City .....Iowa
Sioux Falls ...South Dakota
South Bend .....Indiana
Spokane .....Washington
Springfield .....Illinois
Springfield ..Massachusetts
Syracuse .....New York

Tacoma .....Washington
Tampa .....Florida
Terre Haute .....Indiana
Toronto .....Ontario
Trenton .....New Jersey
Tucson .....Arizona
Tulsa .....Oklahoma

Utica .....New York

Vancouver, British Columbia
Victoria ..British Columbia

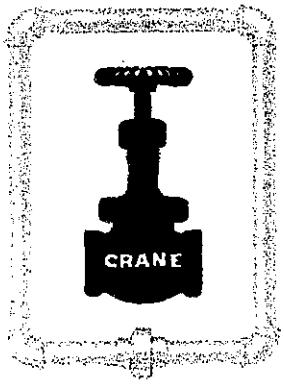
Washington .....D. C.
Waukegan .....Illinois
West Palm Beach...Florida
White Plains ....New York
Wichita .....Kansas
Winnipeg .....Manitoba
Worcester ...Massachusetts

CRANE00143

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1940



CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

Annual Report

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1940

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CRANE CO.

836 SOUTH MICHIGAN AVENUE

Chicago

CRANE CO.

DIRECTORS

JOHN B. BERRYMAN, *Chairman*

ARTHUR O. CHOATE
J. H. COLLIER
A. F. GARTZ, JR.
F. R. LILLIE
MARK W. LOWELL
SYDNEY G. MCALLISTER
P. R. MORK
CHARLES B. NOLTE
WILLIAM R. ODELL
E. A. RUSSELL

OFFICERS

CHARLES B. NOLTE ..... *President*
J. H. COLLIER ..... *Vice President*
C. R. CRANE, II ..... *Vice President*
P. R. MORK ..... *Vice President*
D. G. PARK ..... *Vice President*
J. L. HOLLOWAY ..... *Secretary*
WALTER EVENSEN ..... *Treasurer*
F. H. KAISER ..... *Comptroller*
I. A. COTHRIN ..... *Assistant Secretary*
W. H. WINSLOW, JR. ..... *Assistant Secretary*
L. E. BAKER ..... *Assistant Treasurer*
C. W. DITTMAR ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & CO. INCORPORATED
Wall and Broad Streets
New York City

W. E. PETERSON, *Transfer Clerk*
Crane Co., 836 South Michigan Ave.,
Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK
Pine and Nassau Streets
New York City

CONTINENTAL ILLINOIS NATIONAL BANK
AND TRUST COMPANY OF CHICAGO
231 South LaSalle Street
Chicago, Illinois

CRANE00146

ANNUAL REPORT

To the Shareholders of Crane Co.:

This Annual Report covering the operations of your company for the year 1940 is presented by the management with the approval of the Board of Directors.

FINANCIAL REVIEW

Statements of Profit and Loss and Surplus for the year, and a Balance Sheet as of December 31, 1940, for the company and its United States subsidiaries consolidated, together with statements reflecting the results of operations and the net assets of the subsidiary companies located in foreign countries other than France, and a certificate of Arthur Young & Co., independent public accountants, are shown on pages 8 to 13.

In view of the European conflict and regulations imposed on transactions in the currencies of the belligerent countries, the results of operations and the financial condition of subsidiary companies located in foreign countries have been excluded from the consolidated statements except that the investments in such companies are carried in the Balance Sheet at the lower of cost or book value and the Profit and Loss Statement has been prepared in a manner to illustrate what the Consolidated Income would have been for the year if the Net Income of the subsidiary companies in Canada and England had been included in the consolidation in the manner customary in previous years.

The amounts quoted throughout the narrative of this report are for the most part, and in all instances except where otherwise specified, on a basis of consolidating only the figures of the United States companies.

CONSOLIDATED PROFIT AND LOSS AND SURPLUS:

The Consolidated Profit and Loss and Surplus Statements of Crane Co. and its United States subsidiaries only are given for the year 1940, together with a Profit and Loss Statement for the year 1939 prepared upon the same basis of consolidation.

The Profit and Loss Statement shows a net income for the year 1940 of $5,134,849.95 equal to earnings of $1.77 per share on the 2,348,628 shares of Common Stock after allowance for the dividend requirements of the 192,803 shares of 5% Cumulative Convertible Preferred Stock. This net income includes dividends received from foreign subsidiaries in the amount of $374,345.04, and is comparable to a net income on the same basis for the year 1939 of $4,444,194.38, including dividends received from foreign subsidiaries in the amount of $900,000.00. The net income from operations in the United States for the year 1940, exclusive of dividends received from foreign subsidiaries and after provision for dividends on the Preferred Stock, amounted to $1.61 per Common Share compared with $1.09 for the year 1939.

The Consolidated Surplus of Crane Co. and its United States subsidiaries at December 31, 1940 amounted to $10,788,943.80, of which $1,514,886.08 is allocated as Capital Surplus, leaving $9,274,057.72 as Earned Surplus. This compares with a total Surplus of $9,038,971.06 on the same basis of consolidation at December 31, 1939, of which $7,502,118.28 represented Earned Surplus.

CRANE00147

Depreciation:

The amount charged to operations in the United States for depreciation for 1940 was $1,870,901.19 compared with $1,805,747.71 for 1939. The charge-off for depreciation of machinery and equipment is established on a basis of the estimated life of the individual item; these items are reviewed annually and the estimated remaining life revised where deemed necessary. The provision for depreciation on buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction. This has been the general depreciation policy of your company during recent years.

Taxation:

During the year 1940 the company paid or accrued in combined direct taxes of all kinds in the United States a total of $3,753,330.95, compared with $2,905,745.92 for the year 1939. These taxes for 1940 were equivalent to $1.59 per Common Share compared with the net income of $1.61 per Common Share.

No provision has been made for Excess Profits Tax in the United States on the Earnings for the year 1940 as it appears that no such tax will be assessable. However, this tax may readily be a material amount for 1941.

The serious effect of the increasing tax burden may be better realized when it is appreciated that the total direct taxes paid or accrued by the Canadian and English subsidiaries for the year 1940 amounted to $1,765,688.70 equivalent to two and one fifth times their combined net income of $801,716.68, compared with taxes of $683,989.74 equivalent to two thirds of their combined net income of $1,036,822.56 in the year 1939.

Dividends:

A total of $2,842,917.40 was paid in dividends during the year, consisting of the regular quarterly dividends of $1.25 per share on the 5% Cumulative Preferred shares amounting to $964,015.00, and a dividend of 80¢ per share amounting to $1,878,902.40 paid on the Common shares on December 23, 1940.

CONSOLIDATED BALANCE SHEET:

Financial Condition:

Current assets of Crane Co. and its United States subsidiaries amounted to $50,170,326.62 at December 31, 1940 and current liabilities amounted to $9,395,537.97, reflecting a net working capital of $40,774,788.65, of which $6,224,891.13 was in cash. This net working capital shows an increase of $1,629,874.78 from the comparable position at December 31, 1939.

The ratio of current assets to current liabilities was 5.34 to 1 on December 31, 1940.

Your company owes no overdue accounts or obligations and has no bank indebtedness.

Inventories:

Inventories of Crane Co. and its United States subsidiaries valued at cost or market, whichever was lower, amounted to $30,839,438.29 at December 31, 1940, an increase of $7,102,059.00 over the comparable amount at December 31, 1939.

CRANE00148

The increase in inventories during the year reflects principally increases in quantities, though there were some increases in values arising from increases in material prices and the normal adjustment of wage rates. The increasing demands of customers, due particularly to the requirements of the National Defense activity, necessitated greater quantities of finished product and product in process of manufacture; and a greater supply of raw materials was necessary to properly support the higher operating level.

Open commitments for raw materials, made in the ordinary course of business, amounted to approximately $1,635,000 at the end of the year. Prices thereon were as a whole somewhat below current market quotations.

Investment in Foreign Subsidiaries:

The foreign subsidiaries of the company are all wholly owned and are located in Canada, England and France.

The investment in the foreign subsidiary companies in Canada and England is carried in the Balance Sheet at cost, namely $12,000,000. The investment in the subsidiary company located in Paris, France is carried in the Balance Sheet at its book value as computed at December 31, 1939 upon a basis of conversion of net current assets and other assets into U. S. dollars at the then current rate of 44.54 francs to the dollar and conversion of fixed assets, less accrued depreciation, at U. S. dollar cost at date of acquisition.

By excluding the subsidiary companies located in Canada and England from the consolidation and carrying the investment in them in the Balance Sheet at cost the parent company's equity of $2,815,808.48 in their surplus, when computed at official rates of exchange, has been eliminated from consolidated surplus. Also, by carrying the subsidiary company located in France in the Balance Sheet at its equity value at December 31, 1939 the net operating losses of that company to that date and the depreciation in the French franc in relation to the U. S. dollar as it applied to the net assets of the company other than plant and equipment at December 31, 1939 have been absorbed in the Consolidated Surplus shown in the Balance Sheet. These amounts totalled $2,372,877.12, of which $623,538.85 was in respect to depreciation in the French franc. Otherwise no reserve for possible loss on the investments in subsidiaries in foreign countries has been created or set aside from Surplus, it being considered at this time impossible to appraise the worth of the companies at all accurately.

The net assets of the companies in Canada and England at December 31, 1940 and the results of their operations for the year ended that date are given on Page 12 of this report. Information is not obtainable in sufficiently reliable and complete form to permit the preparation of current financial statements for the French Company during the year 1940. According to current reports, none of the foreign properties have suffered practically any damage from war activities. The companies in Canada and England are operating at high production levels and it is understood that the plant of the company in France is operating on a modest scale.

Refinancing:

During October 1940 the company issued $10,500,000 principal amount of Ten Year 2¼% Sinking Fund Debentures due October 1, 1950, and called for redemption the then outstanding $10,950,000 par amount of Fifteen-Year 3½% Sinking Fund Debentures due June 1, 1951.

CRANE00149

The 2¼% Debentures were sold at a premium of 1½% over par which premium offset the underwriting commission of the same amount. The issue carries a minimum annual sinking fund requirement of $500,000 par amount of debentures which would result in a residual balance due October 1, 1950 of $6,000,000, whereas the 3½% Debentures carried a minimum annual sinking fund requirement of $350,000 which would have resulted in a residual balance due June 1, 1951 of $7,450,000.

Computed on a cash basis the carrying cost of the new issue over its term is approximately $1,000,000 less than the carrying cost of the 3½% Debentures over their remaining term, after absorbing as a part of the carrying costs of the new issue all the costs of issuance, including the redemption premium paid on the old issue.

The terms of the indenture covering the new Ten Year 2¼% Sinking Fund Debentures are in a number of instances less restrictive and more favorable to the company than those of the indenture covering the 3½% Debentures that were retired.

OPERATING REVIEW

SALES:

The sales of your company and its United States subsidiaries for the year 1940 amounted to $88,477,080.97, being 17.12 percent above the sales of 1939.

The dollar sales volume showed an increase for each month of the year compared with that of the previous year. However, the major increases occurred during the latter months which were affected to a greater extent by the National Defense Program both directly, and indirectly through increased business activity in general.

MANUFACTURING:

Your company and its United States subsidiaries are operating five manufacturing plants; its Canadian subsidiaries four manufacturing plants; and its English subsidiary one manufacturing plant.

Improvements and replacements of machinery and equipment have been made in all plants wherever they appeared to be economically sound. Expenditures for these purposes in the United States amounted to $2,159,010.75 during 1940. Through additional mechanization and higher machine speeds both efficiency and capacity have been increased. All of the plants are being maintained to meet the diversified requirements economically.

RESEARCH:

An increasing amount of the time and facilities of the Division of Research and Engineering has been required for engineering, testing and development in connection with a substantial increase in the demand for product incorporating special features created largely through the National Defense Program.

A number of new lines of steel and brass valves were developed during the year and a number of the company's existing lines of valves were redesigned and improved. Progress also was made on the program for revising product and processes to reduce costs without reducing quality. The most outstanding development of the year in the plumbing goods line was our introduction of high-fired special clay bathtubs, sinks and laundry trays under the trade name "DURACLAY". These products, while only slightly higher in cost and weight than enameled iron, are superior to it and also to the earlier costly and excessively heavy porcelain products.

CRANE00150

EMPLOYEE RELATIONS:

Satisfactory relations between employees and the management continued during 1940. A harmonious relationship is invaluable to the employees and the company as a whole, and the welfare of the employees will continue to receive utmost consideration.

LITIGATION:

In United States versus Central Supply Association, et al., No. 16750 in the United States District Court for the Northern District of Ohio at Cleveland, 102 defendants, including the company, its president and its manager of plumbing and heating sales, are charged in an indictment under Section 1 of the Sherman Anti-Trust Act, returned March 29, 1940, with conspiring in restraint of trade in their sale of plumbing supplies. Crane Co. has followed its own individual sales policy and methods since it began to sell plumbing supplies years ago. There is nothing about its sales policy that is or has been secretive or the result of any agreement with others. Accordingly, on May 15, 1940 a joint and several demurrer to this indictment was filed on behalf of the company and its executives on the grounds of uncertainty, duplicity and failure to state facts sufficient to constitute an offense under the Sherman Anti-Trust Act. No decision has been rendered as yet on the demurrer.

OUTLOOK

The majority of the manufacturing departments of the company are now operating near capacity levels. Present indications are that the volume of business for, at least, the first six months of 1941 will be substantially greater than for the same period of last year. However, it is impracticable to attempt to forecast profits or losses, especially since increasing taxes and other uncontrollable costs have become such an unpredictable and important factor.

CONCLUSION

A comprehensive view of your company and its products both in use and in process of manufacture is presented in the pictorial section following the formal financial statements. Through the latter section it is also possible to visualize more fully Crane's part in the National Defense Program and to better appreciate the importance of its products not only in the construction and maintenance of battleships and munitions plants, but also in the thousands of other industrial plants and construction projects which must function before the purely munitions plants can operate successfully.

The Management and Directors welcome this opportunity of expressing their deep appreciation of the loyalty and cooperation of the employees, shareholders and customers of the company during the past year.

CHARLES B. NOLTE,
President.

JOHN B. BERRYMAN,
Chairman.

March 3, 1941.

CRANE00151

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

For the Years Ended December 31, 1940 and December 31, 1939

	Year ended Dec. 31, 1940	Year ended Dec. 31, 1939
CRANE CO. AND SUBSIDIARIES IN THE UNITED STATES:		
Gross sales, less returns and allowances—		
Sales to customers	$87,574,946.45	$74,733,125.10
Sales to foreign subsidiaries	902,134.52	809,808.74
Total	$88,477,080.97	$75,542,933.84
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	79,066,835.40	68,389,354.75
	$ 9,410,245.57	$ 7,153,579.09
Provision for depreciation	1,870,901.19	1,805,747.71
Net operating profit	$ 7,539,344.38	$ 5,347,831.38
Other income, exclusive of dividends received from foreign subsidiaries—		
Cash discounts on purchases	$ 691,272.84	$ 589,737.44
Interest received	37,643.88	33,586.14
Miscellaneous other income	90,226.31	78,160.76
	$ 819,143.03	$ 701,484.34
	$ 8,358,487.41	$ 6,049,315.72
Deductions—		
Cash discount on sales	$ 1,208,917.20	$ 1,029,738.27
Interest paid	389,276.54	399,621.57
Amortization of debt discount and expense	52,271.90	57,047.84
Loss on sale or disposition of fixed assets	364,779.77	106,941.90
Miscellaneous deductions	11,655.61	22,606.66
Minority stockholders' interest in net income of subsidiaries	53,733.68	67,973.22
	$ 2,080,634.70	$ 1,683,929.46
Net profit (exclusive of dividends received from foreign subsidiaries) before federal income taxes	$ 6,277,852.71	$ 4,365,386.26
Provision for federal income taxes (no provision for excess profits taxes appears necessary)	1,517,347.80	821,191.88
Consolidated net profit of Crane Co. and subsidiaries in the U. S., exclusive of dividends received from foreign subsidiaries	$ 4,760,504.91	$ 3,544,194.38
NET PROFIT OF CANADIAN AND ENGLISH SUBSIDIARIES:		
*Canadian subsidiaries (after deducting taxes on income; $918,918—1940; $162,742—1939)	406,994.55	611,743.96
English subsidiary (after deducting taxes on income; $689,418—1940; $390,652—1939)	394,722.13	425,078.60
*CONSOLIDATED NET PROFIT OF CRANE CO. AND U. S., CANADIAN AND ENGLISH SUBSIDIARIES	$ 5,562,221.59	$ 4,581,016.94
**Deduct:* Excess of consolidated net income of Canadian and English subsidiaries over dividends received therefrom	427,371.64	136,822.56
CONSOLIDATED NET PROFIT OF CRANE CO. AND SUBSIDIARIES IN THE UNITED STATES, INCLUDING DIVIDENDS RECEIVED FROM FOREIGN SUBSIDIARIES	$ 5,134,849.95	$ 4,444,194.38

*See note to "Investments and Operations in Canada and England"

CRANE00152

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED SURPLUS STATEMENT

For the Year Ended December 31, 1940

	Earned surplus	Capital surplus	Total
Surplus, December 31, 1939	$ 7,502,118.28	$1,536,852.78	$ 9,038,971.06
Net income for the year ended December 31, 1940	5,134,849.95		5,134,849.95
Discount on funded debt of subsidiary purchased for retirement	1,912.47		1,912.47
Sundry reserve, no longer required	54,686.52		54,686.52
	$12,693,567.22	$1,536,852.78	$14,230,420.00
Deduct:			
Premium on Fifteen-Year 3½% Sinking Fund Debentures retired	$ 109,500.00	$	$ 109,500.00
Unamortized debt discount and expense applicable to funded debt retired	415,108.10		415,108.10
Excess of cost of stocks of subsidiaries (consolidated) at dates of acquisition over book value thereof		21,966.70	21,966.70
Net advances during the year to French subsidiary not consolidated	1,984.00		1,984.00
Appropriation to statutory reserve for compensation insurance	50,000.00		50,000.00
Cash dividends paid—			
On 5% cumulative preferred shares, $5 per share	964,015.00		964,015.00
On common shares, $.80 per share	1,878,902.40		1,878,902.40
	$ 3,419,509.50	$ 21,966.70	$ 3,441,476.20
Surplus, December 31, 1940	$ 9,274,057.72	$1,514,886.08	$10,788,943.80

CRANE00153

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1940

ASSETS AND OTHER DEBITS

CURRENT ASSETS:			
Cash		$ 6,224,891.13	
Accounts and notes receivable—			
Trade	$13,290,300.97		
Sundry	58,362.48		
	$13,348,663.45		
Less: Reserve for doubtful accounts and notes receivable	375,006.97	12,973,656.48	
Inventories, taken by company officials and employes and valued at the lower of cost or market—			
Raw material and supplies	$ 7,117,844.02		
Work in process	8,580,791.71		
Finished goods	15,140,802.56	30,839,438.29	
Due from foreign subsidiaries not consolidated		132,340.72	
Total current assets			$ 50,170,326.62
INVESTMENTS:			
Investments in foreign subsidiaries not consolidated—			
Canadian subsidiary (parent company of other Canadian subsidiaries and English subsidiary), at cost	$12,000,000.00		
French subsidiary, at book value of its net assets at December 31, 1939	1,233,675.24	$13,233,675.24	
Other security investments, at cost or nominal value (less reserve, $135,167.76)		36,556.25	
Other investments, at cost (less reserve, $5,456.12)		190,533.55	13,460,765.04
FIXED ASSETS, AT COST:			
Land, land improvements and leases		$ 7,846,619.94	
Buildings	$33,960,818.90		
Less: Reserve for depreciation	12,578,678.65	21,382,140.25	
Machinery and equipment	$34,920,741.34		
Less: Reserve for depreciation	18,840,625.58	16,080,115.76	
			45,308,875.95
DEFERRED CHARGES:			
Unamortized expense on ten year debentures		$ 62,061.99	
Miscellaneous prepaid expenses and other deferred charges		190,553.25	
			252,615.24
			$109,192,582.85

CRANE00154

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1940

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls	$ 5,853,846.66	
Accrued general and federal income taxes	2,982,628.81	
Accrued interest on long term debt	59,062.50	
Sinking fund payment due August 20, 1941	500,000.00	
Total current liabilities		$ 9,395,537.97
LONG TERM DEBT:		
Ten Year 2¼% Sinking Fund Debentures, due October 1, 1950 (annual sinking fund payments of $500,000 due August 20 of each year to 1949)—		
Authorized, issued and outstanding	$10,500,000.00	
Less: Sinking fund payment due August 20, 1941 shown as current liability above	500,000.00	
	$10,000,000.00	
Funded debt of subsidiary company (less $25,000 payment deposited with trustee)	39,363.00	
		10,039,363.00
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Preferred stockholders (par value)	$ 46,600.00	
Common stockholders (par value $668,800, plus equity in surplus $20,741.68)	689,541.68	
		736,141.68
MISCELLANEOUS RESERVES AND DEFERRED CREDITS		236,596.40
CAPITAL STOCK:		
Cumulative convertible preferred shares, par value $100, callable at $105		
Authorized—200,000 shares		
Issued —192,803 shares designated as 5% cumulative convertible preferred shares	$19,280,300.00	
Common shares, par value $25		
Authorized—3,000,000 shares (385,606 shares are reserved for conversion of cumulative convertible preferred shares)		
Issued. —2,348,628 shares	58,715,700.00	
		77,996,000.00
SURPLUS:		
Capital	$ 1,514,886.08	
Earned	9,274,057.72	
		10,788,943.80
		$109,192,582.85

CRANE00155

INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND

The investment in the Canadian subsidiary, Crane, Limited (Canada), is carried in the balance sheet at U. S. dollar cost, $12,000,000. The net assets of this company and its subsidiaries, segregated as between Canada and England, are summarized below:

	Canada	England	Total
Fixed assets less accrued depreciation, at U. S. dollar cost at date of acquisition	$ 5,358,626.12	2,107,480.36	7,466,106.48
Net current assets at official rates of exchange (See note below)	5,455,199.75	1,810,271.85	7,265,471.60
Other assets at official rates of exchange	55,926.16	28,304.24	84,230.40
	$10,869,752.03	3,946,056.45	14,815,808.48

The results of operations of the subsidiaries operating in Canada and England for the year ended December 31, 1940 (converted at official rates of exchange except that the provision for depreciation on fixed assets has been computed on U. S. dollar cost) are shown below:

	Canada	England
Gross sales, less returns and allowances	$11,632,043.18	5,476,749.24
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	9,999,318.37	4,134,374.40
	$ 1,632,724.81	1,342,374.84
Provision for depreciation	295,113.10	149,587.07
Net operating profit	$ 1,337,611.71	1,192,787.77
Other deductions, less other income	11,699.16	108,647.72
Net income before income and excess profits taxes	$ 1,325,912.55	1,084,140.05
Provision for income taxes	$ 451,824.98	380,357.92
Provision for excess profits taxes (See note below)	467,093.02	309,060.00
	$ 918,918.00	689,417.92
Net income (See note below)	$ 406,994.55	394,722.13

NOTE:

During the year 1940, Crane, Limited (Canada) received from its English subsidiary a dividend of $453,288.49 Canadian dollars (equivalent to $398,-898.70 U. S. dollars) which, being an inter-company dividend, is not reflected in the operating results of the Canadian companies. No provision has been made for Canadian excess profits tax ($368,197.83 U. S. dollars) on this dividend, as the company understands that there is under consideration an amendment to the Canadian tax laws which will eliminate the liability for such tax.

During the year 1940 Crane Co. received dividends of $374,345.04 (U. S. dollars) from Crane, Limited (Canada) which have been reflected in the consolidated income account of Crane Co. and subsidiaries in the United States.

CRANE00156

ARTHUR YOUNG & COMPANY
ACCOUNTANTS AND AUDITORS
1 NORTH LA SALLE STREET
CHICAGO

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiary companies in the United States as at December 31, 1940, and the consolidated profit and loss and surplus statements for the year then ended, have reviewed the system of internal control and the accounting procedures of the companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the companies and other supporting evidence, by methods and to the extent we deemed appropriate.

Our examination included tests of accounts receivable by direct correspondence with debtors and tests of the inventories at locations selected by us, by count and by observation of the taking of the physical inventories.

All foreign subsidiaries are located in Canada, England and France. These subsidiaries (wholly owned) were formerly consolidated in the annual reports but have been excluded from the accompanying consolidated financial statements. The investment in the Canadian subsidiary (parent company of other Canadian subsidiaries and English subsidiary) is stated in the balance sheet at U. S. dollar cost. Separate statements are submitted showing the net assets and operating results of the Canadian and English subsidiaries. The investment in the French subsidiary (located in Paris) is stated in the balance sheet at the book value of its net assets (in U. S. dollars) at December 31, 1939. Since that date, reliable figures have not been available. The assets and operations of the French subsidiary are not significant in relation to the whole. Owing to exchange restrictions and to other possible influences of the war in Europe, we approve of the exclusion of the foreign subsidiaries from the consolidated financial statements.

In our opinion, the accompanying consolidated balance sheet and related consolidated profit and loss and surplus statements present fairly the position of Crane Co. and its subsidiaries in the United States at December 31, 1940, and the results of their operations for the year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year. The principles of consolidation have been changed as explained in the preceding paragraph.

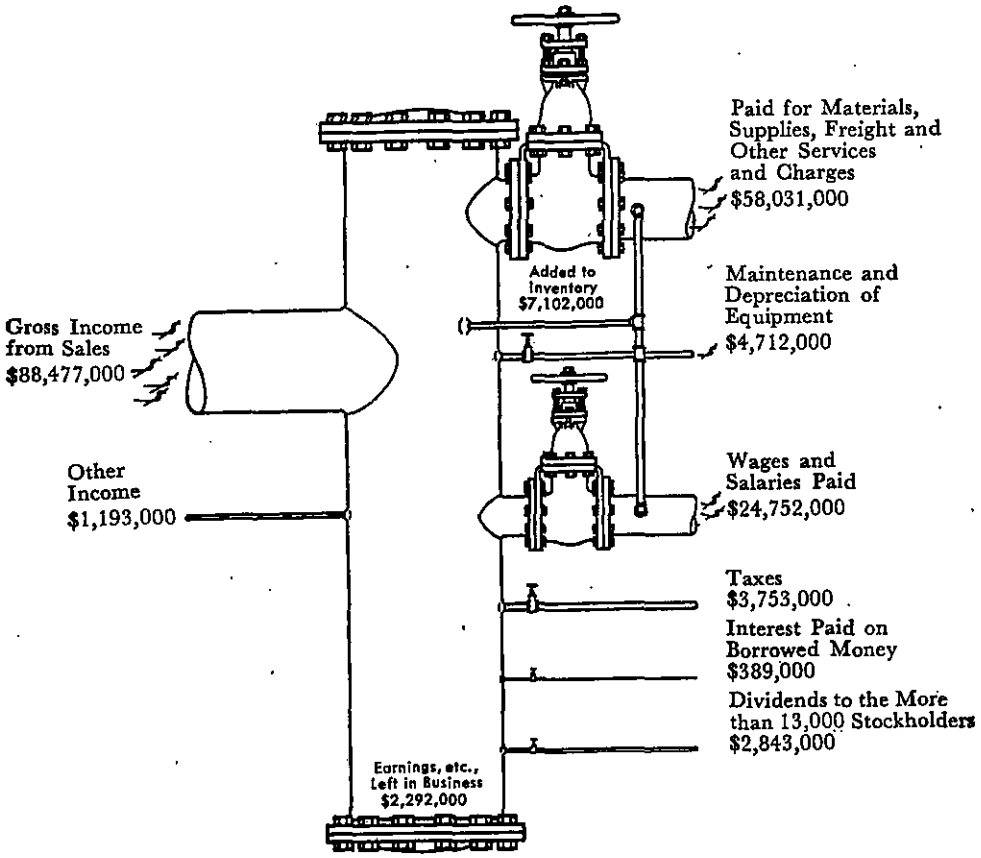
ARTHUR YOUNG & CO.
Certified Public Accountants.

Chicago, Illinois,
February 28, 1941.

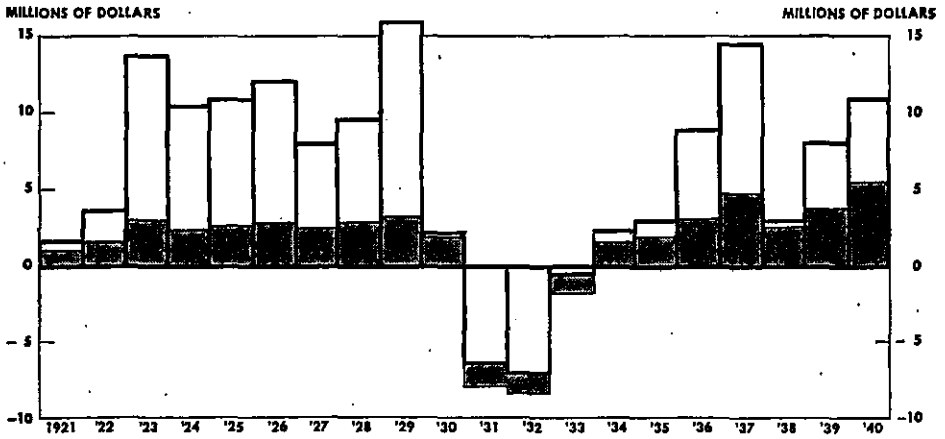
CRANE00157

CRANE CO.'S FINANCIAL STATEMENTS IN

OPERATIONS 1940



EARNINGS OR LOSSES OF THE ENTIRE CRANE ORGANIZATION BEFORE TAXES, SHOWING PART THEREOF PAID FOR TAXES AS THE SHADED AREA

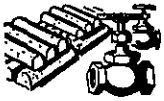


CRANE00158

AN ILLUSTRATED AND SIMPLIFIED FORM

BALANCE SHEET

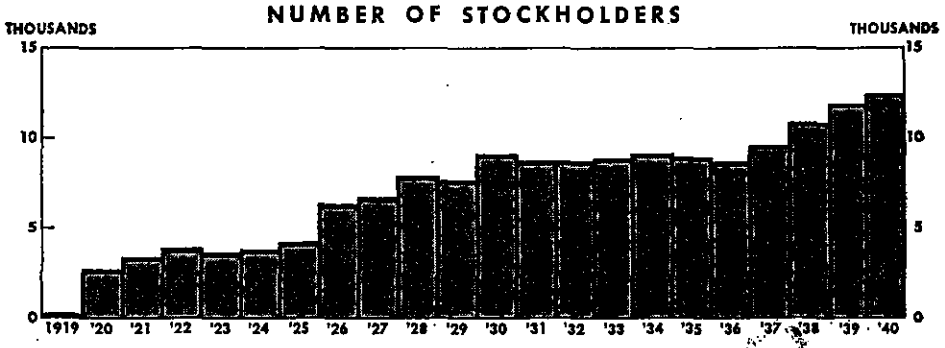
This is the ASSET section of the balance sheet and shows what we have.

Cash, to pay for materials, wages, taxes, etc.		$ 6,225,000
Due us from customers who bought our goods		$ 13,106,000
Raw materials, supplies, finished and partly finished goods on hand		$ 30,839,000
Land, buildings, machinery and equipment used to manufacture and distribute our goods, and investments in our foreign companies		$ 58,770,000
Bills, etc., paid in advance		$ 253,000
	Total	$109,193,000

This is the LIABILITY section of the balance sheet and shows the amounts owed and the stockholders' investment.

To those whom we owed for materials, wages, taxes, services and the like		$ 9,396,000
To those who loaned us their money		$ 10,039,000
The stockholders' investment including earnings left in the business		$ 89,758,000
	Total	$109,193,000

NUMBER OF STOCKHOLDERS



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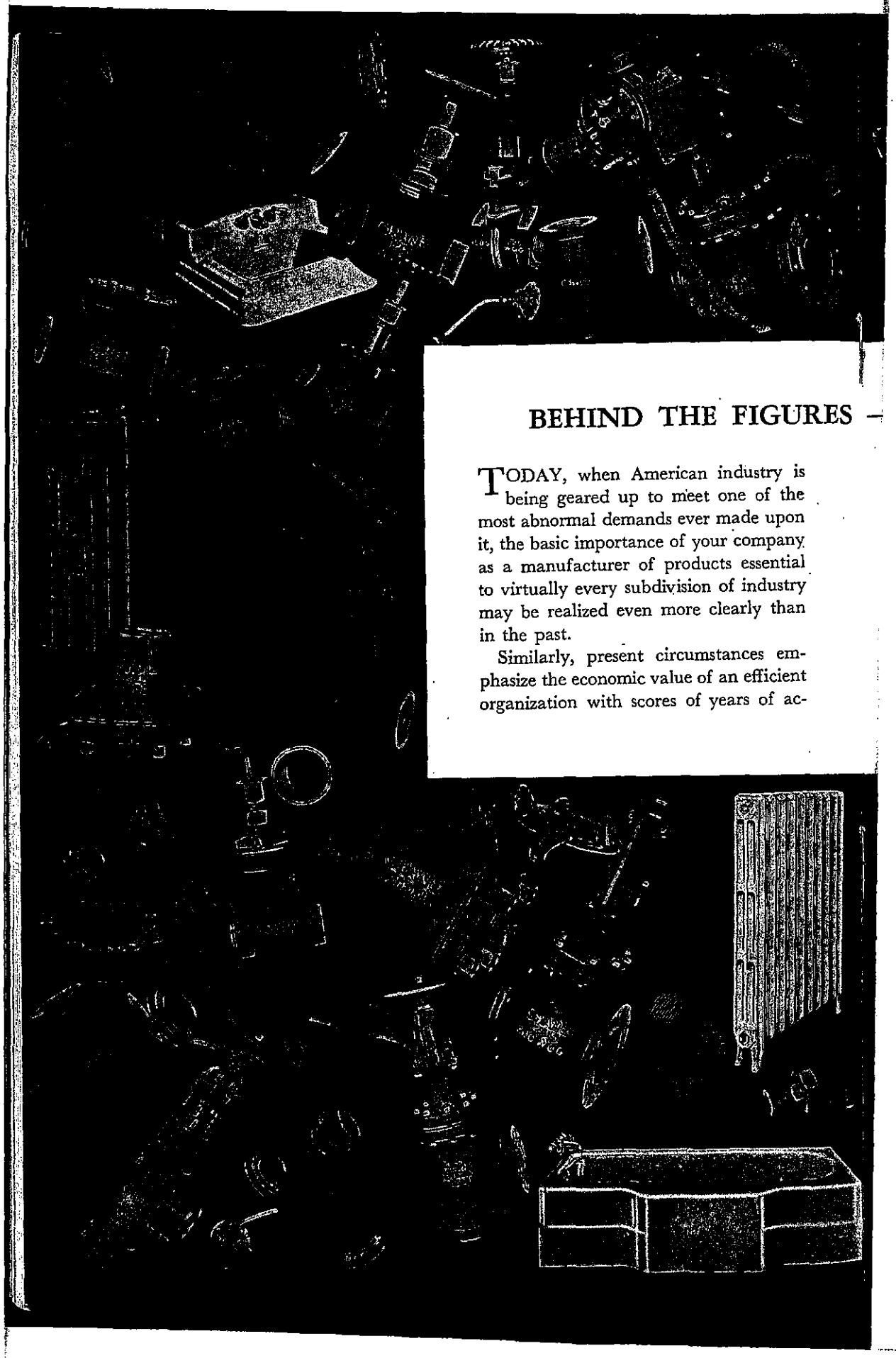


BEHIND THE FIGURES –

TODAY, when American industry is being geared up to meet one of the most abnormal demands ever made upon it, the basic importance of your company as a manufacturer of products essential to virtually every subdivision of industry may be realized even more clearly than in the past.

Similarly, present circumstances emphasize the economic value of an efficient organization with scores of years of ac-

CRANE00160

— YOUR COMPANY

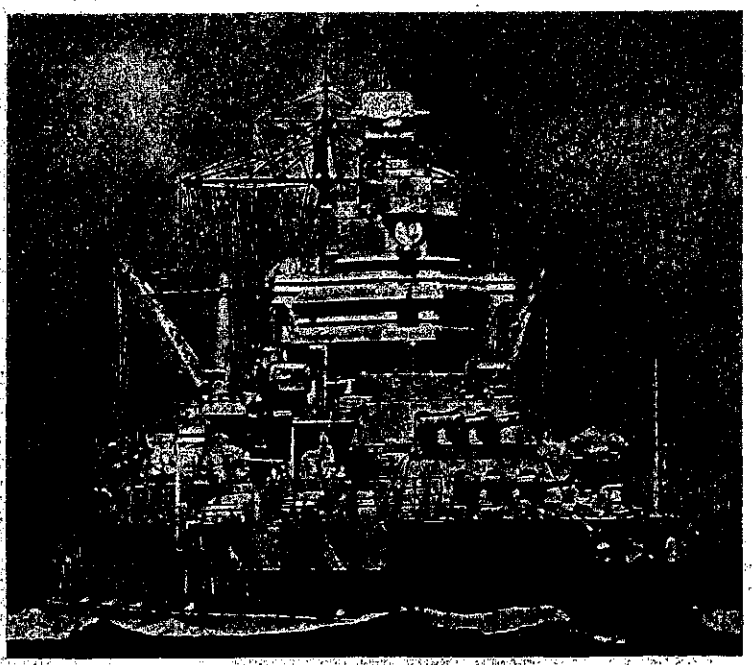
cumulated experience in research, manufacture, and distribution in one field.

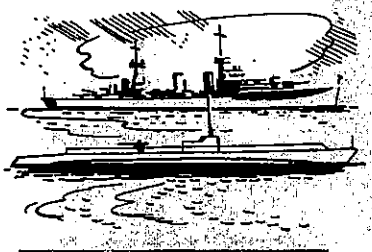
The figures on the preceding pages take on added significance when studied in the broad perspective provided by the brief pictorial presentation on the following pages.

Your company is bigger than its inventories, plants, or earning power. It is a vital link in the American industrial chain.

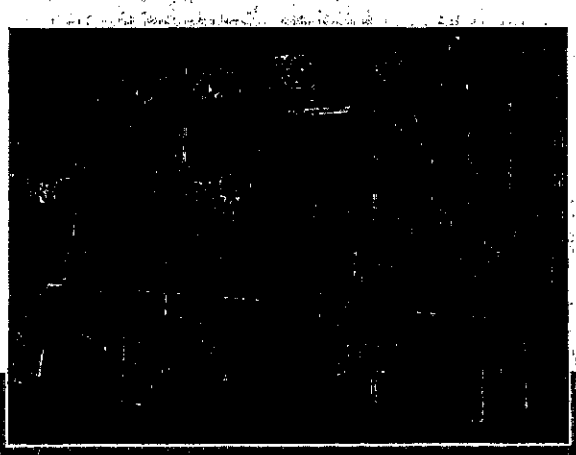
CRANE00161

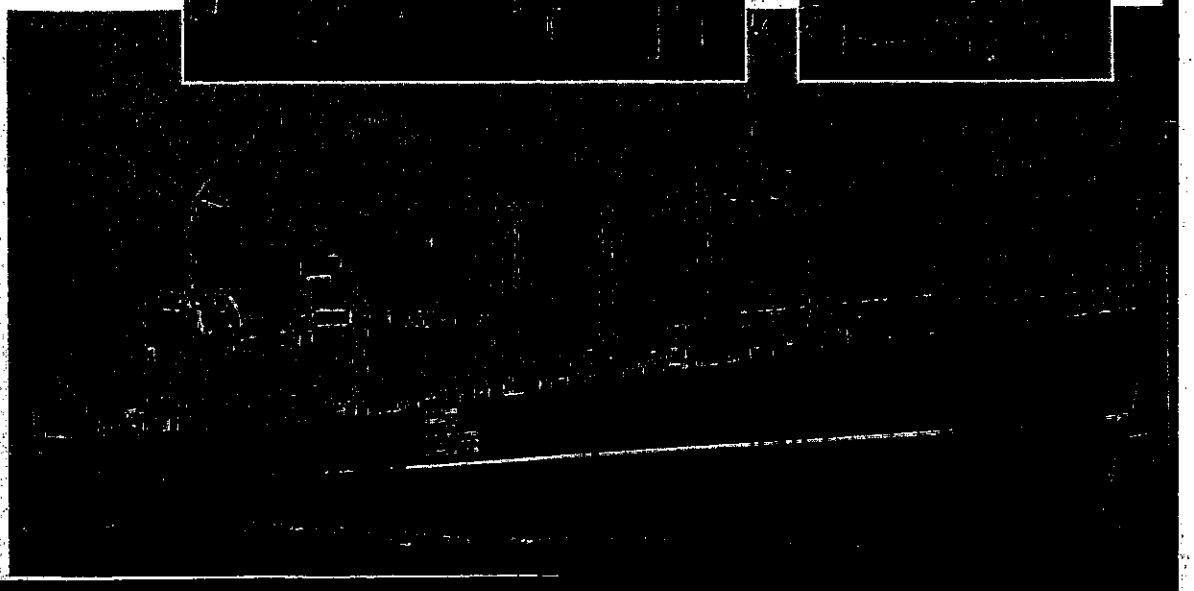
PRODUCTS FOR INDUSTRY AND CONSTRUCTION





In the nation's defense—Crane valves and fittings play a vital role in the operation of ships of every type.

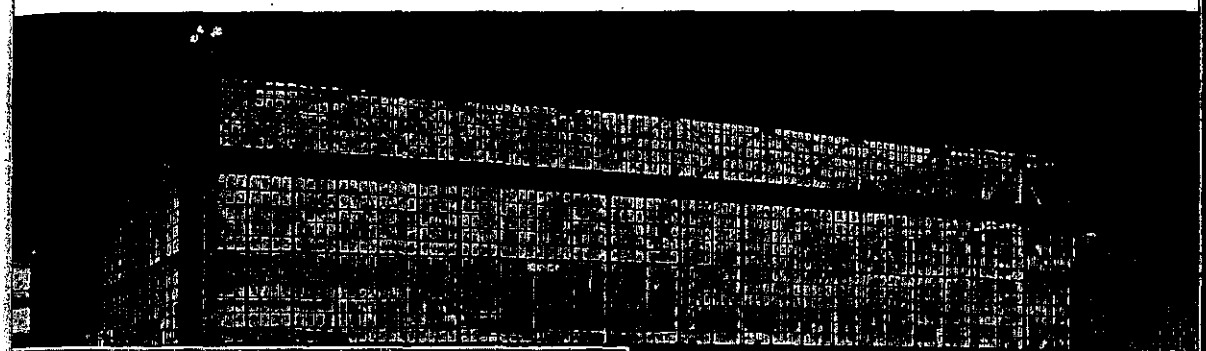


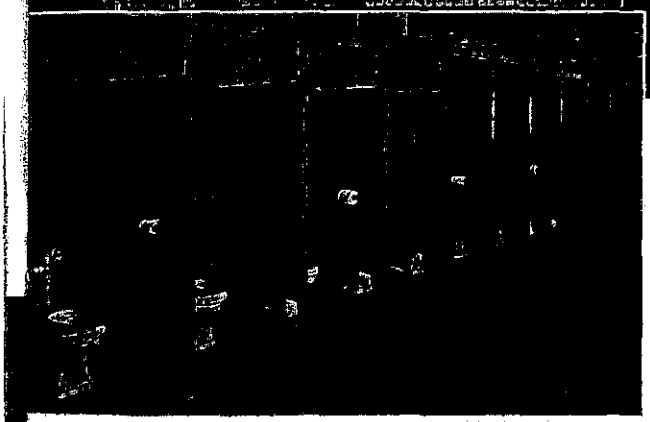


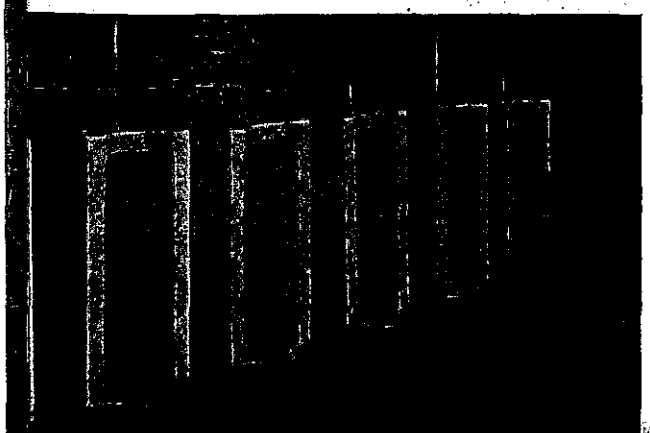
ESSENTIAL TO THE NATIONAL DEFENSE PROGRAM

WHEREVER you turn in industry or building construction you find a maze of pipe lines performing essential services. Crane's 38,000 different kinds and sizes of valves and fittings is the world's largest and most complete array of products for equipping these lines.

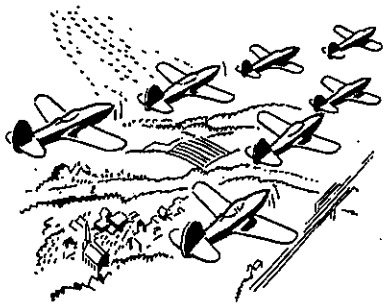
Obviously vast quantities of Crane products are required in the present emergency program—for the Navy and merchant marine, for the piping in plants making aircraft, ammunition, chemicals, textiles, and food, for the oil industry and the railroads, for power plants of all types and sizes; for buildings of all kinds, from airplane hangars and administration buildings to cantonments and housing projects for industrial labor. From battleship to bungalow—Crane serves American industry and construction.

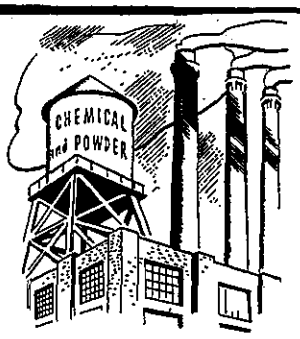




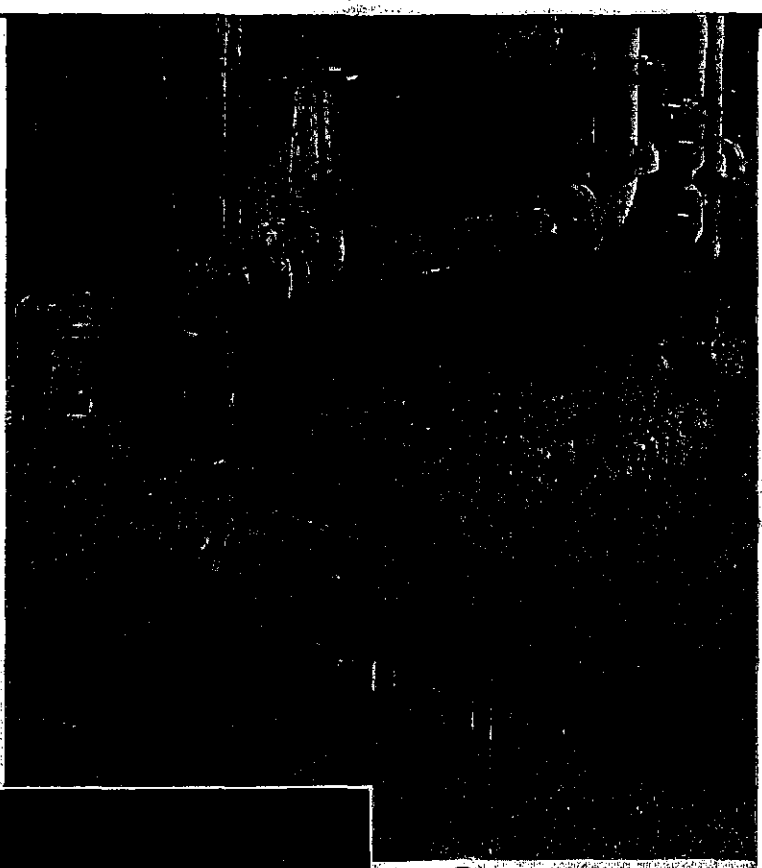


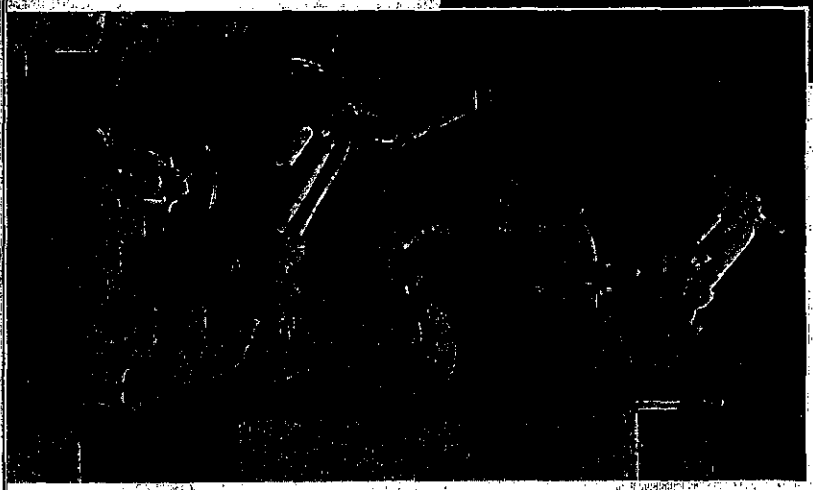
Stepped-up production programs give heed to workers' health and comfort. In this aviation plant, Crane industrial plumbing fixtures assure adequate and safe sanitation for 24 hours a day.

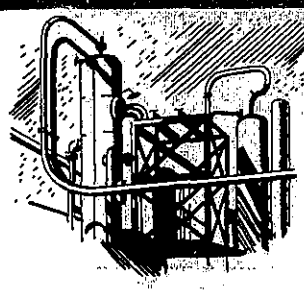




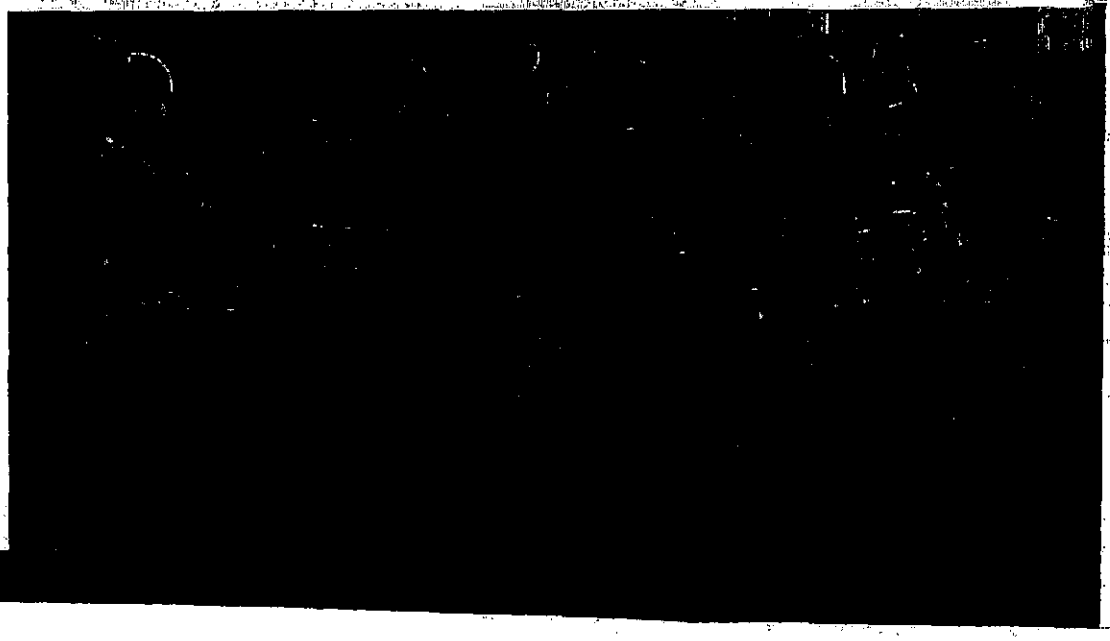
In chemical processing plants, Crane - Equipment meets the severe piping requirements for handling highly corrosive and volatile fluids.

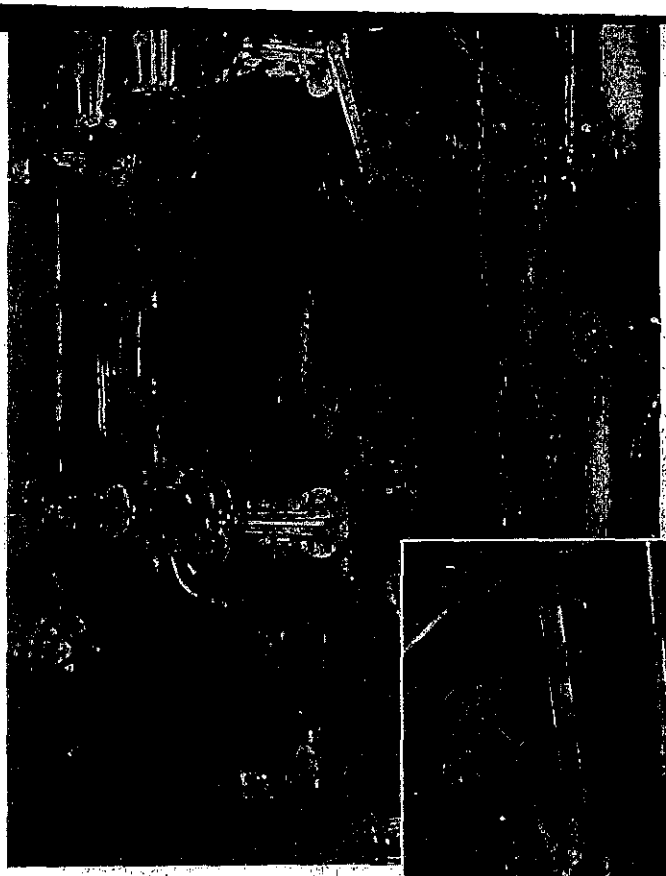


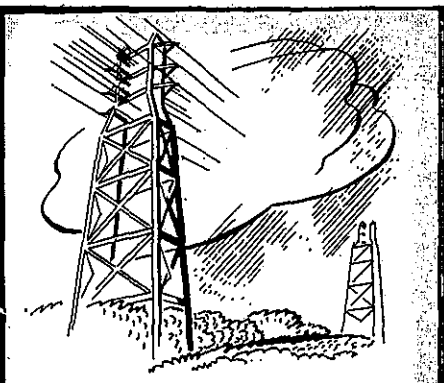




The oil industry demands many kinds of valves — Crane supplies all types.



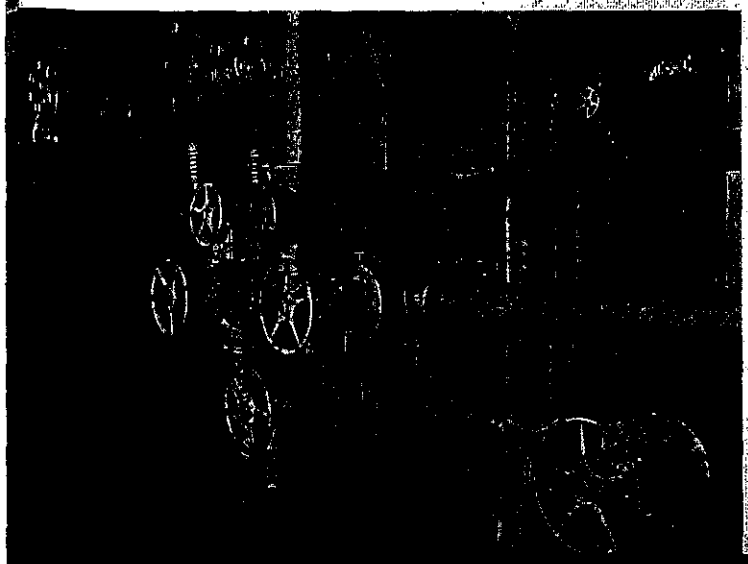


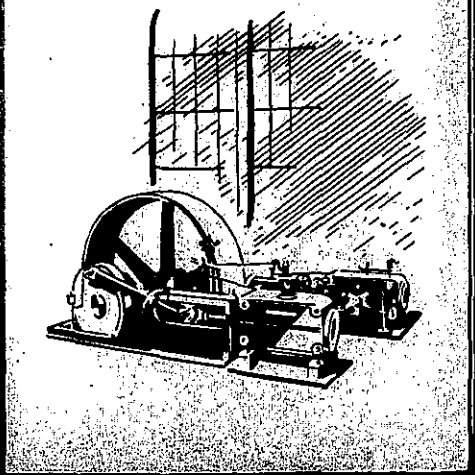


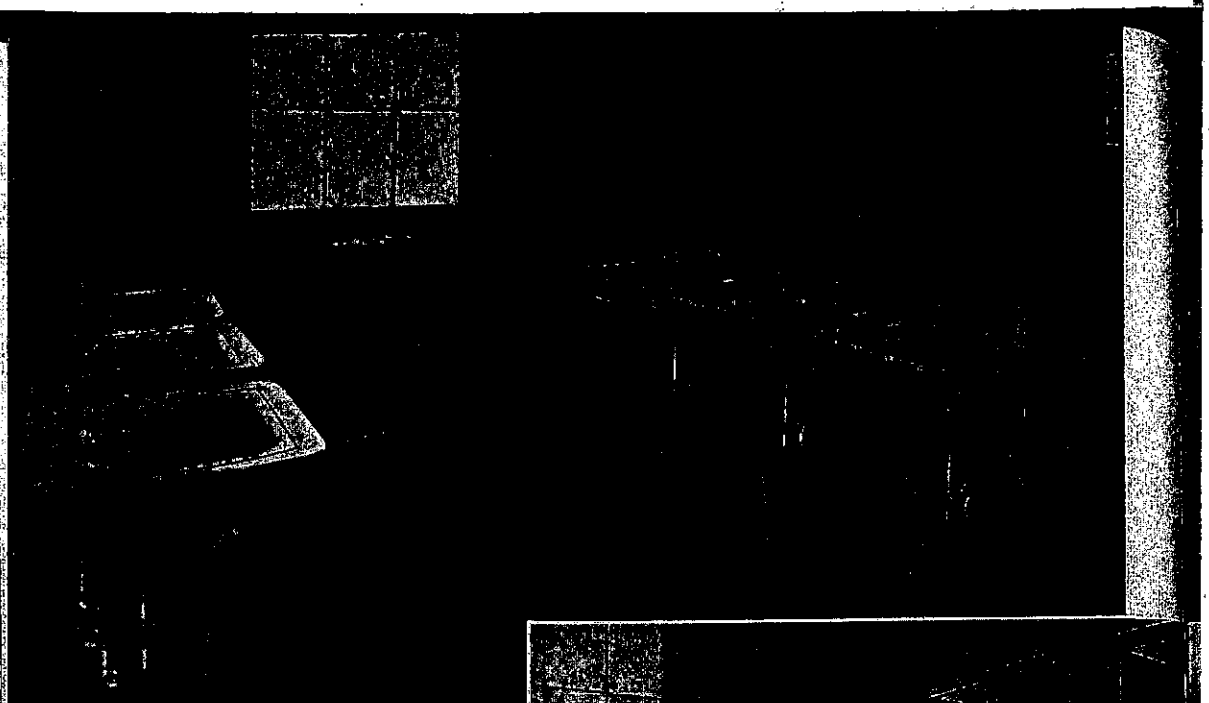
Central light and power companies are important users of Crane high pressure steel valves.

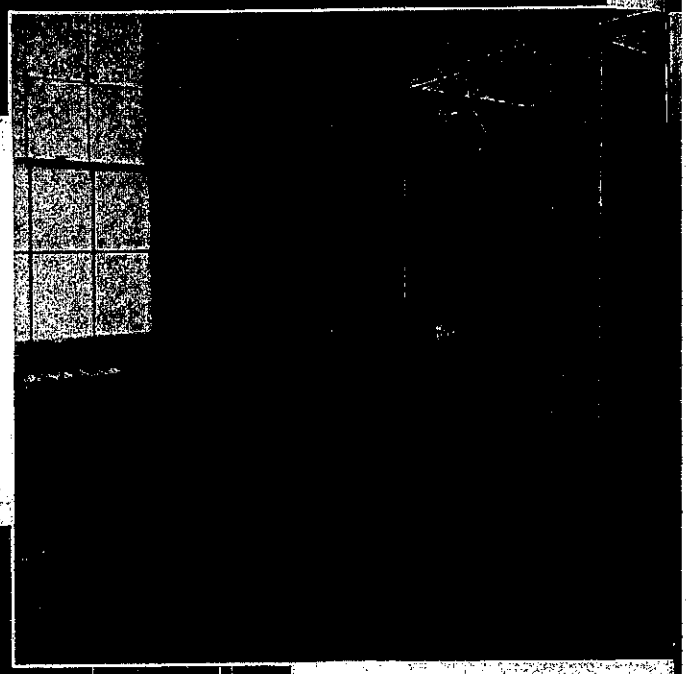
Night is turned into day with the aid of Crane valves and fittings installed in this midwestern light and power plant.

A picture commonly found in industrial plants: Every valve in the piping system says "Crane."

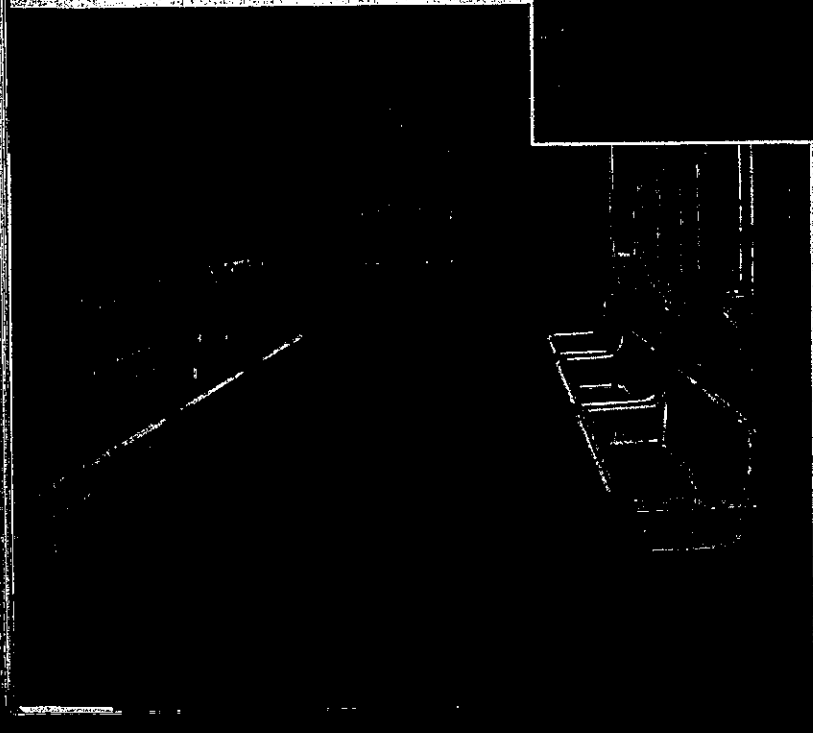




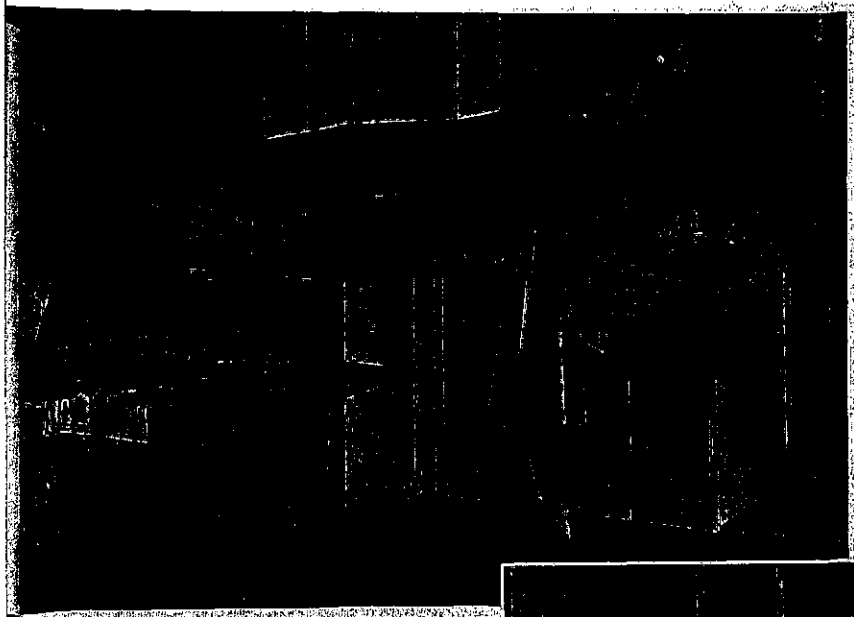




Army and Navy barracks, which are being rushed to completion to house America's defense forces, require large quantities of plumbing and heating equipment to help keep trainees physically fit. Typical Crane installations in such barracks are pictured here.

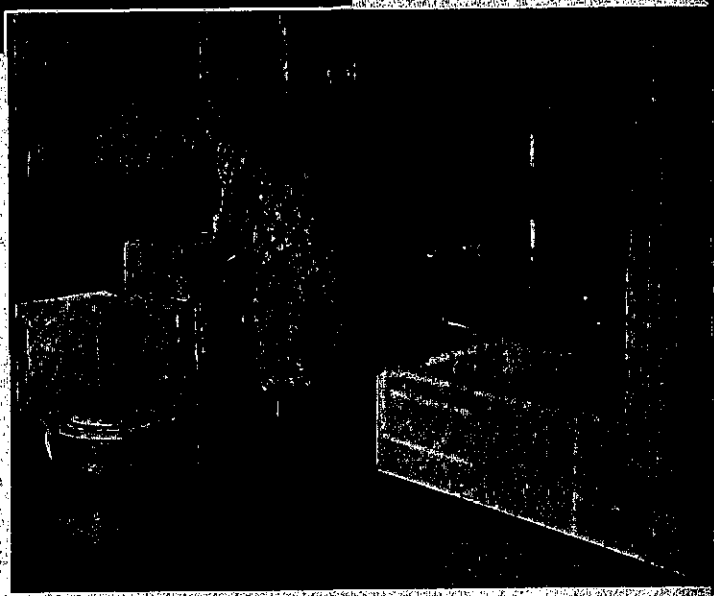


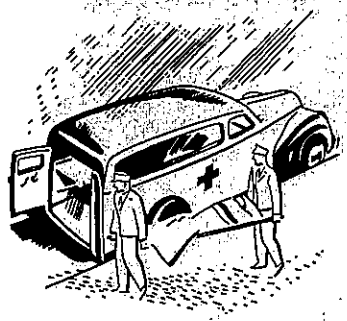
CRANE00166



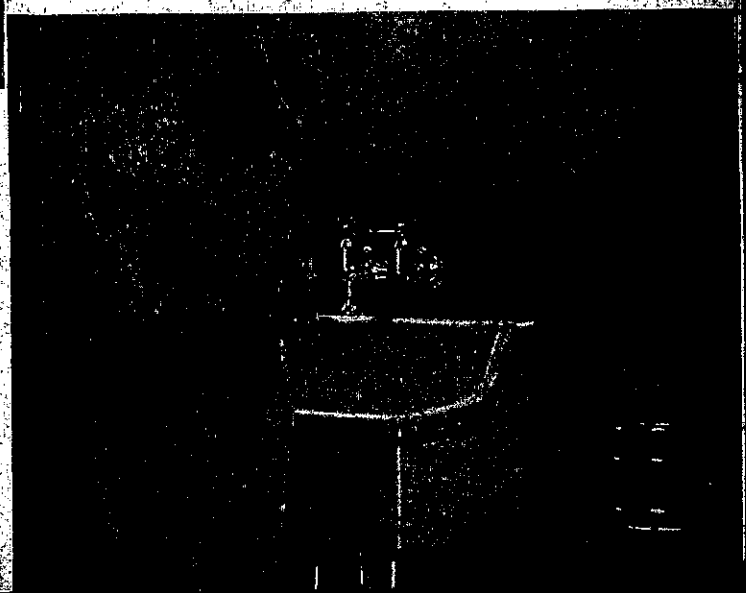
To the small home buyer, Crane offers a wide selection of smartly matched design bathroom fixtures at prices well within his building budget.

Modern Crane sinks and cabinets permit ideal arrangement and efficiency in kitchens.





Hospitals of all types use Crane equipment to maintain the highest standard of sanitation.



CRANE00167

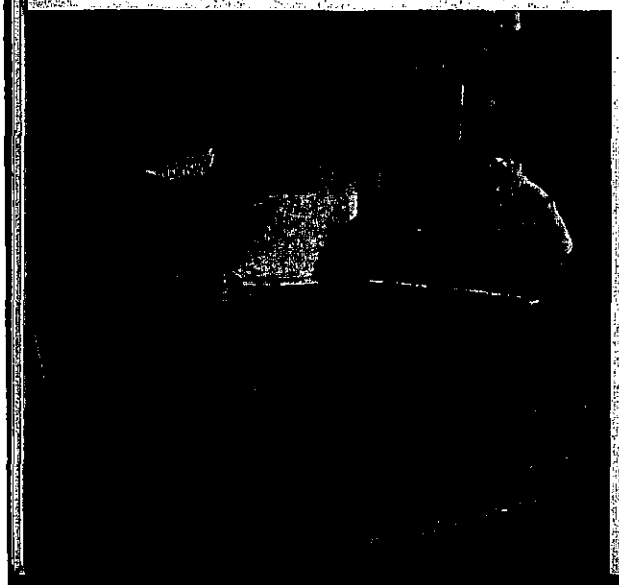
MANUFACTURE AND DISTRIBUTION OF CRANE PRODUCTS

THE more you study the Crane manufacturing and distributing organization, the greater becomes your respect for a company that can produce so many things of such essential character, and deliver them wherever and whenever they are needed by so many people.

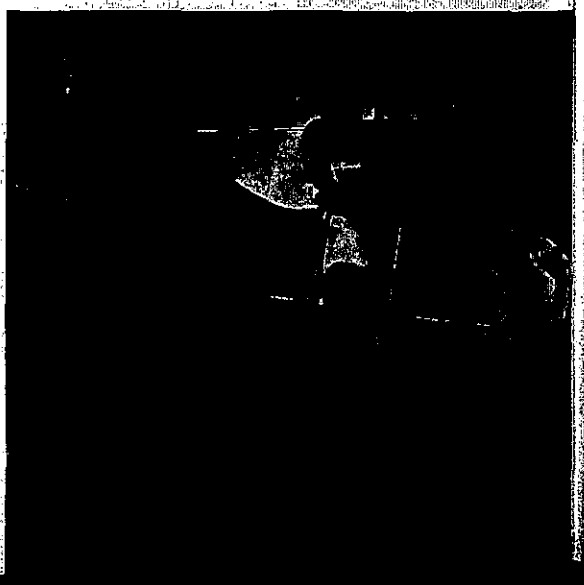
Think of the physical units in this industrial machine, the plants equipped for time and cost-cutting production and the hundreds of branch and wholesaler outlets through which the products reach users; and the human units, the thousands of men and women, whose dexterity, experience and loyalty make possible the operation of so complex a machine.

Main section of a moulding floor in Crane steel foundry.

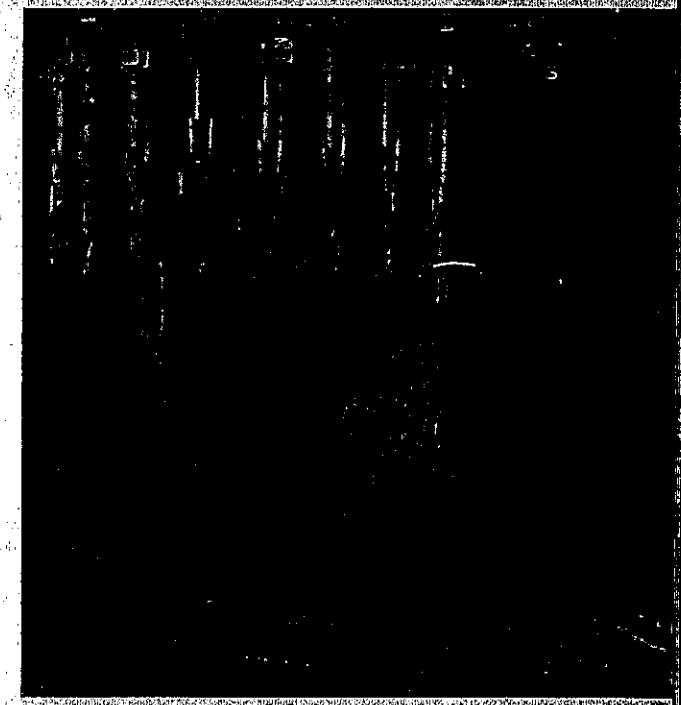
Forging steel flanges with a 22,000-lb. hydraulic hammer.



Pouring from one of the cupolas in the malleable iron foundry.



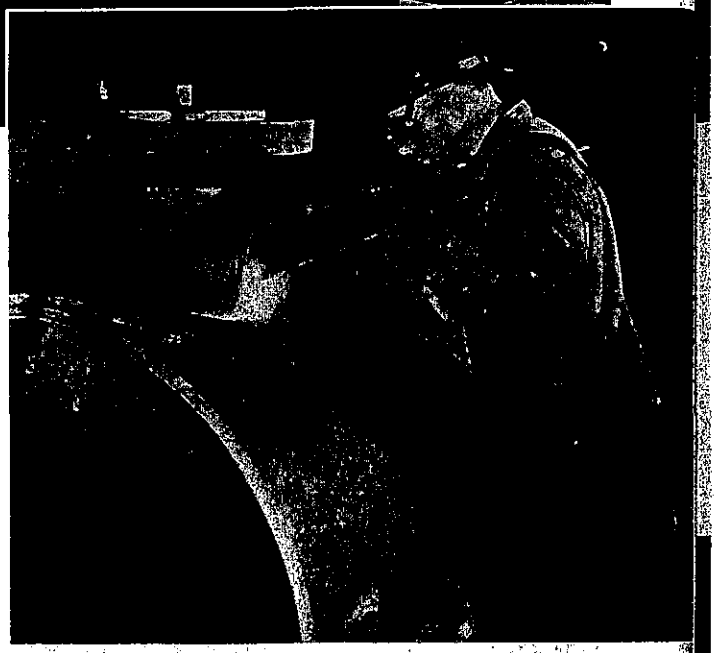
Countless machining operations prepare the thousands of individual parts for assembly into Crane valves.



Drilling bolt holes in the end flanges of an iron gate valve body.

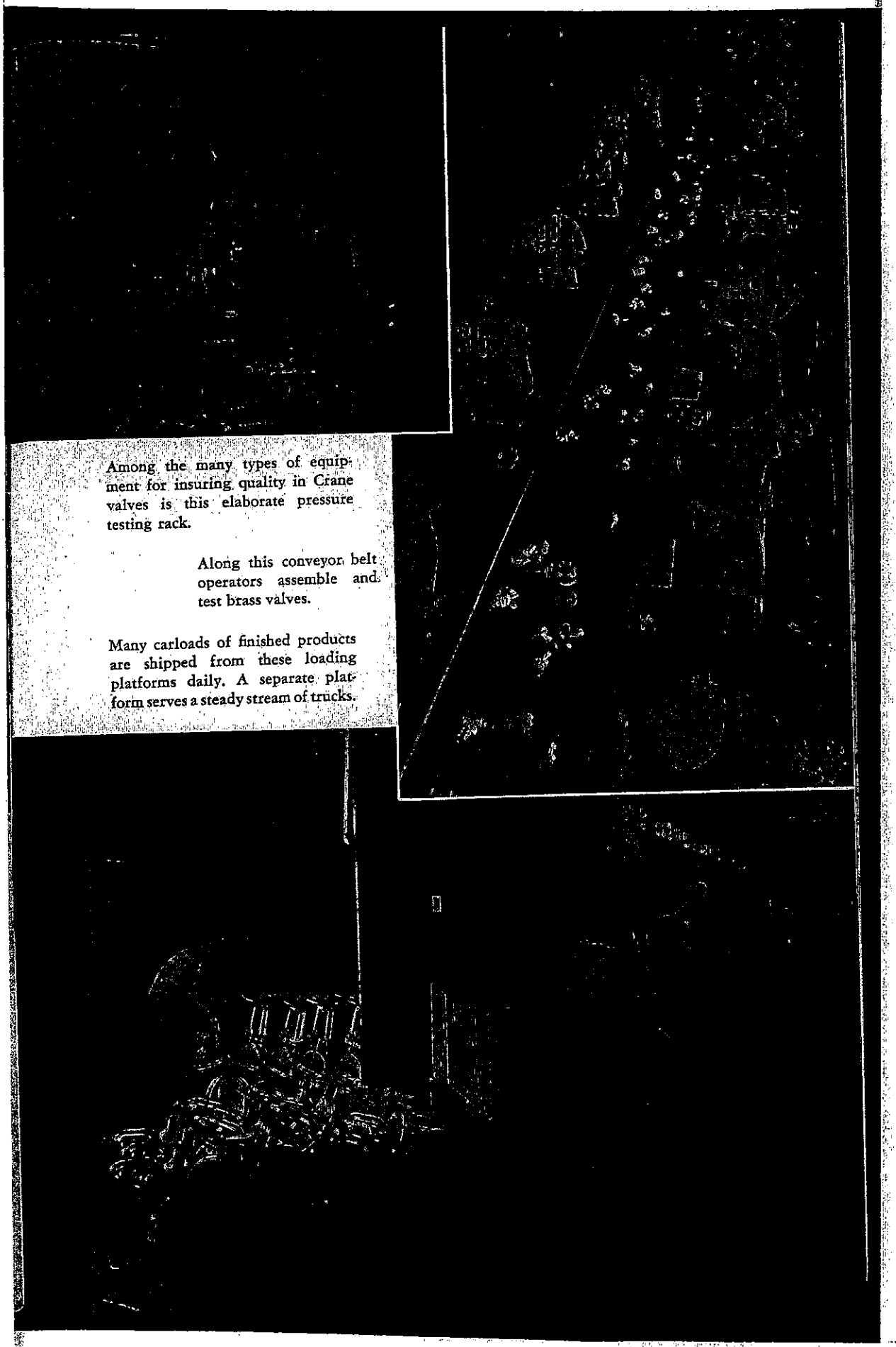
View of a Crane pipe fabricating shop where modern equipment permits the shaping and welding of the most complex assemblies.

One of the departments in the design engineering division where special problems are solved.



A welding operation on a special assembly in one of the fabricating shops.

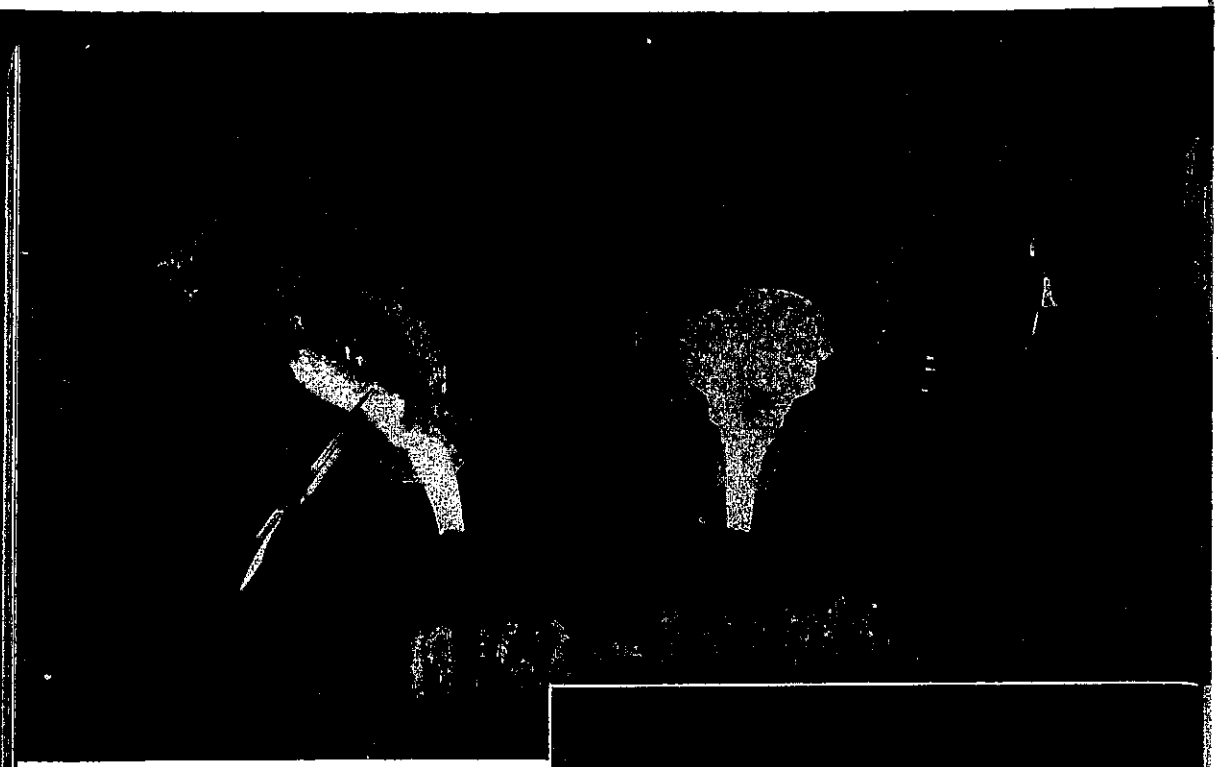
Like Crane valves, Crane fittings are checked at every stage of production. Here at final inspection where each fitting is closely examined, the scrap pile gets the benefit of any doubt.



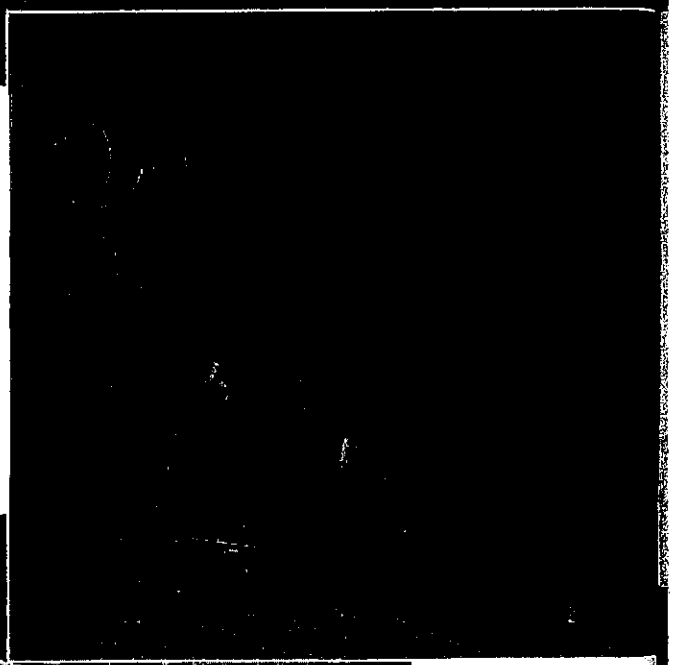
Among the many types of equipment for insuring quality in Crane valves is this elaborate pressure testing rack.

Along this conveyor belt operators assemble and test brass valves.

Many carloads of finished products are shipped from these loading platforms daily. A separate platform serves a steady stream of trucks.

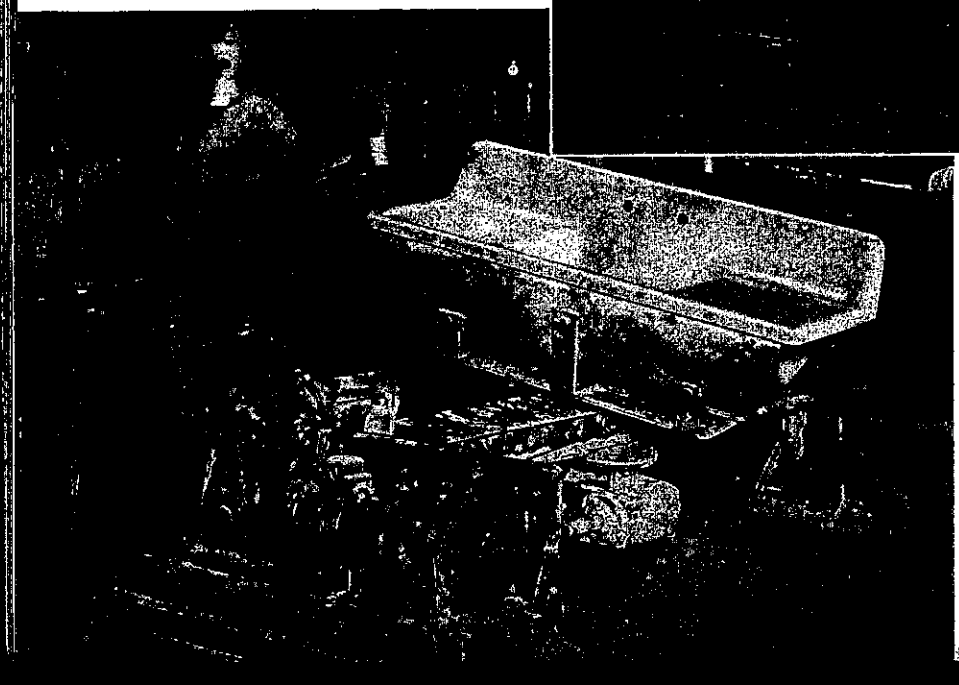


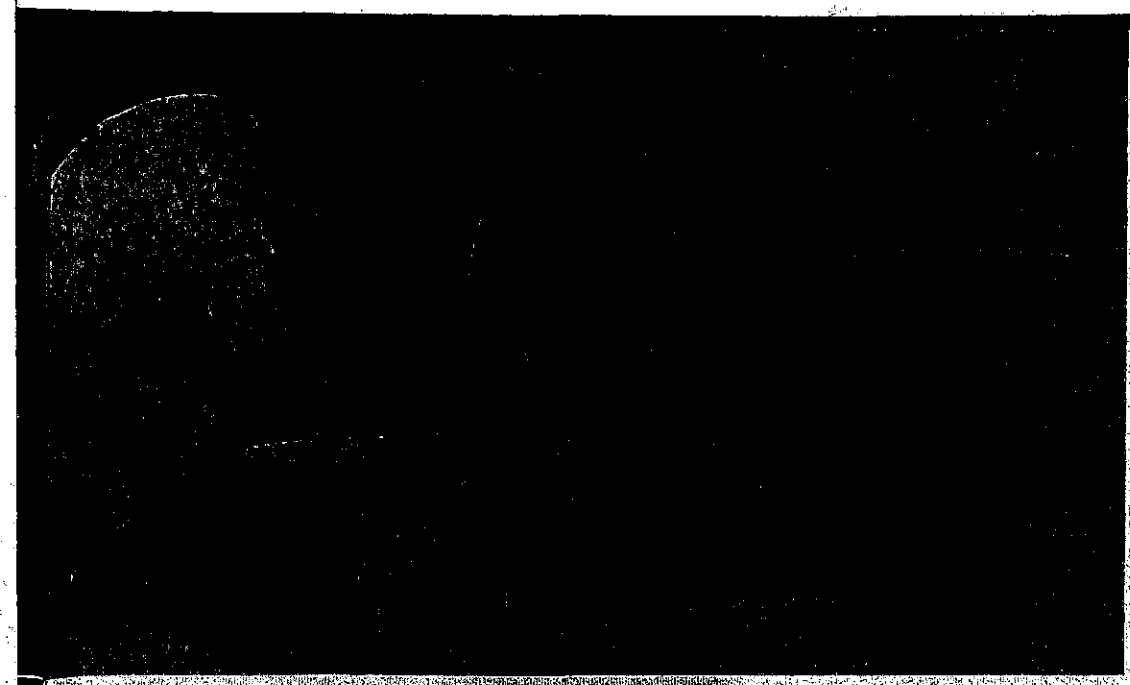
Pouring liquid iron into molds to form the base of Crane porcelain enameled cast-iron.

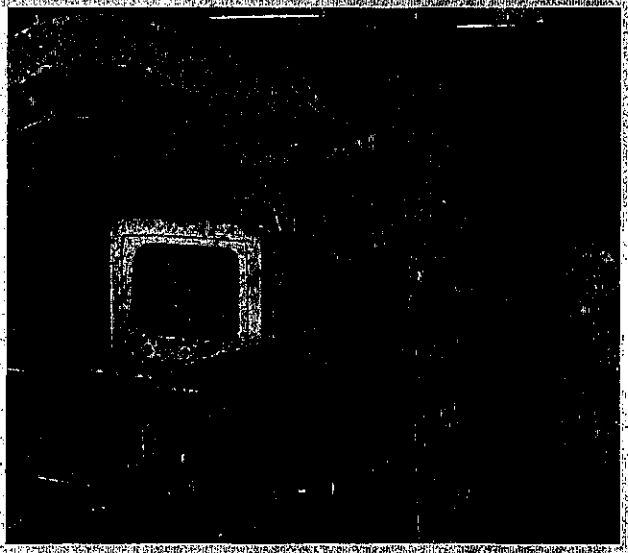


Sandblasting a Crane sink casting to prepare its surface for enameling.

Here the first coat of enamel is applied to the sink casting. The next step takes it to the baking ovens.



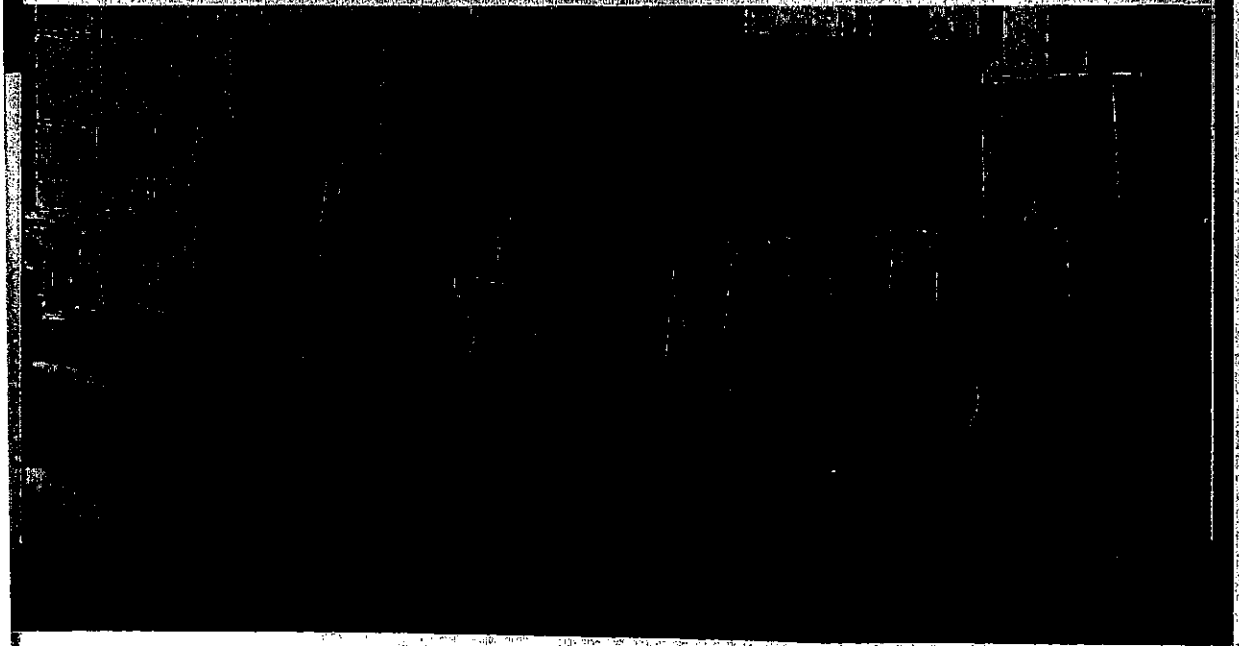




Finishing clay castings preparatory to drying and firing them into china closets.

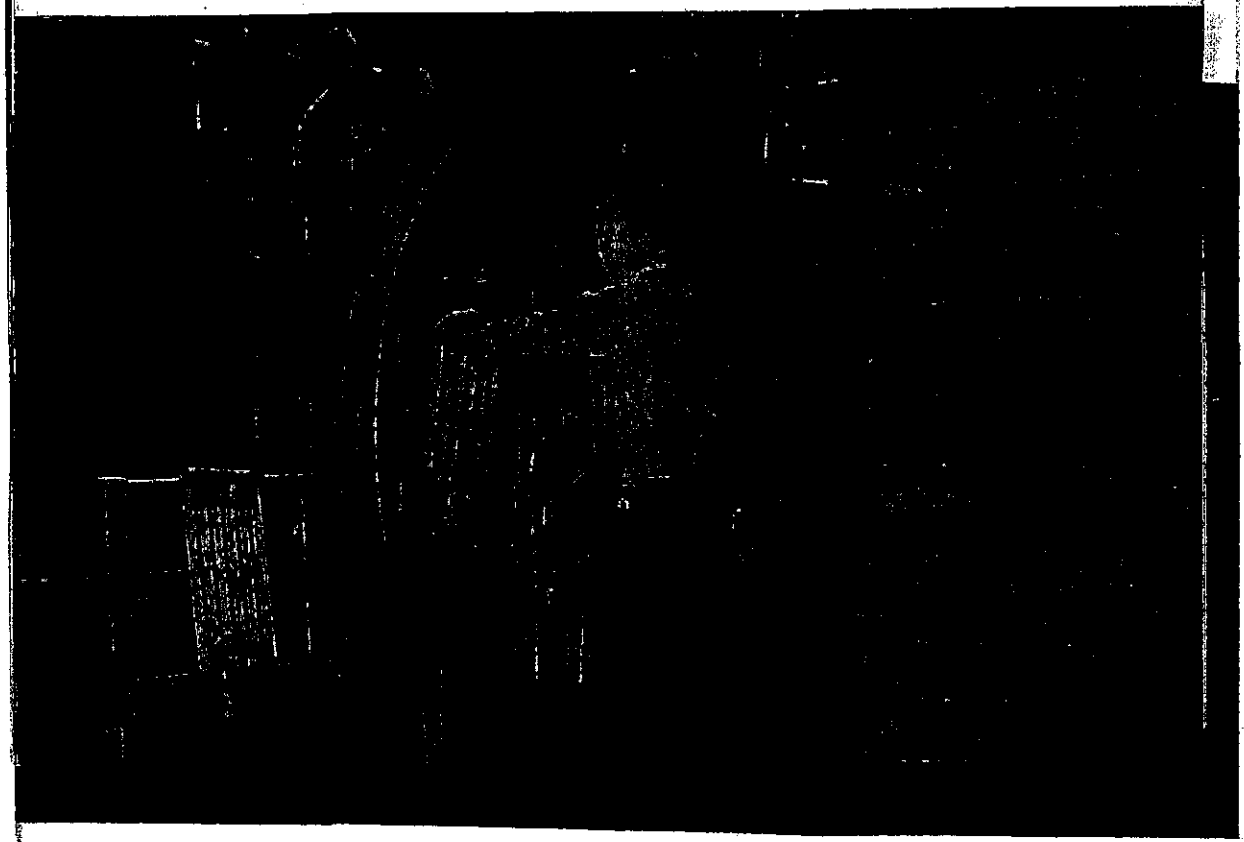
Huge grinding wheels smooth and finish the rims of Crane china fixtures.

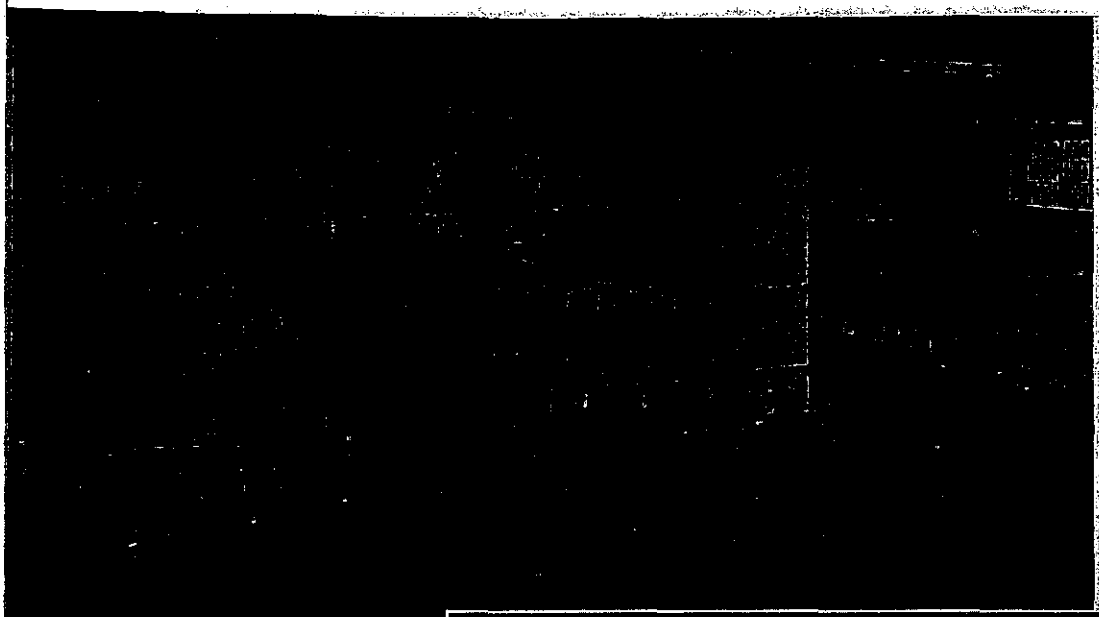
Applying color to Crane china plumbing fixtures with spray guns.

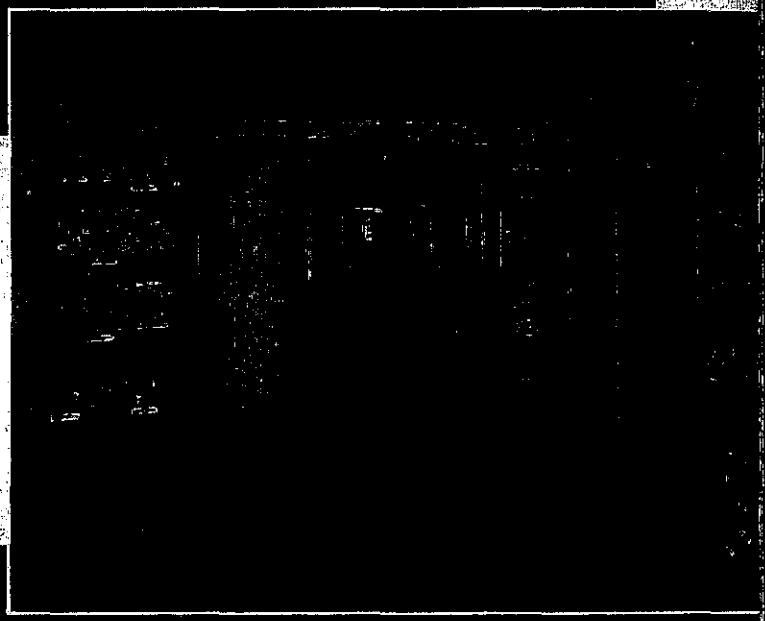


Drilling connecting bolt holes in boiler sections.

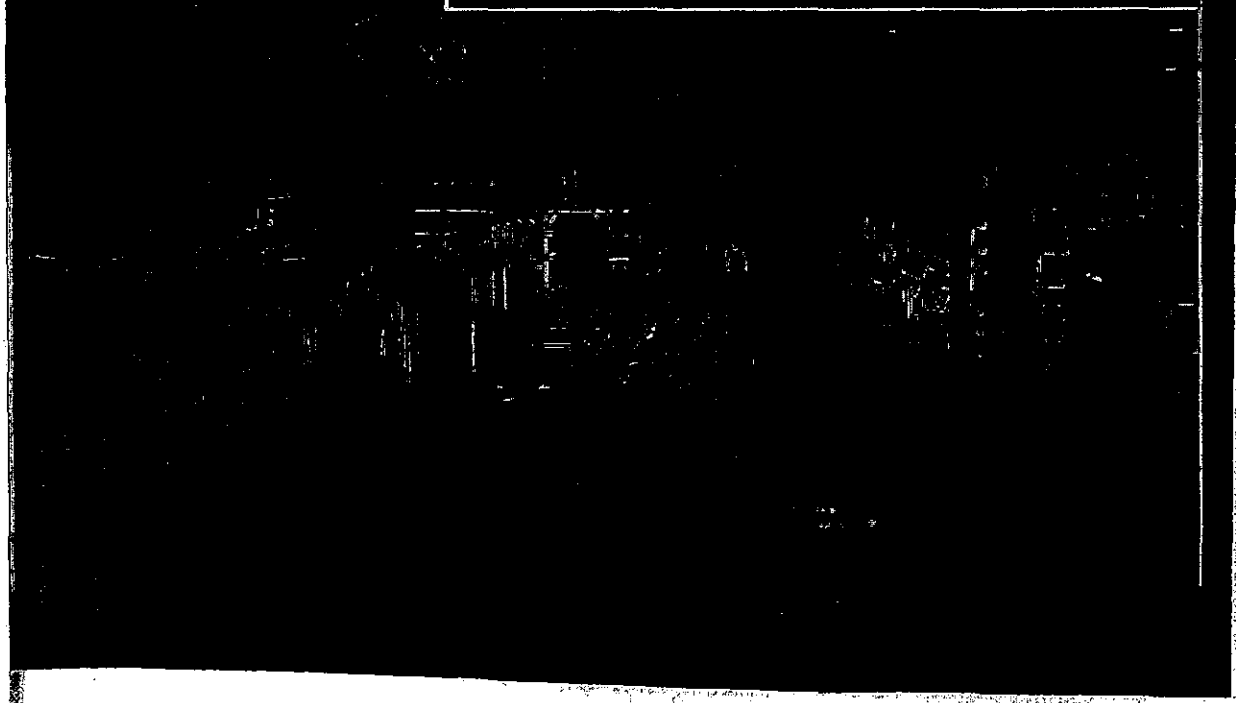
Facing and tapping radiator sections for assembly.







Three typical views in Crane branches, showing the large volume in which valves, fittings and other products flow out to customers.



Locations of

BRANCHES IN U. S. AND CANADA

Aberdeen ....South Dakota
Albany .....New York
Albuquerque ..New Mexico
Asheville ...North Carolina
Atlanta .....Georgia
Aurora .....Illinois

Baltimore .....Maryland
Beaumont .....Texas
Billings .....Montana
Binghamton .....New York
Birmingham .....Alabama
Boise .....Idaho
Boston .....Massachusetts
Bridgeport .....Connecticut
Buffalo .....New York

Calgary .....Alberta
Camden .....New Jersey
Canton .....Ohio
Casper .....Wyoming
Charleston ...West Virginia
Charlotte ...North Carolina
Chattanooga ....Tennessee
Chicago .....Illinois
Cincinnati .....Ohio
Cleveland .....Ohio
Columbus .....Ohio
Corpus Christi .....Texas

Dallas .....Texas
Davenport .....Iowa
Denver .....Colorado
Detroit .....Michigan
Duluth .....Minnesota

East Chicago .....Indiana
Edmonton .....Alberta
El Paso .....Texas
Eugene .....Oregon
Evanston .....Illinois
Evansville .....Indiana

Fargo .....North Dakota
Flint .....Michigan
Ft. Lauderdale .....Florida
Ft. Smith .....Arkansas
Fort William .....Ontario

Grand Island ....Nebraska
Grand Junction ...Colorado
Grand Rapids ....Michigan
Great Falls .....Montana
Greensboro..North Carolina
Greenville...South Carolina

Halifax .....Nova Scotia
Hamilton .....Ontario
Harlingen .....Texas
Hartford .....Connecticut
Hempstead .....New York
Hollywood .....California
Houston .....Texas

Indianapolis .....Indiana

Jackson .....Michigan
Jackson .....Mississippi
Jacksonville .. ..Florida

Kansas City .....Missouri
Kingston .....Ontario
Knoxville .....Tennessee

Lexington .....Kentucky
Lima .....Ohio
Little Rock .....Arkansas
London .....Ontario
Long Beach .....California
Los Angeles .....California

Macon .....Georgia
Madison .....Wisconsin
Mankato .....Minnesota
Mason City .....Iowa
Memphis .....Tennessee
Miami .....Florida
Milwaukee .....Wisconsin
Minneapolis .....Minnesota
Mobile .....Alabama
Moncton ...New Brunswick
Montreal .....Quebec
Muncie .....Indiana
Muskogee .....Oklahoma

Nashville .....Tennessee
Newark .....New Jersey
New Haven ...Connecticut
New Orleans ....Louisiana
New York .....New York
Norfolk .....Virginia

Oakland .....California
Ogden .....Utah
Oklahoma City..Oklahoma
Omaha .....Nebraska
Oshkosh .....Wisconsin
Ottawa .....Ontario

Pasadena .....California
Philadelphia ..Pennsylvania
Phoenix .....Arizona
Pittsburgh ....Pennsylvania
Pocatello .....Idaho
Pomona .....California
Portland .....Maine
Portland .....Oregon
Providence ...Rhode Island
Pueblo .....Colorado

Quebec .....Quebec

Reading .....Pennsylvania
Regina .....Saskatchewan
Reno .....Nevada
Richmond .....Virginia
Rochester .....New York
Rockford .....Illinois
Sacramento .....California

St. John's ...Newfoundland
St. Louis .....Missouri
St. Paul .....Minnesota
Salt Lake City.....Utah
San Antonio .....Texas
San Bernardino ..California
San Diego .....California
San Francisco ...California
Santa Ana .....California
Santa Barbara ...California
Saskatoon ....Saskatchewan
Savannah .....Georgia
Scottsbluff .....Nebraska
Seattle .....Washington
Shreveport .....Louisiana
Sioux City .....Iowa
Sioux Falls ...South Dakota
South Bend .....Indiana
Spokane .....Washington
Springfield .....Illinois
Springfield ...Massachusetts
Syracuse .....New York

Tacoma .....Washington
Tampa .....Florida
Terre Haute .....Indiana
Toledo .....Ohio
Toronto .....Ontario
Trenton .....New Jersey
Tucson .....Arizona
Tulsa .....Oklahoma

Utica .....New York

Vancouver.British Columbia
Victoria...British Columbia

Washington .....D. C.
Waukegan .....Illinois
West Palm Beach...Florida
White Plains ....New York
Wichita .....Kansas
Winnipeg .....Manitoba
Worcester ...Massachusetts

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ANNUAL REPORT

FOR THE YEAR ENDED

DECEMBER THIRTY-FIRST

1941

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CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

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CRANE CO.

DIRECTORS

JOHN B. BERRYMAN, *Chairman*

ARTHUR O. CHOATE
J. H. COLLIER
A. F. GARTZ, JR.
F. R. LILLIE
MARK W. LOWELL
SYDNEY G. MCALLISTER
P. R. MORK
WILLIAM R. ODELL
E. A. RUSSELL

OFFICERS

J. H. COLLIER ..... *President*
C. R. CRANE, II. ..... *Vice President*
J. L. HOLLOWAY ..... *Vice President*
P. R. MORK ..... *Vice President*
V. P. RUMELY ..... *Vice President*
W. H. WINSLOW, JR. ..... *Secretary*
WALTER EVENSEN ..... *Treasurer*
F. H. KAISER ..... *Comptroller*
I. A. COTHRIN ..... *Assistant Secretary*
L. E. BAKER ..... *Assistant Treasurer*
C. W. DITTMAR ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & CO. INCORPORATED
Wall and Broad Streets
New York City

W. E. PETERSON, *Transfer Clerk*
Crane Co., 836 South Michigan Ave.,
Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK
Pine and Nassau Streets
New York City

CONTINENTAL ILLINOIS NATIONAL BANK
AND TRUST COMPANY OF CHICAGO
231 South LaSalle Street
Chicago, Illinois

CRANE00178

ANNUAL REPORT

To the Shareholders
of Crane Co.:

This Annual Report covering the operations of your company for the year 1941 is presented by the management with the approval of the Board of Directors.

FINANCIAL REVIEW

Statements of Profit and Loss and Surplus for the year, and a Balance Sheet as of December 31, 1941, for the company and its United States subsidiaries consolidated, together with statements reflecting the results of operations and the net assets of the subsidiary companies located in foreign countries other than France, and a certificate of Arthur Young & Co., independent public accountants, are shown on pages 8 to 13.

In view of the War and regulations imposed on transactions in the currencies of the belligerent countries, the results of operations and the financial condition of subsidiary companies located in foreign countries have been excluded from the consolidated statements except that the investments in such companies are carried in the Balance Sheet at the lower of cost or book value.

The amounts quoted throughout the narrative of this report are for the most part, and in all instances except where otherwise specified, on a basis of consolidating only the figures of the United States companies.

CONSOLIDATED PROFIT AND LOSS, SURPLUS, AND RESERVE FOR CONTINGENCIES

The Consolidated Profit and Loss and Surplus Statements of Crane Co. and its United States subsidiaries are given for the year 1941, together with a Profit and Loss Statement for the year 1940 for comparative purposes.

The Profit and Loss Statement shows a net income for the year 1941 of $7,727,818.61 of which $4,000,000.00 was appropriated to a Reserve for Contingencies and the balance of $3,727,818.61 was transferred to Earned Surplus. The net income for the year 1941 before the appropriation to Reserve for Contingencies was equal to earnings of $2.88 per share on the 2,348,628 shares of Common Stock after allowance for the dividend requirements of the 192,803 shares of 5% Cumulative Convertible Preferred Stock. This net income includes a dividend received from foreign subsidiaries in the amount of $864,864.86 and is comparable to a net income for the year 1940 of $5,134,849.95 including dividends received from foreign subsidiaries in the amount of $374,345.04. The net income for the year 1941 transferred to Earned Surplus was equal to $1.18 per share on the Common Stock after allowance for the dividend requirements of the 5% Cumulative Convertible Preferred Stock.

The Reserve for Contingencies in the amount of $4,000,000.00 is not specifically allocatable to any one or more assets and was established primarily as a provision against the losses which may finally be experienced, directly or indirectly, as a result of the War.

The Consolidated Surplus of Crane Co. and its United States subsidiaries at December 31, 1941 amounted to $11,206,576.53 of which $1,502,676.08 is allocated as Capital Surplus, leaving $9,703,900.45 as Earned Surplus. This com-

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pares with a total Surplus of $10,788,943.80 at December 31, 1940 of which $9,274,057.72 represented Earned Surplus.

Dividends:

A total of $3,312,643.00 was paid in dividends during the year, consisting of the regular quarterly dividends of $1.25 per share on the 5% Cumulative Preferred Shares amounting to $964,015.00, and a dividend of $1.00 per share amounting to $2,348,628.00 paid on the Common Shares on December 1, 1941.

Depreciation:

The amount charged to operations in the United States for depreciation for 1941 was $1,986,889.71 compared with $1,870,901.19 for 1940. The charge-off for depreciation of machinery and equipment is established on a basis of the estimated life of the individual item; these items are reviewed annually and the estimated remaining life revised where deemed necessary. The provision for depreciation on buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction. This has been the general depreciation policy of your company during recent years.

Taxation:

During the year 1941 the company paid or accrued in combined direct taxes of all kinds in the United States a total of $15,821,879.40 compared with $3,753,330.95 for the year 1940.

CONSOLIDATED BALANCE SHEET:

Financial Condition:

Current assets of Crane Co. and its United States subsidiaries amounted to $62,788,381.81 at December 31, 1941 and current liabilities amounted to $17,168,006.56 reflecting a net working capital of $45,620,375.25, of which $10,390,381.86 was in cash. This net working capital shows an increase of $4,845,586.60 from the comparable position at December 31, 1940.

The current liabilities are stated after deducting $5,043,060.80 of United States of America Treasury Tax Notes, purchased and held by the company, from the item of accrued federal income and excess profits taxes. After such deduction the accrued federal taxes amounted to $7,563,123.14 and there was also a liability of $2,063,733.37 for accrued general taxes.

The ratio of current assets to current liabilities was 3.7 to 1 on December 31, 1941.

Your company owes no overdue accounts or obligations and has no bank indebtedness.

Inventories:

The problem of inventory profits and losses has been a matter of concern to your management for many years. The larger part of profit shown as a result of inventory appreciation due to rising prices is not received in cash and is finally offset by inventory depreciation due to declining prices in following accounting periods. Prior to the days of the income tax the company met this

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problem by always valuing its inventories on established low base prices; in some of the later years reserves for inventory profit were set up and subsequently brought back as a credit to income in years when inventory values declined.

This year the company decided to utilize the elective method of inventory pricing commonly called "Last-in, First-out," as provided for in the Revenue Act of 1939, in valuing the major part of the inventory of Crane Co. proper. The inventory so valued amounted to 64% of the inventories of Crane Co. and its United States subsidiaries which are carried in the balance sheet at $32,965,829.77 on a consolidated basis. The remainder of the inventories were valued at cost or market, whichever was lower, which was the basis followed at December 31, 1940.

The consolidated inventories were $2,126,391.48 higher at December 31, 1941 than at the end of the previous year, reflecting an increase of $2,793,173.96 in work in process; an increase of $132,840.54 in raw materials and supplies; and a decrease of $799,623.02 in finished goods inventories. The increase was due for the most part to increases in quantities, a substantial amount of the increase that would have resulted from higher values having been eliminated as a feature of the "Last-in, First-out" inventory method.

The inventory position is a result of the effort of the company to meet most effectively the much greater demand for its products while subject to the abnormal conditions pertaining to the availability of raw materials and supplies.

Open commitments for raw materials made in the course of business amounted to approximately $920,645.00 at the end of the year. Prices thereon as a whole were slightly below current market quotations.

Investment in Foreign Subsidiaries:

The foreign subsidiaries of the company are all wholly owned and are located in Canada, England, and France.

The investment in the foreign subsidiary companies in Canada and England is carried in the balance sheet at cost, namely $12,000,000. The investment in the subsidiary company located in Paris, France, is carried on the balance sheet at the book value of its net assets in United States dollars at December 31, 1939, after adjustments arising through the recovery in 1941 of a United States dollar balance of $20,706.67 due from the French company.

The parent company's equity in the surplus of its subsidiary companies located in Canada and England, and which is not included in the Consolidated Surplus, amounted to $3,042,422.66 at December 31, 1941 when computed at official rates of exchange. Accumulated losses of the subsidiary company located in France amounting to $1,749,338.27 at December 31, 1939, and provision for depreciation in the French franc at that date of $623,538.85 have been absorbed in the Consolidated Surplus shown in the balance sheet.

The net assets of the companies in Canada and England at December 31, 1941, and the results of their operations for the year ended that date are given on page 12 of this report. Information is not obtainable in sufficiently reliable and complete form to permit the preparation of current financial statements for the French company. According to the most recent reports, the foreign properties have suffered practically no damage from war activities. The companies in Canada and England are operating at high production levels and it is understood that the plant of the company in France is operating on a modest scale.

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LITIGATION:

In United States versus Central Supply Association, et al, No. 16750 in the United States District Court for the Northern District of Ohio at Cleveland, 102 defendants, including the company and its manager of plumbing and heating sales, are charged in an indictment under Section 1 of the Sherman Anti-Trust Act, returned March 29, 1940, with conspiring in restraint of trade in their sale of plumbing supplies. Crane Co. has followed its own individual sales policy and methods since it began to sell plumbing supplies years ago. There is nothing about its sales policy that is or has been secretive or the result of any agreement with others. A joint and several demurrer to this indictment and a motion for a bill of particulars filed on behalf of the company have been overruled. According to latest reports the case has been set for trial in September, 1942.

OPERATIONS

The volume of business in 1941 was considerably greater than in any other year in the history of the company. Sales of the United States companies amounted to $137,900,014.85 being 55.9% above the sales of 1940.

The large expansion in the production of our plants was accomplished by extending second and third shift operations, further mechanization of certain of our processes, and the addition of new machines costing $2,912,498.38. Meantime, the physical properties of the company have been kept in good condition despite the heavy three-shift operations.

While this expansion has been rapid, it has been orderly. This is due to the fact that we were able to extend our existing facilities instead of creating new self-contained units, and because the increase in production has been in our own line, in the manufacture of which we are adept, rather than in lines requiring unfamiliar techniques. Our over-all program has been developed in collaboration with various Government Departments and since the end of the year we have undertaken a further expansion in our steel department, the greater part of which is to be accomplished through using government-owned tools and equipment to be located in our shops.

The growing shortage of raw materials, supplies, and equipment has handicapped us to some extent and new procedures of purchasing have had to be developed. However, we have been aided by the fact that a large part of our products are vitally essential and a great part of the demand for them now carries high priority ratings. Also, through our Sales, Research, Engineering, and Manufacturing Departments, in consultation with interested Government Departments, we have worked out a program of conservation, substitution, and elimination of certain materials.

The outlook for the year 1942 is obscured by the War. We are anticipating, however, an increasingly heavy demand for certain lines of our product, and, as previously mentioned, are further increasing some of our facilities. The program for the construction of Army Camps, Defense Housing and industrial construction involves a substantial demand for plumbing and heating products; however, it is to be expected that the regular normal market for this end of our business will contract sharply. As the demand for such products falls off, releasing portions of our facilities, we are planning to convert them so far as possible to the manufacture of other, and at that time more essential, products.

The peril to our country is very grave and your management long has had a full realization of the imperative need for speedily getting into quantity pro-

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duction. The big increase in volume obviously has required a corresponding increase in effort on the part of the organization and their task has been further increased by the multitude of rules and regulations necessary in a wartime economy. We can with the greatest pride pay tribute to the efforts of every one in the organization. Throughout the shops and offices they have recognized our great responsibility and we have constant evidence that their expressions of patriotism and cooperation are backed up by outstanding performance.

The management wishes to express its appreciation to the company's regular customers for their recognition of the fact that it can let nothing interfere with its war effort, to its suppliers for their earnest effort to meet the company's needs, and for the help of all the Civil and Military Departments of the Government with which the company has come in contact.

JOHN H. COLLIER,
President.

JOHN B. BERRYMAN,
Chairman.

March 3, 1942.

With deep regret we record the death, on April 29, 1941 of Charles B. Nolte, President of this Company. Mr. Nolte was elected a Director of the Company in January, 1933 and President in March, 1935, which positions he held until his death. Before coming to Crane Co. he had won an honored place as a leader in the business world, and Crane Co. will long benefit from his contribution to it through his ability, untiring energy and great executive capacity.

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

For the Years Ended December 31, 1941 and December 31, 1940

	Year ended Dec. 31, 1941	Year ended Dec. 31, 1940
Gross sales, less returns and allowances—		
Sales to customers	$136,698,810.01	$87,574,946.45
Sales to foreign subsidiaries	1,201,204.84	902,134.52
Total	$137,900,014.85	$88,477,080.97
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	114,427,681.05	79,066,835.40
	$ 23,472,333.80	$ 9,410,245.57
Provision for depreciation	1,986,889.71	1,870,901.19
Net operating profit	$ 21,485,444.09	$ 7,539,344.38
Other income—		
Cash discounts on purchases	$ 967,426.57	$ 691,272.84
Interest received	44,935.84	37,643.88
Miscellaneous other income	83,863.23	90,226.31
	$ 1,096,225.64	$ 819,143.03
	$ 22,581,669.73	$ 8,358,487.41
Deductions—		
Cash discount on sales	$ 1,946,439.56	$ 1,208,917.20
Interest paid	229,552.96	389,276.54
Amortization of debt discount and expense	11,137.69	52,271.90
Loss on disposal of fixed assets	841,654.47	364,779.77
Miscellaneous deductions	35,133.86	11,655.61
Minority stockholders' interest in net income of subsidiaries	66,372.27	53,733.68
	$ 3,130,290.81	$ 2,080,634.70
Net profit (exclusive of dividends received from foreign subsidiaries) before federal income and excess profits taxes	$ 19,451,378.92	$ 6,277,852.71
Dividends received from Canadian subsidiary (including $64,762.08 received in 1941 from earnings of prior years)	864,864.86	374,345.04
	$ 20,316,243.78	$ 6,652,197.75
Provision for federal income and excess profits taxes—		
Income and declared value excess profits taxes	$ 4,425,533.18	$ 1,517,347.80
Excess profits taxes	8,162,891.99	—
	$ 12,588,425.17	$ 1,517,347.80
Net profit	$ 7,727,818.61	$ 5,134,849.95
Appropriation to Reserve for Contingencies	4,000,000.00	—
Amount of profit transferred to earned surplus	$ 3,727,818.61	$ 5,134,849.95

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED SURPLUS STATEMENT

For the Year Ended December 31, 1941

	Earned surplus	Capital surplus	Total
Surplus, December 31, 1940	$ 9,274,057.72	$1,514,886.08	$10,788,943.80
Add:			
Amount of profit for the year ended December 31, 1941 transferred to earned surplus	3,727,818.61		3,727,818.61
Adjustment of value of certain inventories on hand at December 31, 1940 to actual cost	18,461.87		18,461.87
Repayment by French subsidiary (not consolidated) of advances charged to earned surplus in 1940	1,984.00		1,984.00
	$13,022,322.20	$1,514,886.08	$14,537,208.28
Deduct:			
Premium on Ten-Year 2¼% Sinking Fund Debentures purchased for retirement	$ 5,778.75		$ 5,778.75
Excess of cost of stocks of subsidiaries (consolidated) acquired, over book value thereof		$ 12,210.00	12,210.00
Cash dividends paid—			
On 5% cumulative preferred shares, $5 per share	964,015.00		964,015.00
On common shares, $1 per share	2,348,628.00		2,348,628.00
	$ 3,318,421.75	$ 12,210.00	$ 3,330,631.75
Surplus, December 31, 1941	$ 9,703,900.45	$1,502,676.08	$11,206,576.53

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1941

ASSETS AND OTHER DEBITS

CURRENT ASSETS:		
Cash		$ 10,390,381.86
U. S. Defense bonds, at cost (redemption value, December 31, 1941, $192,400; face amount $260,000)		192,400.00
Accounts receivable—		
Trade	$19,913,599.56	
Sundry	48,248.28	
	$19,961,847.84	
Less: Reserve for doubtful accounts	838,190.05	19,123,657.79
Inventories (See Note 1)—		
Raw material and supplies	$ 7,250,684.56	
Work in process	11,373,965.67	
Finished goods	14,341,179.54	
		32,965,829.77
Due from foreign subsidiaries not consolidated		116,112.39
Total current assets		$ 62,788,381.81
INVESTMENTS:		
Investments in foreign subsidiaries not consolidated—		
Canadian subsidiary (parent company of other Canadian subsidiaries and English subsidiary), at cost (See Note 2)	$12,000,000.00	
French subsidiary, at book value of its net assets at December 31, 1939, less net recoveries since that date (See Note 3)	1,209,548.00	
	$13,209,548.00	
Other security investments, at cost or nominal value (less reserve, $133,167.76)	40,830.63	
Other investments, at cost (less reserve, $3,876.65)	277,012.90	
		13,527,391.53
FIXED ASSETS:		
Land and land improvements	$ 7,533,590.11	
Buildings $32,323,060.64		
Less: Reserve for depreciation 12,375,070.97		
	19,947,989.67	
Machinery and equipment $34,051,145.82		
Less: Reserve for depreciation 17,737,285.31		
	16,313,860.51	
Unfinished construction	463,471.33	
		44,258,911.62
DEFERRED CHARGES:		
Unamortized expense on ten-year debentures	$ 58,696.74	
Miscellaneous prepaid expenses and other deferred charges	228,295.26	
		286,992.00
		$120,861,676.96

CRANE00186

CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1941

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls		$ 7,151,833.80
Accrued federal income and excess profits taxes	$12,606,183.94	
Less: U. S. Treasury tax notes on hand to be applied to payment thereof—at cost plus accrued interest	5,043,060.80	
		7,563,123.14
Accrued general taxes		2,063,733.37
Accrued interest on long-term debt		55,316.25
Sinking fund payment due August 20, 1942, less $166,000 principal amount of debentures on hand to be applied thereon		334,000.00
Total current liabilities		$ 17,168,006.56
LONG-TERM DEBT:		
Ten-Year 2¼% Sinking Fund Debentures, due October 1, 1950 (Annual sinking fund payments of $500,000 due August 20 of each year to 1949)—		
Authorized and originally issued	$10,500,000.00	
Less: Retired through sinking fund	500,000.00	
	$10,000,000.00	
Less: Reacquired and held in treasury for retirement through sinking fund on August 20, 1942	166,000.00	
Outstanding	$ 9,834,000.00	
Less: Remainder of sinking fund payment due August 20, 1942 shown as current liability above	334,000.00	
		9,500,000.00
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Preferred stockholders (par value)	$ 3,000.00	
Common stockholders (par value $668,700, plus equity in surplus $53,543.95)	722,243.95	
		725,243.95
RESERVES AND DEFERRED CREDITS:		
Reserve for contingencies	$ 4,000,000.00	
Other reserves and deferred credits	265,849.92	
		4,265,849.92
CAPITAL STOCK:		
Cumulative convertible preferred shares, par value $100, callable at $105—		
Authorized—200,000 shares		
Issued —192,803 shares designated as 5% cumulative convertible preferred shares	$19,280,300.00	
Common shares, par value $25—		
Authorized—3,000,000 shares (385,606 shares are reserved for conversion of cumulative convertible preferred shares)		
Issued —2,348,628 shares	58,715,700.00	
		77,996,000.00
SURPLUS:		
Capital	$ 1,502,676.08	
Earned	9,703,900.45	
		11,206,576.53
		$120,861,676.96

CRANE00187

NOTES TO FINANCIAL STATEMENTS

NOTE 1—INVENTORIES:

Crane Co. as of January 1, 1941, the beginning of its current income tax year, adopted the elective method of inventory valuation ("last-in, first-out" method) provided in the Revenue Act of 1939 and covered by Section 19.22 (d) of the Internal Revenue Code, in compiling the inventories of certain raw materials, goods in process and finished goods. Accordingly, at the close of the current fiscal year, December 31, 1941, the inventories of these certain raw materials, goods in process and finished goods, aggregating $21,113,093.61, have been valued on the "last-in, first-out" method on the basis of their values at January 1, 1941 to the extent of the values on hand January 1, 1941, and excess values on basis of cost of latest acquisitions. The remainder of Crane Co. inventories, together with the inventories of its subsidiaries in the United States, at December 31, 1941, aggregating $11,852,736.16, have been priced as in the preceding year, that is, at the lower of cost or market. These methods of valuation of certain inventories, as applied for the first time at the close of the current fiscal year, have the effect of reducing the value of the inventory at December 31, 1941 approximately $1,564,000 below what it would have been had the method of pricing used in the preceding year been followed and the net profits after income and excess profits taxes, approximately $347,000 below what they would have been had the method of pricing inventories used in the preceding year been followed.

NOTE 2—INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND:

The investment in the Canadian subsidiary, Crane, Limited (Canada), is carried in the balance sheet at U. S. dollar cost, $12,000,000. The net assets of this company and its subsidiaries, segregated as between Canada and England, are summarized below:

	Canada	England	Total
Fixed assets, less accrued depreciation, at U. S. dollar cost at date of acquisition	$ 5,136,232.26	$2,071,856.82	$ 7,208,089.08
Net current assets at official rates of exchange	5,551,519.65	2,164,674.80	7,716,194.45
Other assets at official rates of exchange	101,421.61	16,717.52	118,139.13
	$10,789,173.52	$4,253,249.14	$15,042,422.66

The results of operations of the subsidiaries operating in Canada and England for the year ended December 31, 1941 (converted at official rates of exchange except that the provision for depreciation on fixed assets has been computed on U. S. dollar cost) are shown below:

	Canada	England
Gross sales, less returns and allowances	$15,906,193.97	$5,765,245.64
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	13,549,371.94	4,184,943.08
	$ 2,356,822.03	$1,580,302.56
Provision for depreciation	305,307.09	131,593.10
Net operating profit	$ 2,051,514.94	$1,448,709.46
Other deductions, less other income	130,332.20	104,587.52
Net profit before income and excess profits taxes	$ 1,921,182.74	$1,344,121.94
Provision for income taxes	$ 509,909.40	$ 488,912.72
Provision for excess profits taxes	611,170.56	545,400.00
	$ 1,121,079.96	$1,034,312.72
Net profit	$ 800,102.78	$ 309,809.22

Canada and England have enacted certain exchange regulations restricting the withdrawal of funds, etc., and the investments in and profits of the companies located therein are subject to such restrictions as well as to such income and excess profits taxes as may be payable on the transfer of profits between England, Canada and the United States.

NOTE 3—INVESTMENT IN FRENCH SUBSIDIARY:

The investment in the French subsidiary (located in Paris) is stated in the balance sheet at the book value of its net assets (in U. S. dollars) at December 31, 1939, less net recoveries since that date on advances. The assets and operations of the French subsidiary are not significant in relation to the whole and current figures are not available in regard thereto.

NOTE 4—LITIGATION:

Reference is made to the report of the President for a statement of the substance of the indictment against the company for alleged violation of the Sherman Act.

CRANE00188

ARTHUR YOUNG & COMPANY
ACCOUNTANTS AND AUDITORS
1 NORTH LA SALLE STREET
CHICAGO

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiary companies in the United States as at December 31, 1941, and the consolidated profit and loss and surplus statements for the year then ended, have reviewed the system of internal control and the accounting procedures of the companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the companies and other supporting evidence, by methods and to the extent we deemed appropriate. Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and embraced all procedures which we considered necessary, including tests of accounts receivable by direct correspondence with debtors and tests of the inventories at locations selected by us, by count and by observation of the taking of the physical inventories.

As explained in Note 1 to the financial statements, certain inventories of Crane Co. have been valued at December 31, 1941 on the elective method ("last-in, first-out") permitted under the income tax laws, which has resulted in a lower valuation of said inventories than would have resulted had no change been made in the basis of valuing inventories as used in the preceding year.

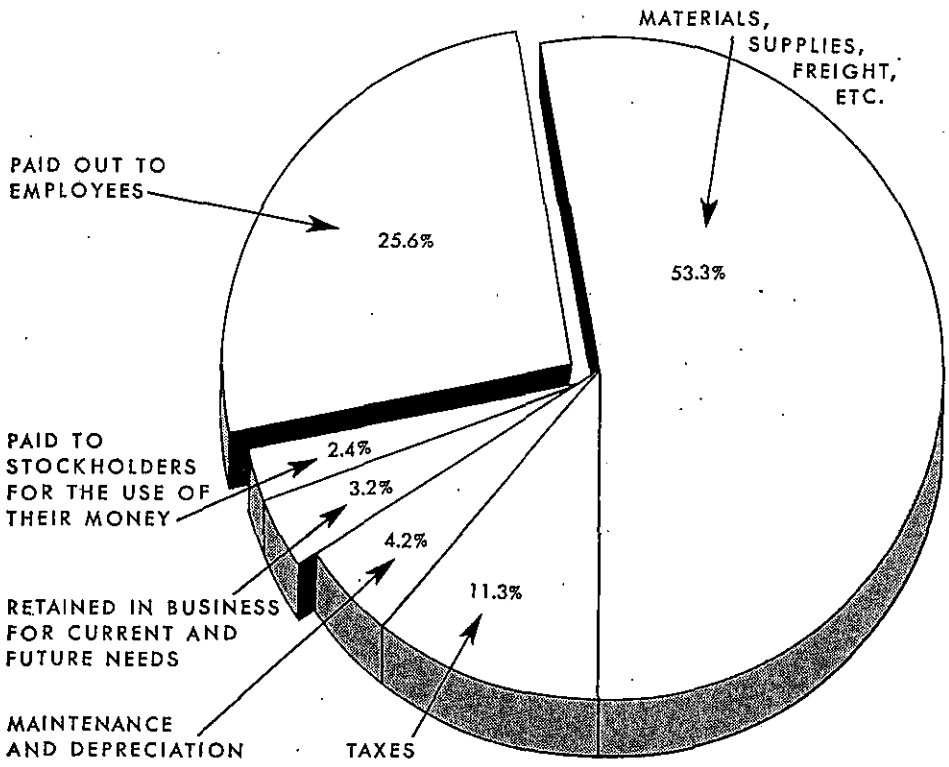
In our opinion, the accompanying consolidated balance sheet and related consolidated profit and loss and surplus statements present fairly the position of Crane Co. and its subsidiaries in the United States at December 31, 1941, and the results of their operations for the year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year, except for the change made in the basis of valuing inventories referred to in the preceding paragraph, which has our approval.

ARTHUR YOUNG & COMPANY,
Certified Public Accountants.

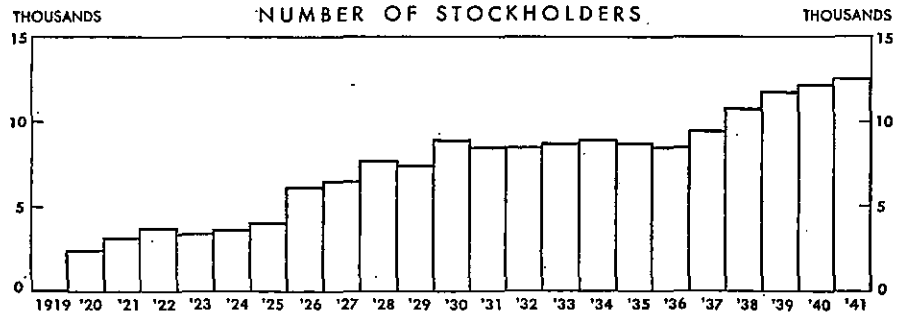
Chicago, Illinois,
February 24, 1942.

CRANE00189

HOW CRANE CO.'S 1941 INCOME WAS DISTRIBUTED



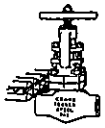
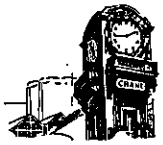
This chart shows how our 1941 income was distributed. It illustrates the amount of our total income which was paid out as salaries and wages, for materials and supplies, for taxes, in dividends, and for the many other expenses which the Company had to meet during the year.



CRANE00190

CRANE CO.'S SIMPLIFIED BALANCE SHEET

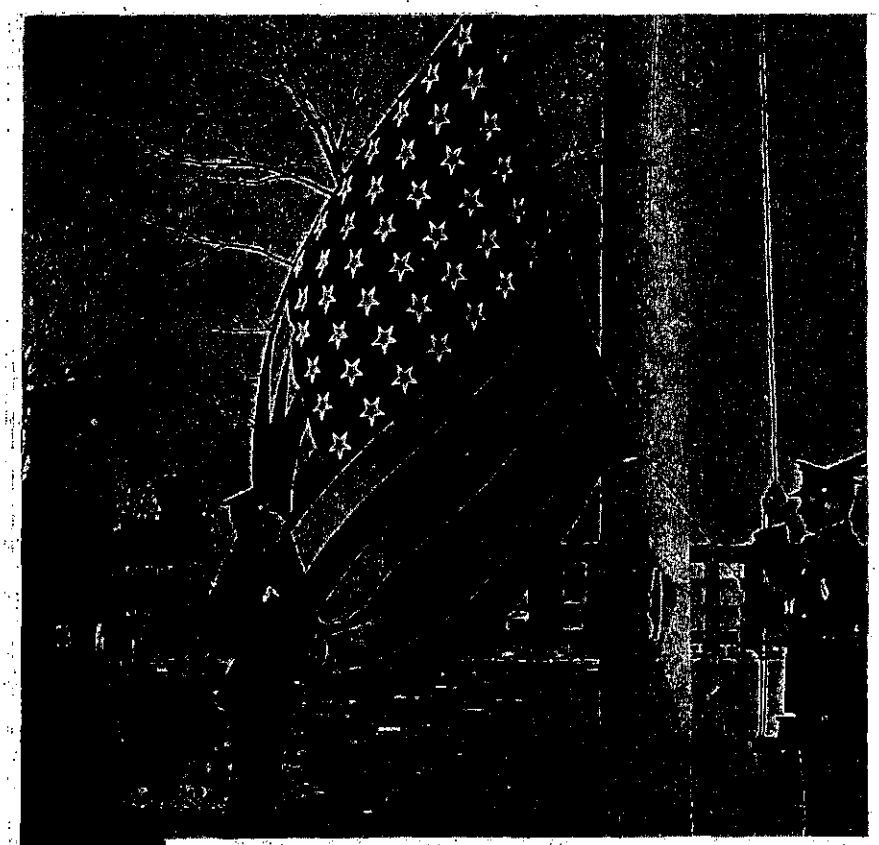
This is the ASSET section of the balance sheet and shows what we have.

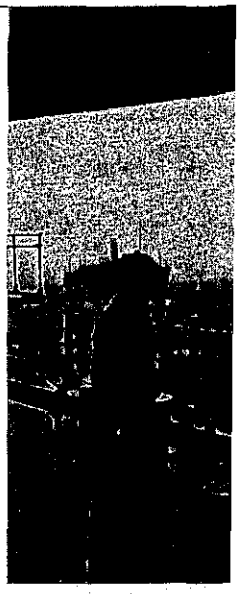
Cash used in the operation of the business		$ 10,583,000
Money owed us by people who have bought our goods		$ 19,240,000
Finished and partly finished goods we have on hand, and the raw materials from which we make them		$ 32,966,000
Land, buildings, machinery and equipment used to manufacture and distribute our goods, and investments in our foreign companies		$ 57,786,000
Bills, etc., which we have paid in advance		$ 287,000
	Total	$120,862,000

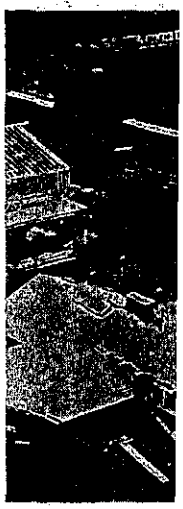
This is the LIABILITY section of the balance sheet and shows the amounts owed and the stockholders' investment.

Money we now owe others for materials, wages and services		$ 7,541,000
Money we owe for taxes (less $5,043,000 of Treasury Tax Notes already bought)		$ 9,627,000
What we owe to those who have loaned us money that we might conduct our business		$ 9,500,000
A special reserve to safeguard the future		$ 4,266,000
The stockholders' investment including earnings left in the business to provide for growth and stability		$ 89,928,000
	Total	$120,862,000

CRANE00191

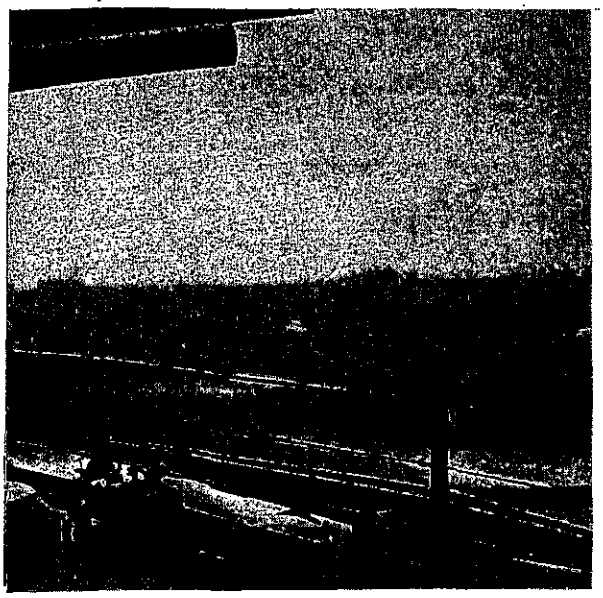


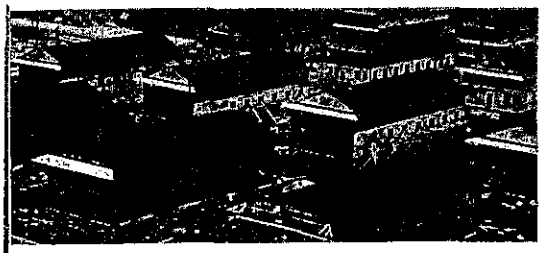


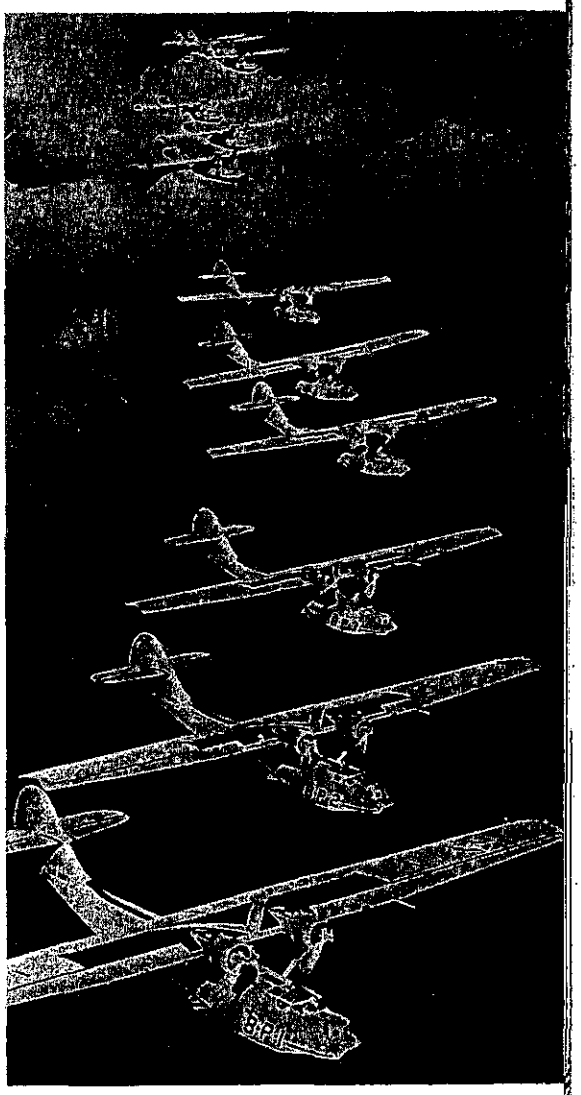


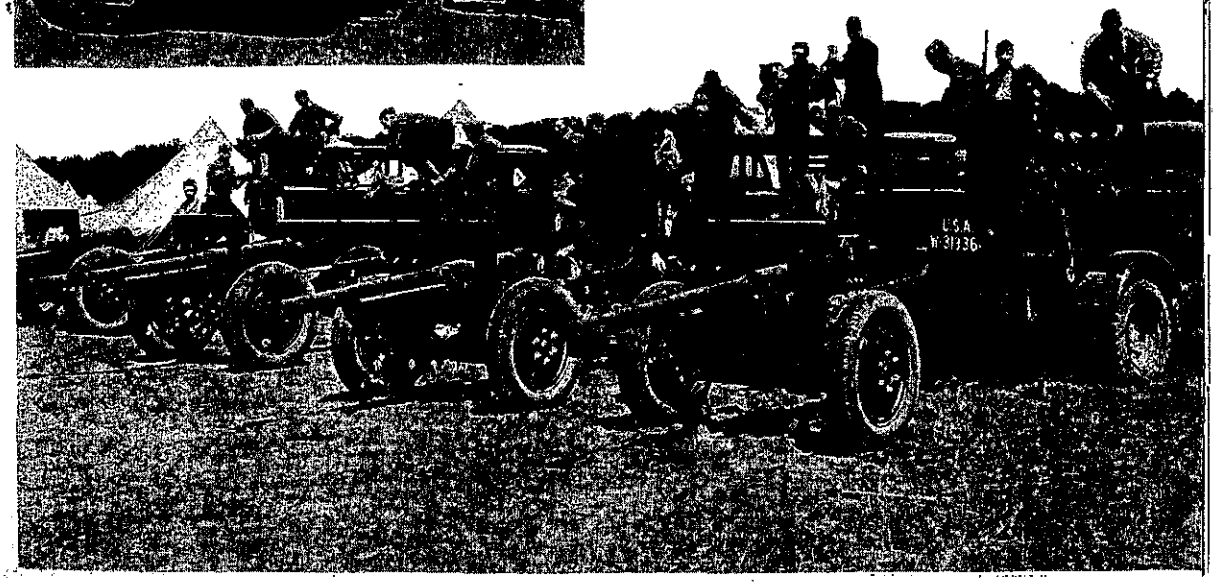
YOUR COMPANY..... AND WAR!

Throughout the year covered by the preceding report the rapid transition of American industry to a war-time basis was the largest single factor affecting your company's operations. Demand for Crane products was accentuated by the war effort. Valves and fittings, essential in peace, are vital in war. And war is not a new experience with Crane Co. In the War Between the States, Crane supplied many thousands of brass parts for saddle makers; in World War I, vast quantities of valves, fittings, and trench mortars. Now, when the country is engaged in a titanic struggle to maintain its way of life, your company's manufacturing facilities, after two years of advance planning, are geared to produce the valves and fittings so essential to mechanized war.





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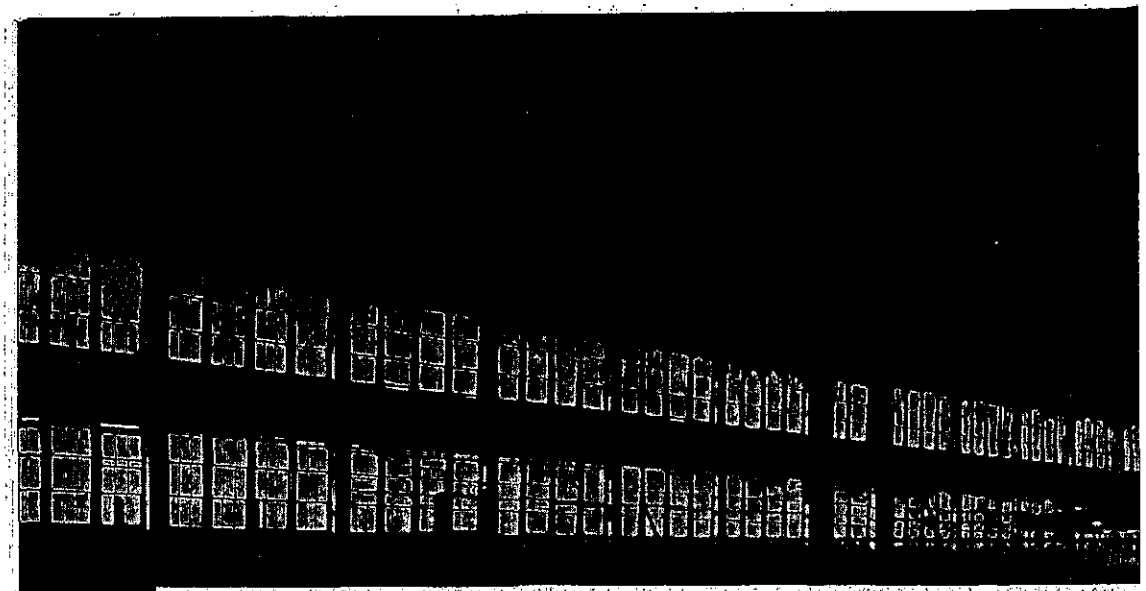
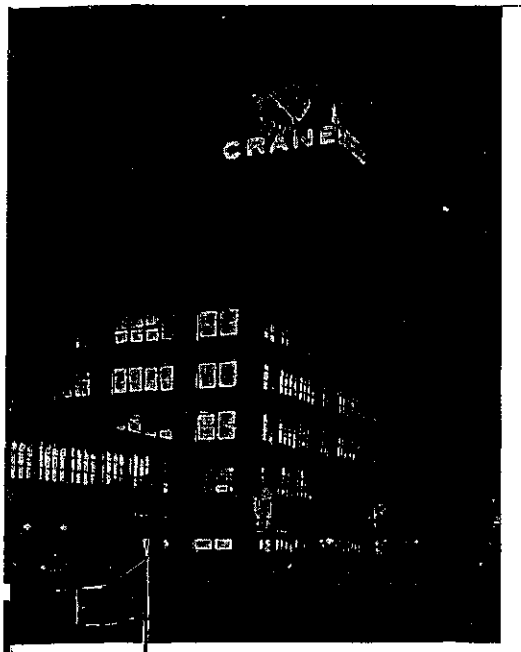


"ALL-OUT" ACTIVITY

Crane Co. is today employing more men and *women* than at any time in its history. Output is at record-shattering levels. The company's main plant, as illustrated in the views on these pages, is on alert duty 24 hours a day, 7 days a week. Every square foot of floor space is utilized for intensified production. Valves and fittings, requisite to America's war program, are flowing out in ever-mounting volume to shipyards, arsenals, ordnance plants and manufacturers of war equipment of all kinds. In all sections of the country, in every conceivable manufacturing operation, the growth of America's military might rests upon the solid performance of Crane products.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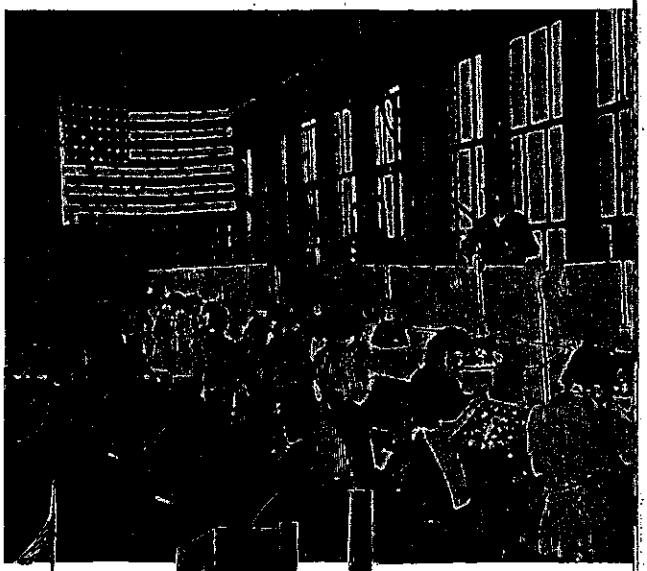
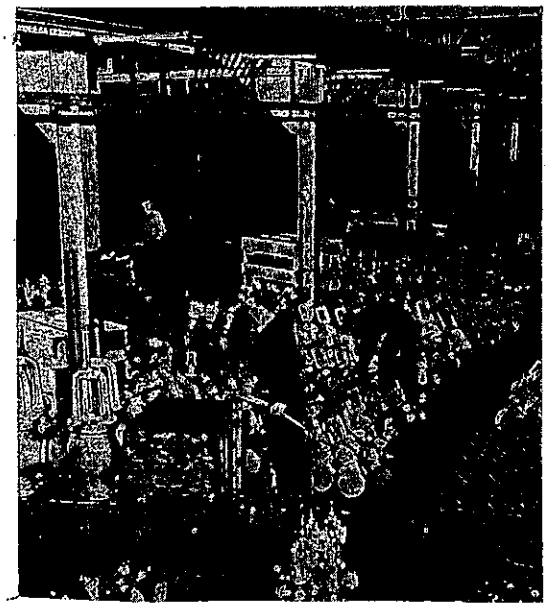
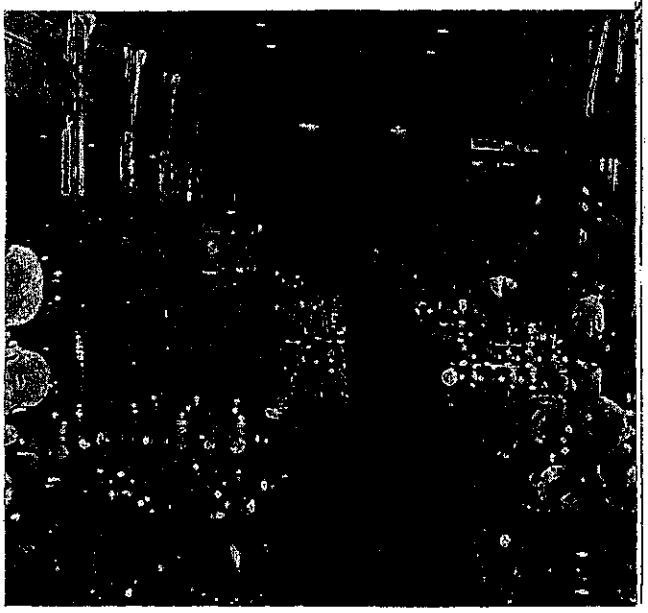
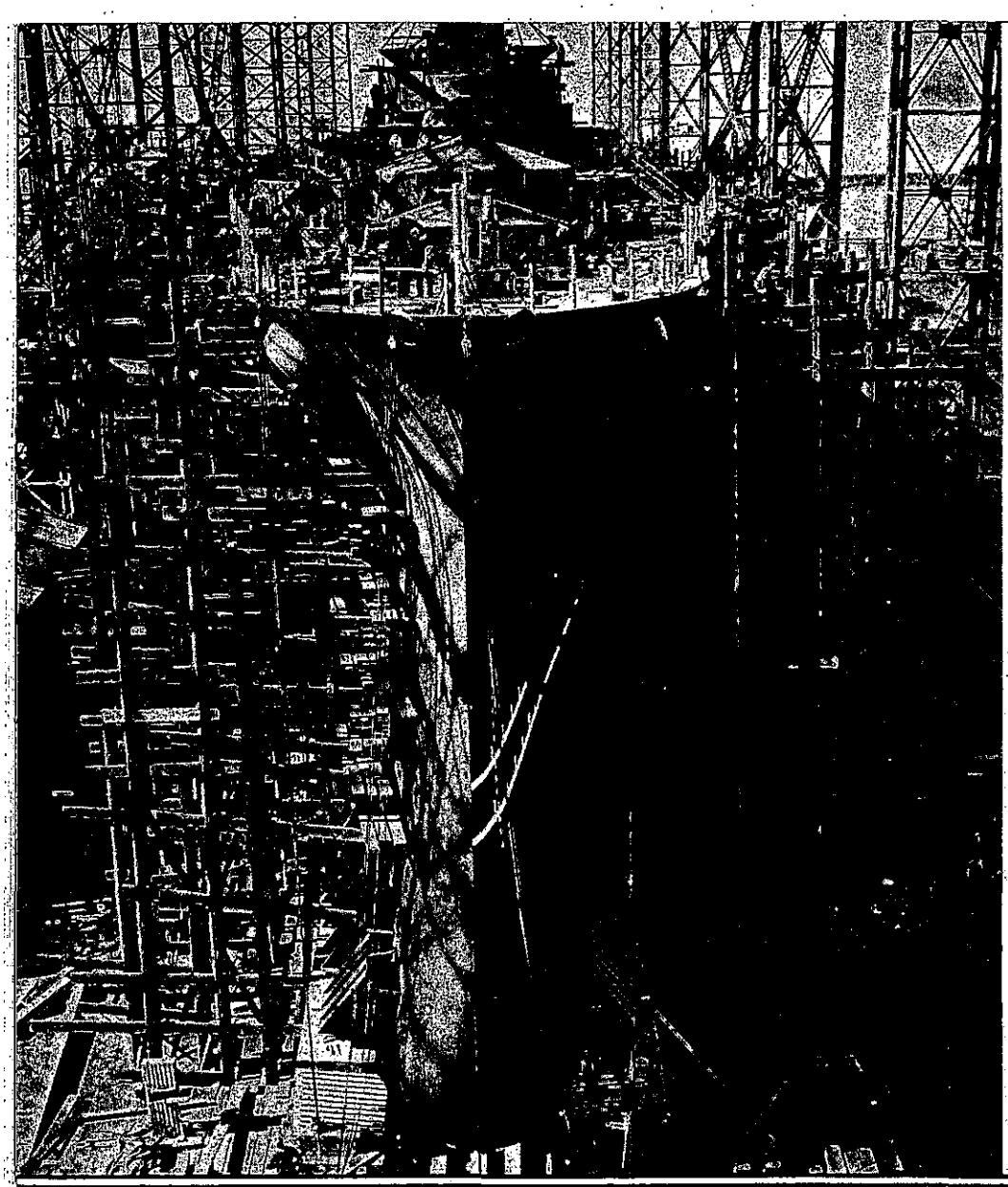


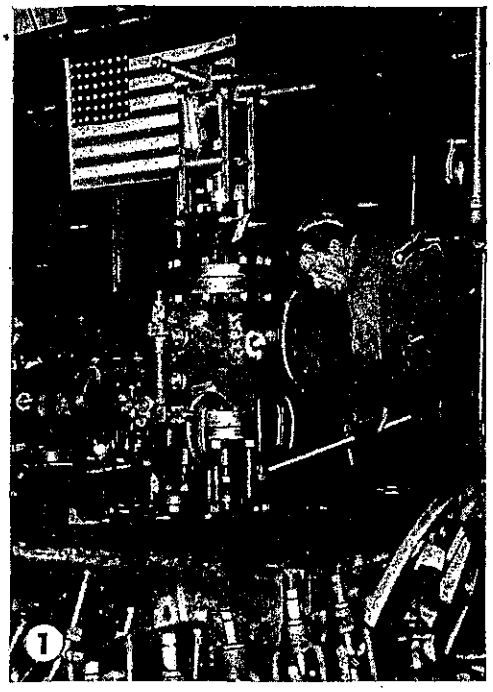


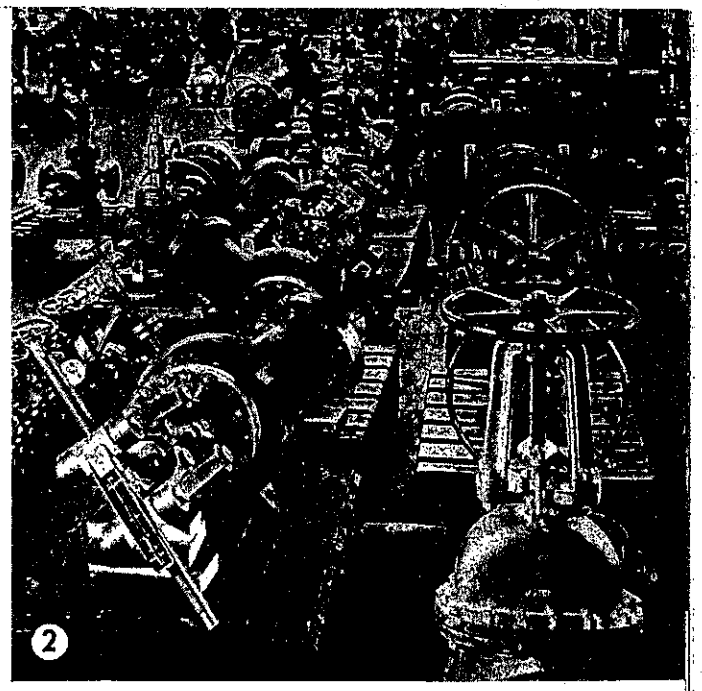


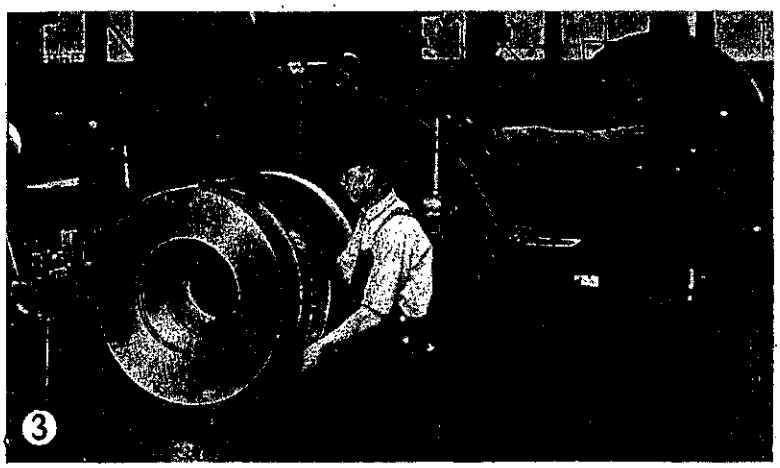


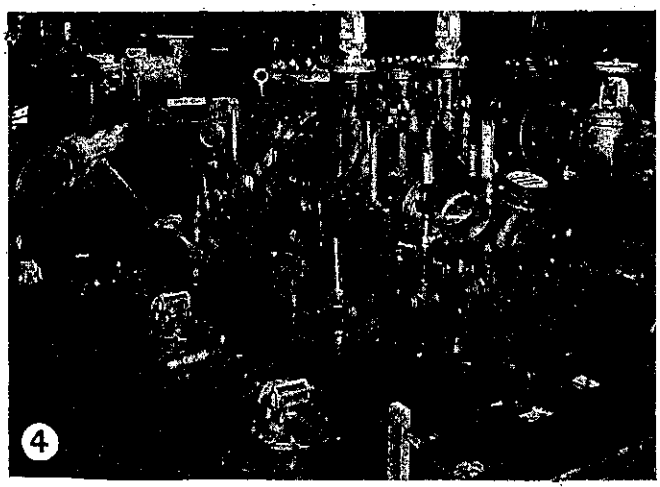
CRANE PRODUCTS ESSENTIAL ....IN THE BUILDING OF SHIPS

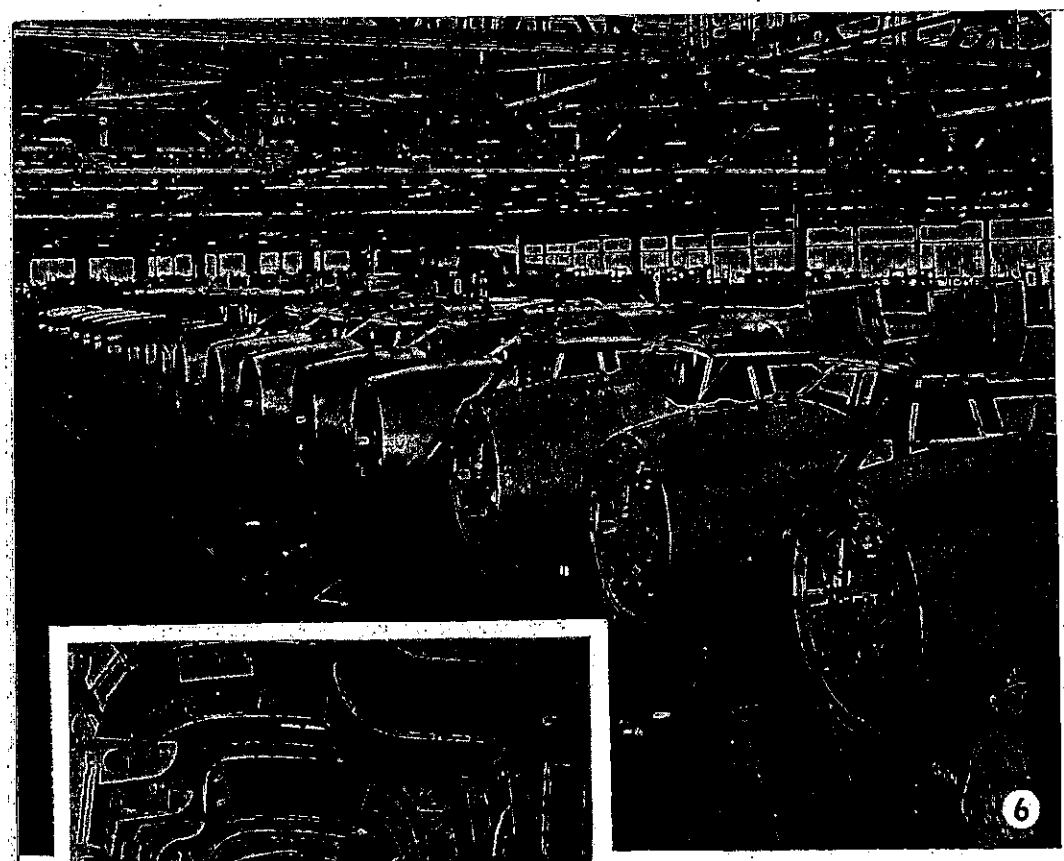
Crane Co. has been a leader in the field of marine valves and fittings for scores of years. Many of the fighting and auxiliary craft of our present navy as well as the ships of our merchant marine, are equipped with Crane products. Fig. 1 shows a special navy valve being tested, and Fig. 2 contains a quantity of navy valves ready for final inspection. But a modern ship, like the one shown under construction above, requires scores of other products, such as armor plate (Fig. 5), steam turbines (Fig. 4), and big guns (Fig. 3). In American manufacturing plants where these things are made, Crane products are playing a vital part.







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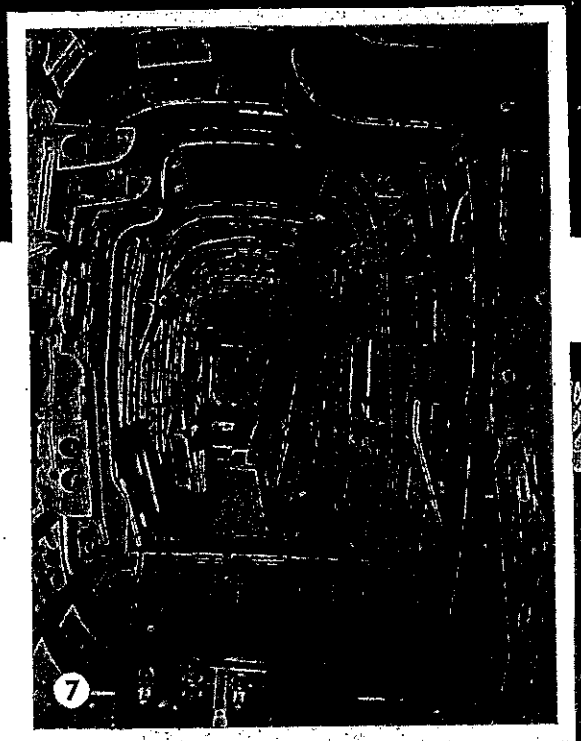
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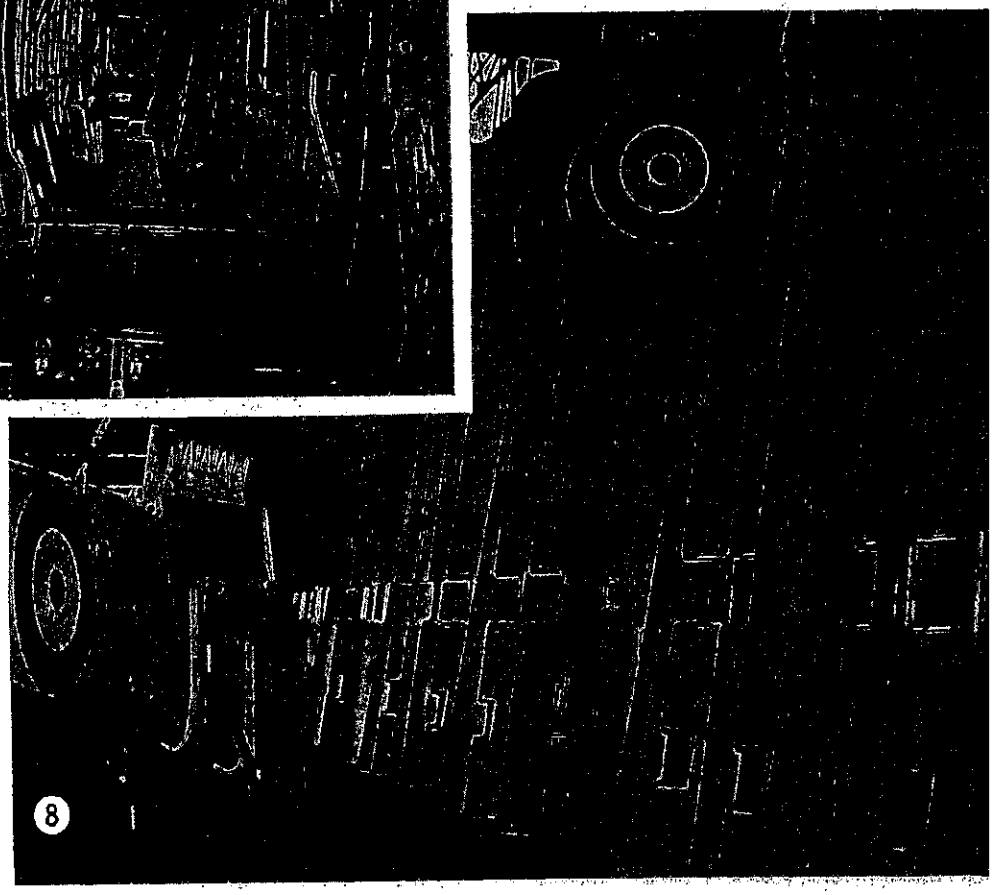
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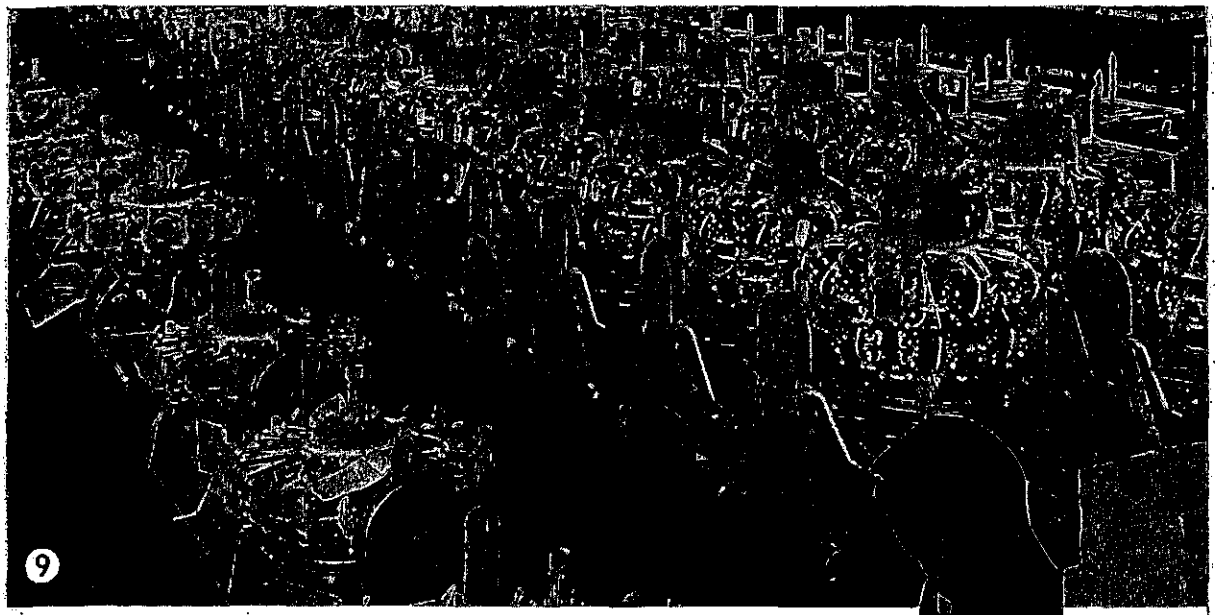
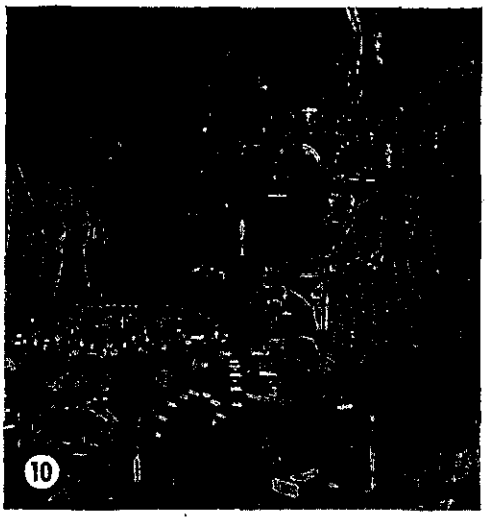
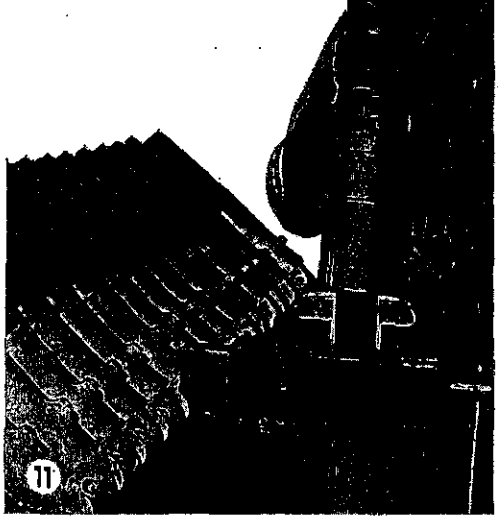
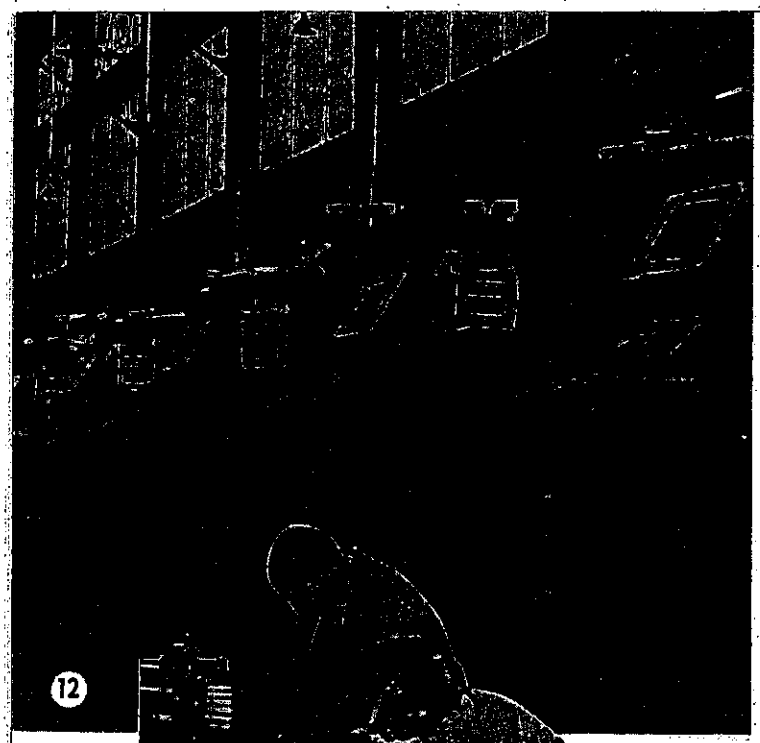






. . . . IN THE PRODUCTION OF AIRPLANES

Unlike a battleship or cruiser, which may require as many as 2,000 valves, modern aircraft need no valves of the type made by your company. But they couldn't be built without them. For in the assembly of planes, as in this bomber plant (Fig. 6), or as shown by the fuselage interior (Fig. 7), the maker requires many manufactured parts—for example, the wings (Fig. 8), the engines (Figs. 9 and 10), and shock absorbers (Fig. 11). These vital parts of airplanes, as well as propellers, wheels, tires, instruments, and so on, are made in plants where valves and fittings are of prime importance. Behind every American airplane sweeping the skies stand the less dramatic, but no less essential, valves and fittings of Crane Co.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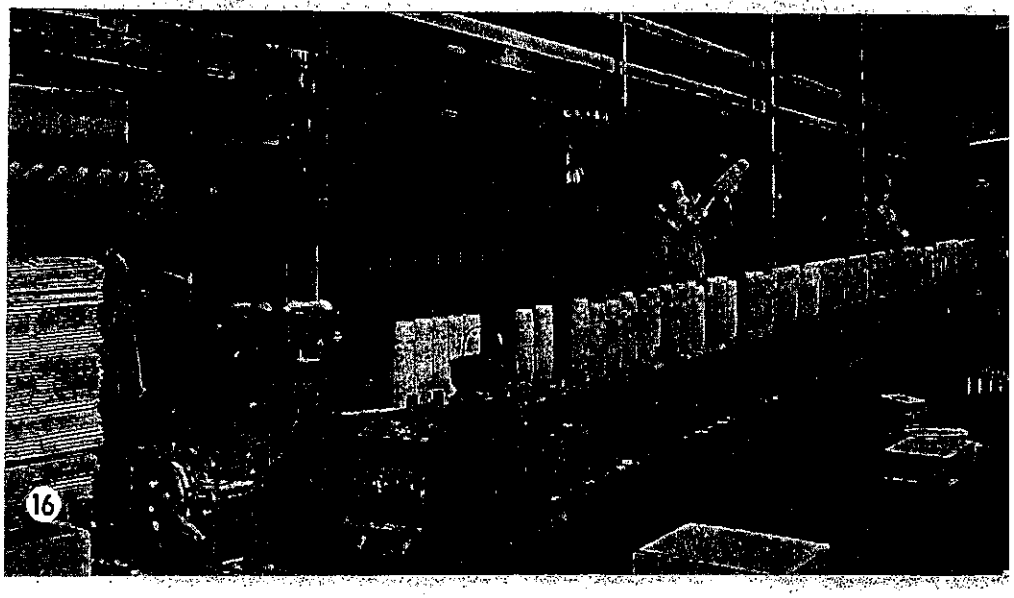
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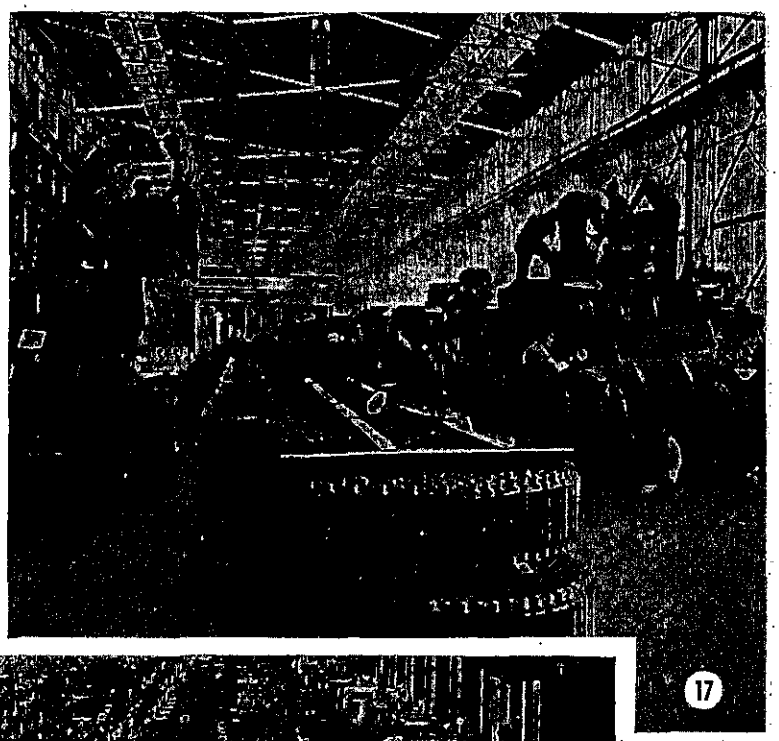
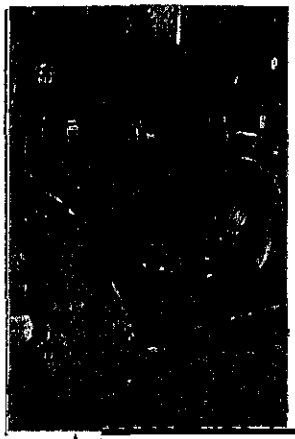
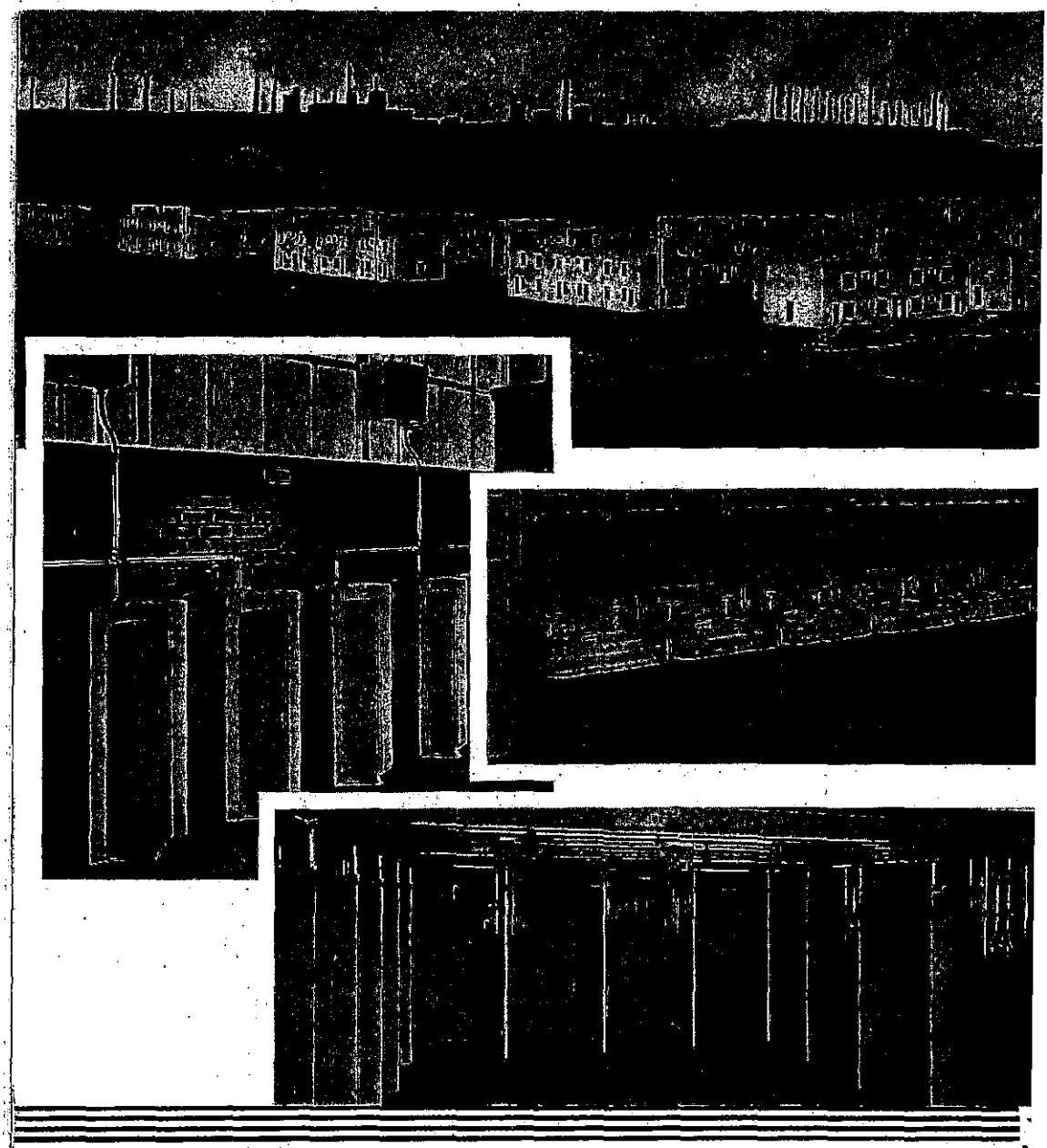




. . . . IN THE CONSTRUCTION OF MOTORIZED EQUIPMENT

Present day military strategy requires that great distances be covered at high speeds. Tanks (Figs. 12 and 17), armored personnel cars (Fig. 13), gun tractors (Fig. 18) and anti-aircraft gun carriages (Fig. 15) are examples of the vast variety of motorized equipment now rolling off assembly lines in rapidly increasing numbers. Machine guns (Fig. 14) and shells (Fig. 16) are typical of the munitions with which our forces are being armed by American industry. All of this equipment either uses valves and fittings or is produced in plants where valves and fittings are indispensable. The products of Crane Co. are helping make the weapons which make the American Army.

CRANE00201



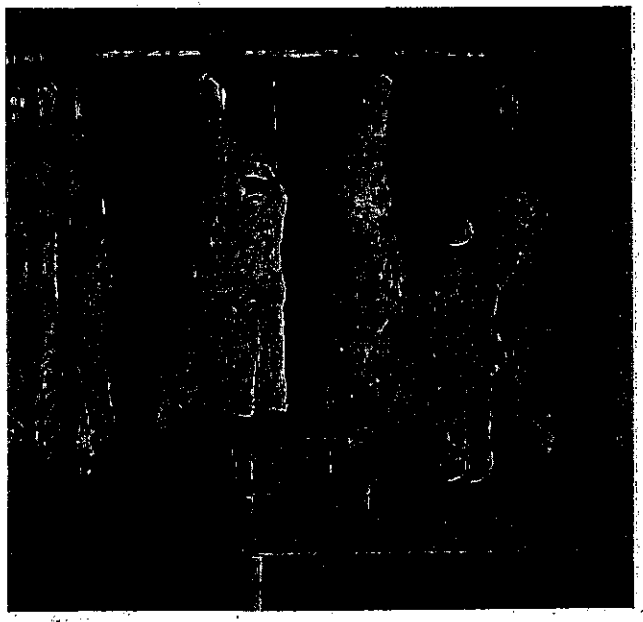
. . . . TO HEALTH AND COMFORT

The foregoing pages have emphasized mechanized war materials. We must not forget, however, the millions of men who fight in our armed forces or the even greater number of men and women who work in our defense industries. It is important that they keep themselves physically fit to perform their daily tasks with maximum efficiency. Crane plumbing materials have been installed in thousands of their homes, as well as in the plants where they work, and in camps, cantonments and training stations. At the top is shown a group of Crane equipped defense workers' homes. The other pictures show Crane lavatories in an army camp; urinal stalls in an aircraft plant; and a shower room in a tank factory.

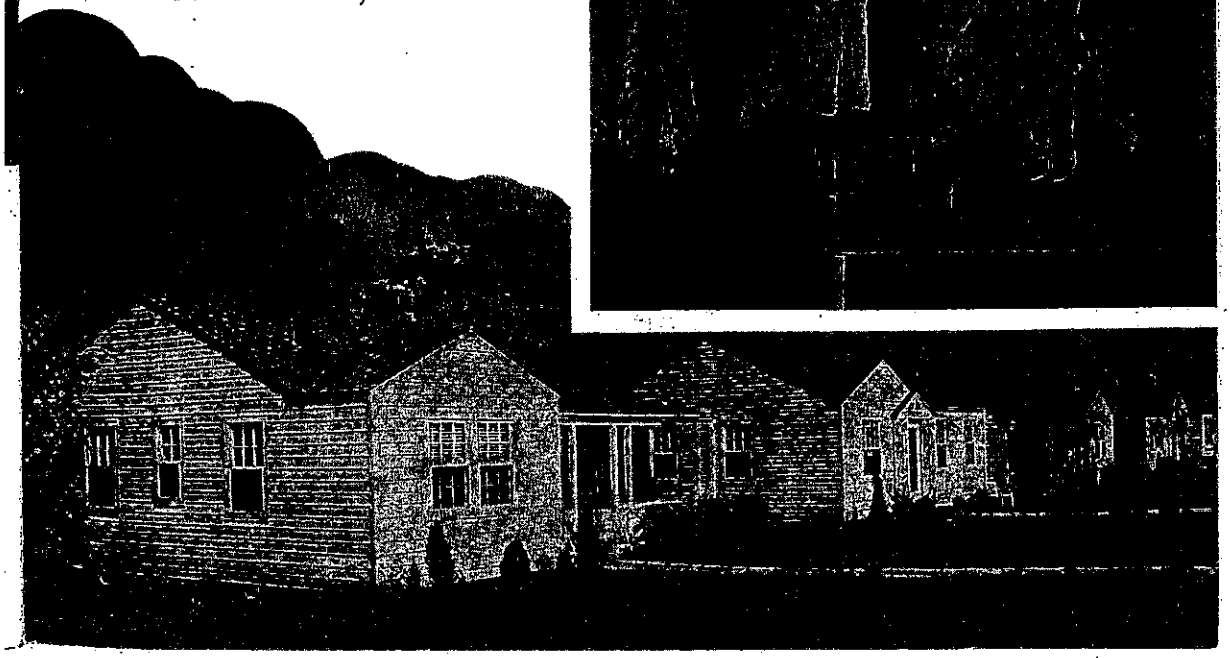
...IN PEACE OR WAR

Your company, in common with all American industry, has shifted to war production. Yet this shift has required little transformation in the type of products manufactured. Your company's regular output, established manufacturing facilities and normal distributing system have proven themselves as necessary in war as they were in peace.

The preceding pages of this book have shown that valves and fittings, and plumbing and heating materials, are required to produce war weapons, either directly or indirectly. Battleships, cargo ships, guns, tractors, airplanes, shells, submarines —all these weapons depend upon the performance of Crane products.



It is natural today, to think of these military weapons. However, in war or peace, at least a minimum of food, clothing and shelter are essential and their production, too, is dependent upon products which are made by Crane.



Locations of

BRANCHES IN U. S. AND CANADA

Aberdeen ....South Dakota
Akron .....Ohio
Albany .....New York
Albuquerque ..New Mexico
Asheville ...North Carolina
Atlanta .....Georgia
Aurora .....Illinois

Baltimore .....Maryland
Beaumont .....Texas
Billings .....Montana
Binghamton .....New York
Birmingham .....Alabama
Boise .....Idaho
Boston .....Massachusetts
Bridgeport ....Connecticut
Buffalo .....New York

Calgary .....Alberta
Camden .....New Jersey
Canton .....Ohio
Casper .....Wyoming
Charleston ...West Virginia
Charlotte ...North Carolina
Chattanooga ....Tennessee
Chicago .....Illinois
Cincinnati .....Ohio
Cleveland .....Ohio
Columbus .....Ohio
Corpus Christi .....Texas

Dallas .....Texas
Davenport .....Iowa
Dayton .....Ohio
Denver .....Colorado
Detroit .....Michigan
Duluth .....Minnesota

East Chicago .....Indiana
Edmonton .....Alberta
El Paso .....Texas
Eugene .....Oregon
Evanston .....Illinois
Evansville .....Indiana

Fargo .....North Dakota
Flint .....Michigan
Ft. Lauderdale .....Florida
Ft. Smith .....Arkansas
Fort William .....Ontario

Grand Island ....Nebraska
Grand Junction ...Colorado
Grand Rapids ....Michigan
Great Falls .....Montana
Greensboro..North Carolina
Greenville...South Carolina

Halifax .....Nova Scotia
Hamilton .....Ontario
Harlingen .....Texas
Hartford .....Connecticut
Hempstead .....New York
Hollywood .....California
Houston .....Texas

Indianapolis .....Indiana

Jackson .....Michigan
Jackson .....Mississippi
Jacksonville .....Florida

Kansas City .....Missouri
Kingston .....Ontario
Knoxville .....Tennessee

Lexington .....Kentucky
Lima .....Ohio
Little Rock .....Arkansas
London .....Ontario
Long Beach .....California
Los Angeles .....California

Macon .....Georgia
Madison .....Wisconsin
Mankato .....Minnesota
Mason City .....Iowa
Memphis .....Tennessee
Miami .....Florida
Milwaukee .....Wisconsin
Minneapolis .....Minnesota
Mobile .....Alabama
Moncton ...New Brunswick
Montreal .....Quebec
Muncie .....Indiana
Muskogee .....Oklahoma

Nashville .....Tennessee
Newark .....New Jersey
New Haven ....Connecticut
New Orleans ....Louisiana
New York .....New York
Norfolk .....Virginia

Oakland .....California
Ogden .....Utah
Oklahoma City...Oklahoma
Omaha .....Nebraska
Oshkosh .....Wisconsin
Ottawa .....Ontario

Pasadena .....California
Philadelphia ..Pennsylvania
Phoenix .....Arizona
Pittsburgh ....Pennsylvania
Pocatello .....Idaho
Pomona .....California
Portland .....Maine
Portland .....Oregon
Providence ...Rhode Island
Pueblo .....Colorado

Quebec .....Quebec

Reading .....Pennsylvania
Regina .....Saskatchewan
Reno .....Nevada
Richmond .....Virginia
Rochester .....New York
Rockford .....Illinois

Sacramento .....California
St. John's ...Newfoundland
St. Louis .....Missouri
St. Paul .....Minnesota
Salt Lake City.....Utah
San Antonio .....Texas
San Bernardino ..California
San Diego .....California
San Francisco ...California
Santa Ana .....California
Santa Barbara ...California
Saskatoon ....Saskatchewan
Savannah .....Georgia
Scottsbluff .....Nebraska
Seattle .....Washington
Shreveport .....Louisiana
Sioux City .....Iowa
Sioux Falls ...South Dakota
South Bend .....Indiana
Spokane .....Washington
Springfield .....Illinois
Springfield ...Massachusetts
Syracuse .....New York

Tacoma .....Washington
Tampa .....Florida
Terre Haute .....Indiana
Toledo .....Ohio
Toronto .....Ontario
Trenton .....New Jersey
Tucson .....Arizona
Tulsa .....Oklahoma

Utica .....New York

Vancouver.British Columbia
Victoria...British Columbia

Washington .....D. C.
Waukegan .....Illinois
West Palm Beach...Florida
White Plains ....New York
Wichita .....Kansas
Winnipeg .....Manitoba
Worcester ...Massachusetts

CRANE00204

ANNUAL REPORT

1942

CRANE CO.

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1942

CRANE CO.

836 SOUTH MICHIGAN AVENUE
CHICAGO

CRANE00206

CRANE CO.

DIRECTORS

JOHN B. BERRYMAN, *Chairman*

ARTHUR O. CHOATE
J. H. COLLIER
G. A. EASTWOOD
A. F. GARTZ, JR.
F. R. LILLIE
MARK W. LOWELL
SYDNEY G. MCALLISTER
P. R. MORK
WILLIAM R. ODELL
E. A. RUSSELL

OFFICERS

J. H. COLLIER ..... *President*
C. R. CRANE, II ..... *Vice President*
J. L. HOLLOWAY ..... *Vice President*
P. R. MORK ..... *Vice President*
V. P. RUMELY ..... *Vice President*
WM. H. WINSLOW, JR. ..... *Secretary*
WALTER EVENSEN ..... *Treasurer*
F. H. KAISER ..... *Comptroller*
P. L. YATES ..... *Assistant Comptroller*
I. A. COTHRIN ..... *Assistant Secretary*
J. K. O'NEILL ..... *Assistant Secretary*
L. E. BAKER ..... *Assistant Treasurer*
C. W. DITTMAR ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & CO. *Incorporated*
Wall and Broad Streets
New York City

W. E. PETERSON, *Transfer Clerk*
Crane Co., 836 South Michigan Ave.,
Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK
Pine and Nassau Streets
New York City

CONTINENTAL ILLINOIS NATIONAL BANK
AND TRUST COMPANY OF CHICAGO
231 South La Salle Street
Chicago, Illinois

CRANE00207

ANNUAL REPORT

To the Shareholders
of Crane Co.:

This Annual Report covering the operations of your company for the year 1942 is presented by the management with the approval of the Board of Directors.

FINANCIAL REVIEW

Statements of Profit and Loss and Surplus for the year, and a Balance Sheet as of December 31, 1942, for the company and its United States subsidiaries consolidated, together with statements reflecting the results of operations and the net assets of the subsidiary companies located in foreign countries other than France, and a certificate of Arthur Young & Co., independent public accountants, are shown on pages 9 to 15.

In view of the war and regulations imposed on transactions in the currencies of the belligerent countries, the results of operations and the financial condition of subsidiary companies located in foreign countries have been excluded from the consolidated statements except that the investments in such companies are carried in the Balance Sheet at the lower of cost or book value.

The amounts quoted throughout the narrative of this report are, except where otherwise specified, on a basis of consolidating only the figures of the United States companies.

CONSOLIDATED PROFIT AND LOSS, SURPLUS, AND RESERVE FOR CONTINGENCIES:

The Consolidated Profit and Loss and Surplus Statements of Crane Co. and its United States subsidiaries are given for the year 1942, together with a Profit and Loss Statement for the year 1941 for comparative purposes.

The Profit and Loss Statement shows a net profit for the year 1942 transferred to Earned Surplus of $4,824,602.62 after an appropriation of $4,500,000.00 to Reserve for Contingencies which, together with the Reserve of $4,000,000.00 provided from the operations in 1941, made a total Reserve for Contingencies at December 31, 1942, of $8,500,000.00. The Reserve is not specifically allocatable to any one or more assets. It was established primarily as a provision against the losses which may finally be experienced, directly or indirectly, as a result of the war and is not pres-

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ently intended in any part as a reserve for adjustments which may result from renegotiation of contracts as provided for under the Sixth Supplemental National Defense Appropriation Act. It is impossible to state at this time the reduction in profit, if any, that may result from such renegotiation and no provision has been made therefor.

The net profit for the year transferred to Earned Surplus, namely $4,824,602.62, was equal to earnings of $1.64 per share on the 2,348,628 shares of Common Stock after allowance for the dividend requirements of the 192,803 shares of 5% Cumulative Convertible Preferred Stock and compares with a net profit transferred to Earned Surplus in 1941 of $3,727,-818.61, equal to earnings of $1.18 per Common Share. The net profit for 1942 includes a dividend of $810,810.81 received from Canadian subsidiaries and that of 1941 included a similar dividend of $864,864.86.

The Consolidated Surplus of Crane Co. and its United States subsidiaries at December 31, 1942, amounted to $12,698,998.30 of which $1,502,-376.08 is allocated as Capital Surplus, leaving $11,196,622.22 as Earned Surplus. This compares with a total Surplus of $11,206,576.53 at December 31, 1941, of which $9,703,900.45 represented Earned Surplus.

Dividends:

A total of $3,312,643.00 was paid in dividends during the year, consisting of the regular quarterly dividends of $1.25 per share on the 5% Cumulative Preferred Shares amounting to $964,015.00, and a dividend of $1.00 per share amounting to $2,348,628.00 paid on the Common Shares on December 23, 1942.

Depreciation:

The amount charged to operations for depreciation and amortization in 1942 was $2,574,867.24 compared with $1,986,889.71 for 1941. The charge-off for depreciation of machinery and equipment is established on a basis of the estimated life of the individual item; the provision for depreciation on buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction and the provision for amortization of war facilities is computed in accordance with the regulations of the Government. This has been the general depreciation policy of your company during recent years.

Taxation:

During the year 1942 the company paid or accrued in combined direct taxes of all kinds in the United States a total of $28,335,454.11 including a post-war refund credit of $1,676,570.94.

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CONSOLIDATED BALANCE SHEET:

Financial Condition:

Current assets of Crane Co. and its United States subsidiaries amounted to $63,740,334.02 at December 31, 1942, and current liabilities amounted to $12,659,736.96 reflecting a net working capital of $51,080,597.06 of which $10,656,214.60 was in cash. This net working capital shows an increase of $5,460,221.81 from the comparable position at December 31, 1941.

The current liabilities are stated after deducting United States of America Treasury Tax Notes and accrued interest thereon amounting to $22,196,-003.20 from the item of accrued federal income and excess profits taxes. After such deduction the accrued federal taxes amounted to $3,224,356.74 and there was also a liability of $2,087,895.25 for accrued general taxes.

The ratio of current assets to current liabilities was 5 to 1 on December 31, 1942.

Inventories:

The consolidated inventories amounted to $28,638,057.95 at December 31, 1942, showing a reduction of $4,327,771.82 from the position at December 31, 1941. The total reduction resulted from a decrease of $418,-674.24 in raw materials and supplies, a decrease of $5,476,050.24 in the valuation of finished goods, and an increase of $1,566,952.66 in work in process.

Inventories amounting to $19,345,312.11 and representing the major part of the inventory of Crane Co. proper were valued on a basis of the "Last-in, First-out" method; the remainder of the inventories amounting to $9,292,745.84 were valued at cost or market, whichever was lower. This practice was consistent with that followed in valuing the inventories at December 31, 1941.

Open commitments for raw materials made in the course of business amounted to approximately $580,000.00 at the end of the year. Prices thereon were substantially the same as current market quotations.

Long-Term Debt:

During the year 1942 the company retired $2,000,000.00 in principal amount of its Ten-Year 2¼% Sinking Fund Debentures so meeting the $500,000.00 sinking fund requirement of the year 1942 and anticipating the sinking fund requirements of the years 1943 to 1945 inclusive amounting to $1,500,000.00. The retirement in respect of the sinking fund

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requirements of the years subsequent to 1942 represented a retirement of debt under the terms of the Revenue Act of 1942 whereby excess profits taxes of $600,000.00 payable for 1942 toward a post-war refund credit were abated.

Your company owes no overdue accounts or obligations and has no bank indebtedness.

Investment in Foreign Subsidiaries:

The foreign subsidiaries of the company are all wholly owned and are located in Canada, England, and France.

The investment in the foreign subsidiary companies in Canada and England is carried in the balance sheet at cost, namely $12,000,000.00. The investment in the subsidiary company located in Paris, France, is carried on the balance sheet at the book value of its net assets in United States dollars at December 31, 1939, after adjustments arising through the recovery in 1941 of a United States dollar balance of $20,706.67 due from the French company.

The parent company's equity in the surplus of its subsidiary companies located in Canada and England, and which is not included in the Consolidated Surplus, amounted to $3,387,364.12 at December 31, 1942, when computed at official rates of exchange. Accumulated losses of the subsidiary company located in France amounting to $1,749,338.27 at December 31, 1939, and provision for depreciation in the French franc at that date of $623,538.85 have been absorbed in the Consolidated Surplus shown in the balance sheet.

The net assets of the companies in Canada and England at December 31, 1942, and the results of their operations for the year ended that date are given on page 14 of this report. No current information is available regarding the business and properties of the French company. The properties of the subsidiary in England have suffered some damage from war activities but none of a nature to seriously affect operations.

LITIGATION:

In United States versus Central Supply Association, et al, No. 16750 in the United States District Court for the Northern District of Ohio at Cleveland, 102 defendants, including the company and its manager of plumbing and heating sales, are charged in an indictment under Section 1 of the Sherman Anti-trust Act, returned March 29, 1940, with conspiring in restraint of trade in their sale of plumbing supplies. On a motion of

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the Government based on the opinion that trial of the case would seriously impede the war effort, the Court on August 3, 1942, ordered trial of the case continued until further order of the Court.

OPERATIONS

The character of the demand for the company's products has been influenced greatly by the war and the restrictions resulting from it. Continuing since the first half of 1942 there has been an increasing demand for valves and fittings particularly of steel, accompanied by a diminishing requirement for plumbing and heating products.

Due to Government regulations and the conditions of product demand we temporarily discontinued the production of enameled iron plumbing fixtures on August 28, 1942, and converted the Chattanooga plant, previously devoted to that activity, to the production of castings for iron and steel fittings. The production of house heating boilers and radiation which was carried on at Bridgeport and North Tonawanda was similarly discontinued in December, 1942, and arrangements have been made for the utilization of the properties by others for activities entirely divorced from the company's field.

The expansion, authorized early in 1942, of our cast steel valve department at Chicago using Government-owned tools was seriously delayed through difficulty in obtaining delivery of the tools. However, an increasing volume of production was obtained from these facilities through the latter part of 1942 and they are now approaching capacity with final delivery of tools scheduled over the next few months.

Our potteries at Trenton, New Jersey, have been kept quite busy in the production of plumbing fixtures for war housing, military establishments and ships, and in the production of some unrelated items previously made of metal. In conjunction with this we developed and are producing a line of substitute iron plumbing fixture trimmings such as faucets, drains and the like to take the place of trimmings we previously made of chrome-plated brass on which production was stopped by Government restrictions.

The demands of the war effort have placed an increasing burden on the organization with all departments where necessary working three shifts per day and seven days a week for three weeks out of every four, and we can again with pride pay tribute to the efforts of everyone. The award of the Army-Navy "E" for excellence in production is also evidence of that fact. Over 3,900 employees in the United States have gone into military service and in replacing these and providing employees for the expanded

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production we have employed many women and now have 1,635 women in production jobs alone.

The management again wishes to express its appreciation to the company's regular customers for their recognition of the fact that it can let nothing interfere with its war effort, to its suppliers for their earnest effort to meet the company's needs, and for the help of the Civil and Military Departments of the Government with which the company has come in contact.

The year 1943 is full of uncertainties due to war conditions. We face those uncertainties, however, with a strong efficient organization, with the physical plant of the company in top notch condition, and with a determination to continue to expend every effort in producing for the successful prosecution of the war.

J. H. COLLIER,
President.

JOHN B. BERRYMAN,
Chairman.

March 3, 1943.

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ARTHUR YOUNG & COMPANY
ACCOUNTANTS AND AUDITORS
1 NORTH LA SALLE STREET
CHICAGO

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiary companies in the United States as at December 31, 1942, and the consolidated profit and loss and surplus statements for the year then ended, have reviewed the system of internal control and the accounting procedures of the companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the companies and other supporting evidence, by methods and to the extent we deemed appropriate. Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and embraced all procedures which we considered necessary, including tests of accounts receivable by direct correspondence with debtors and tests of the inventories at locations selected by us, by count and by observation of the taking of the physical inventories.

In our opinion, subject to any adjustment arising from renegotiation, as explained in Note 1 to the financial statements, the effect of which cannot be determined at this time, the accompanying consolidated balance sheet and related consolidated profit and loss and surplus statements present fairly the position of Crane Co. and its subsidiaries in the United States at December 31, 1942, and the results of their operations for the year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY.

Chicago, Illinois,
February 24, 1943.

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

For the Years Ended December 31, 1942 and December 31, 1941

	Year ended Dec. 31, 1942	Year ended Dec. 31, 1941
Gross sales, less returns and allowances:		
Sales to customers	$170,995,014.84	$136,698,810.01
Sales to foreign subsidiaries	745,246.53	1,201,204.84
Total	$171,740,261.37	$137,900,014.85
Cost of sales, including selling, administrative and general expenses but before provisions for depreciation and amortization	134,837,114.55	114,427,681.05
	$ 36,903,146.82	$ 23,472,333.80
Provisions for depreciation and amortization	2,574,867.24	1,986,889.71
Net operating profit	$ 34,328,279.58	$ 21,485,444.09
Other income:		
Cash discounts on purchases	$ 958,367.09	$ 967,426.57
Interest received	84,123.12	44,935.84
Miscellaneous other income	165,381.71	83,863.23
	$ 1,207,871.92	$ 1,096,225.64
	$ 35,536,151.50	$ 22,581,669.73
Deductions:		
Cash discounts on sales	$ 2,652,813.31	$ 1,946,439.56
Interest paid	209,971.43	229,552.96
Amortization of debt expenses	16,403.84	11,137.69
Loss on disposal of fixed assets	1,068,390.35	841,654.47
Miscellaneous deductions	9,118.47	35,133.86
Minority stockholders' interest in net income of subsidiaries	33,728.15	66,372.27
	$ 3,990,425.55	$ 3,130,290.81
Net profit (exclusive of dividends received from foreign subsidiaries) before federal income and excess profits taxes	$ 31,545,725.95	$ 19,451,378.92
Dividends received from Canadian subsidiary	810,810.81	864,864.86
	$ 32,356,536.76	$ 20,316,243.78
Provision for federal income and excess profits taxes:		
Income and declared value excess profits taxes	$ 2,542,673.38	$ 4,425,533.18
Excess profits taxes	$ 22,765,831.70	$ 8,162,891.99
Less: Credits for debt retirement ($600,000) and post-war refund ($1,676,570.94)	2,276,570.94	—
	$ 20,489,260.76	$ 8,162,891.99
	$ 23,031,934.14	$ 12,588,425.17
Net profit	$ 9,324,602.62	$ 7,727,818.61
Appropriation to Reserve for Contingencies	4,500,000.00	4,000,000.00
Amount of profit transferred to earned surplus	$ 4,824,602.62	$ 3,727,818.61

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED SURPLUS STATEMENT

For the Year Ended December 31, 1942

	Earned Surplus	Capital Surplus	Total
Surplus, December 31, 1941	$ 9,703,900.45	$1,502,676.08	$11,206,576.53
Add:			
Amount of profit for the year ended December 31, 1942 transferred to earned surplus	4,824,602.62		4,824,602.62
	$14,528,503.07	$1,502,676.08	$16,031,179.15
Deduct:			
Premium on Ten-year 2¼% Sinking Fund Debentures purchased and retired	$ 19,237.85		$ 19,237.85
Excess of cost of stock of subsidiary (consolidated) acquired, over book value thereof		$ 300.00	300.00
Cash dividends paid—			
On 5% cumulative preferred shares, $5 per share	964,015.00		964,015.00
On common shares, $1 per share	2,348,628.00		2,348,628.00
	$ 3,331,880.85	$ 300.00	$ 3,332,180.85
Surplus, December 31, 1942	$11,196,622.22	$ 1,502,376.08	$12,698,998.30

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1942

ASSETS AND OTHER DEBITS

CURRENT ASSETS:		
Cash		$ 10,656,214.60
U. S. Government securities, at cost (market value, $1,499,722.50)		1,498,992.50
Accounts receivable—		
Trade	$23,053,603.42	
Sundry	963,403.25	
	$24,017,006.67	
Less: Reserve for doubtful accounts	1,158,218.76	
		22,858,787.91
Inventories (See Note 2)—		
Raw material and supplies	$ 6,832,010.32	
Work in process	12,940,918.33	
Finished goods	8,865,129.30	
		28,638,057.95
Due from foreign subsidiaries not consolidated		88,281.06
Total current assets		$ 63,740,334.02
INVESTMENTS AND OTHER ASSETS:		
Investments in foreign subsidiaries not consolidated—		
Canadian subsidiary (parent company of Canadian subsidiaries and English subsidiary) at cost (See Note 3)	$12,000,000.00	
French subsidiary, at book value of its net assets at December 31, 1939, less net recoveries since that date (See Note 4)	1,210,697.86	
	$13,210,697.86	
Other security investments, at cost or nominal value (less reserve, $133,167.76)	39,902.50	
Other investments, at cost (less reserve, $3,876.65)	338,661.54	
Post-war refund of excess profits taxes	1,676,570.94	
		15,265,832.84
FIXED ASSETS:		
Land and land improvements	$ 6,740,073.14	
Buildings $31,406,283.61		
Less: Reserve for depreciation 12,309,103.95		
	19,097,179.66	
Machinery and equipment $34,021,754.10		
Less: Reserve for depreciation 18,569,616.81		
	15,452,137.29	
Unfinished construction	167,427.87	
		41,456,817.96
DEFERRED CHARGES:		
Unamortized expense on ten-year debentures	$ 42,292.90	
Miscellaneous prepaid expenses and other deferred charges	299,032.52	
		341,325.42
		$120,804,310.24

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CRANE CO.

(An Illinois Corporation)

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1942

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls		$ 7,302,484.97
Accrued federal income and excess profits taxes	$25,420,359.94	
Less: U. S. Treasury tax notes, at cost plus accrued interest	22,196,003.20	
		3,224,356.74
Accrued general taxes		2,087,895.25
Accrued interest on long-term debt		45,000.00
Total current liabilities		$ 12,659,736.96
LONG-TERM DEBT:		
Ten-year 2¼% Sinking Fund Debentures, due October 1, 1950 (Annual sinking fund payments of $500,000 due August 20 of each year to 1949)—		
Authorized and originally issued	$10,500,000.00	
Less: Retired through sinking fund (including sinking fund installments to August 20, 1945)	2,500,000.00	
		8,000,000.00
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Common stockholders (par value $668,700 plus equity in surplus, $60,555.60)		729,255.60
RESERVES AND DEFERRED CREDITS:		
Miscellaneous reserves and deferred credits	$ 220,319.38	
Reserve for contingencies	8,500,000.00	
		8,720,319.38
CAPITAL STOCK:		
Cumulative convertible preferred shares, par value $100, callable at $105—		
Authorized—200,000 shares		
Issued—192,803 shares designated as 5% cumulative convertible preferred shares	$19,280,300.00	
Common shares, par value $25—		
Authorized—3,000,000 shares (337,405¼ shares are reserved for conversion of cumulative convertible preferred shares)		
Issued—2,348,628 shares	58,715,700.00	
		77,996,000.00
SURPLUS:		
Capital	$ 1,502,376.08	
Earned	11,196,622.22	
		12,698,998.30
		$120,804,310.24

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NOTES TO FINANCIAL STATEMENTS

NOTE 1—RENEGOTIATION OF CONTRACTS WITH THE UNITED STATES GOVERNMENT:

Under the Sixth Supplemental National Defense Appropriation Act of 1942 as amended by the Revenue Act of 1942, the company's contracts with the United States Government are subject to renegotiation if "excessive profits" are considered to have occurred. It is impossible to state at this time the reduction in profit, if any, that may result from such renegotiation. No specific reserve has been provided in the accounts for any such adjustment.

The company has a Reserve for Contingencies of $8,500,000, of which $4,000,000 was appropriated out of 1941 profits and $4,500,000 out of 1942 profits, as a provision against losses which may be experienced as a result of the War. No part of this reserve is presently intended as a provision for adjustments resulting from renegotiation.

NOTE 2—INVENTORIES:

As of January 1, 1941, Crane Co. adopted the elective method of inventory valuation ("last-in, first-out" method) provided in the Revenue Act of 1939, in compiling the inventories of certain raw materials, goods in process and finished goods. Accordingly, at the close of the current fiscal year, December 31, 1942, the inventories of these certain raw materials, goods in process and finished goods, aggregating $19,345,312.11, have been valued on the "last-in, first-out" method. The remainder of Crane Co. inventories, together with inventories of its subsidiaries in the United States, at December 31, 1942, aggregating $9,292,745.84, have been priced at the lower of cost or market.

NOTE 3—INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND:

The investment in the Canadian subsidiary, Crane, Limited (Canada), is carried in the balance sheet at U. S. dollar cost, $12,000,000. The net assets of this company and its subsidiaries, segregated as between Canada and England, are summarized below:

	Canada	England	Total
Fixed assets at U. S. dollar cost at date of acquisition	$ 4,911,143.44	$1,946,898.42	$ 6,858,041.86
Net current assets at official rates of exchange	5,724,975.32	2,610,652.20	8,335,627.52
Other assets at official rates of exchange	177,712.50	15,982.24	193,694.74
	$10,813,831.26	$4,573,532.86	$15,387,364.12

The results of operations of the subsidiaries operating in Canada and England for the year ended December 31, 1942 (converted at official rates of exchange except that the provision for depreciation on fixed assets has been computed on U. S. dollar cost) are shown below:

	Canada	England
Gross sales, less returns and allowances	$16,397,617.56	$6,172,857.40
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	13,871,210.55	4,429,617.60
	$ 2,526,407.01	$1,743,239.80
Provision for depreciation	313,983.81	151,238.96
Net operating profit	$ 2,212,423.20	$1,592,000.84
Other deductions, less other income	109,324.07	78,008.36
Net profit before income and excess profits taxes	$ 2,103,099.13	$1,513,992.48
Provision for income taxes	$ 370,269.90	$ 376,443.16
Provision for excess profits taxes	1,021,620.60	818,071.72
Less: Post-war refund under Excess Profits Tax Act	(126,126.00)	
	$ 1,265,764.50	$1,194,514.88
Net profit	$ 837,334.63	$ 319,477.60

CRANE00219

Canada and England have enacted certain exchange regulations restricting the withdrawal of funds, etc., and the investments in and the profits of the companies located therein are subject to such restrictions as well as to such income and excess profits taxes as may be payable on the transfer of profits between England, Canada and the United States.

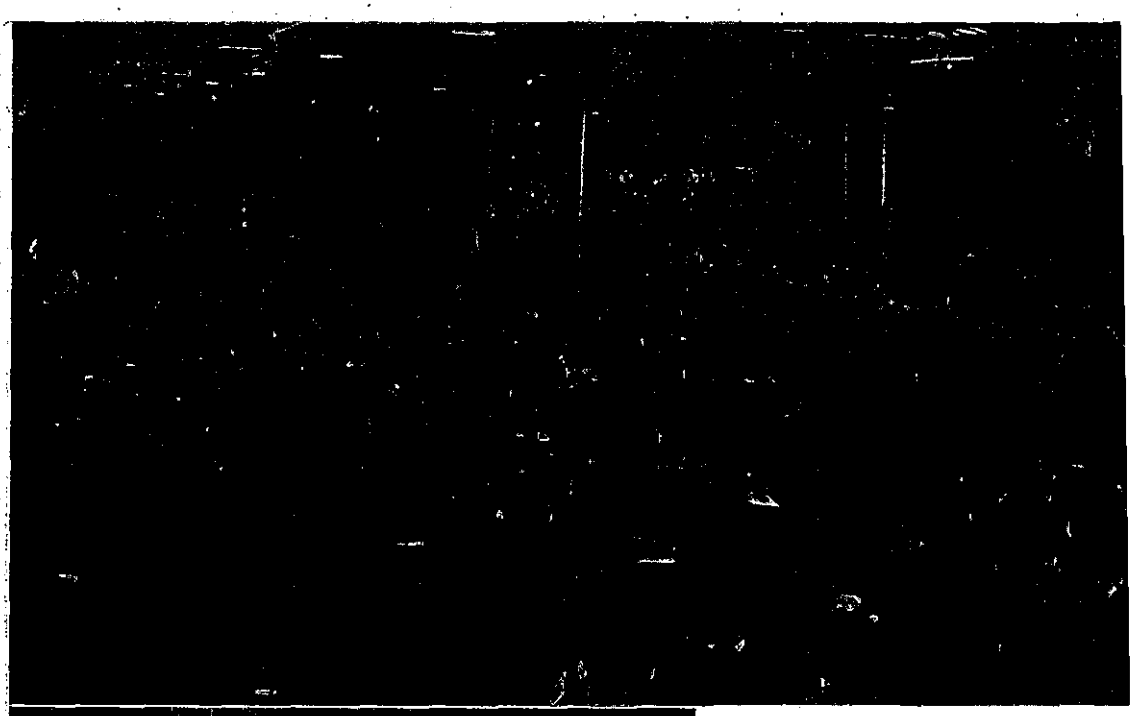
NOTE 4—INVESTMENT IN FRENCH SUBSIDIARY:

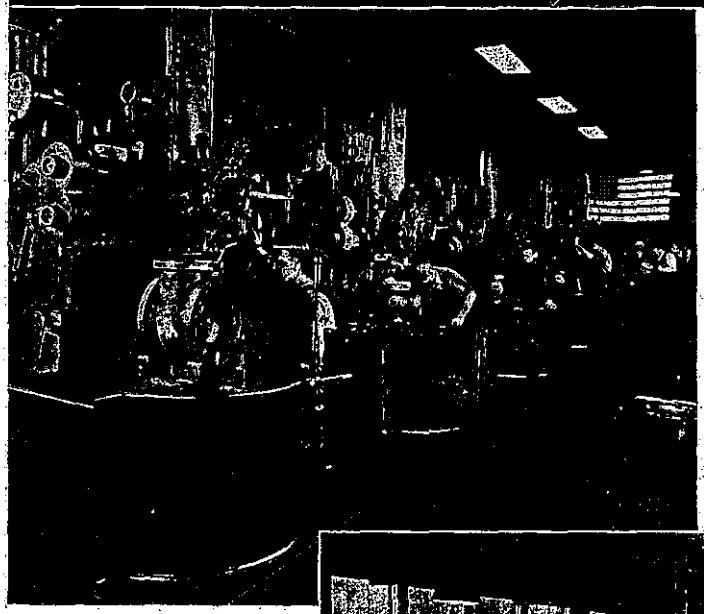
The investment in the French subsidiary (located in Paris) is stated in the balance sheet at the book value of its net assets (in U. S. dollars) at December 31, 1939, less net recoveries since that date on advances. The assets and operations of the French subsidiary are not significant in relation to the whole and current figures are not available in regard thereto.

NOTE 5—LITIGATION:

Reference is made to the report of the President for a statement regarding the indictment against the company for alleged violation of the Sherman Act.

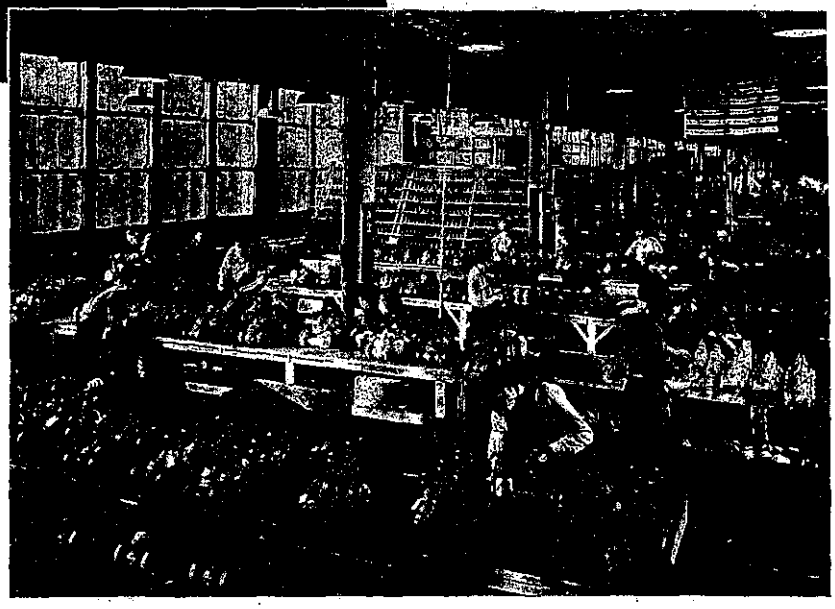
CRANE00220





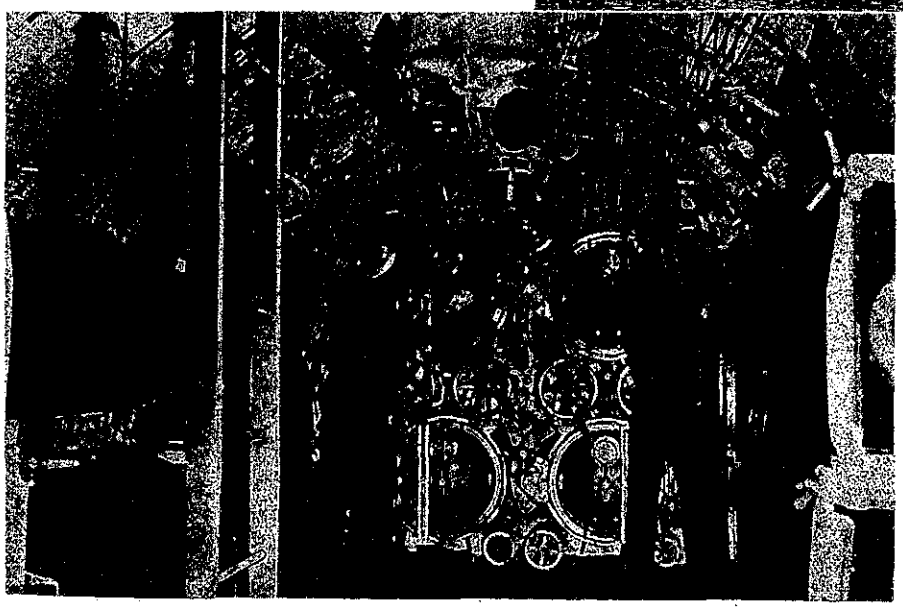
VALVES FO

Nearly 15,000 employees in the Chicago Works paused between shifts on January 29 to receive the Army-Navy "E" Award for making valves. Part of the crowd is shown above. At the left are two typical production scenes in

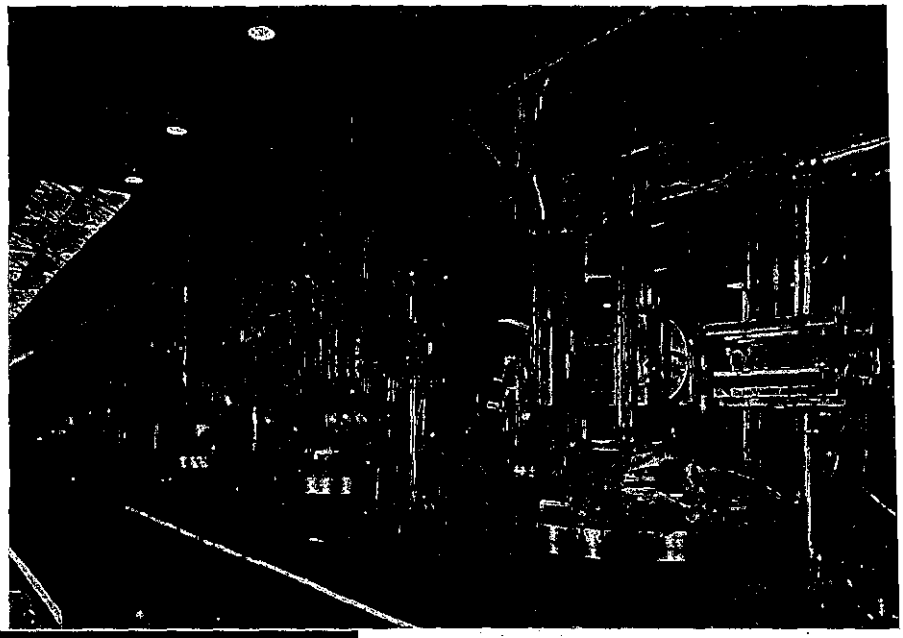


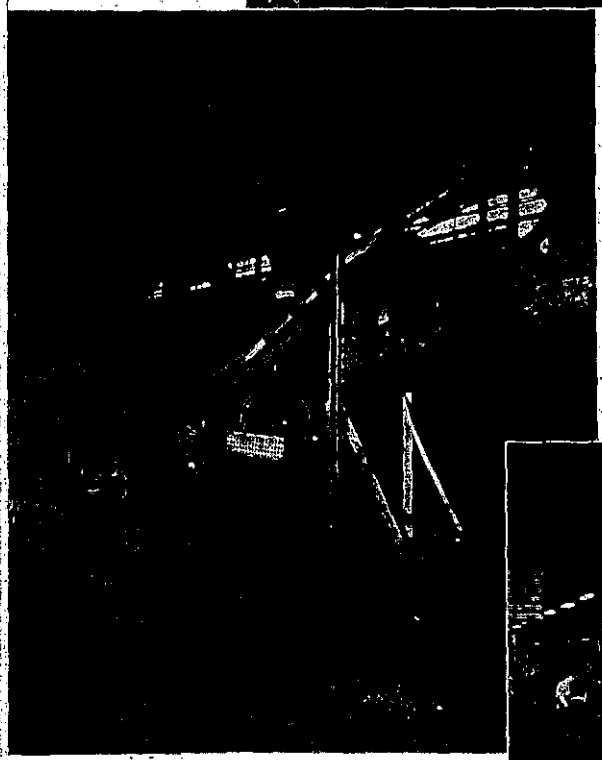
VICTORY

this plant. Crane valves have served the Navy long and well. At the right is one of the many fighting ships reconditioned with Crane valves after active service. Below is shown the maze of valves in a submarine.



MEETING THE DEMANI

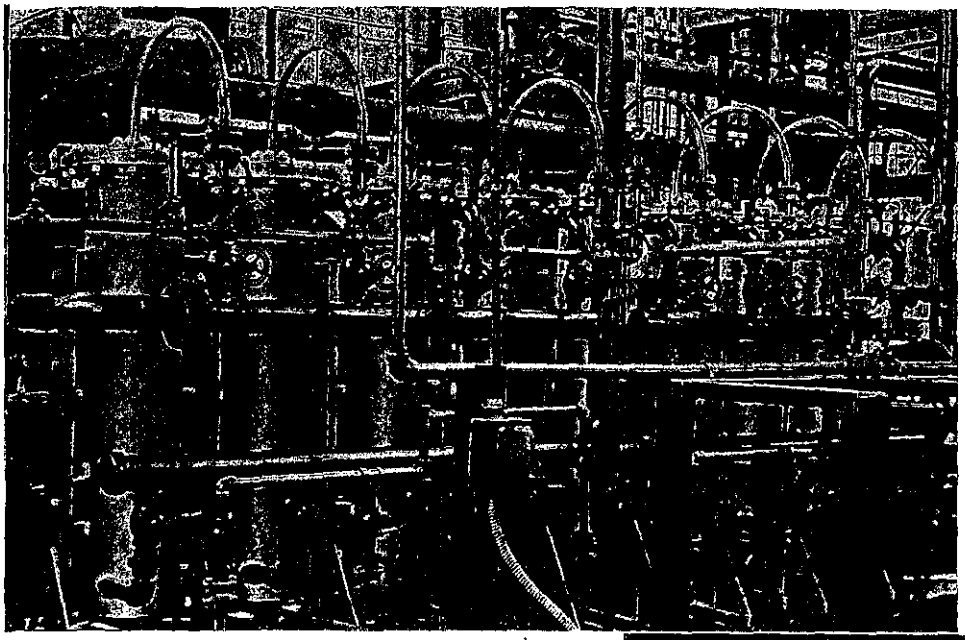




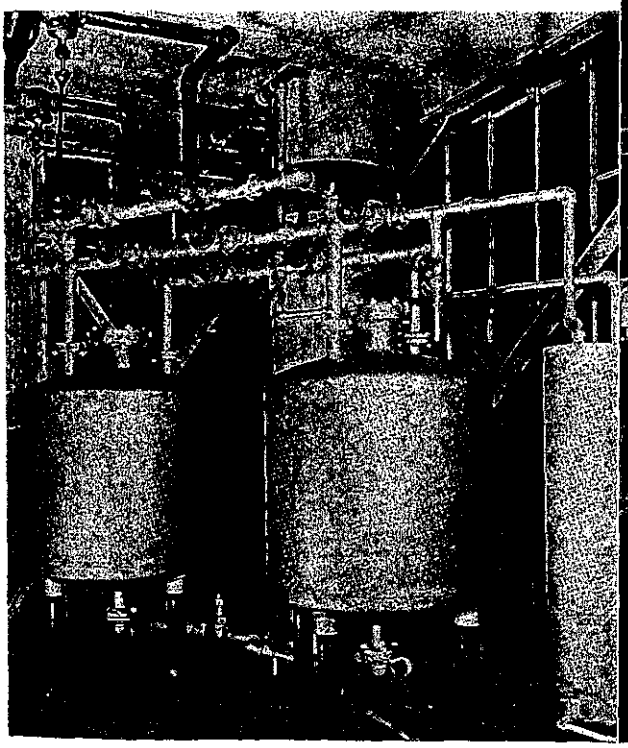
Crane's complex production plant, illustrated on this page, is not merely a development of the war. It was functioning, substantially as shown, long before Pearl Harbor, with the exception that women have only lately been used for machine operation.

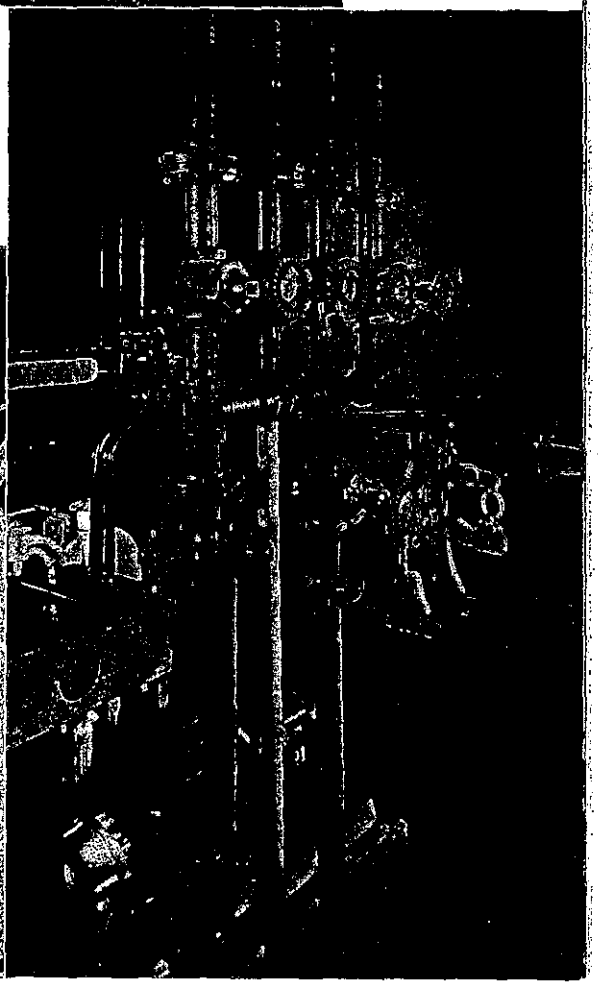
Crane products are in general demand by basic industries. The chemical instal-

OF BASIC INDUSTRIES

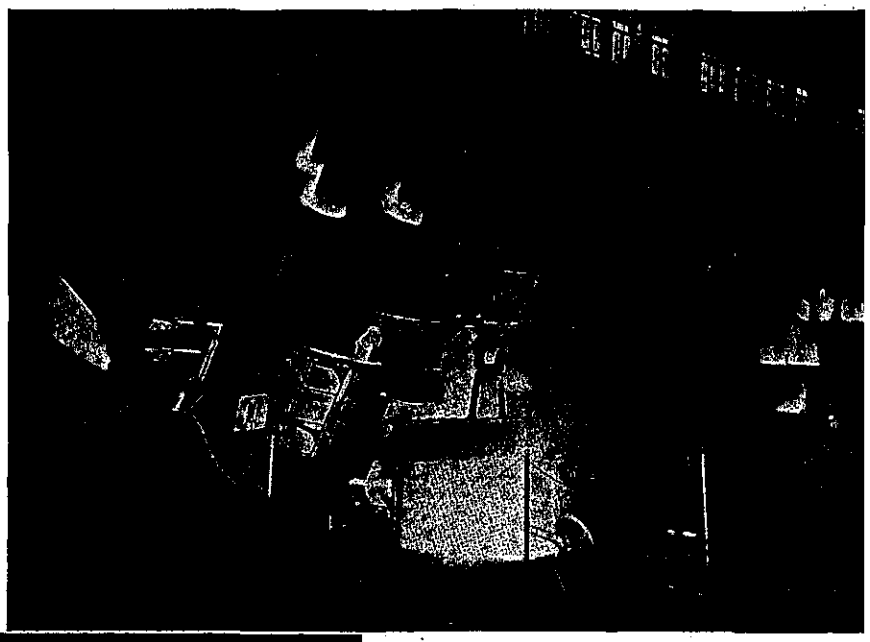


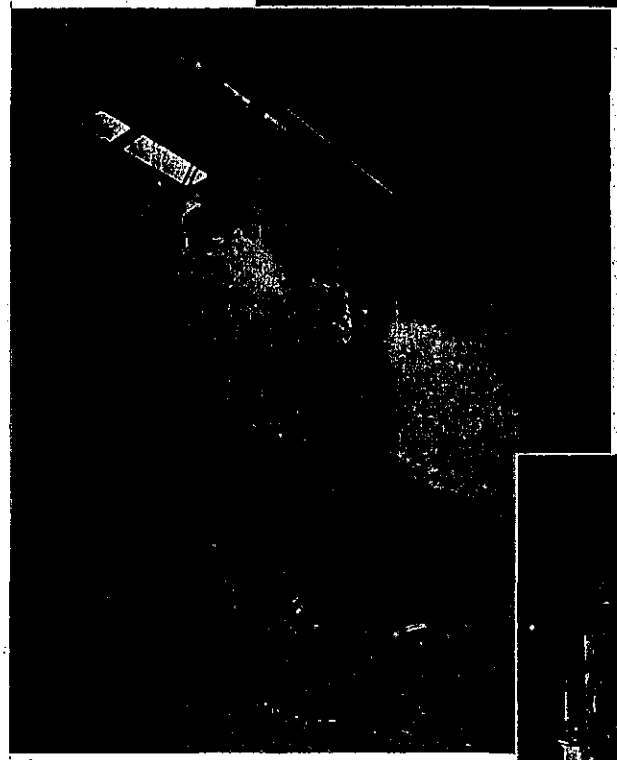
lations pictured here typify users who not only supply war material but who will undoubtedly enter a very active postwar period when the fighting ceases.





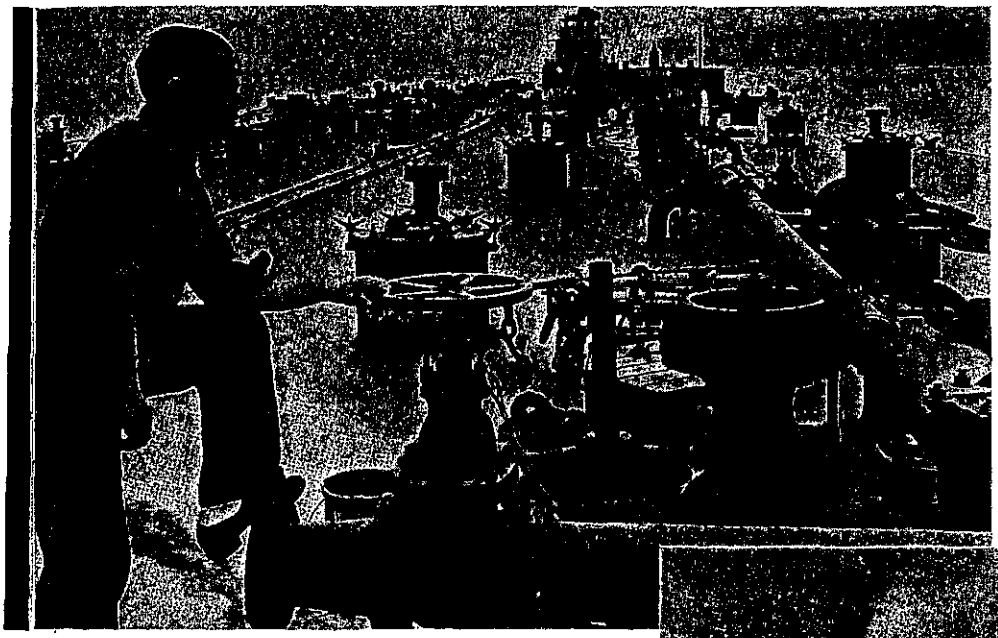
ESSENTIAL PARTS F



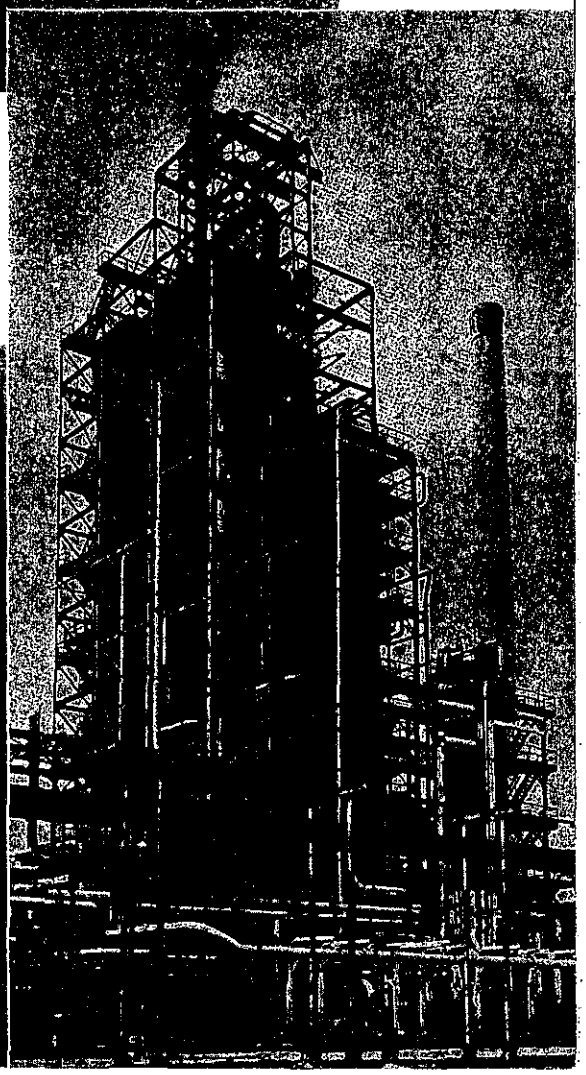


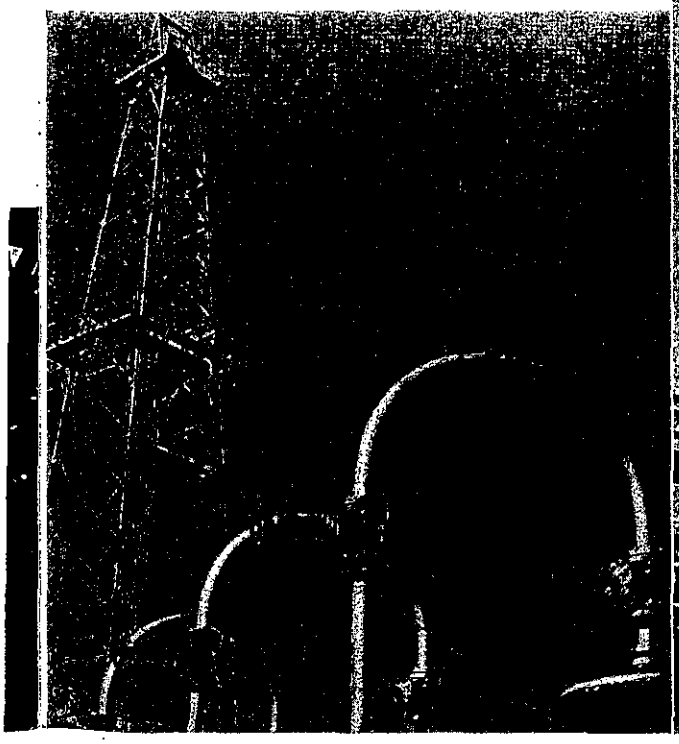
The manufacture of Crane heavy-d
steel valves on today's big producti
basis requires the most modern pl
equipment—from foundry to paint sh
Mechanized war calls for valves and
tings in piping installations for scores
uses—such as handling oil from the fi

MECHANIZED WARFARE

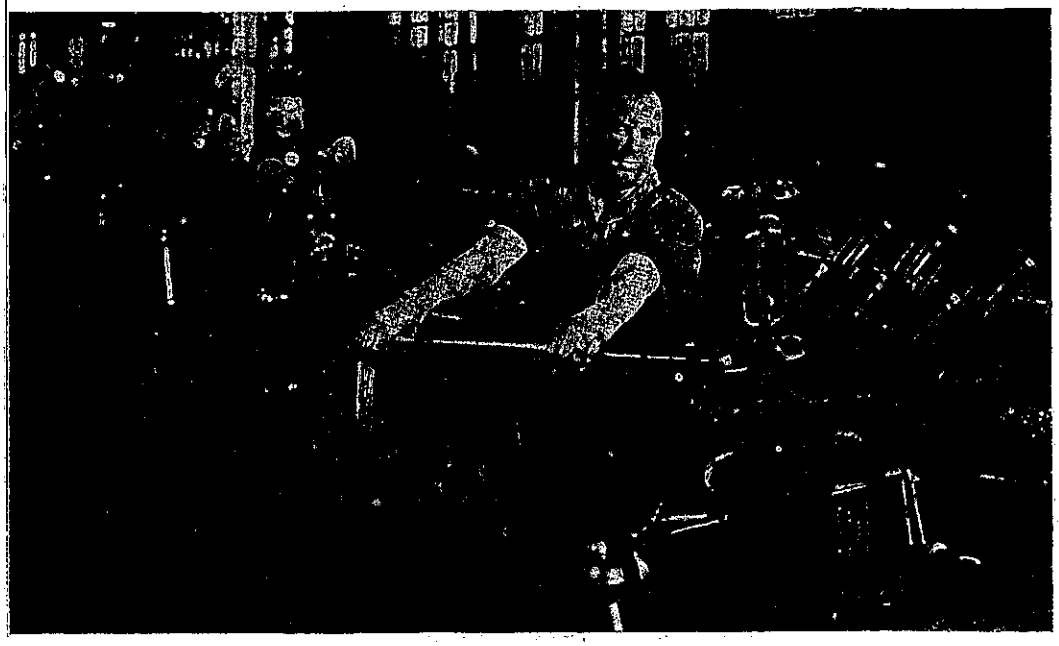


to final processing, and in the many new plants where rubber and other critical materials are now being produced.



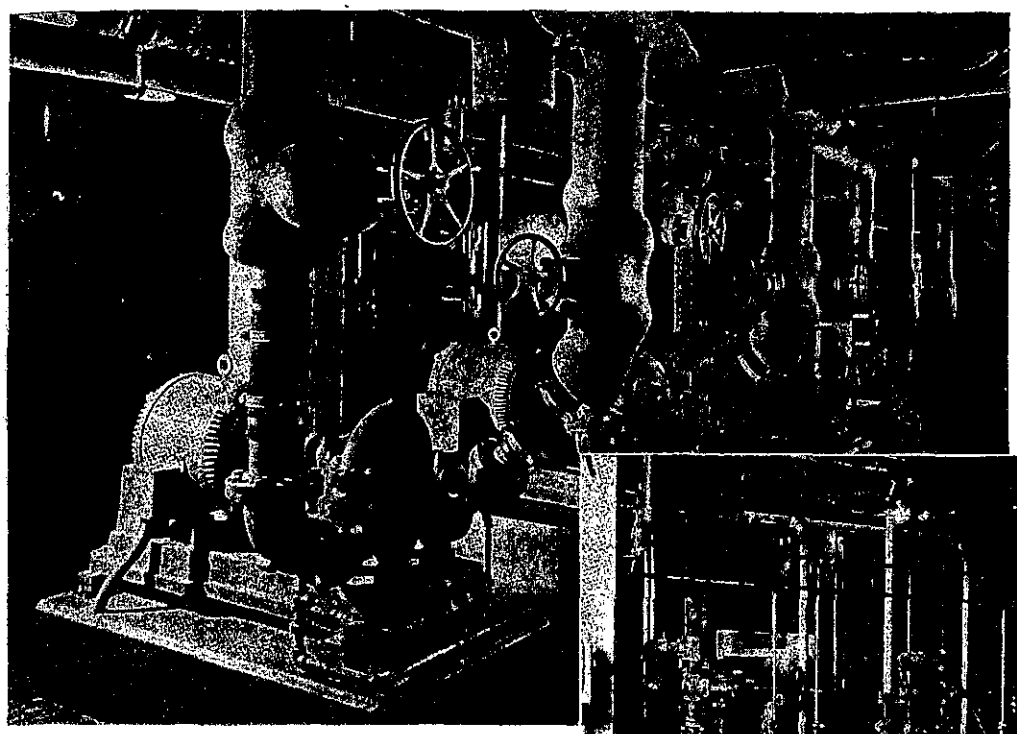


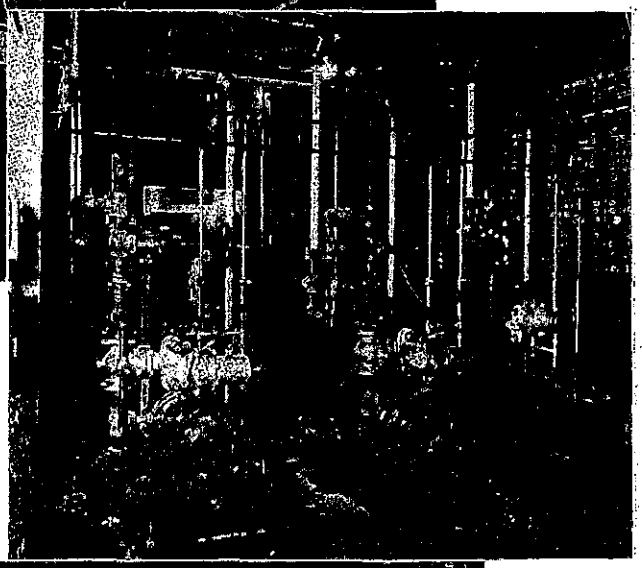
MAKING VALVES T



Valves, fittings, and other piping accessories made by Crane are essential equipment in power plants—in peace or war. An assembly line in the Chicago plant is shown above, a corner of an inspection department below. Three power plant applications are illustrated on the opposite page.

HELP MAKE POWER



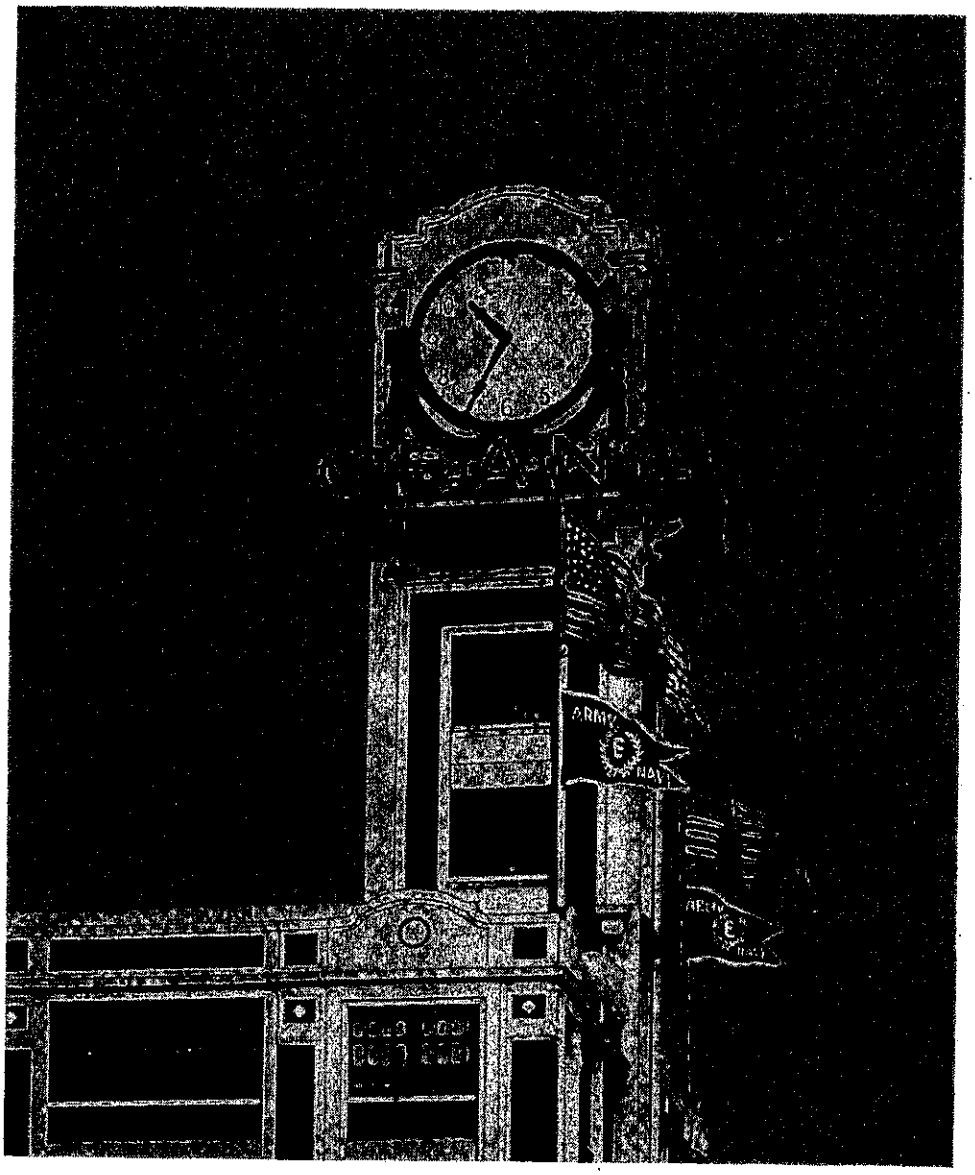


Above: In a new hospital.

Right: In an industrial plant.

Below: In a large power and light plant.

CRANE00228

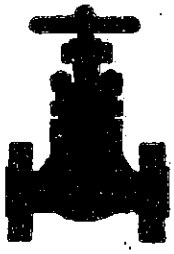


Towering high above the surrounding buildings—symbolic of the quality of Crane products—the clock tower on the Chicago Works is a fitting background for the Stars and Stripes and the accompanying "E" pennant—". . . mark of a 'Victory' industry."

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1943



CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

CRANE00230

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1943

CRANE CO.

836 SOUTH MICHIGAN AVENUE
CHICAGO

FOUNDED 1855 INCORPORATED 1865

CRANE CO.

DIRECTORS

JOHN B. BERRYMAN, *Chairman*

ARTHUR O. CHOATE
J. H. COLLIER
G. A. EASTWOOD
A. F. GARTZ, JR.
F. R. LILLIE
MARK W. LOWELL
SYDNEY G. MCALLISTER
P. R. MORK
WILLIAM R. ODELL
E. A. RUSSELL

OFFICERS

J. H. COLLIER ..... *President*
C. R. CRANE, II ..... *Vice President*
J. L. HOLLOWAY ..... *Vice President*
P. R. MORK ..... *Vice President*
V. P. RUMELY ..... *Vice President*
H. F. POTTER ..... *Secretary*
WALTER EVENSEN ..... *Treasurer*
F. H. KAISER ..... *Comptroller*
E. E. WYATT ..... *Assistant to Comptroller*
I. A. COTHRIN ..... *Assistant Secretary*
J. K. O'NEILL ..... *Assistant Secretary*
L. E. BAKER ..... *Assistant Treasurer*
C. W. DITTMAR ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & CO. *Incorporated*
Wall and Broad Streets
New York City

W. E. PETERSON, *Transfer Clerk*
Crane Co., 836 South Michigan Ave.,
Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK
Pine and Nassau Streets
New York City

CONTINENTAL ILLINOIS NATIONAL BANK
AND TRUST COMPANY OF CHICAGO
231 South La Salle Street
Chicago, Illinois

CRANE00232

ANNUAL REPORT

To the Shareholders
of Crane Co.:

This Annual Report covering the operations of your company for the year 1943 is presented by the management with the approval of the Board of Directors.

FINANCIAL REVIEW

Statements of Profit and Loss and Surplus for the year, and a Balance Sheet as of December 31, 1943, for the company and its United States subsidiaries consolidated, together with statements reflecting the results of operations and the net assets of the subsidiary companies located in foreign countries other than France, and a certificate of Arthur Young & Co., independent public accountants, are shown on pages 9 to 15.

The amounts quoted throughout the narrative of this report are, except where otherwise specified, on a basis of consolidating only the figures of the United States companies.

CONSOLIDATED PROFIT AND LOSS, SURPLUS, AND RESERVE FOR CONTINGENCIES:

The Profit and Loss Statement shows a net profit for the year 1943 of $6,909,381.90 after an appropriation of $4,500,000.00 to Reserve for Contingencies but before provision for any renegotiation refund. This is equal to $2.53 per share on the 2,348,628 shares of Common Stock after allowance for the dividend requirements of the 192,803 shares of 5% Cumulative Convertible Preferred Stock and compares with a net profit stated on the same basis for the year 1942 of $4,824,602.62.

The profits shown for 1942 were subsequently reduced to $3,962,926.95 as a result of renegotiation proceedings in respect of that year and such reduction is shown in the Consolidated Surplus Statement. The reduction was the effect of a gross refund of $4,250,000.00 after adjustment for federal income and excess profits taxes paid thereon. The net amount $861,675.67, consisted of a payment to the Government in the amount of $486,298.52 and a reduction of $375,377.15 in the company's postwar credit on federal taxes.

No provision has been made in the accounts for renegotiation refund in respect of 1943 as due to the widespread nature of the company's business and its presently indefinite status under the changed renegotiation

CRANE00233

regulations it is impossible to state the reduction in profit, if any, that may result from such renegotiation. It is contemplated that if any adjustment results from renegotiation of the operations of 1943 it will be charged to Earned Surplus in the same manner that the adjustment for 1942 has been treated.

The net profit for 1943 has benefited by over $2,000,000.00 through a reduction in the provision for federal income and excess profits taxes resulting from a loss sustained on the liquidation of a wholly-owned subsidiary, the Crane Export Corporation. The loss bringing about the reduced tax provision is not included in the Consolidated Profit and Loss Statement for the year as losses and profits of the subsidiary company had been taken up from year to year in consolidating its results with those of the parent company.

Prior to liquidation the Crane Export Corporation had written off as worthless its investment in Cie. Crane, Paris, and that action resulted in the deduction of $1,210,697.86 shown in the Profit and Loss Statement being the amount at which the investment had previously been carried in the Consolidated Balance Sheet.

The appropriation to Reserve for Contingencies of $4,500,000.00 during 1943, combined with an appropriation of the same amount in 1942 and an appropriation of $4,000,000.00 in 1941, brought the reserve to a total of $13,000,000.00 at December 31, 1943. The Reserve for Contingencies is a provision against losses and costs which may be experienced, directly or indirectly, as a result of the war but which cannot be definitely measured or established at this time, such as losses on inventories and properties, and costs of reconversion, deferred repairs and maintenance, obsolescence and the like.

The Consolidated Surplus of Crane Co. and its United States subsidiaries at December 31, 1943, amounted to $15,387,100.28 of which $1,503,649.11 is allocated as Capital Surplus, leaving $13,883,451.17 as Earned Surplus. Total Surplus and the part thereof which was Earned Surplus were shown as $12,698,998.30 and $11,196,622.22 respectively at December 31, 1942, subject to the refund on renegotiation commented upon in an earlier part of this report and illustrated in the Consolidated Surplus Statement.

Dividends:

A total of $3,312,643.00 was paid in dividends during the year, consisting of the regular quarterly dividends of $1.25 per share on the 5% Cumulative Convertible Preferred Shares amounting to $964,015.00, and a

CRANE00234

dividend of $1.00 per share amounting to $2,348,628.00 paid on the Common Shares on December 18, 1943.

In 1944 the Board of Directors has adopted a policy of regular quarterly dividends on the Common Shares rather than year-end payments as has been the practice for the past several years. The first such dividend was for $ .25 per share payable on March 25, 1944. However the action, of course, cannot be taken as guaranteeing either the frequency or the amount of the payments.

Depreciation:

The amount charged to operations for depreciation and amortization in 1943 was $2,654,026.74 compared with $2,574,867.24 for 1942. The charge-off for depreciation of machinery and equipment is established on a basis of the estimated life of the individual item; the provision for depreciation on buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction and the provision for amortization of war facilities is computed in accordance with the regulations of the Government. This has been the general depreciation policy of your company during recent years.

Taxation:

During the year 1943 the company paid or accrued in combined direct taxes of all kinds in the United States a total of $29,972,314.20 including a postwar refund credit of $1,678,131.99.

CONSOLIDATED BALANCE SHEET:

Financial Condition:

Current assets of Crane Co. and its United States subsidiaries amounted to $71,324,051.20 at December 31, 1943, and current liabilities amounted to $12,550,627.60 reflecting a net working capital of $58,773,423.60 of which $20,540,512.95 was in cash. This net working capital shows an increase of $7,692,826.54 from the comparable position at December 31, 1942.

The current liabilities are stated after deducting United States of America Treasury Tax Notes and accrued interest thereon amounting to $23,819,031.00 from the item of accrued federal income and excess profits taxes. After such deduction the accrued federal taxes amounted to $3,776,459.06 and there was also a liability of $2,054,680.14 for accrued general taxes.

The ratio of current assets to current liabilities was 5.7 to 1 on December 31, 1943.

CRANE00235

Inventories:

The consolidated inventories amounted to $27,164,281.46 at December 31, 1943, showing a reduction of $1,473,776.49 from the position at December 31, 1942. The total reduction resulted from a decrease of $444,605.60 in raw materials and supplies, a decrease of $2,406,536.99 in work in process, and an increase of $1,377,366.10 in finished goods.

Inventories amounting to $18,540,683.29 and representing the major part of the inventory of Crane Co. proper were valued on a basis of the "Last-in, First-out" method; the remainder of the inventories amounting to $8,623,598.17 were valued at cost or market, whichever was lower. This practice was consistent with that followed in valuing the inventories at December 31, 1942.

Open commitments for raw materials made in the course of business amounted to approximately $380,000.00 at the end of the year. Prices thereon were substantially the same as current market quotations.

Long-Term Debt:

During the year 1943 the company retired $2,000,000.00 in principal amount of its Ten-Year 2¼% Sinking Fund Debentures anticipating the $500,000.00 sinking fund requirements of each of the years 1946 to 1949 inclusive, and so reducing the debentures outstanding to the residual balance of $6,000,000.00 which matures in 1950. The action represented a retirement of debt under the terms of the Revenue Act of 1942 whereby excess profits taxes of $800,000.00 payable for 1943 toward a postwar refund credit were abated.

Your company owes no overdue accounts or obligations and has no bank indebtedness.

Investment in Foreign Subsidiaries:

The foreign subsidiaries of the company are all wholly-owned and are located in Canada and England. The company also owned a subsidiary company in France but as previously mentioned in this report, the investment in this subsidiary company carried in the Consolidated Balance Sheet at $1,210,697.86 at December 31, 1942, has been written off as worthless. No current information is available regarding the business and properties of the French company.

The investment in the foreign subsidiary companies in Canada and England is carried in the balance sheet at cost, namely $12,000,000.00, and the parent company's equity in the surplus of the companies which amounted to $3,802,623.70 at December 31, 1943, when computed at official rates of exchange, is not included in the Consolidated Surplus.

CRANE00236

The net assets of the companies in Canada and England at December 31, 1943, and the results of their operations for the year ended that date are given on pages 14 and 15 of this report. The properties of the subsidiary in England have suffered some damage from war activities but none of a nature to seriously affect operations.

LITIGATION:

The company and its manager of plumbing and heating sales, together with many other defendants, are charged in an indictment, returned March 29, 1940, with conspiring in restraint of trade in the sale of plumbing supplies. Based on the opinion that trial of the case would seriously impede the war effort, the trial has been continued until further order of the Court.

OPERATIONS

Sales less returns, allowances and discounts amounted to $166,611,590.40 for 1943 compared with $169,087,448.06 for the previous year. The decline reflects a material reduction in the volume of sales of plumbing and heating materials and jobbed goods offset to a substantial extent by an increase in the volume of valve and fitting sales. Generally speaking, our operations followed the pattern established in 1942 and our paramount purpose was to further the war effort.

The changing military situation during America's second year at war brought changes in the character of the demand for our valve and fitting products. Whereas in 1942 we were called on for large tonnages of comparatively simple types of valves and fittings that lend themselves more readily to mass production methods, the demand in 1943 was more selective, technical and exacting, involving a much greater volume of the more complicated types of the company's products.

Changes in the urgency of requirement for projects using our products necessitated frequent changes in our production schedules and, with the mass of accompanying paper work, placed a heavy additional strain on our organization, but the organization clearly proved its character and determination by increasing our manufactured output despite such conditions. This performance was recognized by responsible authorities and among other citations two stars were added to our Army-Navy "E" Pennant for continued excellence.

While operating with a single objective—to speed victory—we cannot ignore the problems which the future holds. We are experiencing cutbacks and cancellations on certain items but for the time being are also experiencing increased demands for other items. We must be prepared

CRANE00237

to face the problems of wholesale termination of contracts and changes in the character of demand for our products as well as the problems of the postwar period, but we believe the postwar era holds some bright prospects as well as depressing ones and that your company is in a sound position not only to withstand the shocks but also to take advantage of the opportunities for peacetime demands.

The company's physical plant is modern and well-equipped; its personnel is highly qualified, youthful and determined; its products are most essential in maintaining American living standards and industrial operation, and its reputation for quality and fair dealing is widely recognized. In view of these and other factors, your management believes that, given free competitive conditions, your company can face the future with confidence.

We have made and are continuing to make plans for postwar product and production facilities. The great majority of these must await a termination of the war, but with successes for our forces on the war fronts it is possible that we will be able to proceed to some degree and so be in a position to produce to these plans when materials and manpower are available. In the meantime it appears that the present great demand for products of the company will continue for at least some months to come.

The management wishes to express its appreciation to the company's customers for their recognition of its problems created by priority and scheduling procedures imposed by government agencies in the interest of the war effort.

J. H. COLLIER,
President.

JOHN B. BERRYMAN,
Chairman.

March 27, 1944.

CRANE00238

ARTHUR YOUNG & COMPANY
ACCOUNTANTS AND AUDITORS
1 NORTH LA SALLE STREET
CHICAGO 2

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiaries in the United States at December 31, 1943, and the consolidated profit and loss and surplus statements for the year then ended, have reviewed the system of internal control and the accounting procedures of the Companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the Companies and other supporting evidence, by methods and to the extent we deemed appropriate. It was not practicable to confirm receivables from the United States Government, as to the substantial accuracy of which we satisfied ourselves by other means. Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and included all procedures which we considered necessary.

In our opinion, subject to any adjustment arising from renegotiation referred to in Note 1 to the financial statements, the accompanying consolidated balance sheet and consolidated profit and loss and surplus statements present fairly the position of Crane Co. and its subsidiaries in the United States at December 31, 1943, and the results of their operations for the year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY.

Chicago, Illinois,
March 14, 1944.

CRANE00239

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

For the Year Ended December 31, 1943

Gross sales, less discounts, returns and allowances:		
Sales to customers		$165,377,545.38
Sales to foreign subsidiaries		1,234,045.02
Total		$166,611,590.40
Cost of sales, including selling, administrative and general expenses but before provision for depreciation and amortization		126,507,835.08
		$ 40,103,755.32
Provision for depreciation and amortization		2,654,026.74
Net operating profit		$ 37,449,728.58
Other income:		
Interest received	$ 203,046.84	
Miscellaneous other income	388,624.08	
		591,670.92
		$ 38,041,399.50
Deductions:		
Write-off of investment in French subsidiary	$ 1,210,697.86	
Interest paid	173,137.33	
Amortization of debt expense	14,666.09	
Loss on disposal of fixed assets	566,807.25	
Miscellaneous deductions	5,794.53	
Minority stockholders' interest in net income of subsidiaries	71,815.48	
		2,042,918.54
Net profit (exclusive of dividend received from foreign subsidiary) before federal income and excess profits taxes		$ 35,998,480.96
Dividend received from Canadian subsidiary		540,540.54
		$ 36,539,021.50
Provision for federal income and excess profits taxes (Note 4):		
Income and declared value excess profits taxes	$ 3,222,216.40	
Excess profits taxes, after deduction of credits for debt retirement ($800,000) and post-war refund ($1,678,131.99)	21,907,423.20	
		25,129,639.60
		$ 11,409,381.90
Appropriation to Reserve for Contingencies		4,500,000.00
Amount of profit transferred to earned surplus (Note 1)		$ 6,909,381.90

The notes to financial statements are an integral part of this statement.

CRANE00240

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED SURPLUS STATEMENT

For the Year Ended December 31, 1943

	Earned Surplus	Capital Surplus	Total
Surplus, December 31, 1942	$11,196,622.22	$1,502,376.08	$12,698,998.30
Deduct:			
Reduction in surplus resulting from renegotiation of war contracts—year 1942 (Note 1)—			
Gross renegotiation settlement	$ 4,250,000.00		$ 4,250,000.00
Less:			
Federal income tax	$ 9,929.96		$ 9,929.96
Federal excess profits tax	3,753,771.52		3,753,771.52
	$ 3,763,701.48		$ 3,763,701.48
Net renegotiation payment	$ 486,298.52		$ 486,298.52
Add:			
Reduction in 10% post-war credit due to reduction of federal excess profits tax	375,377.15		375,377.15
Total reduction in surplus resulting from renegotiation	$ 861,675.67		$ 861,675.67
Surplus, December 31, 1942, as adjusted	$10,334,946.55	$1,502,376.08	$11,837,322.63
Add:			
Amount of profit for the year ended December 31, 1943 transferred to earned surplus (Note 1)	6,909,381.90		6,909,381.90
	$17,244,328.45	$1,502,376.08	$18,746,704.53
Deduct:			
Premium on Ten-year 2¼% Sinking Fund Debentures purchased and retired	$ 46,961.25		$ 46,961.25
Sundry adjustments	1,273.03	($ 1,273.03)	
Cash dividends paid—			
On 5% cumulative preferred shares, $5 per share	964,015.00		964,015.00
On common shares, $1 per share	2,348,628.00		2,348,628.00
	$ 3,360,877.28	($ 1,273.03)	$ 3,359,604.25
Surplus, December 31, 1943 (Note 1)	$13,883,451.17	$1,503,649.11	$15,387,100.28

The notes to financial statements are an integral part of this statement.

CRANE00241

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1943

ASSETS

CURRENT ASSETS:		
Cash		$ 20,540,512.95
U. S. Government securities, at cost plus increase in redemption value (market value, $1,828,795.91)		1,828,680.50
Accounts receivable—		
Trade	$22,221,392.49	
Sundry	769,994.19	
	$22,991,386.68	
Less: Reserve for doubtful accounts	1,341,663.55	21,649,723.13
Inventories (Note 3)—		
Raw material and supplies	$ 6,387,404.72	
Work in process	10,534,381.34	
Finished goods	10,242,495.40	27,164,281.46
Due from foreign subsidiaries not consolidated		140,853.16
Total current assets		$ 71,324,051.20
INVESTMENTS AND OTHER ASSETS:		
Investment in foreign subsidiary not consolidated—		
Canadian subsidiary (parent company of Canadian subsidiaries and English subsidiary) at cost (Note 5)	$12,000,000.00	
Other investments, at cost or nominal value (less reserve, $133,167.76)	323,596.45	
Post-war refund of excess profits taxes	2,995,049.15	15,318,645.60
FIXED ASSETS:		
Land and land improvements	$ 6,515,572.73	
Buildings $30,823,360.20		
Less: Reserve for depreciation 12,601,462.56	18,221,897.64	
Machinery and equipment $33,709,182.04		
Less: Reserve for depreciation 19,685,182.74	14,023,999.30	
Unfinished construction	89,169.28	38,850,638.95
DEFERRED CHARGES:		
Unamortized expense on ten-year debentures	$ 27,626.81	
Miscellaneous prepaid expenses and other deferred charges	285,387.13	313,013.94
		$125,806,349.69

CRANE00242

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1943

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls		$ 6,685,738.40
Accrued federal income and excess profits taxes	$27,595,490.06	
Less: U. S. Treasury tax notes, at cost plus accrued interest	23,819,031.00	3,776,459.06
Accrued general taxes		2,054,680.14
Accrued interest on long-term debt		33,750.00
Total current liabilities		$ 12,550,627.60
LONG-TERM DEBT:		
Ten-year 2¼% Sinking Fund Debentures, due October 1, 1950—		
Authorized and originally issued	$10,500,000.00	
Less: Retired through sinking fund (including all sinking fund installments to maturity)	4,500,000.00	6,000,000.00
RESERVES AND DEFERRED CREDITS:		
Reserve for contingencies (Note 2)	$13,000,000.00	
Miscellaneous reserves and deferred credits	111,620.23	13,111,620.23
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Common stockholders (par value, $668,700, plus equity in surplus, $92,301.58)		761,001.58
CAPITAL STOCK:		
Cumulative convertible preferred shares, par value $100, callable at $105—		
Authorized—200,000 shares		
Issued—192,803 shares designated as 5% cumulative convertible preferred shares	$19,280,300.00	
Common shares, par value $25—		
Authorized—3,000,000 shares (337,405¼ shares are reserved for conversion of cumulative convertible preferred shares)		
Issued—2,348,628 shares	58,715,700.00	77,996,000.00
SURPLUS:		
Capital	$ 1,503,649.11	
Earned (Note 1)	13,883,451.17	15,387,100.28
		$125,806,349.69

The notes to financial statements are an integral part of this balance sheet.

CRANE00243

NOTES TO FINANCIAL STATEMENTS

NOTE 1—RENEGOTIATION OF CONTRACTS WITH THE UNITED STATES GOVERNMENT:

Pursuant to the laws relating to the renegotiation of war contracts, the Company has refunded to the Government the sum of $4,250,000, less the applicable federal income and excess profits taxes, (a net payment of $486,298.52), on the portion of the 1942 business determined by the Government to be subject to renegotiation. This payment, together with the reduction of $375,377.15 in post-war credit due to reduction of federal excess profits taxes for 1942, has been charged to earned surplus, which has the effect of reducing the amount of 1942 profit transferred to earned surplus from $4,824,602.62 to $3,962,926.95.

Renegotiation proceedings have not as yet been instituted for the year 1943. Due to the widespread nature of the Company's business, sufficient data is not yet available on which to base an estimate of the refund, if any, which may be required for the year 1943, and no provision has been made in respect thereof. The 1943 refund, if any, will be charged to earned surplus.

NOTE 2—RESERVE FOR CONTINGENCIES:

The Company has a reserve for contingencies of $13,000,000, as a provision against losses which may be experienced as a result of the war.

NOTE 3—INVENTORIES:

Inventories of certain finished goods, work in process, and raw materials of the parent Corporation, aggregating $18,540,683.29 at December 31, 1943, are priced at cost on a "last-in, first-out" basis, which was first applied effective January 1, 1941. The remainder of the inventories at December 31, 1943, aggregating $8,623,598.17, have been priced at the lower of cost or market on a "first-in, first-out" basis.

NOTE 4—FEDERAL INCOME AND EXCESS PROFITS TAXES:

Crane Export Corporation (a subsidiary of Crane Co.) was liquidated on December 31, 1943 and its assets and business were transferred to the parent Company. The losses and profits as a subsidiary, since date of acquisition by Crane Co., were taken up each year in the consolidated profit and loss statement; therefore, no loss on liquidation is reflected in the consolidated statement for the current year. For tax purposes, however, the net loss is deductible by Crane Co. in 1943 and has resulted in a reduction of approximately $2,000,000 in its tax liability for this year.

NOTE 5—INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND:

The investment in the Canadian subsidiary, Crane, Limited (Canada), is carried in the balance sheet at U. S. dollar cost, $12,000,000. The net assets of this Company and its subsidiaries, segregated as between Canada and England, are summarized below:

	Canada	England	Total
Fixed assets, at U. S. dollar cost at date of acquisition, less accrued depreciation	$ 5,005,967.10	$1,830,899.96	$ 6,836,867.06
Net current assets at official rates of exchange	5,559,569.87	3,065,912.14	8,625,482.01
Other assets at official rates of exchange	323,145.03	17,129.60	340,274.63
	$10,888,682.00	$4,913,941.70	$15,802,623.70

CRANE00244

The results of operations of the subsidiaries operating in Canada and England for the year ended December 31, 1943 (converted at official rates of exchange, except that the provision for depreciation on fixed assets has been computed on U. S. dollar cost) are shown below:

	Canada	England
Gross sales, less discounts, returns and allowances	$16,908,608.25	$5,608,764.32
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	14,846,774.84	4,078,521.40
	$ 2,061,833.41	$1,530,242.92
Provision for depreciation	435,745.08	155,548.12
Net operating profit	$ 1,626,088.33	$1,374,694.80
Other deductions, less other income	(5,064.67)	10,807.00
Net profit before income and excess profits taxes	$ 1,631,153.00	$1,363,887.80
Provision for income taxes	$ 337,837.50	$ 436,772.48
Provision for excess profits taxes	833,332.50	585,800.00
Less: Post-war refund under Excess Profits Tax Act	(157,657.50)	
	$ 1,013,512.50	$1,022,572.48
Net profit	$ 617,640.50	$ 341,315.32

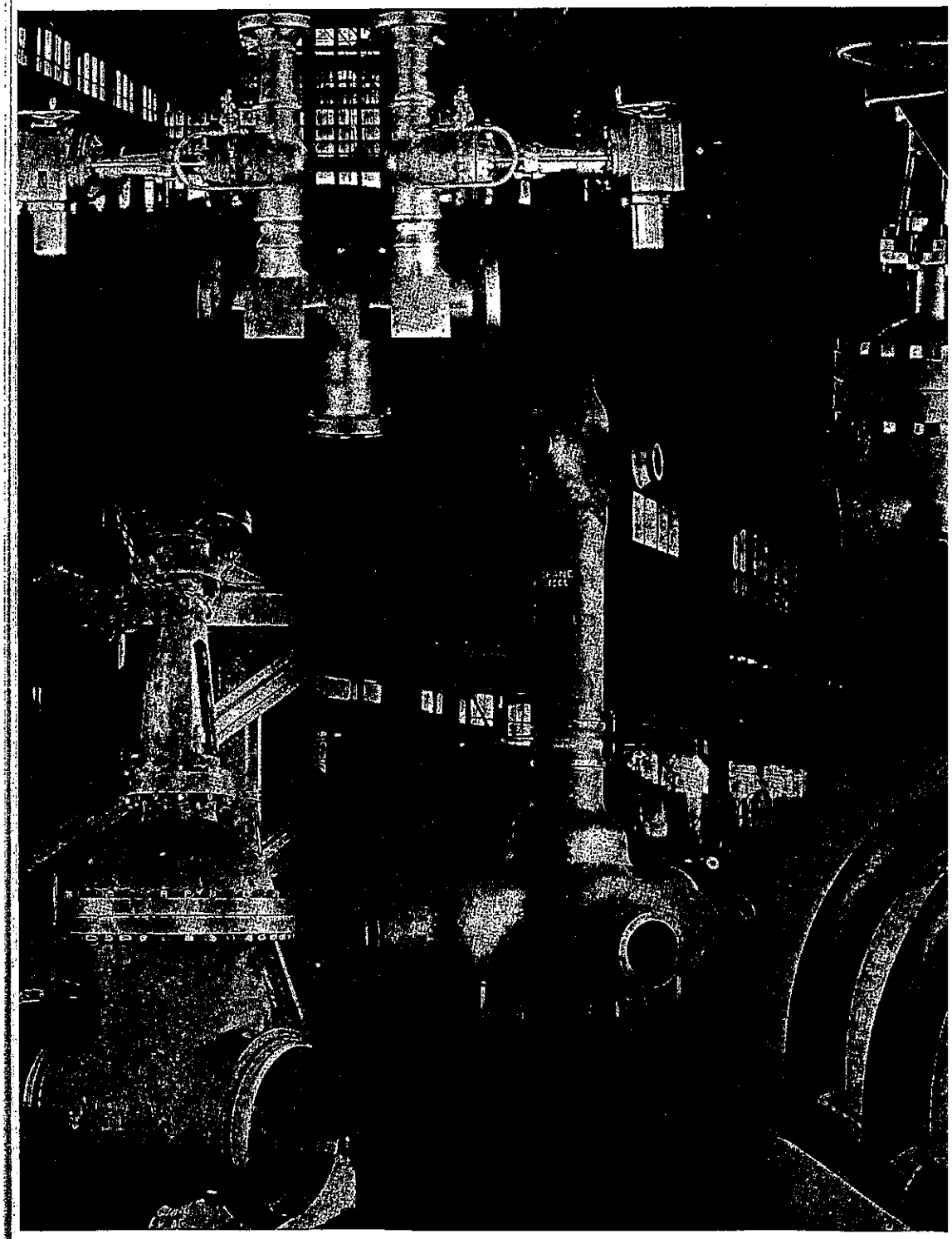
Canada and England have enacted certain exchange regulations restricting the withdrawal of funds, etc., and the investments in and the profits of the Companies located therein are subject to such restrictions, as well as to such income and excess profits taxes as may be payable on the transfer of profits between England, Canada and the United States.

NOTE 6—LITIGATION:

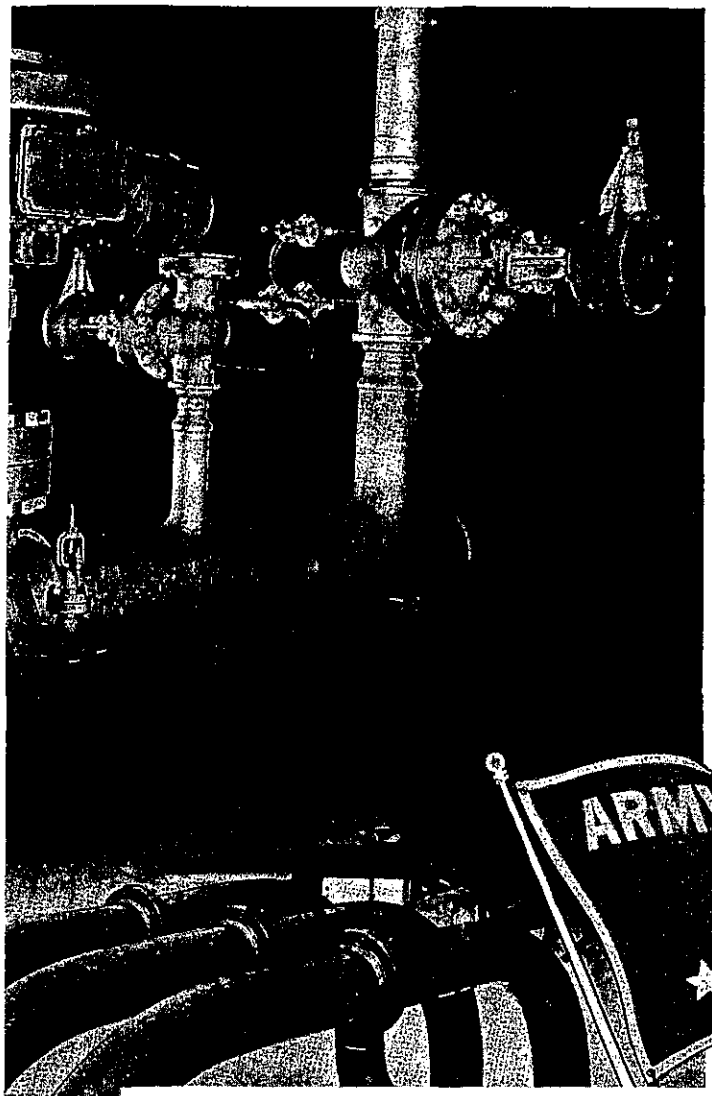
Reference is made to the report of the President for a statement regarding the indictment against the Company for alleged violation of the Sherman Act.

CRANE00245

Crane Products in War . . .



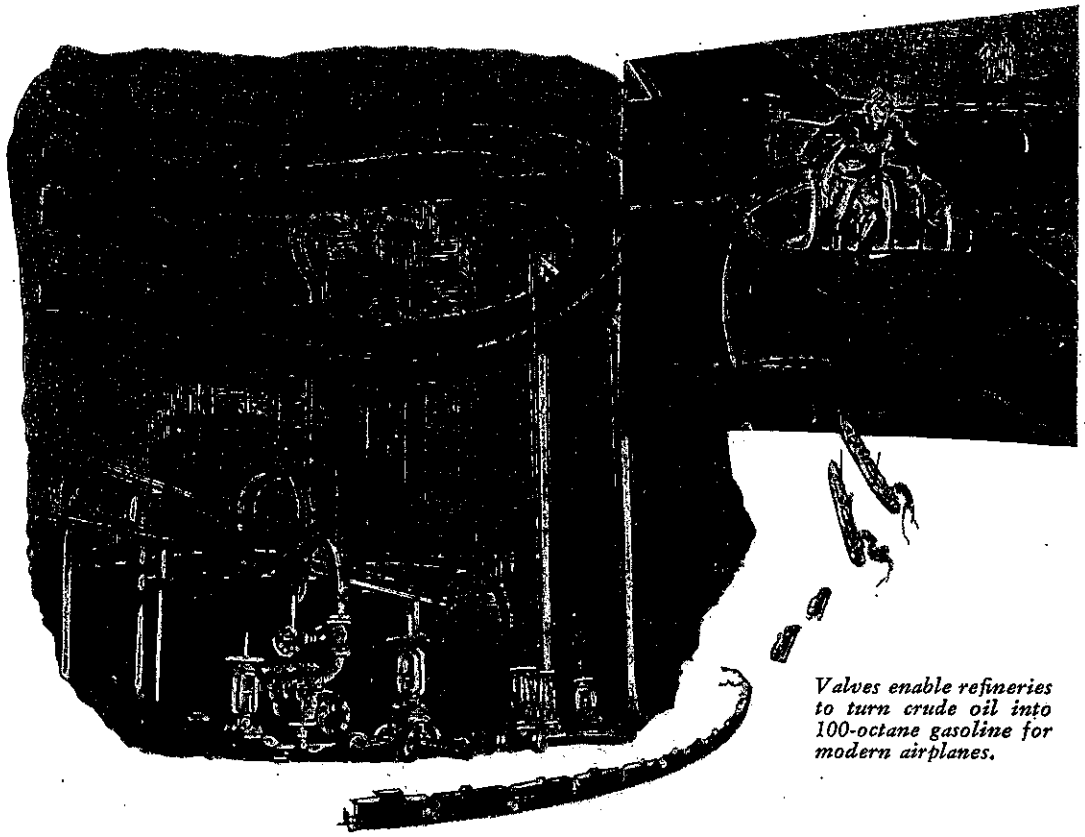
. and in the Peace to come



Illustrated are just a few of the many heavy-duty Crane products for which the peace-time demand has been greatly increased by war.

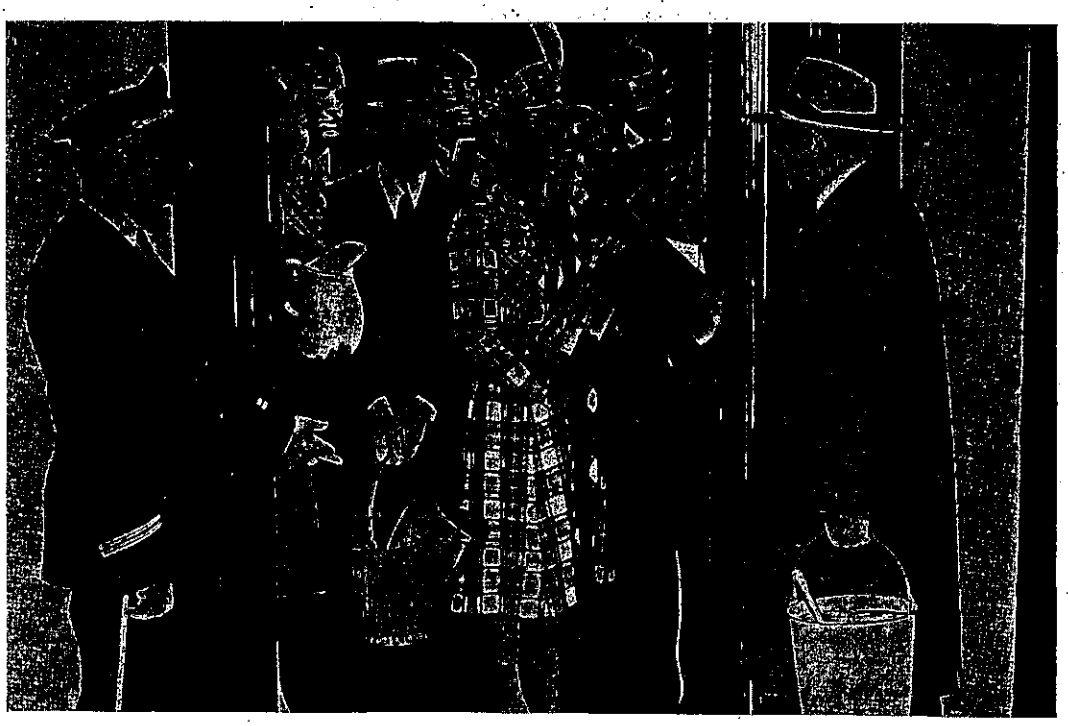
Your company is still making valves, fittings and fabricated piping in large volume for the armed services and essential war industries. Yet in facing this duty, we are not unmindful of the problems and opportunities that will arise as peace returns to the world.

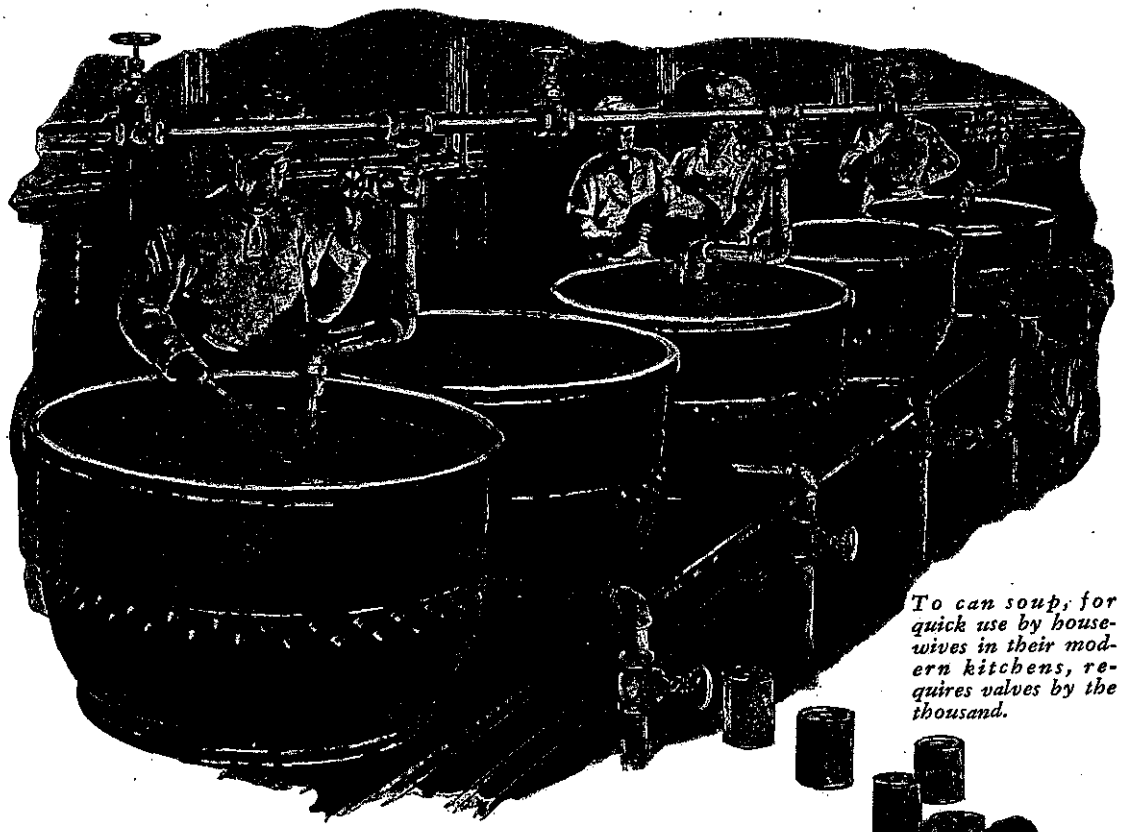
CRANE00247



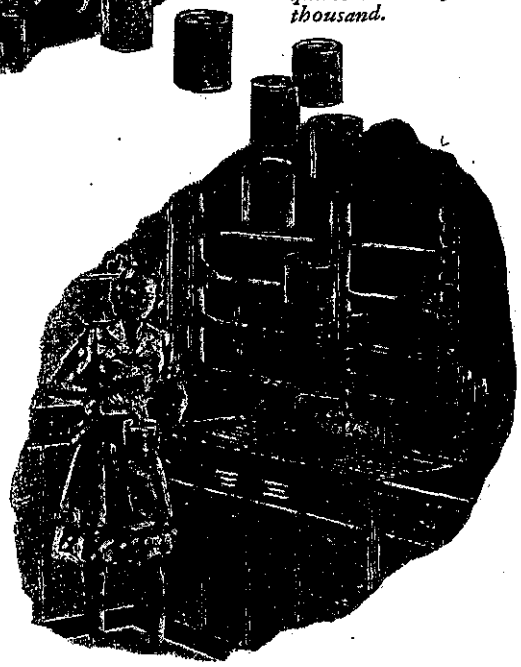
Valves enable refineries to turn crude oil into 100-octane gasoline for modern airplanes.

If valves, fittings, pipe, plumbing and heating materials were eliminated from a modern skyscraper, this situation might arise.





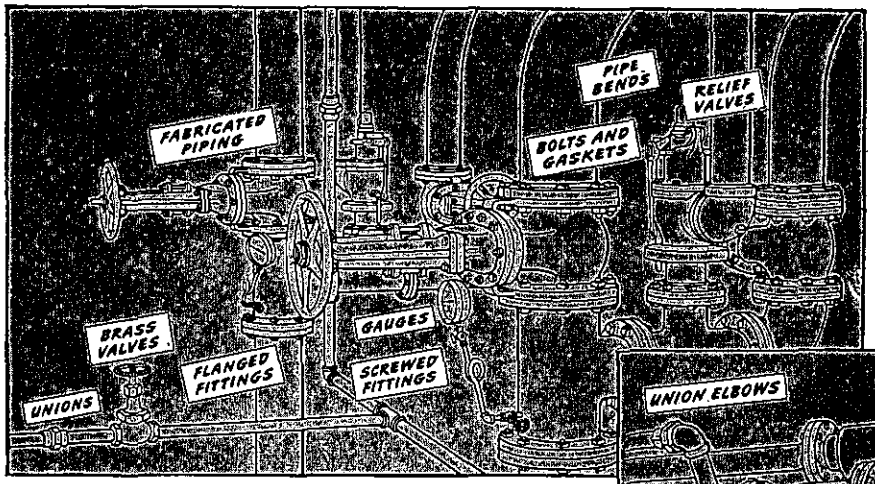
To can soup, for quick use by housewives in their modern kitchens, requires valves by the thousand.



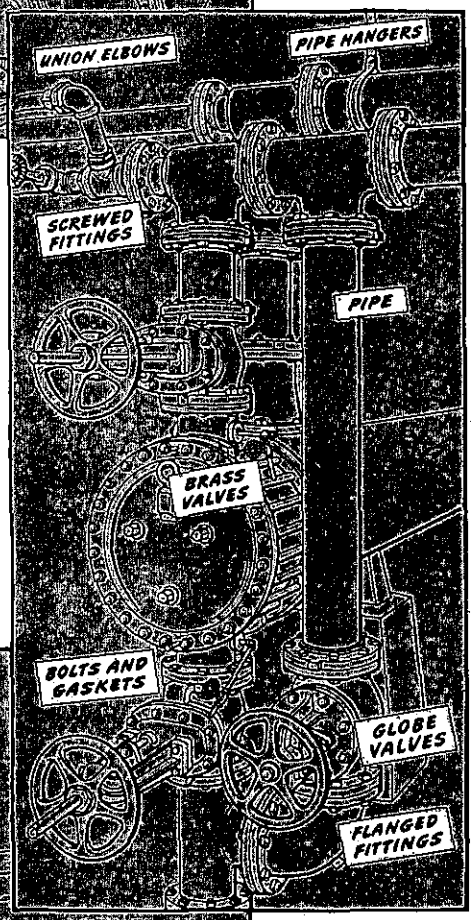
ESSENTIAL TO THE AMERICAN STANDARD OF LIFE

Crane valve and fitting products are important to every American—not only in war production and in the operation of essential industry but equally in the commonplace things of daily life—the water we drink, the gasoline in our car, the soup in our kitchen.

Crane plumbing and heating products are important in maintaining sanitation and comfort in our homes, offices and factories.

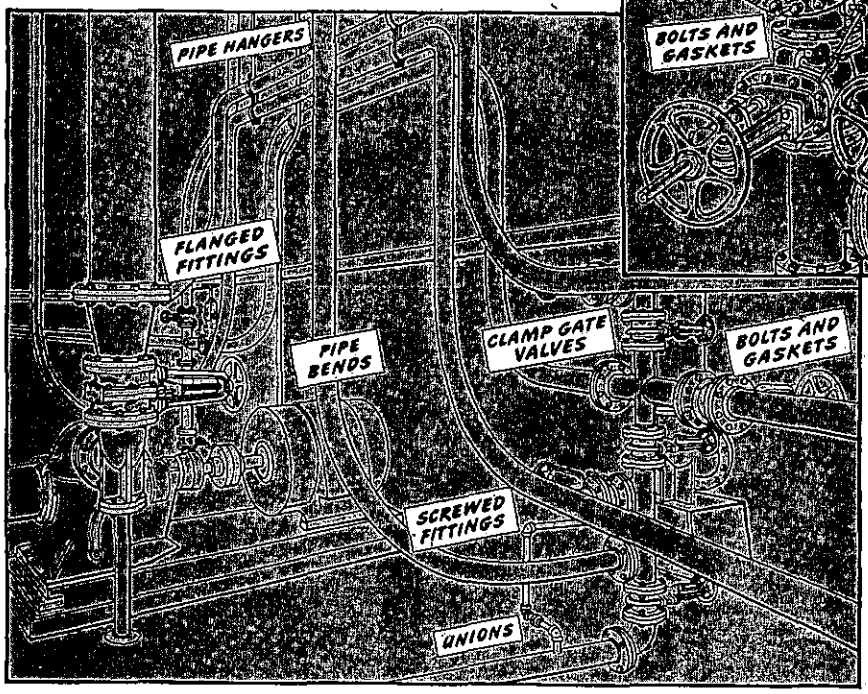


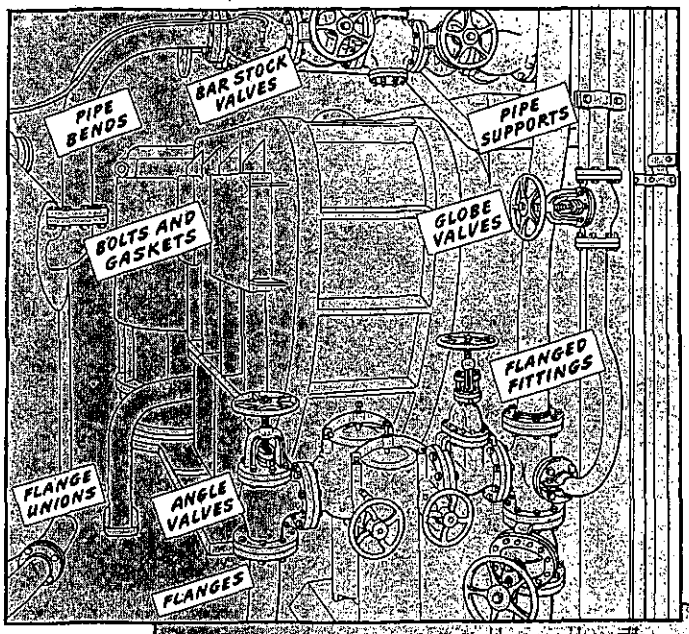
... on Food Processing lines



... on Heat Exchanger lines

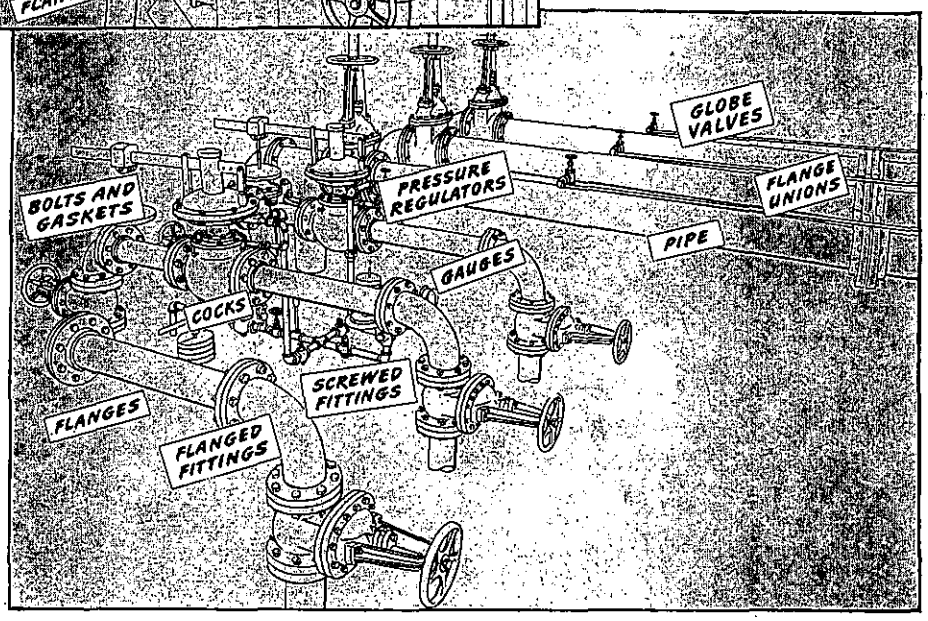
... on Pulp and Paper Processing lines





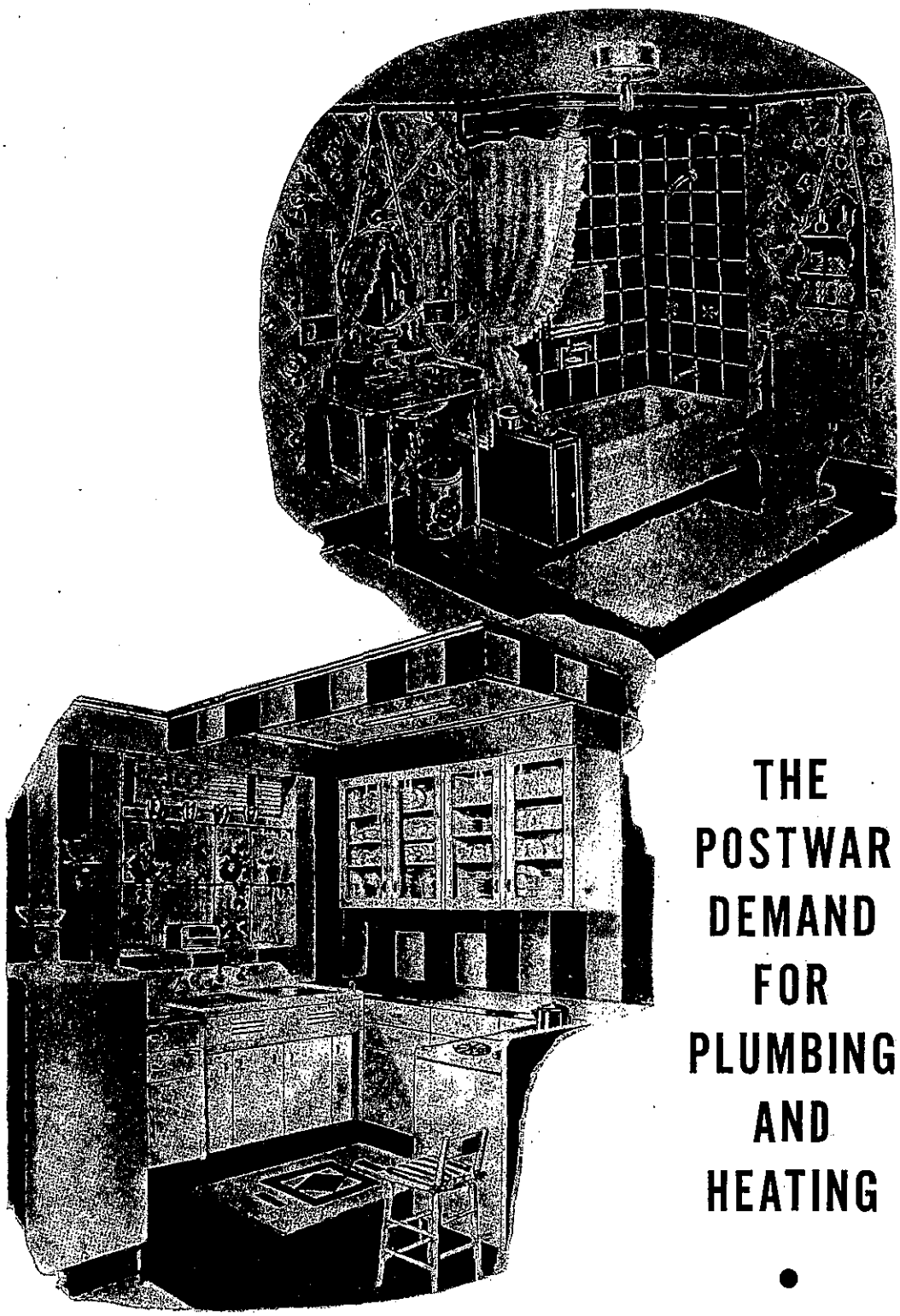
... on Ship Condenser lines

... on Gas Metering lines



ESSENTIAL FOR AMERICAN INDUSTRY

Even engineers and industrial executives may realize only partially the significance of Crane products in piping systems of all kinds. From the simplest to the most complex installation, Crane supplies everything needed in piping. The Company's nationwide distributing system makes all this equipment readily available to industry—not only the direct products of Crane plants but also the auxiliary items purchased from other sources.



THE POSTWAR DEMAND FOR PLUMBING AND HEATING

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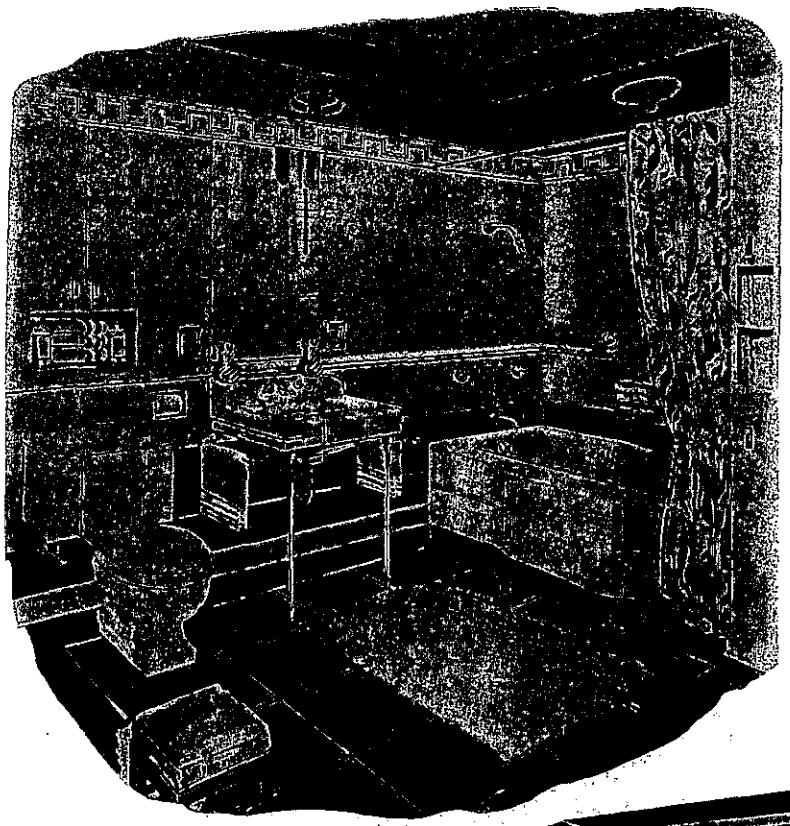
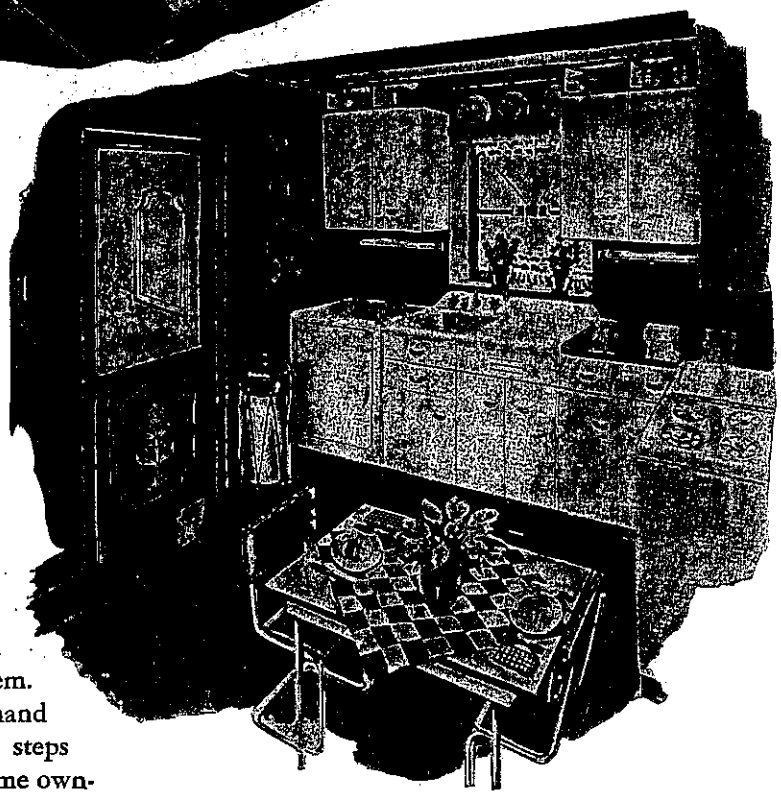
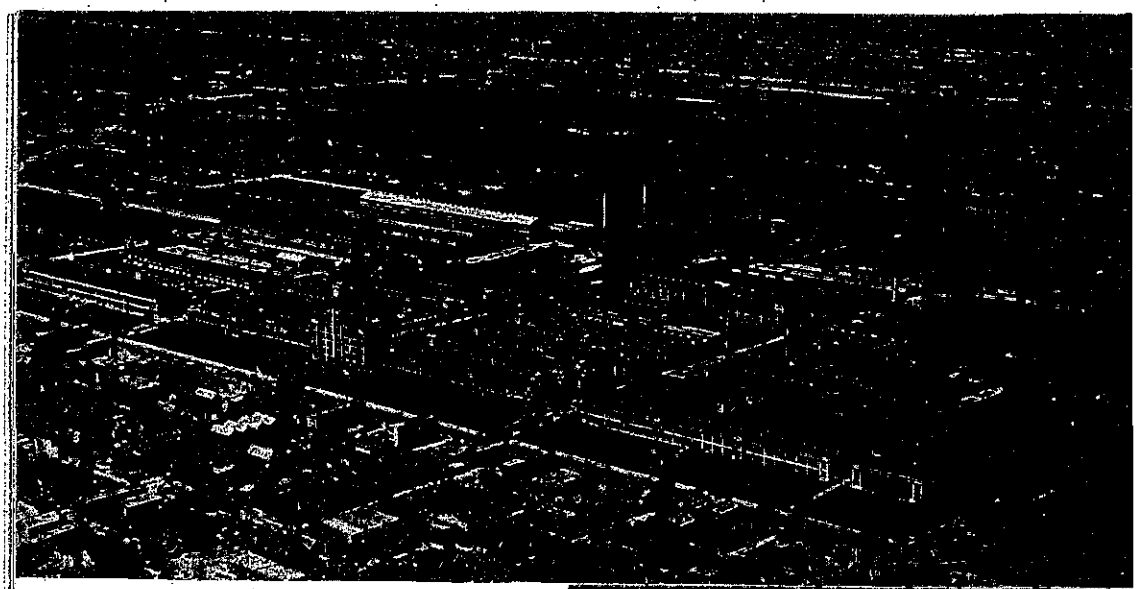
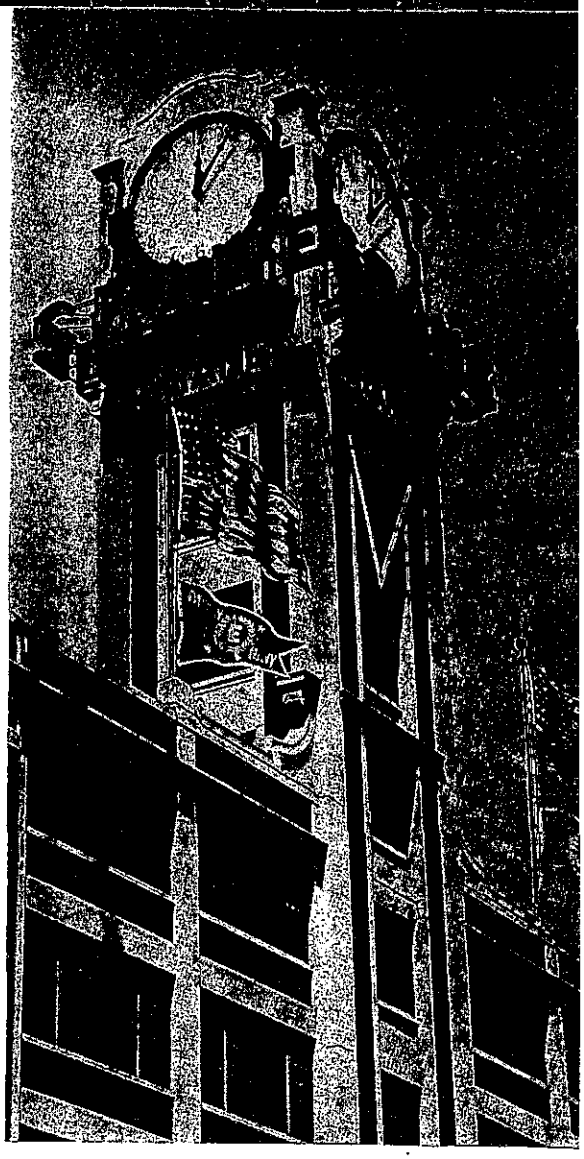




During the war the sale of residential plumbing and heating equipment has been restricted to war housing and essential repairs. As soon as the progress of the war permits material to be allotted to their manufacture, Crane will again offer such products to the public. These products will continue to serve their same vital functions in the home, and new styling and other improvements will keep Crane designs in the vanguard of public esteem. The potential postwar demand is already in evidence and steps are being taken to assist home owners to plan their future installations.



Above: Crane Chicago Works
Right: The Clock Tower



CRANE valves, fittings and piping products provide control of power and process lines in industry, on ships, in hospitals, in buildings of all types. Its plumbing and heating products provide comfort and sanitation in homes, factories, military camps, ships, hospitals, and in all types of buildings. Thus, your Company's products are basically essential to life in war or in peace.

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1944

CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

CRANE00255

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ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1944

CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

FOUNDED 1855 INCORPORATED 1865

fair degree of accuracy the amount of the renegotiable volume and the profit on that volume as distinct from the overall profit of the company. This procedure is a lengthy one and cannot be completed for some time in the case of your company as its sales flow through tens of thousands of customers and involve over a million and one-half separate transactions within a year. It is contemplated that if any adjustment results from renegotiation of the operations of 1944 it will be charged to Earned Surplus in the same manner as the adjustment for 1943.

No appropriation to Reserve for Contingencies was made during 1944 as it appeared that the Reserve of $13,000,000.00 established through appropriations from the results of operations of the years 1941, 1942 and 1943 was adequate. The Reserve for Contingencies is a provision against losses and costs which may be experienced, directly or indirectly, as a result of the war but which cannot be definitely measured or established at this time, such as losses on inventories and properties, and costs of reconversion, deferred repairs and maintenance, obsolescence and the like. With the continuation of the war the loss hazard of some of these items has, if anything, decreased rather than increased.

The Consolidated Surplus of Crane Co. and its United States subsidiaries at December 31, 1944, amounted to $15,675,784.22 of which $1,503,649.11 is allocated as Capital Surplus, leaving $14,172,135.11 as Earned Surplus. Total Surplus and the part thereof which was Earned Surplus were shown as $15,387,100.28 and $13,883,451.17 respectively at December 31, 1943, subject to the refund on renegotiation commented upon in an earlier part of this report and illustrated in the Consolidated Surplus Statement.

Dividends:

A total of $4,486,957.00 was paid in dividends during the year, consisting of the regular quarterly dividends of $1.25 per share on the 5% Cumulative Convertible Preferred Shares amounting to $964,015.00, together with regular quarterly dividends of $.25 per share, and a special dividend of $.50 per share paid on the Common Shares in December, 1944, totaling $1.50 per share or $3,522,942.00.

Depreciation:

The amount charged to operations for depreciation and amortization in 1944 was $2,514,984.75 compared with $2,654,026.74 for 1943. The charge-off for depreciation of machinery and equipment is established on a basis of the estimated remaining life of the individual item; the pro-

vision for depreciation on buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction and the provision for amortization of war facilities is computed in accordance with the regulations of the Government. This has been the general depreciation policy of your company during recent years.

Taxation:

During the year 1944 the company paid or accrued in combined direct taxes of all kinds in the United States a total of $21,839,757.43 including a postwar refund credit of $177,312.12.

CONSOLIDATED BALANCE SHEET:

Financial Condition:

Current assets of Crane Co. and its United States subsidiaries amounted to $66,892,086.59 at December 31, 1944, and current liabilities amounted to $9,243,082.77 reflecting a net working capital of $57,649,003.82 of which $26,948,331.85 was in cash and marketable securities. This net working capital shows a decrease of $1,124,419.78 from the comparable position at December 31, 1943.

The current liabilities are stated after deducting United States of America Treasury Tax Notes and accrued interest thereon amounting to $21,684,475.79 from the item of accrued federal income and excess profits taxes. After such deduction the accrued federal taxes amounted to $62,981.80 and there was also a liability of $2,023,440.61 for accrued general taxes.

The ratio of current assets to current liabilities was 7.24 to 1 on December 31, 1944.

Inventories:

The consolidated inventories amounted to $25,573,678.08 at December 31, 1944, showing a reduction of $1,590,603.38 from the position at December 31, 1943. The total reduction resulted from a decrease of $1,739,817.56 in raw materials and supplies, a decrease of $1,231,865.43 in work in process, and an increase of $1,381,079.61 in finished goods.

Inventories amounting to $15,905,614.56 and representing the major part of the inventory of Crane Co. proper were valued on a basis of the "Last-in, First-out" method; the remainder of the inventories amounting

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and I cannot pay too great a tribute to them for the long hours and hard work they have put in and for their loyalty and patriotism.

J. H. COLLIER,
President.

JOHN B. BERRYMAN,
Chairman.

March 26, 1945.

It is with deep regret we record the deaths during the year of Directors A. F. Gartz, Jr. and E. A. Russell.

Mr. A. F. Gartz, Jr., who died on April 16, 1944, had been a Director of the company since March, 1921, and served the company in a number of other positions from 1915 to 1935.

Mr. E. A. Russell, who died on October 25, 1944, had been a Director of the company since January, 1932. He was an employee of the company for some years until its elevator business was sold to the Otis Elevator Company, at which time he transferred his services to them.

CRANE00260

ARTHUR YOUNG & COMPANY
ACCOUNTANTS AND AUDITORS
1 NORTH LA SALLE STREET
CHICAGO 2

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiaries in the United States at December 31, 1944, and the consolidated profit and loss and surplus statements for the year then ended, have reviewed the system of internal control and the accounting procedures of the Companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the Companies and other supporting evidence, by methods and to the extent we deemed appropriate. It was not practicable to confirm receivables from the United States Government, as to the substantial accuracy of which we satisfied ourselves by other means. Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and included all procedures which we considered necessary.

In our opinion, subject to any adjustment arising from renegotiation referred to in Note 1 to the financial statements, the accompanying consolidated balance sheet and consolidated profit and loss and surplus statements present fairly the position of Crane Co. and its subsidiaries in the United States at December 31, 1944, and the results of their operations for the year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY.

Chicago, Illinois,
March 14, 1945.

CRANE00261

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

For the Year Ended December 31, 1944

Gross sales, less discounts, returns and allowances:		
Sales to customers		$151,934,067.18
Sales to foreign subsidiaries		544,984.97
Total		$152,479,052.15
Cost of sales, including selling, administrative and general expenses but before provision for depreciation and amortization		124,121,869.95
		$ 28,357,182.20
Provision for depreciation and amortization		2,514,984.75
Net operating profit		$ 25,842,197.45
Other income:		
Interest received	$ 301,469.88	
Miscellaneous other income	339,901.92	
		641,371.80
		$ 26,483,569.25
Deductions:		
Interest paid	$ 136,438.50	
Amortization of debt expense	19,782.16	
Premium on Ten-Year 2¼% Sinking Fund Debentures purchased and retired	80,000.00	
Loss on disposal of fixed assets	741,999.81	
Miscellaneous deductions	6,846.44	
Minority stockholders' interest in net income of subsidiaries	58,547.70	
		1,043,614.61
Net profit before federal income and excess profits taxes		$ 25,439,954.64
Provision for federal income and excess profits taxes:		
Income and declared value excess profits taxes	$ 2,628,943.31	
Excess profits taxes, after deduction of credits for debt retirement ($1,600,000) and post-war refund ($177,312.12)	16,002,742.08	
		18,631,685.39
Net profit for the year before provision for renegotiation (Note 1)		$ 6,808,269.25

See accompanying notes.

CRANE00262

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED EARNED SURPLUS STATEMENT

For the Year Ended December 31, 1944

Balance, December 31, 1943		$13,883,451.17
Deduct:		
Reduction in surplus resulting from renegotiation of war contracts—year 1943 (Note 1)—		
Gross renegotiation settlement	$9,906,400.00	
Less:		
Federal income tax	$ 16,835.07	
Federal excess profits tax	8,731,800.14	
	$8,748,635.21	
Net renegotiation payment	$1,157,764.79	
Add:		
Reduction in post-war credit due to reduction in federal excess profits tax	874,863.52	
		2,032,628.31
Balance, December 31, 1943, as adjusted		$11,850,822.86
Add:		
Net profit for the year before provision for renegotiation		6,808,269.25
		$18,659,092.11
Cash dividends paid—		
On 5% cumulative preferred shares, $5 per share	$ 964,015.00	
On common shares, $1.50 per share	3,522,942.00	
		4,486,957.00
Balance, December 31, 1944		$14,172,135.11

See accompanying notes.

CRANE00263

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1944

ASSETS

CURRENT ASSETS:		
Cash		$ 14,974,832.47
U. S. Government securities at cost, which approximates market value		11,973,499.38
Accounts receivable—		
Trade	$15,305,116.03	
Sundry	342,394.23	
	$15,647,510.26	
Less: Reserve for doubtful accounts	1,399,326.39	14,248,183.87
Inventories (Note 3)—		
Raw material and supplies	$ 4,647,587.16	
Work in process	9,302,515.91	
Finished goods	11,623,575.01	25,573,678.08
Due from foreign subsidiaries not consolidated		121,892.79
Total current assets		$ 66,892,086.59
INVESTMENTS AND OTHER ASSETS:		
Investment in foreign subsidiary not consolidated, at cost (Note 4)	$12,000,000.00	
Other investments, at cost or nominal value (less reserve, $130,167.76)	365,296.99	
Post-war refund of excess profits taxes	2,282,183.22	14,647,480.21
FIXED ASSETS:		
Land and land improvements	$ 6,268,596.73	
Buildings $29,990,556.65		
Less: Reserve for depreciation 12,882,266.20		17,108,290.45
Machinery and equipment $33,454,847.79		
Less: Reserve for depreciation 20,928,084.35		12,526,763.44
Unfinished construction	1,046,872.68	36,950,523.30
DEFERRED CHARGES:		
Unamortized expense on ten-year debentures	$ 7,844.65	
Prepaid insurance, etc.	305,117.18	312,961.83
		$118,803,051.93

CRANE00264

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1944

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls		$ 7,145,410.36
Accrued federal income and excess profits taxes	$21,747,457.59	
Less: U. S. Treasury tax notes, at cost plus accrued interest	21,684,475.79	62,981.80
Accrued general taxes		2,023,440.61
Accrued interest on long-term debt		11,250.00
Total current liabilities		$ 9,243,082.77
LONG-TERM DEBT:		
Ten-Year 2¼% Sinking Fund Debentures, due October 1, 1950—		
Authorized and originally issued	$10,500,000.00	
Less: Retired (including all sinking fund installments to maturity)	8,500,000.00	2,000,000.00
RESERVES AND DEFERRED CREDITS:		
Reserve for contingencies (Note 2)	$13,000,000.00	
Miscellaneous reserves and deferred credits	108,631.66	13,108,631.66
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Common stockholders (par value $668,700, plus equity in surplus, $110,853.28)		779,553.28
CAPITAL STOCK:		
Cumulative convertible preferred shares, par value $100, callable at $105—		
Authorized—200,000 shares		
Issued—192,803 shares designated as 5% cumulative convertible preferred shares	$19,280,300.00	
Common shares, par value $25—		
Authorized—3,000,000 shares (337,405¼ shares are reserved for conversion of cumulative convertible preferred shares)		
Issued—2,348,628 shares	58,715,700.00	77,996,000.00
SURPLUS:		
Capital surplus (unchanged during year)	$ 1,503,649.11	
Earned surplus, per accompanying statement (Note 1)	14,172,135.11	15,675,784.22
		$118,803,051.93

See accompanying notes.

CRANE00265

NOTES TO FINANCIAL STATEMENTS

1. Renegotiation of Contracts with the United States Government:

Pursuant to the laws relating to the renegotiation of war contracts, the Company has refunded to the Government the sum of $9,906,400, less the applicable federal income and excess profits taxes (a net payment of $1,157,764.79), on the portion of the 1943 business determined by the Government to be subject to renegotiation. This payment, together with the reduction of $874,863.52 in post-war credit due to reduction of federal excess profits taxes for 1943, has been charged to earned surplus, which has the effect of reducing the amount of 1943 profit transferred to earned surplus from $6,909,381.90 to $4,876,753.59.

No provision has been made in the accounts in respect of renegotiation of war contracts for the year 1944. Due to the widespread nature of the Company's business, the investigation and analysis of its sales transactions for the purpose of determining what part of the sales volume is renegotiable and the amount of profit derived therefrom as distinct from the overall profit will require several months. Pending the completion of such investigation and analysis it is impossible to apply a previous basis of settlement for the purpose of estimating the reduction, if any, in profit that may result from renegotiation for the year 1944. The 1944 refund, if any, will be charged to Earned Surplus.

2. Reserve for Contingencies:

The Company has a reserve for contingencies of $13,000,000 provided out of earnings in prior years. This reserve is a provision against losses and costs which may be experienced, directly or indirectly, as a result of the war, such as losses on inventories and properties, costs of reconversion, deferred maintenance and repairs, obsolescence, etc.

3. Inventories:

Inventories of certain finished goods, work in process, and raw materials of the parent Corporation, aggregating $15,905,614.56 at December 31, 1944, are priced at cost on a "last-in, first-out" basis, which was first applied effective January 1, 1941. The remainder of the inventories at December 31, 1944, aggregating $9,668,-063.52, have been priced at the lower of cost or market on a "first-in, first-out" basis.

4. Investments and Operations in Canada and England:

The investment in the Canadian subsidiary, Crane, Limited (Canada), is carried in the balance sheet at U. S. dollar cost, $12,000,000. The net assets of this Company and its subsidiaries, segregated as between Canada and England, are summarized below:

	Canada	England	Total
Fixed assets, at U. S. dollar cost at date of acquisition, less accrued depreciation	$ 4,818,601.19	$1,728,569.17	$ 6,547,170.36
Net current assets at official rates of exchange	6,241,336.61	3,531,000.88	9,772,337.49
Other assets at official rates of exchange	314,655.61	14,236.96	328,892.57
	$11,374,593.41	$5,273,807.01	$16,648,400.42

CRANE00266

The results of operations of the subsidiaries operating in Canada and England for the year ended December 31, 1944 (converted at official rates of exchange, except that the provision for depreciation on fixed assets has been computed on U. S. dollar cost) are shown below:

	Canada	England
Gross sales, less discounts, returns and allowances	$14,259,335.35	$4,763,588.24
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	12,717,779.05	3,585,354.56
	$ 1,541,556.30	$1,178,233.68
Provision for depreciation	431,303.08	136,175.11
Net operating profit	$ 1,110,253.22	$1,042,058.57
Other income, less other deductions	57,722.97	5,340.88
Net profit before income and excess profits taxes	$ 1,167,976.19	$1,047,399.45
Provision for income taxes	$ 234,234.00	$ 414,528.24
Provision for excess profits taxes	396,396.00	272,700.00
Less: Post-war refund under Excess Profits Tax Act	(45,045.00)	
	$ 585,585.00	$ 687,228.24
Net profit	$ 582,391.19	$ 360,171.21

Canada and England have enacted certain exchange regulations restricting the withdrawal of funds, etc., and the investments in and the profits of the Companies located therein are subject to such restrictions, as well as to such income and excess profits taxes as may be payable on the transfer of profits between England, Canada and the United States.

CRANE00267

TO KNOW CRANE CO. . . . . .

It has been the practice in recent years to devote this section of the report principally to the products of the Company and the industries and activities the Company serves. This year, the Company's ninetieth anniversary, it is being devoted to its physical properties and the organization that operates those properties.

The Company's policy and practices in the matter of employee relations and benefits are naturally a part of such a view and the following statement in such respect is accordingly presented in the interest of the shareholders.

Crane Co. has been a pioneer in the matter of good employee relations and employee benefits.

The Company has been paying hourly workers time and one-half for overtime and double time for work on Sundays and holidays for 40 years, except that during the War it has been compelled under Government regulation to restrict pay for work on holidays to time and one-half.

The Company has for over 40 years paid a premium of 12½% for work on both the second and third shifts which are customarily referred to as night shifts.

Over 26 years ago the Company started giving vacations with pay to hourly workers. The practice was stopped temporarily due to unfortunate circumstances but was resumed some years ago and hourly workers with from one to five years of service receive one week's vacation with pay and those having over five years of service receive two weeks' vacation with pay.

The right to "fire" has been vested only in the Vice Presidents in charge of the various divisions of the Company for 31 years. Supervisors may suggest and recommend discharge but the final action must have Vice Presidential approval.

The Company has maintained a complete and formal Medical Department for 45 years and for 30 years has had a Sanitarium for the rehabilitation of employees recovering from serious illness.

The Company has maintained an Employee Pension Plan solely at its expense for 35 years.

An Employee Sick Benefit Plan has been financed entirely by the Company for 35 years.

The Trustees of a Fund set up for the benefit of needy widows and children of employees and others are officers and Directors of the Company.

The Directors of the Company direct the administration of a Trust Fund set up for the benefit of disabled or otherwise retired employees who apart from other benefits are in need.

The Company has had a contributory Employee Group Life Insurance Plan for the past 27 years and during 1944 put into effect a Hospital Insurance Plan financed solely by it.

The Company has an "Advisor to Employee" Service in its Employee Relations Department to assist employees in personal matters.

Payments in accordance with the Accident Compensation and Industrial Disease Acts are, of course, made to employees. This is obligatory and the only reason for mentioning it is that the Company has an outstanding record for complying with the spirit as well as the letter of the law in the settlement of all cases that come under these Acts.

The Company contributes the payroll deductions required by the State and Federal Social Security Acts. This is also obligatory and the only reason for mentioning it is that many people feel that old age benefits and unemployment benefits are gifts of the Govern-

CRANE00268

ment, whereas the employees and, to a greater extent the Company, bear the costs.

Since the days of the founding of the Company a family relationship among employees has been encouraged in that in hiring new help, all other things being equal, preference is given to relatives of employees, and following that to friends recommended by employees. This has been a good thing for the Company and a good thing for the employees, as they know that when their sons and daughters get to be of work age, if it is at all possible they are assured of a job at Crane's. Another result has been that the spirit of the Company and the spirit of the employees over the years has been wholesome.

The Company has been a pioneer in "safety first" and sanitation. Last year its lost time due to accidents was an all time low. The accident frequency rate (man days lost per 1,000,000 man hours) was 6.85. This is believed to be considerably less than half of what it is for the Company's type of industry in the country as a whole.

During this war period, when absenteeism has been such a serious thing, the employees of the Company have established a remarkable record. Absenteeism from preventable causes has been 1½% against an average for the country as a whole of over 5%. This speaks well for the working conditions in the Company's shops as absenteeism is largely affected by whether a shop is "a good place to work."

The Company has always recognized seniority in all its dealings with employees.

The foregoing voluntary practices of the Company reflect its long record of forward-looking and generous employee relations policies. That these have reacted to the mutual benefit of the employees and the Company has been proven over the years and the record assures employees that the Company is in sympathy with and will adopt in the future such further practices as are developed for improving the status of the workmen.

Job security is very much in the minds of everyone at present. The Company is in sympathy with and has been studying this complicated matter for some time toward finding a means by which employment can be stabilized.

Job security is not of great concern in times of prosperity but it is extremely important to employees in times of depression. It is tragic but true that when it is most needed it is most difficult to apply. At the same time, a well conceived plan that enhances the security of employees and is within the ability of a company to maintain would undoubtedly result in greater employee co-operation, loyalty and efficiency, all of which affect the ability to market products at prices that promote sales and, in turn, provide employment.

To market its product in sufficient volume to provide steady employment, the Company must offer for sale a product at least equal in design, workmanship and quality to that of its competitors at a price no higher than theirs. To do this and remain in business it must produce at a cost that will yield a reasonable profit. These fundamentals, plus general business conditions and seasonal and cylical demand, are the factors that affect job security.

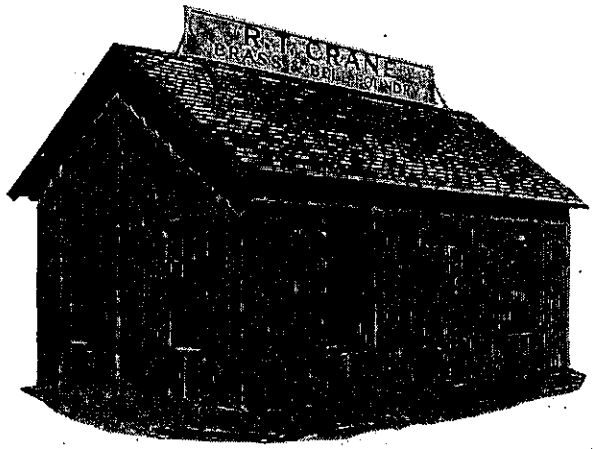
In spite of the difficulties involved, the importance of job security is such that the Company believes it will be able to establish a plan which will assure its employees a reasonable minimum amount of work per week.

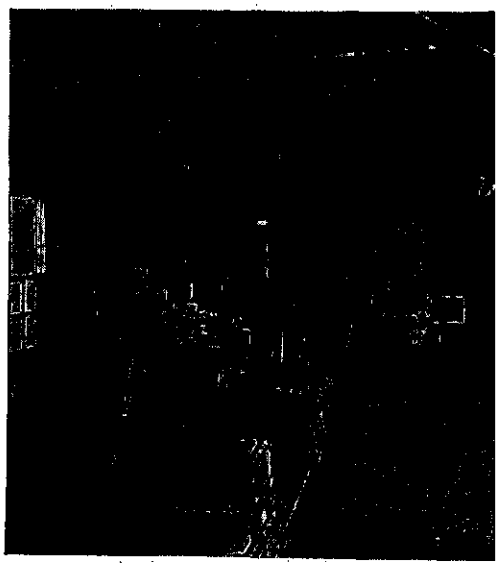
CRANE00269

TO KNOW CRANE CO. . . . .

Look at its History and . . .

This replica of the original Crane foundry clearly shows the humble beginning of the present business.





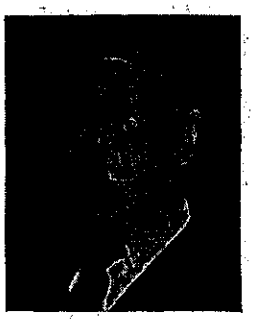
RICHARD T. CRANE
Founder and President until 1911

CHARLES R. CRANE
President, 1912-1914

On July 4, 1855, the Crane business w founded in a very small shop in Chicag

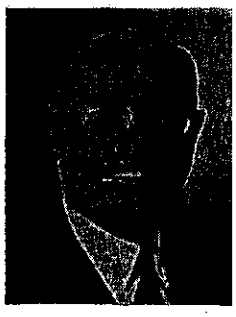
For ninety years the organization h grown until today it is an outstandi leader in its field—with nation-wide fac ities and thousands of highly specializ employees.

To gain any adequate conception of t institution now known as Crane Co., it necessary to know something of its bac ground, its management, its operating o ganization, its employees, its plants ar their equipment, and its far-flung distribu ing system. The following pages sugge but cannot adequately show these vario aspects of this company.



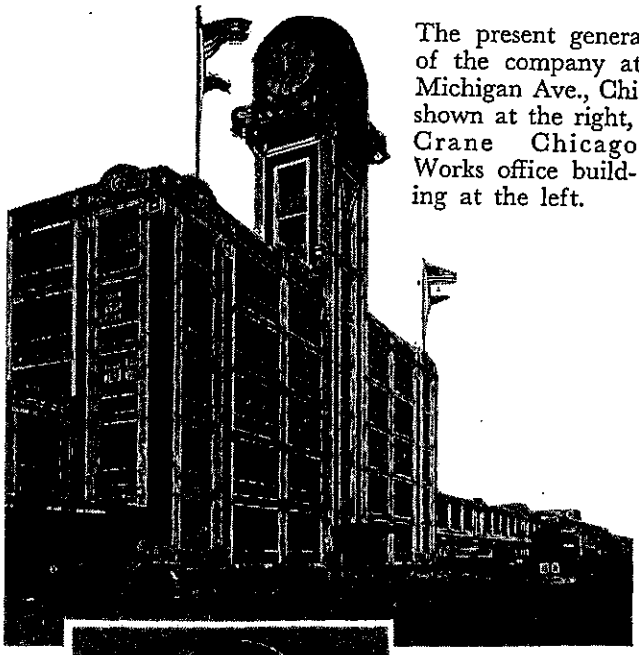
R. T. CRANE, JR.
President, 1914-1931

JOHN B. BERRYMAN
President, 1932-1935

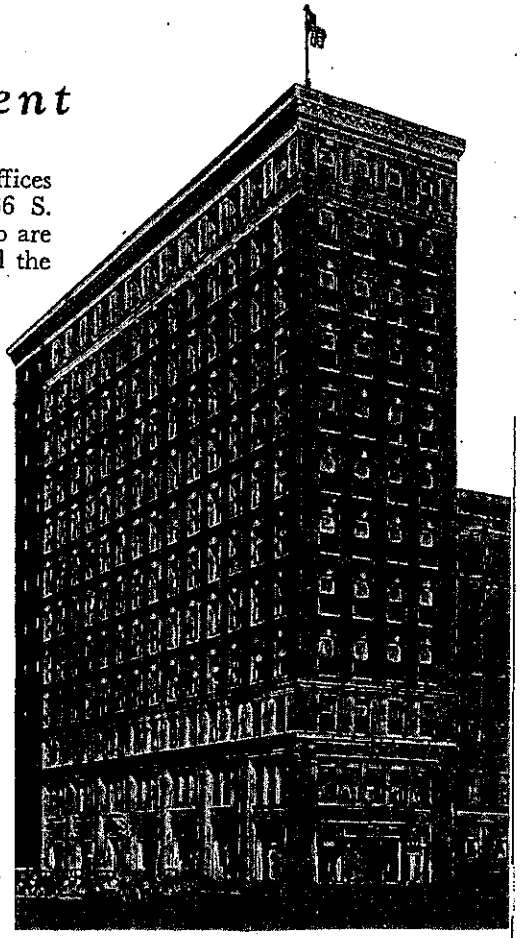


CHARLES B. NOLTE
President, 1935-1941

. . its present management



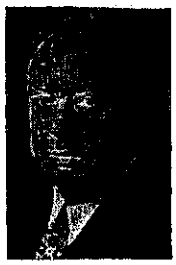
The present general offices of the company at 836 S. Michigan Ave., Chicago are shown at the right, and the Crane Chicago Works office building at the left.

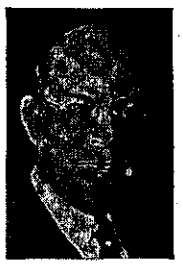


JOHN H. COLLIER
President since 1941

J. L. HOLLOWAY
Vice President, Finance (at left)

P. R. MORK
Vice President, Sales





V. P. RUMELY
Vice President, Manufacturing

C. R. CRANE II
Vice President, European Operations

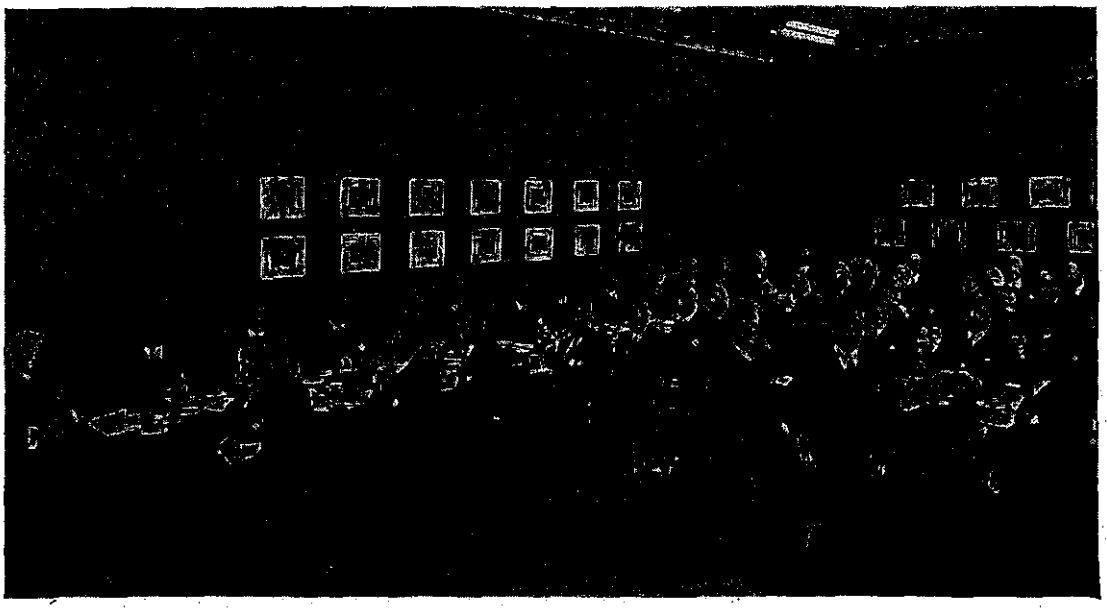
F. H. KAISER
Comptroller

W. EVENSEN
Treasurer

H. F. POTTER
Secretary

TO KNOW CRANE CO. . . . .

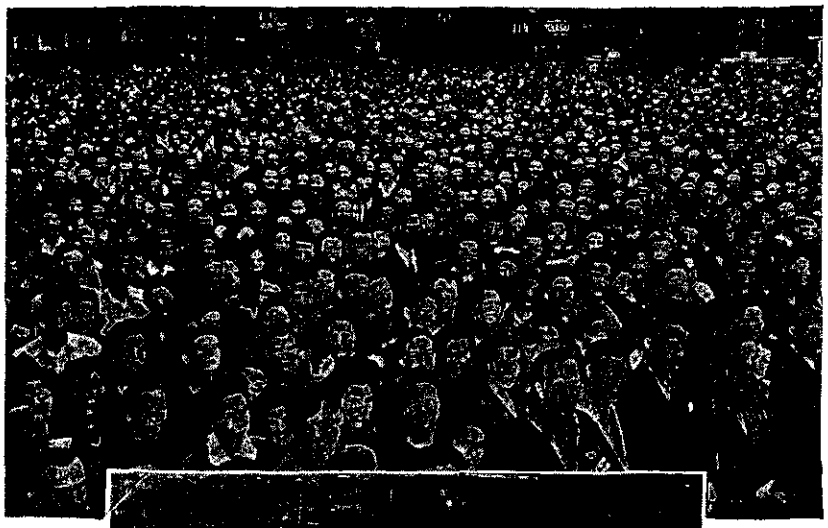
Look at its Organization . .



Executive group from the manufacturing, engineering, research and purchasing departments, at lunch in the Chicago Works office.

General Office department heads and other representatives holding one of the periodic sales conferences with the eight district managers.

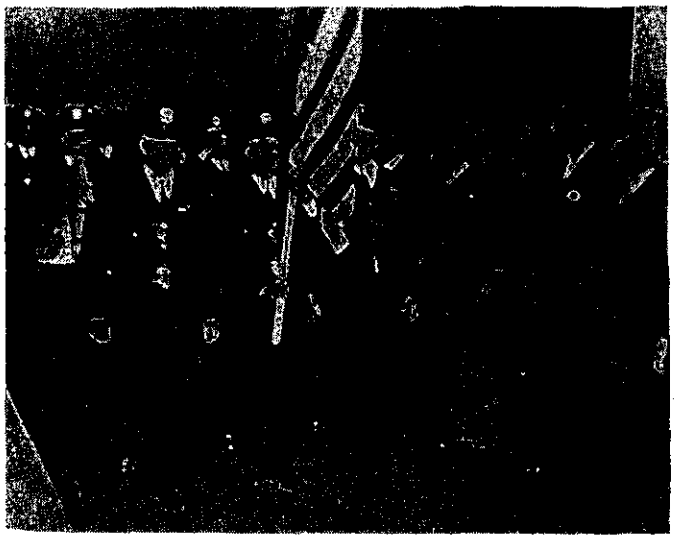
. *and its Employees*



Employees of Chicago Works receiving official recognition for war production—Maritime "M" award (above) and the Army-Navy "E" (below).

Crane employees leaving work in one section of the Chicago plant.

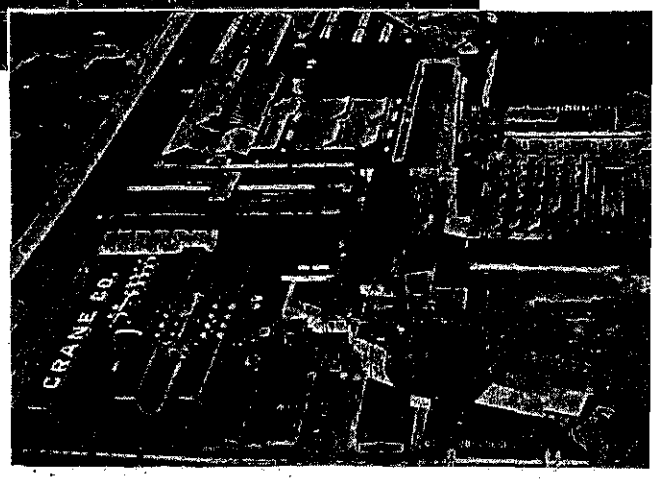
Drill Team of the Crane Plant Protection Force after being awarded the Army Military Police Guidon.



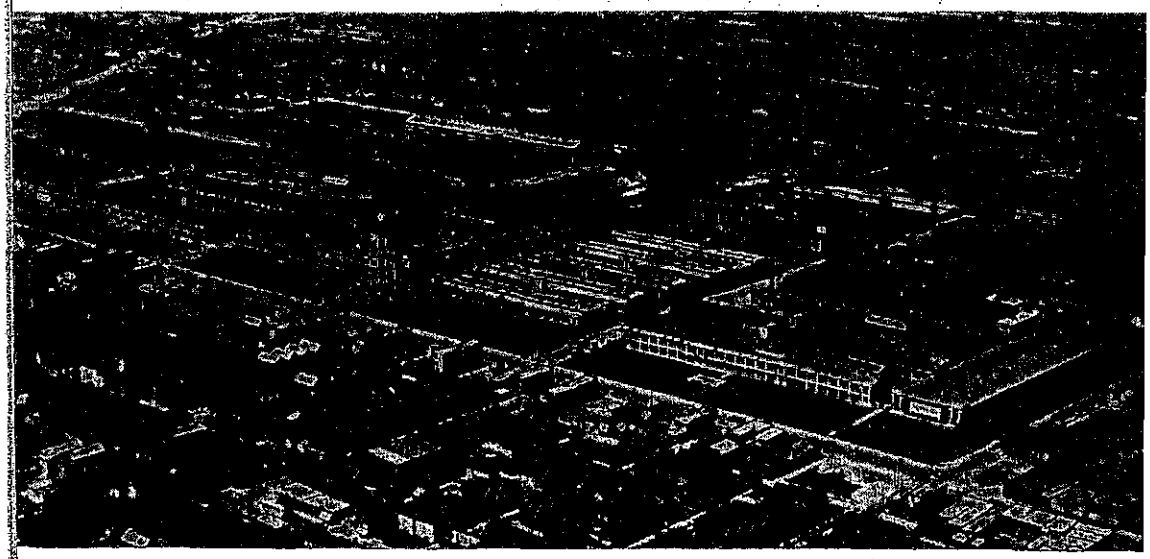
TO KNOW CRANE CO. . . .

Look at its Plants and . . .

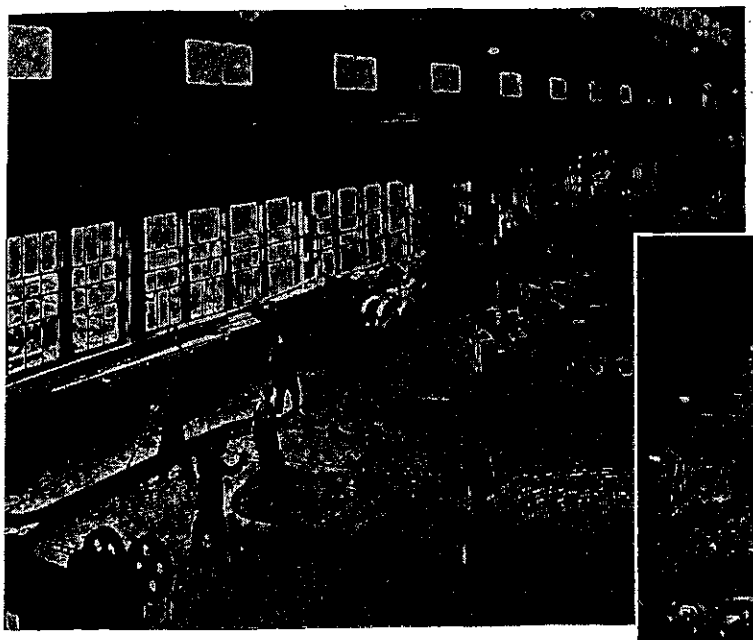
One of the two potteries in Trenton, N. J. where Crane makes sanitary ware.

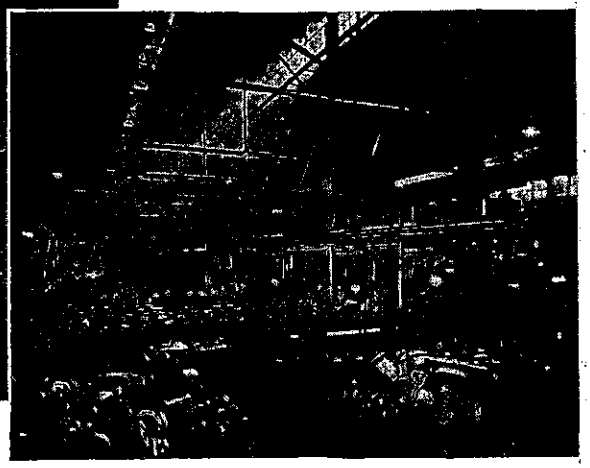


Air views of two Crane plants; at right in Chattanooga, Tenn., where enamelware, boilers and radiators are made; below—in Chicago, where valves and fittings are made.

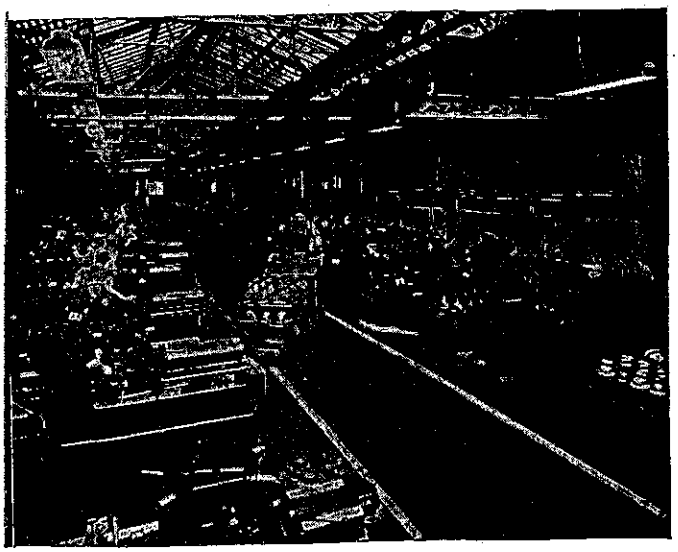


. *their Equipment*





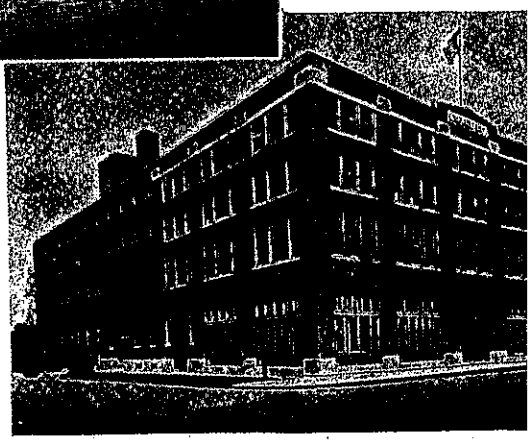
Typical views in the Chicago Works showing (above) pipe fabricating equipment and one of the seven foundries, (below) one of the scores of machining sections and an assembly line for small brass valves.

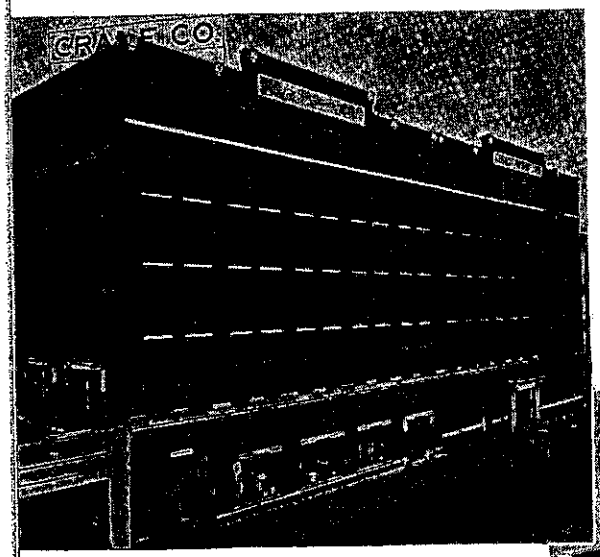


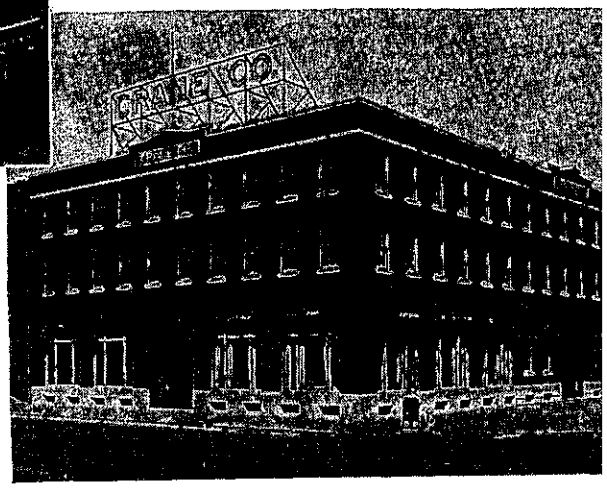
TO KNOW CRANE CO. . . . .

Look at its Branches

Crane products are also distributed through hundreds of wholesalers.





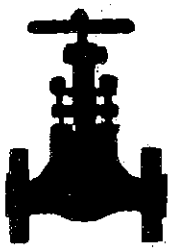


Four of the 126 Crane branches throughout the United States, carrying representative stocks of valves, fittings and other piping equipment, and plumbing and heating supplies to serve their trading areas.

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY FIRST

1945



CRANE CO.

836 SOUTH MICHIGAN AVENUE CHICAGO

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ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1945

CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

FOUNDED 1855 INCORPORATED 1865

CRANE CO.

DIRECTORS

Arthur O. Choate	Mark W. Lowell
J. H. Collier	Sydney G. McAllister
G. A. Eastwood	E. H. McDermott
J. L. Holloway	P. R. Mork
F. R. Lillie	William R. Odell

OFFICERS

J. H. Collier ..... *President*
P. R. Mork ..... *Executive Vice President*
C. R. Crane, II ..... *Vice President*
J. A. Dwyer ..... *Vice President*
J. L. Holloway ..... *Vice President*
V. P. Rumely ..... *Vice President*
H. F. Potter ..... *Secretary*
Walter Evensen ..... *Treasurer*
F. H. Kaiser ..... *Comptroller*
E. E. Wyatt ..... *Assistant Comptroller*
I. A. Cothrin ..... *Assistant Secretary*
A. R. Glass ..... *Assistant Secretary*
H. M. Biggert ..... *Assistant Treasurer*
C. W. Dittmar ..... *Assistant Treasurer*
J. K. O'Neill ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. Morgan & Co. *Incorporated*
Wall and Broad Streets
New York City

W. E. Peterson, *Transfer Clerk*
Crane Co., 836 South Michigan Avenue
Chicago, Illinois

REGISTRARS OF STOCK

The Chase National Bank
of the City of New York
Pine and Nassau Streets
New York City

Continental Illinois National Bank
and Trust Company of Chicago
231 South La Salle Street
Chicago, Illinois

CRANE00280

ANNUAL REPORT

To the Shareholders
of Crane Co.:

This Annual Report covering the operations of your company for the year 1945 is presented by the management with the approval of the Board of Directors.

FINANCIAL REVIEW

Statements of Profit and Loss and Surplus for the year, and a Balance Sheet as of December 31, 1945, for the company and its United States subsidiaries consolidated, together with statements reflecting the results of operations and the net assets of the subsidiary companies located in Canada and England, and a certificate of Arthur Young & Co., independent public accountants, are shown on pages 9 to 15.

The amounts quoted throughout the narrative of this report are, except where otherwise specified, on a basis of consolidating only the figures of the United States companies.

CONSOLIDATED PROFIT AND LOSS, SURPLUS, AND RESERVE FOR CONTINGENCIES:

The Profit and Loss Statement shows a net profit for the year 1945 of $5,308,153.17 before provision for any renegotiation refund. This is equal to $1.87 per share on the 2,348,628 shares of Common Stock after allowance for the dividend requirements of the 192,803 shares of 5% Cumulative Convertible Preferred Stock for the period January 1, 1945, to the date it was called, and the dividend requirements on the 160,000 shares of 3¾% Cumulative Preferred Stock from July 17, 1945, to December, 1945. It compares with a net profit for the year 1944 of $6,808,269.25.

The profits shown for 1944 were subsequently reduced to $6,476,550.45 as a result of renegotiation proceedings in respect of that year and such reduction is shown in the Consolidated Surplus Statement. The reduction was the result of a gross refund of $1,184,710.00 which after adjustment for federal income and excess profits taxes amounted to a net payment of $331,718.80.

No provision has been made in the accounts for renegotiation refund in respect of 1945. It is impossible at this time to determine the amount of reduction in profit that may result from renegotiation for 1945 but it is anticipated that such reduction, if any, will not be material. It is con-

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templated that if any adjustment results from renegotiation of the operations of 1945 it will be charged to Earned Surplus in the same manner as the adjustment for 1944.

During the years 1941, 1942, and 1943 the company provided from earnings a Reserve for Contingencies totaling $13,000,000.00 as a provision against losses and costs which might be experienced directly or indirectly as a result of the war, including losses on inventories and properties, costs of reconversion, deferred repairs and maintenance, and obsolescence. The Board of Directors is of the opinion that such contingencies have been eliminated to the extent that $10,000,000.00 of this reserve is no longer required and has ordered the transfer of that amount to Earned Surplus leaving a balance in the reserve of $3,000,000.00.

The Consolidated Surplus of Crane Co. and its United States subsidiaries at December 31, 1945, amounted to $25,766,493.98 of which $1,509,049.91 is allocated as Capital Surplus, leaving $24,257,444.07 as Earned Surplus. Total Surplus and the part thereof which was Earned Surplus were shown as $15,675,784.22 and $14,172,135.11 respectively at December 31, 1944, subject to the refund on renegotiation commented upon in an earlier part of this report and illustrated in the Consolidated Surplus Statement.

Dividends:

A total of $3,833,161.80 was paid in dividends during the year. This consisted of dividends of $3.375 per share on the 5% Cumulative Convertible Preferred Shares during the period of the year such shares were outstanding, totaling $650,710.13, together with dividends of approximately $1.54 on the 3¾% Cumulative Preferred Shares during the period they were outstanding which amounted to $246,666.67, and regular quarterly dividends of $.25 per share and a special dividend of $.25 per share on the Common Shares totaling $1.25 per share or $2,935,785.00.

Depreciation:

The amount charged to operations for depreciation and amortization in 1945 was $2,535,720.92 compared with $2,514,984.75 for 1944. The charge-off for depreciation of machinery and equipment is established on a basis of the estimated remaining life of the individual item; the provision for depreciation on buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction and the provision for amortization of war facilities is computed

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in accordance with the regulations of the Government. This has been the general depreciation policy of your company during recent years.

In addition to the amortization charged to operations in the year 1945 the company has charged $567,914.05 for amortization under the heading "Deductions", this being additional amortization of emergency facilities applicable to years prior to 1945 when computed on the basis of a shortened period ending September 30, 1945. Related claims for refund of income and excess profits taxes and renegotiation rebates on this accelerated amortization amounted to $460,000.00 and have been deducted from the charge.

Taxation:

During the year 1945 the company paid or accrued in combined direct taxes of all kinds in the United States a total of $13,266,107.44.

CONSOLIDATED BALANCE SHEET:

Financial Condition:

Current assets of Crane Co. and its United States subsidiaries amounted to $65,688,261.99 at December 31, 1945, and current liabilities amounted to $8,889,573.91 reflecting a net working capital of $56,798,688.08 of which $27,334,055.13 was in cash and marketable securities. This net working capital shows a decrease of $850,315.74 from the comparable position at December 31, 1944.

The current liabilities are stated after deducting United States of America Treasury Tax Notes and accrued interest thereon amounting to $12,125,545.79 from the item of accrued federal income and excess profits taxes. After such deduction the accrued federal taxes amounted to $411,834.67 and there was also a liability of $1,607,368.10 for accrued general taxes.

The ratio of current assets to current liabilities was 7.39 to 1 on December 31, 1945.

Inventories:

The consolidated inventories amounted to $24,097,038.12 at December 31, 1945, showing a reduction of $1,476,639.96 from the position at December 31, 1944. The total reduction resulted from an increase of $211,549.91 in raw materials and supplies, a decrease of $2,003,420.29 in work in process, and an increase of $315,230.42 in finished goods.

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Inventories amounting to $18,420,408.30 and representing the major part of the inventory of Crane Co. proper were valued on a basis of the "Last-in, First-out" method; the remainder of the inventories amounting to $5,676,629.82 were valued at cost or market, whichever was lower. This practice was consistent with that followed in valuing the inventories at December 31, 1944.

Open commitments for raw materials made in the ordinary course of business amounted to approximately $950,000.00 at the end of the year. Prices thereon were substantially the same as current market quotations.

Refinancing:

During July, 1945, the company issued $16,000,000 of 3¾% Cumulative Preferred Shares on which the annual dividend requirement amounts to $600,000. As a part of this transaction the company called for redemption all of its outstanding 5% Cumulative Convertible Preferred Shares, total par value $19,280,300, on which the annual dividend requirement amounted to $964,015.

During 1945 the company also retired $2,000,000 in principal amount of its Ten Year 2¼% Sinking Fund Debentures, this amount being the entire balance remaining outstanding of $10,500,000 principal amount of such debentures issued in 1940.

The 3¾% Cumulative Preferred Shares are subject to sinking fund requirements as follows: On or before April 30 in each year beginning with the year 1947 the company is to pay over in cash to a sinking fund agent appointed by the Board of Directors, as a sinking fund for the redemption or purchase of shares of such series, an amount equal to the amount by which the consolidated net income of the company and its domestic subsidiaries for its latest fiscal year ended prior to the preceding January 1 shall exceed the sum of (i) all dividends (whether or not paid) accrued during such year on the outstanding Preferred Shares plus (ii) $2,500,000, but the amount so to be paid over to the sinking fund agent with respect to any such fiscal year shall not exceed $320,000. Against its obligation to make the cash sinking fund payment in any year the company may, at its election, take credit for shares of such series purchased or redeemed by it otherwise than through the sinking fund.

Investment in Foreign Subsidiaries:

Foreign subsidiaries of the company located in Canada and England are wholly-owned and the investment in them is carried in the balance

sheet at cost, namely $12,000,000. The company's equity in the surplus of these subsidiary companies which amounted to $5,736,790.16 at December 31, 1945, when computed at official rates of exchange is not included in the Consolidated Surplus.

The net assets of the companies in Canada and England at December 31, 1945, and the results of their operations for the year ended that date are given on pages 14 and 15 of this report.

In 1943 the company wrote off its investment in a subsidiary company in France with a resulting reduction in federal taxes. The company cannot now determine what portion of this write-off may ultimately be restored nor can it determine the amount of federal taxes which will be applicable thereto. The company in France has reported that its properties were badly run down and depreciated during the war period but that operations are underway on a restricted basis.

LITIGATION:

The company and its manager of plumbing and heating sales, together with many other defendants, are charged in an indictment, returned March 29, 1940, with conspiring in restraint of trade in the sale of plumbing supplies. Based on the opinion that trial of the case would seriously impede the war effort, the trial was continued until further order of the Court.

OPERATIONS

Net sales amounted to $140,114,683.74 for 1945 compared with $152,479,052.15 for the previous year, a decline of over 8% in the dollar volume, being the net result of a change in the character of the demand as well as an overall reduction in it.

The character of our sales has reverted to a peacetime pattern. Sales of our cast and forged steel products, more intricate specialties, and higher priced products so in demand during the war have dropped precipitately. Sales of our more standard products are high, our backlog of unfilled orders is large, and the sales potential is great.

We have finished our war work and have satisfactorily completed the adjustments and commitments incident to the aftermath of the war. We are negotiating for the purchase of the major portion of the Government-owned facilities installed in our factory and leased by us during the war, and have applied accelerated amortization to our company-owned war

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facilities. Reconversion of our plants is practically complete. New products and re-designed products are in production or about ready to go into production.

Our plants are in excellent condition. We do, however, face a five year accumulation of modernization projects in certain facilities.

The employees in all our plants are now represented by union organizations, which is a new condition particularly as to our large Chicago Plant, but so far we have experienced only a minimum disruption to production. The company has enjoyed a reputation for more than fair and equitable dealings with labor for years and believes that its future relations with the employees through the unions should continue on an amicable basis of mutual respect and confidence.

Our production since the end of the war has been hampered by a labor shortage, particularly in some of our foundries and related activities. This condition is correcting itself and we are working up to full production, if a little more slowly than we would like, still more rapidly than we had expected. Our war veterans are returning in large numbers and we have engaged every one of them who wished to re-enter our employ.

The sales of our merchandised products, those we do not manufacture, were at a low ebb during the war. They are increasing rapidly and, in addition, we have considerably broadened the lines of products we handle.

The performance of our Canadian Company closely paralleled that here except that there the transition from war to peace operations proceeded a little more rapidly and a little more smoothly.

J. H. COLLIER,
President.

March 25, 1946.

With deep regret we record the death on August 11, 1945, of John B. Berryman, Chairman of the Board of this Company. Mr. Berryman had served the Crane organization for 53 years rising from the status of Branch Manager to President and subsequently Chairman of the Board of Directors for the ten years prior to his death. His death closed a long and active life, full of accomplishment both in the business world and in a variety of outside fields.

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ARTHUR YOUNG & COMPANY
ACCOUNTANTS AND AUDITORS
1 NORTH LA SALLE STREET
CHICAGO 2

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiaries in the United States at December 31, 1945, and the consolidated profit and loss and surplus statements for the year then ended, have reviewed the system of internal control and the accounting procedures of the Companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the Companies and other supporting evidence, by methods and to the extent we deemed appropriate. It was not practicable to confirm receivables from the United States Government, as to the substantial accuracy of which we satisfied ourselves by other means. Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and included all procedures which we considered necessary.

In our opinion, subject to any adjustment arising from renegotiation referred to in Note 1 to the financial statements, the accompanying consolidated balance sheet and consolidated profit and loss and surplus statements present fairly the position of Crane Co. and its subsidiaries in the United States at December 31, 1945, and the results of their operations for the year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY.

Chicago, Illinois,
March 15, 1946.

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CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

For the Year Ended December 31, 1945

Gross sales, less discounts, returns and allowances:		
Sales to customers		$139,410,762.25
Sales to foreign subsidiaries		703,921.49
Total		$140,114,683.74
Cost of sales, including selling, administrative and general expenses but before provision for depreciation and amortization		120,346,243.67
		$ 19,768,440.07
Provision for depreciation and amortization		2,535,720.92
Net operating profit		$ 17,232,719.15
Other income:		
Interest received	$ 324,741.93	
Miscellaneous other income	320,105.27	
		644,847.20
		$ 17,877,566.35
Deductions:		
Interest paid	$ 212,833.33	
Amortization of debt expense	7,844.65	
Premium on Ten-Year 2¼% Sinking Fund Debentures purchased and retired	40,000.00	
Loss on disposal of fixed assets	482,275.92	
Miscellaneous deductions	17,758.89	
Minority stockholders' interest in net income of subsidiaries	61,488.52	
Accelerated amortization of emergency facilities applicable to prior years (Note 7) $567,914.05		
Less: Related claims for refund of income and excess profits taxes and renegotiation rebates 460,000.00		
	107,914.05	
		930,115.36
Net profit before federal income and excess profits taxes		$ 16,947,450.99
Provision for federal income and excess profits taxes:		
Income taxes	$ 2,737,459.42	
Excess profits taxes	8,901,838.40	
		11,639,297.82
Net profit for the year (Note 1)		$ 5,308,153.17

See accompanying notes.

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CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED SURPLUS STATEMENT

For the Year Ended December 31, 1945

	Earned surplus	Capital surplus	Total
Balance, December 31, 1944	$14,172,135.11	$1,503,649.11	$15,675,784.22
Deduct:			
Reduction in surplus resulting from renegotiation of war contracts—year 1944 (Note 1)—			
Gross renegotiation settlement	$ 1,184,710.00		$ 1,184,710.00
Less: Federal excess profits tax	852,991.20		852,991.20
Net renegotiation payment	$ 331,718.80		$ 331,718.80
Balance, December 31, 1944, as adjusted	$13,840,416.31	$1,503,649.11	$15,344,065.42
Add:			
Net profit for the year (Note 1)	5,308,153.17		5,308,153.17
Amount transferred from reserve for contingencies (Note 2)	10,000,000.00		10,000,000.00
	$29,148,569.48	$1,503,649.11	$30,652,218.59
Deduct:			
Premium paid upon redemption of 5% cumulative convertible preferred shares	$ 964,015.00		$ 964,015.00
Expenses in connection with sale of 3¾% cumulative preferred shares	88,547.81		88,547.81
Sundry adjustments	5,400.80	$ (5,400.80)	
Cash dividends paid—			
On 5% cumulative convertible preferred shares, $3.375 per share	650,710.13		650,710.13
On 3¾% cumulative preferred shares, $1.54167 per share	246,666.67		246,666.67
On common shares, $1.25 per share	2,935,785.00		2,935,785.00
	$ 4,891,125.41	$ (5,400.80)	$ 4,885,724.61
Balance, December 31, 1945	$24,257,444.07	$1,509,049.91	$25,766,493.98

See accompanying notes.

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CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1945

ASSETS

CURRENT ASSETS:		
Cash		$ 14,811,595.35
U. S. Government securities at cost, which approximates market value		12,522,459.78
Accounts receivable—		
Trade	$14,943,428.46	
Sundry	270,356.07	
	$15,213,784.53	
Less: Reserve for doubtful accounts	1,197,434.47	
		14,016,350.06
Inventories (Note 3)—		
Raw material and supplies	$ 4,859,137.07	
Work in process	7,299,095.62	
Finished goods	11,938,805.43	
		24,097,038.12
Due from foreign subsidiaries not consolidated		240,818.68
Total current assets		$ 65,688,261.99
INVESTMENTS:		
Investment in foreign subsidiary not consolidated, at cost (Note 4)	$12,000,000.00	
Other investments, at cost or nominal value (less reserve, $130,167.76)	325,723.66	
		12,325,723.66
FIXED ASSETS (Note 7):		
Land and land improvements	$ 5,894,765.02	
Buildings $30,208,568.88		
Less: Reserve for depreciation 13,564,818.83		
	16,643,750.05	
Machinery and equipment $33,685,898.20		
Less: Reserve for depreciation 22,166,463.35		
	11,519,434.85	
Unfinished construction	895,988.38	
		34,953,938.30
DEFERRED CHARGES:		
Prepaid insurance, etc.		364,767.76
		$113,332,691.71

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CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1945

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued pay rolls		$ 6,870,371.14
Accrued federal income and excess profits taxes	$12,537,380.46	
Less: U. S. Treasury tax notes, at cost plus accrued interest	12,125,545.79	411,834.67
Accrued general taxes		1,607,368.10
Total current liabilities		$ 8,889,573.91
RESERVES AND DEFERRED CREDITS:		
Reserve for contingencies (Note 2)	$ 3,000,000.00	
Miscellaneous reserves and deferred credits	119,882.02	3,119,882.02
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Common stockholders (par value $668,700 plus equity in surplus $172,341.80)		841,041.80
CAPITAL STOCK:		
Cumulative convertible preferred shares, par value $100—		
Authorized—7,197 shares		
Outstanding—None		
Preferred shares, par value $100—		
Authorized—165,000 shares		
Outstanding—160,000 shares designated as 3¾% cumulative preferred shares (Note 5)	$16,000,000.00	
Common shares, par value $25—		
Authorized—3,000,000 shares		
Outstanding—2,348,628 shares	58,715,700.00	74,715,700.00
SURPLUS:		
Capital surplus	$ 1,509,049.91	
Earned surplus (Notes 1 and 6)	24,257,444.07	25,766,493.98
		$113,332,691.71

See accompanying notes.

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NOTES TO FINANCIAL STATEMENTS

1. Renegotiation of Contracts with the United States Government:

Pursuant to the laws relating to the renegotiation of war contracts, the Company refunded to the Government in 1946 the sum of $1,184,710, less the applicable federal excess profits taxes (a net payment of $331,718.80), on the portion of the 1944 business determined by the Government to be subject to renegotiation. The liability for this payment has been charged to earned surplus during the year 1945 and has the effect of reducing the 1944 profit reported in the annual report to the shareholders from $6,808,269.25 to $6,476,550.45.

No provision has been made in the accounts for renegotiation refund in respect of the year 1945. It is impossible at this time to determine the amount of reduction (if any) in profit that may result from renegotiation for this year, but it is anticipated that such reduction (if any) will not be material. Should any refund be required, it is contemplated that it will be charged to earned surplus in the same manner as that for the year 1944.

2. Reserve for Contingencies:

The Company provided $13,000,000 out of earnings during the years 1941, 1942 and 1943 as a reserve for contingencies. This reserve was a provision against losses and costs which might be experienced directly or indirectly, as a result of the war, including losses on inventories and properties, cost of reconversion, deferred maintenance and repairs and obsolescence. The Board of Directors is of the opinion that such contingencies have been eliminated to the extent that $10,000,000 of this reserve is no longer required and has ordered the transfer of that amount to Earned Surplus, leaving a balance in the reserve of $3,000,000.

3. Inventories:

Inventories of certain finished goods, work in process, and raw materials of the parent Company, aggregating $18,420,408.30 at December 31, 1945, are priced at cost on a "last-in, first-out" basis, which was first applied effective January 1, 1941. The remainder of the inventories at December 31, 1945, aggregating $5,676,629.82 have been priced at the lower of cost or market on a "first-in, first-out" basis.

4. Investments and Operations in Canada and England:

The investment in the Canadian subsidiary, Crane, Limited (Canada), is carried in the balance sheet at U. S. dollar cost, $12,000,000. The net assets of this Company and its subsidiaries, segregated as between Canada and England, are summarized below:

	Canada	England	Total
Fixed assets, at U. S. dollar cost at date of acquisition, less accrued depreciation	$ 5,139,123.43	$1,588,942.05	$ 6,728,065.48
Net current assets at official rates of exchange	6,486,295.43	4,084,389.66	10,570,685.09
Other assets at official rates of exchange	425,075.06	12,964.53	438,039.59
	$12,050,493.92	$5,686,296.24	$17,736,790.16

The results of operations of the subsidiaries operating in Canada and England for the year ended December 31, 1945 (converted at official rates of exchange, except

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that the provision for depreciation on fixed assets has been computed on U. S. dollar cost) are shown below:

	Canada	England
Gross sales, less discounts, returns and allowances..	$16,232,984.07	$4,021,755.85
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	14,415,508.71	3,324,397.11
	$ 1,817,475.36	$ 697,358.74
Provision for depreciation	293,207.92	132,136.74
Net operating profit	$ 1,524,267.44	$ 565,222.00
Other income, less other deductions	10,066.38	12,710.95
Net profit before income and excess profits taxes..	$ 1,534,333.82	$ 577,932.95
Provision for income taxes	$ 300,550.50	$ 382,789.58
Provision for excess profits taxes	694,949.50	(225,082.02)
Less: Post-war refund under Excess Profits Tax Act	(122,175.00)	
	$ 873,325.00	$ 157,707.56
Net profit	$ 661,008.82	$ 420,225.39

Canada and England have enacted certain exchange regulations restricting the withdrawal of funds, etc., and the investments in and the profits of the Companies located therein are subject to such restrictions, as well as to such income and excess profits taxes as may be payable on the transfer of profits between England, Canada and the United States.

5. 3¾% Cumulative Preferred Shares:

These shares are redeemable at the option of the Company at $107 per share if called for redemption prior to June 15, 1955 (an aggregate amount of $17,120,000), and at $104.50 per share if called for redemption on or after June 15, 1955, in each case plus accrued dividends to the date fixed for redemption. They are also redeemable through the operation of the sinking fund at any time at the sinking fund redemption price of $104.50 per share, plus unpaid accrued dividends.

6. Dividend Restrictions on Common Shares:

Under the provisions of the Articles of Incorporation, as amended in connection with the issuance of the 3¾% cumulative preferred shares, there are certain restrictions on surplus available for dividends on common shares as a result of which unrestricted earned surplus at December 31, 1945 amounted to $6,474,991.37.

7. Amortization of Emergency Facilities:

The Company has elected under Section 124 (d) of the Internal Revenue Code to recompute amortization of emergency facilities on the basis of a shortened period ending September 30, 1945, in lieu of the sixty-month period on which amortization was computed in prior years. Claims will be made for refund of federal income and excess profits taxes ($428,400) and for rebate of renegotiation payments ($31,600) applicable to accelerated amortization for prior years. Accelerated amortization for the period from January 1, 1945 to September 30, 1945 is included in costs for the fiscal year 1945. The emergency facilities referred to herein amount to $2,670,827.28 and are included in fixed assets; reserve for amortization has been provided in full. It is expected that a substantial portion of the facilities will be used in post-war business.

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Crane Co. in the Reconversion Period

ONLY ORGANIZATIONS WHICH CHANGE WITH THE TIMES can hope to maintain established positions in their fields. Your company has given intensive effort and forethought to planning for the new period of history we have entered.

Low-cost housing, which has become so necessary to accommodate returned veterans and others will provide a continued demand for very heavy production during the months to come. In addition to this, new designs, new engineering principles, improved manufacturing processes, streamlined production methods —all are reflected in the beautiful new Crane products.

Any American homemaker would envy the handsome new Crane equipped kitchens illustrated here; real Crane quality that will bring greater convenience and beauty than ever.

BELOW: Fingertip convenience—modern styling and Crane quality—it's actually fun to work in the Crane equipped house of the future.

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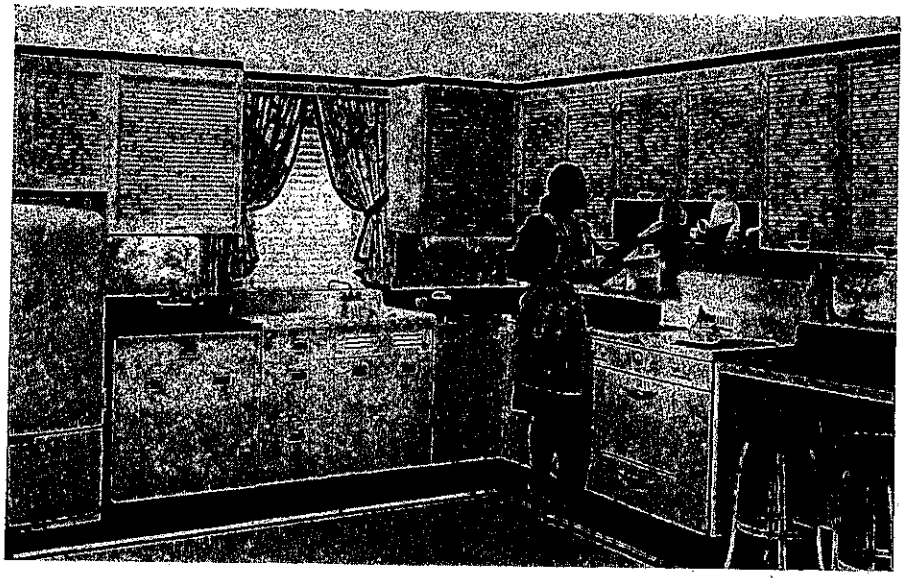

Dial-ese faucets, garbage Disposall, dust-proof cabinets with easy-to-use, roll-away doors are but a few items featured in Crane's postwar kitchens.

Regardless of home interior styling—whether it be Early American or Modern, Crane quality kitchen equipment is always in the best of taste.

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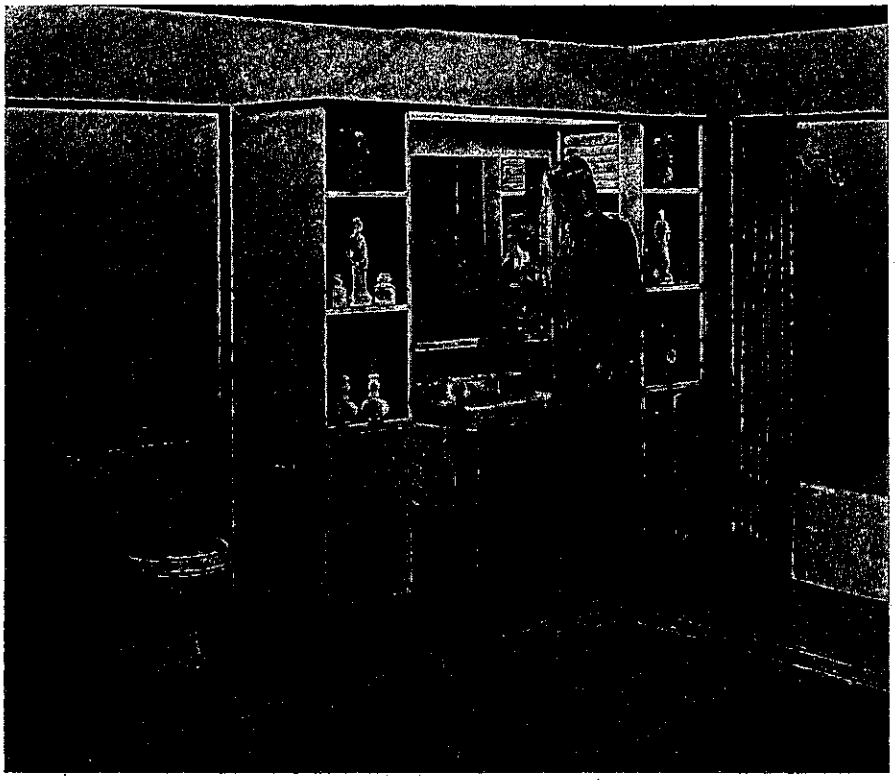

——————————————and Bathrooms

Just imagine the comfort, the beauty, the joy of living that bathrooms like these will bring to American homes.

Of course, the fixtures have the sturdy quality that will be expected from Crane equipment but in addition, the new Crane line will bring fresh styling and advanced engineering—features that make Crane plumbing a "must" in new and remodeled homes.

For example, the new Dial-ese trim spells the end of hard-to-close faucets. Water has been harnessed to do the work and faucets open and close at a finger's touch. And, too, there will be a choice of trim; either Cranelon, the durable, new easy-to-clean plastic for the low-cost market, or chrome in newly styled dome shapes.

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These two illustrations further emphasize the versatility in interior decoration permitted with Crane bathroom fixtures. Waterproof wallpaper, chests in the Early American tradition contrasts with the smartly Modern design below.

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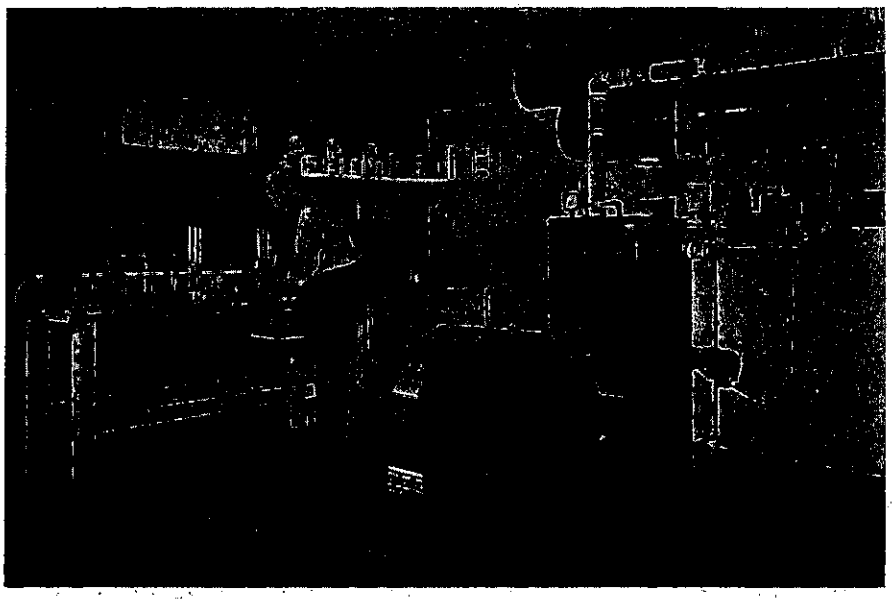

In addition to the stoker type above and the oil burner below, Crane has a number of new, modern, efficient, low-cost operation gas burning units.

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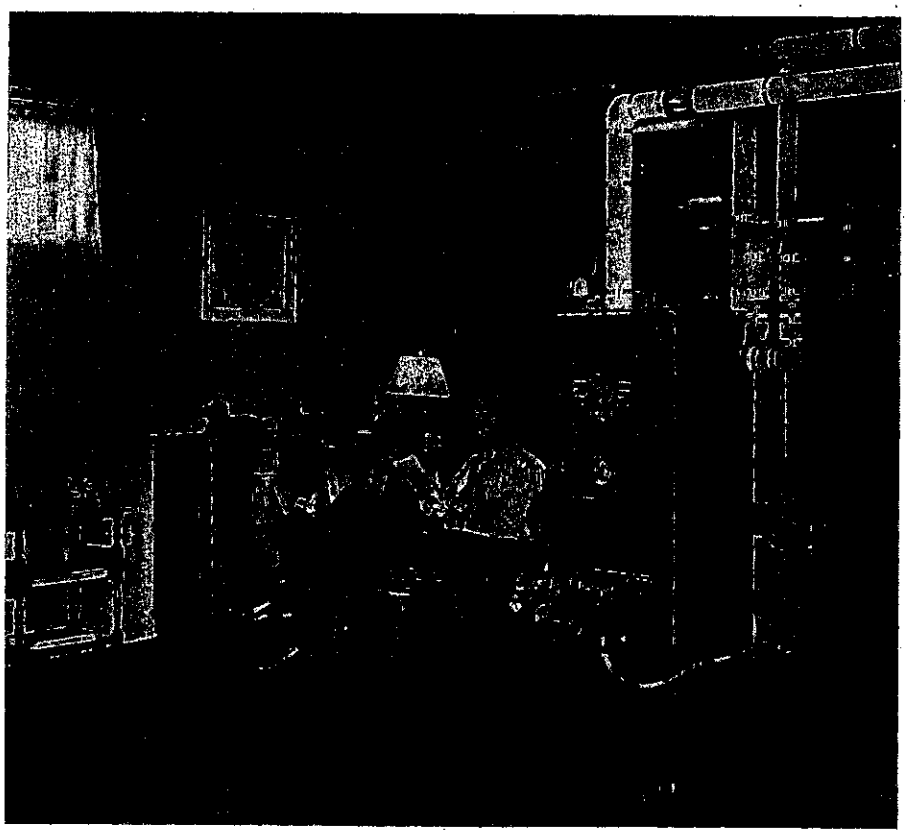
——————————————— or Heating

Crane's position in the heating field continues to be built on a policy of supplying everything needed for every type domestic heating system—for any fuel, or any degree of automatic operation. In addition to improved designs of boilers, radiators and furnaces, Crane is introducing a distinctly new system of radiant baseboard panel heating.

Among the many advantages provided by this system will be a uniform degree of heat from floor to ceiling. The out-of-the-way installation in the baseboard will permit more roominess yet provide a wider latitude of heating area.

The wet base construction permits a gravity hot water system in homes without basements. It also makes possible installation on wooden floors without insulation.



CRANE00299

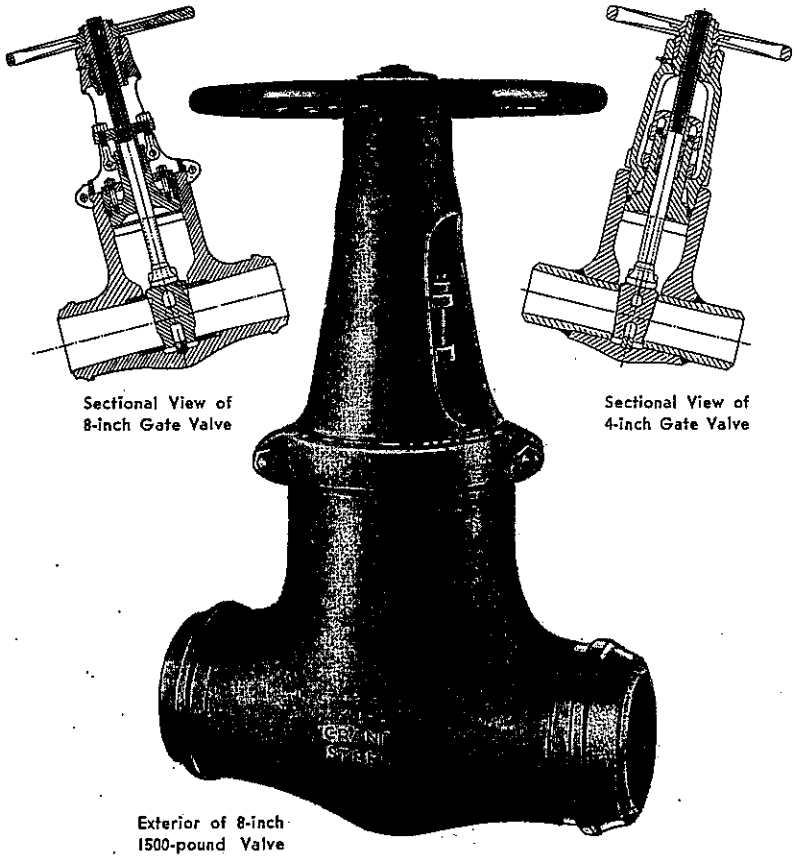
Industrial Piping

While reconversion means an end to huge war production requirements for valves, fittings and other piping equipment, it brings large peace-time demands in many lines of industry—notably food processing (illustrated below) and the various process industries.

Crane is, of course, in good position to serve these industrial markets as a result not only of war time expansion and improvements but also because many new products can now be released for use in these fields.

Typical of such improved designs is the "pressure-seal" bonnet valve illustrated on the opposite page. Whereas the conventional valve of the past has required many heavy bolts to hold the bonnet in place against high internal pressure, the new design utilizes this very pressure to make a tight joint. The greater the pressure, the tighter the joint. Weight and space requirements are greatly reduced, and servicing time is cut to a minimum.

CRANE00300



Sectional View of
8-inch Gate Valve

Sectional View of
4-inch Gate Valve

Exterior of 8-inch
1500-pound Valve

The New Pressure-Seal Bonnet Valve

CRANE00301

Crane Co. Branches

Aberdeen, S. D.
Akron, Ohio
Albany, N. Y.
Albuquerque, N. Mex.
Asheville, N. C.
Atlanta, Ga.
Aurora, Ill.
Baltimore, Md.
Beaumont, Tex.
Billings, Mont.
Binghamton, N. Y.
Birmingham, Ala.
Boise, Idaho
Boston, Mass.
Bridgeport, Conn.
Buffalo, N.Y.
Canton, Ohio
Casper, Wyo.
Charleston, W. Va.
Charlotte, No. Car.
Chattanooga, Tenn.
Chicago, Ill.
Cincinnati, Ohio
Cleveland, Ohio
Columbus, Ohio
Corpus Christi, Tex.
Dallas, Tex.
Davenport, Iowa
Dayton, Ohio
Denver, Colo.
Detroit, Mich.
Duluth, Minn.
East Chicago, Ind.
El Paso, Tex.
Evansville, Ind.
Fargo, N. D.
Flint, Mich.
Fort Smith, Ark.
Grand Island, Neb.
Grand Junction, Colo.
Grand Rapids, Mich.
Great Falls, Mont.
Greensboro, No. Car.
Greenville, So. Car.
Harlingen, Tex.
Hartford, Conn.
Hempstead, N. Y.
Houston, Tex.
Indianapolis, Ind.
Jackson, Mich.
Jackson, Miss.
Jacksonville, Fla.
Kansas City, Mo.
Knoxville, Tenn.
Lexington, Ky.
Lima, Ohio
Little Rock, Ark.
Long Beach, Cal.
Los Angeles, Cal.
Macon, Ga.
Madison, Wis.
Mankato, Minn.
Memphis, Tenn.
Miami, Fla.
Milwaukee, Wis.
Minneapolis, Minn.
Mobile, Ala.
Muncie, Ind.
Muskogee, Okla.
Nashville, Tenn.
Newark, N. J.
New Haven, Conn.
New Orleans, La.
New York, N. Y.
Norfolk, Va.
Oakland, Cal.
Ogden, Utah
Oklahoma City, Okla.
Omaha, Neb.
Oshkosh, Wis.
Philadelphia, Pa.
Phoenix, Ariz.
Pittsburgh, Pa.
Pocatello, Idaho
Portland, Me.
Portland, Ore.
Providence, R. I.
Pueblo, Colo.
Reading, Pa.
Reno, Nev.
Richmond, Va.
Rochester, N. Y.
Rockford, Ill.
Sacramento, Cal.
Salt Lake City, Utah
San Antonio, Tex.
San Bernardino, Cal.
San Diego, Cal.
San Francisco, Cal.
Santa Ana, Cal.
Savannah, Ga.
Scottsbluff, Neb.
Seattle, Wash.
Shreveport, La.
Sioux City, Iowa
Sioux Falls, S. D.
South Bend, Ind.
Spokane, Wash.
Springfield, Ill.
Springfield, Mass.
St. Louis, Mo.
St. Paul, Minn.
Syracuse, N. Y.
Tacoma, Wash.
Tampa, Fla.
Terre Haute, Ind.
Toledo, Ohio
Trenton, N. J.
Tucson, Ariz.
Tulsa, Okla.
Utica, N. Y.
Washington, D. C.
Waukegan, Ill.
West Palm Beach, Fla.
Wichita, Kan.

CRANE, LTD. (Canada)

Calgary, Alta.
Edmonton, Alta.
Fort William, Ont.
Halifax, N. S.
Hamilton, Ont.
Kingston, Ont.
London, Ont.
Moncton, N. B.
Montreal, Que.
Ottawa, Ont.
Quebec City, Que.
Regina, Sask.
Saskatoon, Sask.
St. John's, N. F.
Toronto, Ont.
Vancouver, B. C.
Victoria, B. C.
Winnipeg, Man.

CRANE00302

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY FIRST

1946

CRANE CO.

836 SOUTH MICHIGAN AVENUE CHICAGO

ANNUAL REPORT

FOR THE YEAR ENDED
DECEMBER THIRTY-FIRST

1946

CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

FOUNDED 1855 INCORPORATED 1865

CRANE00304

CRANE CO.

DIRECTORS

Arthur O. Choate	F. R. Lillie
J. H. Collier	Mark W. Lowell
C. R. Crane, II	E. H. McDermott
G. A. Eastwood	P. R. Mork
J. L. Holloway	William R. Odell

OFFICERS

J. H. Collier, *Chairman*

J. L. Holloway ..... *President*
P. R. Mork ..... *Executive Vice President*
C. R. Crane, II ..... *Vice President*
J. A. Dwyer ..... *Vice President*
V. P. Rumely ..... *Vice President*
H. F. Potter ..... *Secretary*
Walter Evensen ..... *Treasurer*
F. H. Kaiser ..... *Comptroller*
E. E. Wyatt ..... *Assistant Comptroller*
I. A. Cothrin ..... *Assistant Secretary*
A. R. Glass ..... *Assistant Secretary*
H. H. Bunchman ..... *Assistant Treasurer*
C. W. Dittmar ..... *Assistant Treasurer*
J. K. O'Neill ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. Morgan & Co. *Incorporated*
Wall and Broad Streets
New York City

A. R. Glass, *Transfer Clerk*
Crane Co., 836 South Michigan Avenue
Chicago, Illinois

REGISTRARS OF STOCK

The Chase National Bank
of the City of New York
Pine and Nassau Streets
New York City

Continental Illinois National Bank
and Trust Company of Chicago
231 South La Salle Street
Chicago, Illinois

CRANE00305

ANNUAL REPORT

To the Shareholders
of Crane Co.:

This Annual Report covering the operations of your company for the year 1946 is presented by the management with the approval of the Board of Directors.

FINANCIAL REVIEW

Statements of Profit and Loss and Surplus for the year, and a Balance Sheet as of December 31, 1946, for the company and its United States subsidiaries consolidated, together with statements reflecting the results of operations and the net assets of the subsidiary companies located in Canada and England, and a certificate of Arthur Young & Company, independent public accountants, are shown on pages 10 to 15.

The amounts quoted throughout the narrative of this report are, except where otherwise specified, on a basis of consolidating only the figures of the United States companies.

CONSOLIDATED PROFIT AND LOSS STATEMENT

The Profit and Loss Statement shows a net profit transferred to earned surplus for the year 1946 of $8,597,316.89. This is equal to $3.40 per share on the 2,348,628 Common Shares after allowance for the dividend requirements on the 3¾% Cumulative Preferred Shares. It compares with a net profit for the year 1945 of $5,308,153.17.

Sales:

Net sales amounted to $142,445,817.91 for 1946 compared with $140,114,683.74 for the previous year, and $87,268,163.77 for the year 1940, which was the last prewar year not overly affected by defense or war production. The demand for the company's products generally was quite substantial with a large demand for the types of products that enter into housing. Emphasis was placed on a large production of the medium and lower cost items rather than a smaller volume of more de luxe fixtures, as a contribution to the national demand for veterans' housing.

Sales by the company of products manufactured by others were by far the largest in its history and accounted for nearly 50% of the total. This was to some considerable degree the result of a program, interrupted by the war, for increasing the use of the company's extensive distribution system.

CRANE00306

Cost of Sales:

Due to higher labor rates and material costs in relation to the sales dollar, and to some extent the changed character of the sales, the ratio of net operating profit to sales for the year was the lowest since 1940. Net profit from operations in the United States only, after taxes and appropriations but before dividends, amounted to less than five cents on the sales dollar.

Included in cost of sales, selling, administrative and general expenses, is an item of $1,340,000.00 as provision for possible future price decline on that part of the company's inventories not carried on a "Last-in, First-out" basis of inventory valuation which is discussed under the heading "Inventories", also an item of $500,000.00 toward provision for future payments in recognition of past services of employees.

While the company has no formal pension plan it does pay pensions to aged employees of long service. Such payments in the United States amounted to $462,439.93 for the year 1946, and the further provision of $500,000.00 toward payments in the future was made with a view to more fully assuring the company's ability to make similar payments in future periods.

Additions to Plant and Equipment:

The amount charged to operations for depreciation in 1946 was $2,008,713.88 compared with $1,918,631.11 for 1945. However, the operations for 1945 absorbed in addition a charge of $617,089.81 for amortization of emergency facilities applicable to the year 1945 and there was no such charge in 1946. The charge for depreciation of machinery and equipment is established on a basis of the estimated remaining life of the individual item; the provision for depreciation on buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction. This has been the general depreciation policy of your company for many years.

While the provision for depreciation is considered the appropriate charge for absorbing the original cost of buildings and equipment acquired in the past, it does not include any provision for the extra cost that would be experienced in replacing such assets at the present purchasing power of the dollar. Accordingly, pursuant to action taken by the Board of Directors, the company has made an initial appropriation of $500,000.00 out of 1946 earnings toward the excess of anticipated replacement cost over original cost of its older and less efficient machinery and equipment. This by no means represents the total of such additional cost that would be experienced if the company were faced with immediately replacing all of its machinery

and equipment and does not take into account such possible costs in regard to land and buildings.

During the year 1946 the company expended $5,132,759.32 on replacements and additions to property, plant and equipment compared with an expenditure of $1,822,908.81 during 1945. The additions and replacements during 1946 consisted of expenditures of $2,360,574.88 at the Chicago plant, $1,356,525.88 at the Chattanooga plant, $431,418.73 at the Trenton potteries plants, and $984,239.83 at branch and office locations. The additions at the Chicago plant included $1,688,766.00 in respect of the purchase of machinery and equipment used by the company during the war under a rental contract with the United States Navy Department.

Dividends Received from Foreign Subsidiaries:

The income of $1,813,196.46 shown as dividends received from the Canadian subsidiary represents in effect a dividend from the operation of the Canadian subsidiaries in the amount of $977,375.57, and a dividend from the subsidiary in England of $835,820.89, the latter dividend having been paid first to the principal Canadian subsidiary, it being the parent of the subsidiary in England. These were the first dividends paid from Canadian operations since 1943 and the first paid from operations in England since 1940, dividend payments by these companies having been deferred in view of contingent hazards which were subsequently dissolved.

Net profit of the Canadian subsidiary companies for 1946 amounted to $1,401,866.22 compared with $661,008.82 for the previous year, and that of the subsidiary company in England amounted to $837,506.40 compared with $420,225.39 for the previous year. The results of the company in England for 1946 are stated, however, after taking credit for $209,493.20 from postwar refunds and tax adjustments applicable to prior years.

Sales of the companies in both countries were at a peak, with the volume in Canada far above previous years.

Taxation:

During the year 1946 the company paid or accrued in combined direct taxes of all kinds in the United States a total of $7,811,974.19. This amount includes $5,718,937.82 as provision for federal income taxes compared with a total provision for federal income and excess profits taxes of $11,639,297.82 for the year 1945.

Reserve for Contingencies:

During the war years the Board of Directors provided from earnings a Reserve for Contingencies totaling $13,000,000.00 against possible losses

CRANE00308

and costs resulting from the war. By appropriate transfers to Earned Surplus this reserve was reduced to $3,000,000.00 at December 31, 1945, and to $2,000,000.00 at December 31, 1946, as in the opinion of the Board such contingencies have been eliminated to the extent of $11,000,000.00.

Renegotiation:

Renegotiation of the company's business with the Government during 1945 has been completed with the determination that no excess profits had been received and that accordingly no refund was required on the sales of that year.

Dividends Paid:

A total of $4,709,067.75 was paid in dividends during the year. This consisted of dividends at the rate of $3.75 per share on the 3¾% Cumulative Preferred Shares which amounted to $598,968.75, and regular quarterly dividends of $.25 per share and a special dividend of $.75 per share on the Common Shares totaling $1.75 per share or $4,110,099.00.

CONSOLIDATED BALANCE SHEET:

Financial Condition:

Current assets of Crane Co. and its United States subsidiaries amounted to $72,839,520.06 at December 31, 1946, and current liabilities amounted to $11,829,199.65 reflecting net working capital of $61,010,320.41 of which $23,073,334.01 was in cash and marketable securities. This net working capital shows an increase of $4,211,632.33 over the comparable position at December 31, 1945.

The current liabilities are stated after deducting U. S. Treasury Tax Notes and accrued interest thereon amounting to $6,281,354.00 from the item of accrued federal income taxes. After such deduction the accrued federal taxes amounted to $134,215.18 and there was also a liability of $1,708,851.01 for accrued general taxes.

The ratio of current assets to current liabilities was 6.16 to 1 on December 31, 1946.

Inventories:

The consolidated inventories amounted to $32,483,746.09 at December 31, 1946, showing an increase of $8,386,707.97 over the position at December 31, 1945. The total increase resulted from an increase of $1,837,344.33 in raw materials and supplies, an increase of $2,166,152.14 in work in process, and an increase of $4,383,211.50 in finished goods.

CRANE00309

Inventory amounting to $23,116,008.40 and representing the major part of the inventory of Crane Co. proper is valued on a basis of the "Last-in, First-out" method adopted as of January 1, 1941; the remainder of the inventory amounting to $9,367,737.69 is valued at the lower of cost or market. However, recognizing the uncertainties inherent in present price levels a reserve of $1,340,000.00 has been provided for inventory price declines on that portion of the inventory not valued on the "Last-in, First-out" basis and appears as a reserve on the balance sheet.

Open commitments for raw materials made in the ordinary course of business amounted to approximately $527,000.00 at the end of the year. Prices thereon were substantially the same as current market quotations.

Investment in Foreign Subsidiaries:

Foreign subsidiaries of the company located in Canada and England are wholly-owned and the investment in them is carried in the balance sheet at cost, namely $12,000,000.00. The company's equity in the surplus of these subsidiary companies which amounted to $6,847,500.89 at December 31, 1946, when computed at official rates of exchange is not included in the consolidated surplus.

The net assets of the companies in Canada and England at December 31, 1946, and the results of their operations for the year ended that date are given on pages 13 and 14 of this report.

In 1943 the company wrote off its investment in a subsidiary company in France with a resulting reduction in provision for federal taxes. During 1946 the company sold such interest as it might have in that company for a gross amount of 60,000,000 francs whereof 5,411,512 francs were allowed by the French authorities to be converted into $45,360.54. Both the franc balance and the dollar balance were subjected to certain expenses incident to the transaction and the franc balance was also reduced by a capital tax of 2,057,012 francs levied by the French Government in 1945, and a bonus payment of 3,094,350 francs in recognition of services of employees of Cie Crane at the date of sale who at that time had ten or more years of service. The net dollar proceeds $44,663.26 received in the United States have been included in Miscellaneous Income. The balance of 46,326,645 francs at February 28, 1947, is subject to restrictions by the French Government as to its use and cannot be converted into dollars at this time. It is impossible to say what, if any, amount thereof may finally be received in this country and federal income tax has been provided for only in regard to the $44,663.26 included in Miscellaneous Income.

CRANE00310

Sinking Fund for 3¾% Cumulative Preferred Shares:

The 3¾% Cumulative Preferred Shares are subject to sinking fund requirements as follows: On or before April 30 in each year beginning with the year 1947 the company is to pay over in cash to a sinking fund agent appointed by the Board of Directors, as a sinking fund for the redemption or purchase of shares of such series, an amount equal to the amount by which the consolidated net income of the company and its domestic subsidiaries for its latest fiscal year ended prior to the preceding January 1 shall exceed the sum of (i) all dividends (whether or not paid) accrued during such year on the outstanding Preferred Shares plus (ii) $2,500,000, but the amount so to be paid over to the sinking fund agent with respect to any such fiscal year shall not exceed $320,000. Against its obligation to make the cash sinking fund payment in any year the company may, at its election, take credit for shares of such series purchased or redeemed by it otherwise than through the sinking fund.

During the year the company purchased 1,150 shares of its 3¾% Cumulative Preferred Shares at an aggregate principal cost of $117,900 which shares together with other shares subsequently purchased at less than the sinking fund redemption price will be deposited with the sinking fund agent in lieu of the $320,000 cash payment which otherwise would be required.

Litigation:

The company and its manager of plumbing and heating sales, together with approximately seventy other defendants both corporate and individual, are now on trial in the Federal District Court in Cleveland, Ohio, under an indictment charging conspiracy to restrain trade in the sale of plumbing supplies. The indictment, returned March 29, 1940, was continued during the war and first came to trial about three months ago and it is impossible to determine at this time what decision will be reached.

In December, 1946, a "portal to portal" action was instituted against the company claiming approximately $7,400,000, together with an equal amount as liquidating damages, and attorneys' fees. The amount of the company's liability, if any, is not now determinable.

General:

The physical properties, plants and equipment of the company have been maintained in excellent condition. The large amount expended during 1946 for new facilities, machinery and equipment is considered substantially in excess of regular year to year requirements but the company plans

CRANE00311

to continue to introduce new and improved equipment where warranted by lower production costs or improved products.

Supplementing such a program of cost reduction on existing products the company has in its designing emphasized those products which will serve the low-cost market and, more particularly, that of low-cost housing. Thus in its own field the company is prepared to serve the most exacting, the standard, and the low-cost demand.

While labor and material costs will no doubt eventually reach a more stable condition the base is expected to be at a much higher level than prewar and the necessity for cost reductions is so accordingly greatly increased.

The increase in inventory has been substantial but deliberate, as a large inventory is necessary to serve the current high level of sales. The larger portion of the inventory is valued on a "Last-in, First-out" basis and so amply protected against depreciation in value and, as previously stated, a reserve of $1,340,000.00 has been provided against possible price decline on that part of the inventory not on a "Last-in, First-out" basis.

During the year we had fairly full and steady production. Our operations, in common with most business, were hampered by shortages of material and services but we wish to pay tribute to our suppliers who did so well to serve us commensurate with all their other obligations. We wish also to commend our own organization who worked tirelessly and spared no effort to stretch, to the utmost, our services to our customers.

J. H. COLLIER
Chairman

J. L. HOLLOWAY
President

March 24, 1947

With deep regret we record the death on December 25, 1946, of Sydney G. McAllister, a Director since 1939. Mr. McAllister was a man of high character and great business ability, and his excellent judgment and wise counsel were of great value to the company and the community.

CRANE00312

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1946

ASSETS

CURRENT ASSETS:		
Cash		$ 12,849,185.26
U. S. Government securities at cost, which approximates market value		10,224,148.75
Accounts receivable—		
Trade	$ 18,133,950.12	
Sundry	98,966.36	
	$ 18,232,916.48	
Less: Reserve for doubtful accounts	1,152,466.09	
		17,080,450.39
Inventories (Note 1)—		
Raw material and supplies	$ 6,696,481.40	
Work in process	9,465,247.76	
Finished goods	16,322,016.93	
		32,483,746.09
Due from foreign subsidiaries not consolidated		201,989.57
Total Current Assets		$ 72,839,520.06
INVESTMENTS:		
Investment in foreign subsidiary not consolidated, at cost (Note 2)	$ 12,000,000.00	
Other investments, at cost or nominal value (less reserve, $130,167.76)	206,365.02	
		12,206,365.02
FIXED ASSETS:		
Land and land improvements	$ 5,804,590.32	
Buildings $30,222,052.36		
Less: Reserve for depreciation 13,655,570.09		
	16,566,482.27	
Machinery and equipment $36,107,755.21		
Less: Reserve for depreciation 22,412,078.20		
	13,695,677.01	
Unfinished construction	1,115,305.68	
		37,182,055.28
DEFERRED CHARGES:		
Prepaid insurance, etc.		342,292.76
		$122,570,233.12

CRANE00313

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1946

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued payrolls		$ 9,986,133.46
Accrued federal income and excess profits taxes	$ 6,415,569.18	
Less: U. S. Treasury tax notes, at cost plus accrued interest	6,281,354.00	
		134,215.18
Accrued general taxes		1,708,851.01
Total Current Liabilities		$ 11,829,199.65
RESERVES AND APPROPRIATIONS:		
Reserve for possible future price decline on certain inventories (Note 1)	$ 1,340,000.00	
Reserve toward future payments in recognition of past services of employees	500,000.00	
Reserve for contingencies	2,000,000.00	
Miscellaneous reserves	149,397.93	
Appropriation toward excess of future replacement cost of machinery and equipment over original cost	500,000.00	
		4,489,397.93
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Common stockholders (par value $668,700 plus equity in surplus $330,794.92)		999,494.92
CAPITAL STOCK AND SURPLUS:		
Capital Stock—		
3¾% Cumulative preferred shares, par value $100—		
Authorized—160,000 shares		
Outstanding—160,000 shares (including 1,150 treasury shares) (Note 3)	$ 16,000,000.00	
Common shares, par value $25—		
Authorized—3,000,000 shares		
Outstanding—2,348,628 shares	58,715,700.00	
	$ 74,715,700.00	
Surplus—		
Capital surplus (unchanged during year) $ 1,509,049.91		
Earned surplus (Notes 3 and 4) 29,145,693.21		
	30,654,743.12	
	$105,370,443.12	
Less: Cost of 1,150 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 3)	118,302.50	
		105,252,140.62
		$122,570,233.12

See accompanying notes.

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CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1946

Gross sales, less discounts, returns and allowances:		
Sales to customers		$141,067,631.98
Sales to foreign subsidiaries		1,378,185.93
Total		$142,445,817.91
Cost of sales, selling, administrative and general expenses, including provisions of $1,340,000 for possible future price decline on certain inventories (Note 1) and $500,000 toward future payments in recognition of past services of employees	$127,721,287.99	
Provision for depreciation	2,008,713.88	129,730,001.87
Net operating profit		$ 12,715,816.04
Other income:		
Interest received	$ 290,421.30	
Miscellaneous other income	256,193.06	546,614.36
		$ 13,262,430.40
Deductions:		
Miscellaneous deductions	$ 47,538.53	
Minority stockholders' interest in net income of subsidiaries	211,833.62	259,372.15
Net profit (exclusive of dividends received from foreign subsidiary) before federal income taxes		$ 13,003,058.25
Provision for federal income taxes		5,718,937.82
		$ 7,284,120.43
Dividends received from Canadian subsidiary (Note 2)		1,813,196.46
Net profit for the year		$ 9,097,316.89
Appropriation toward excess of future replacement cost of machinery and equipment over original cost		500,000.00
Amount of profit transferred to earned surplus		$ 8,597,316.89

See accompanying notes.

CRANE00315

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED EARNED SURPLUS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1946

Balance, December 31, 1945		$24,257,444.07
Add:		
Amount of profit for the year transferred to earned surplus	$8,597,316.89	
Reduction in reserve for contingencies	1,000,000.00	
		9,597,316.89
		$33,854,760.96
Deduct:		
Cash dividends paid—		
On 3¾% cumulative preferred shares, $3.75 per share	$ 598,968.75	
On common shares, $1.75 per share	4,110,099.00	
		4,709,067.75
Balance, December 31, 1946 (Notes 3 and 4)		$29,145,693.21

NOTES TO FINANCIAL STATEMENTS

1. INVENTORIES:

Inventories of certain finished goods, work in process, and raw materials of the parent Company, aggregating $23,116,008.40 at December 31, 1946, are priced at cost on a "last-in, first-out" basis, which was first applied effective January 1, 1941. The remainder of the inventories at December 31, 1946, aggregating $9,367,737.69, have been priced at the lower of cost or market on a "first-in, first-out" basis. Provision for possible future price declines in the latter inventories has been made by a charge of $1,340,000.00 against 1946 income.

2. INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND:

The investment in the Canadian subsidiary, Crane, Limited (Canada), is carried in the balance sheet at U. S. dollar cost, $12,000,000. The net assets of this Company and its subsidiaries, segregated as between Canada and England, are summarized below:

	Canada	England	Total
Fixed assets, at U. S. dollar cost at date of acquisition, less accrued depreciation	$ 5,234,015.74	$1,721,641.34	$ 6,955,657.08
Net current assets at official rates of exchange	7,426,344.81	3,942,200.76	11,368,545.57
Other assets at official rates of exchange	468,678.99	54,619.25	523,298.24
	$13,129,039.54	$5,718,461.35	$18,847,500.89

The results of operations of the subsidiaries operating in Canada and England for the year ended December 31, 1946 (converted at official rates of exchange, except

CRANE00316

that the provision for depreciation on fixed assets has been computed on U. S. dollar cost) are shown below:

	Canada	England
Gross sales, less discounts, returns and allowances..	$22,875,579.75	$5,802,633.20
Cost of sales, including selling, administrative and general expenses but before provision for depreciation	19,397,794.39	4,099,600.20
	$ 3,477,785.36	$1,703,033.00
Provision for depreciation	349,006.12	122,230.69
Net operating profit	$ 3,128,779.24	$1,580,802.31
Other income, less other deductions	73,086.98	(7,441.38)
Net profit before income and excess profits taxes..	$ 3,201,866.22	$1,573,360.93
Provision for income and excess profits taxes	1,800,000.00	735,854.53
Net profit	$ 1,401,866.22	$ 837,506.40

The provision for income and excess profits taxes in respect of the English subsidiary's operations is after crediting thereto an amount of $209,493.20 representing post-war refunds and tax adjustments in 1946 applicable to prior years.

During the year 1946, Crane, Limited (Canada) received from its English subsidiary a dividend of $885,446.25 Canadian dollars (equivalent to $885,446.25 U. S. dollars) which, being an inter-company dividend, is not reflected in the operating results of the Canadian companies.

During the year 1946, Crane Co. received dividends of $1,813,196.46 (U. S. dollars) from Crane, Limited (Canada) which have been reflected in the consolidated income account of Crane Co. and subsidiaries in the United States.

Canada and England have enacted certain exchange regulations restricting the withdrawal of funds, etc., and the investments in and the profits of the Companies located therein are subject to such restrictions, as well as to such income and excess profits taxes as may be payable on the transfer of profits between England, Canada and the United States. For the year 1946, the dividends from Crane, Limited (England) to Crane, Limited (Canada) and from Crane, Limited (Canada) to Crane Co. were not subject to taxes on income because of credits for taxes paid to these foreign countries.

3. 3¾% Cumulative Preferred Shares:

These shares are redeemable at the option of the Company at $107 per share if called for redemption prior to June 15, 1955 (an aggregate amount of $16,996,950), and at $104.50 per share if called for redemption on or after June 15, 1955, in each case plus accrued dividends to the date fixed for redemption. They are also redeemable through the operation of the sinking fund at any time at the sinking fund redemption price of $104.50 per share, plus unpaid accrued dividends. Reference is made to the narrative section of this report for a statement in respect of the sinking fund requirements.

Under the Business Corporation Act of Illinois, Earned Surplus of Crane Co. is restricted in the amount of $118,302.50, the cost of 1,150 reacquired shares in the Treasury at December 31, 1946.

4. Dividend Restrictions on Common Shares:

Under the provisions of the Articles of Incorporation, so long as any of the Preferred Shares are outstanding the company shall not pay dividends on the Common Shares in excess of an amount determined in accordance with such provisions. The amount so determined at December 31, 1946 was $10,363,240.51.

5. Litigation:

Reserves and Appropriations:

Reference is made to the narrative section of this report for statements regarding the indictment against the Company for alleged violation of the Sherman Act, the position of the Company in regard to so called "portal to portal" claims and for comment in respect of certain reserves and appropriations.

CRANE00317

CERTIFICATE OF INDEPENDENT PUBLIC ACCOUNTANTS

To the Shareholders of Crane Co.:

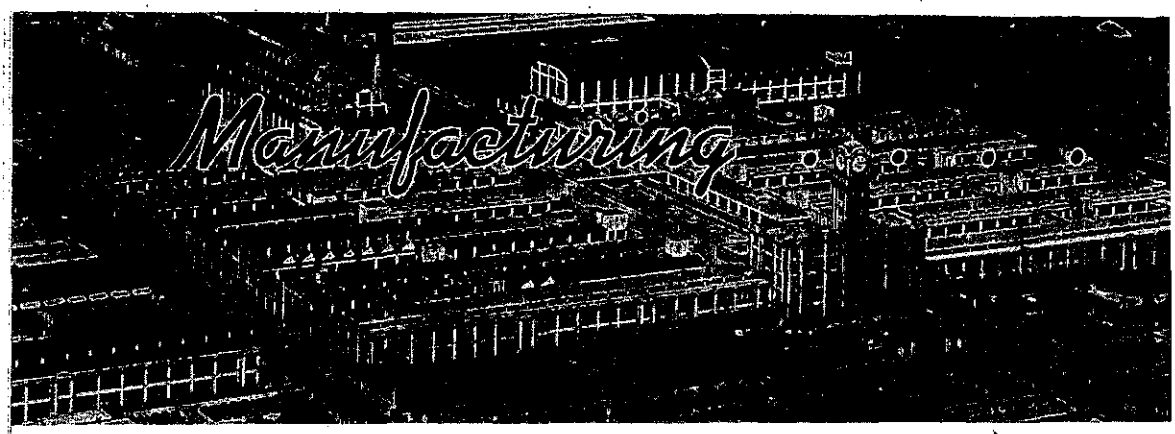
We have examined the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiaries in the United States at December 31, 1946, and the consolidated profit and loss and surplus statements for the year then ended, have reviewed the system of internal control and the accounting procedures of the Companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the Companies and other supporting evidence, by methods and to the extent we deemed appropriate. Our examination was made in accordance with generally accepted auditing standards applicable in the circumstances and included all procedures which we considered necessary.

In our opinion, the accompanying consolidated balance sheet and consolidated profit and loss and surplus statements present fairly the position of Crane Co. and its subsidiaries in the United States at December 31, 1946, and the results of their operations for the year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY.

Chicago, Illinois,
March 15, 1947.

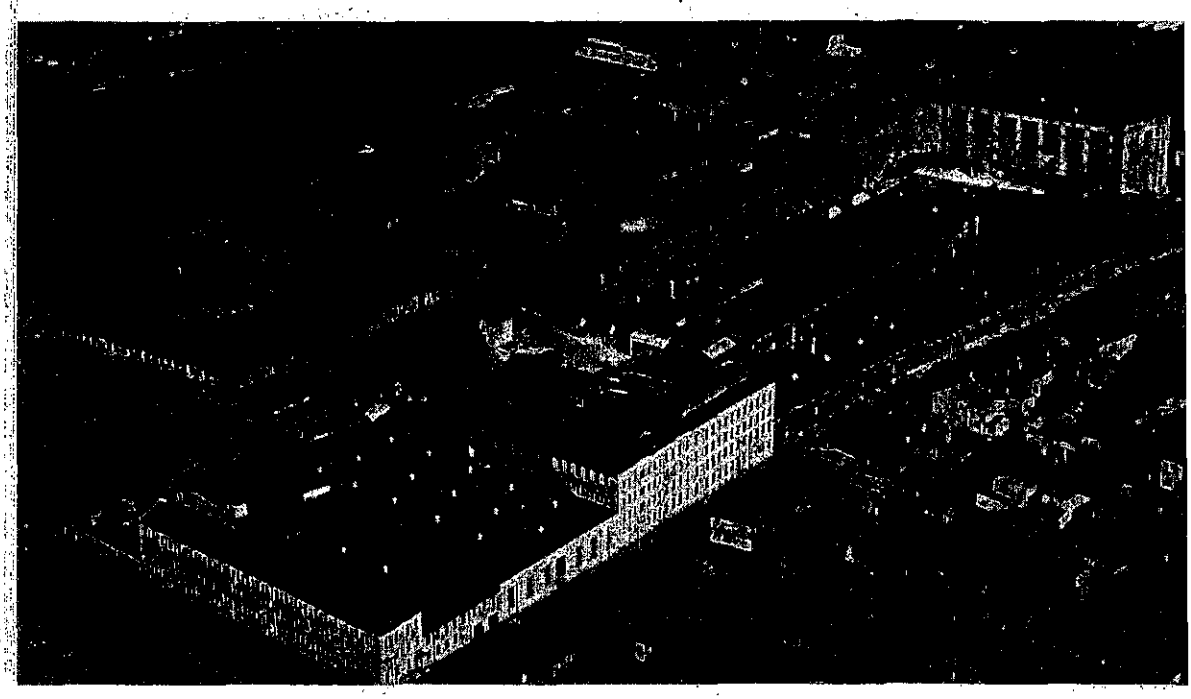
CRANE00318

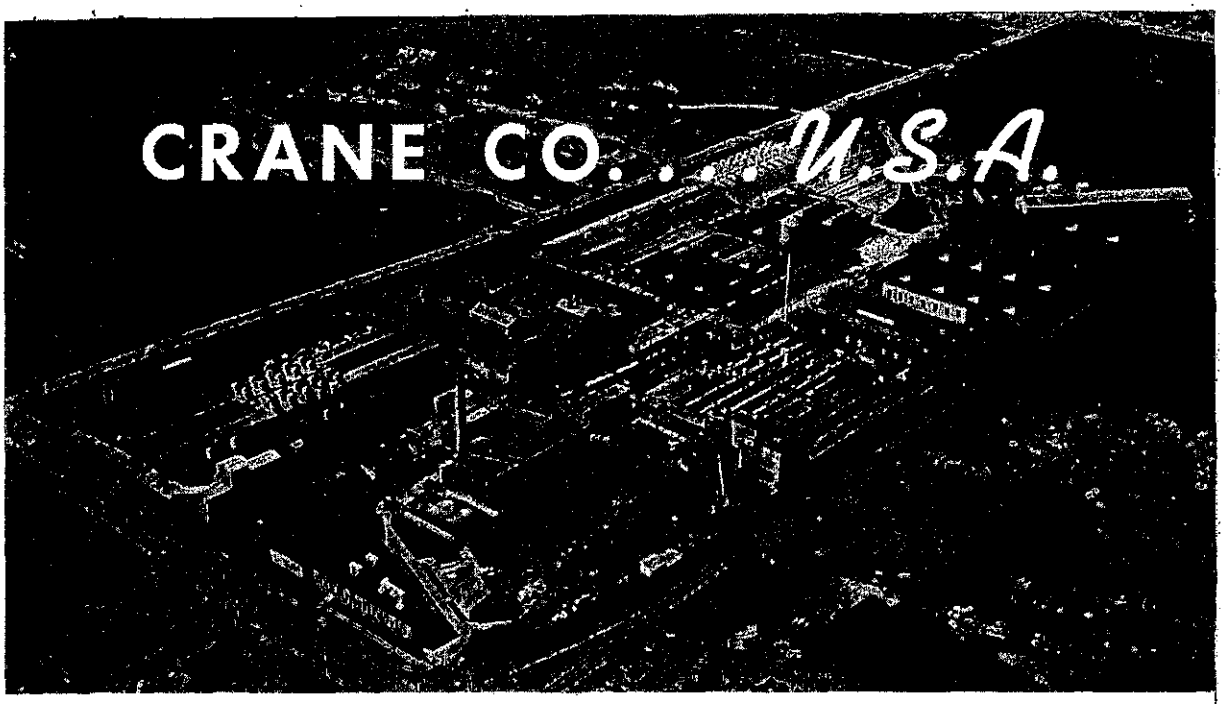


CRANE CO. and its subsidiaries are engaged principally in the manufacture and distribution of (1) brass, iron and steel valves, fittings, and appliances for controlling and conveying water, oil and other liquids, steam, air and gases; (2) sanitary plumbing appliances and fixtures, including enameled iron, vitreous china and porcelain ware as well as plumbers' brass goods and supplies; and (3) heating apparatus and auxiliary products for industrial and residential purposes.

In Crane Co.'s past reports to its shareholders, considerable space has been devoted to the Chicago Works, shown above, which is the world's largest plant engaged in the manufacture of valves and fittings. Although Crane is justly proud of this plant, it, by no means, represents a comprehensive picture of the wide scope of Crane operations which embrace three other plants in the United States, four in Canada, and one in England, together with branches for the distribution of its own products and innumerable related products manufactured by others.

The range of models and sizes of products made in Crane plants is extremely broad. Their listing is far too great to be encompassed within these pages. Lavatories, to take a single example, are made in a variety of sizes and styles for wall hung, leg, or pedestal installation, and in flat slab, plain back, shelf back, corner and countertop models. They are designed for specific uses, such as a residential bath or powder room, for hospital, sanitarium, clinic, educational institution, hotel, office building, industry, church, public building,



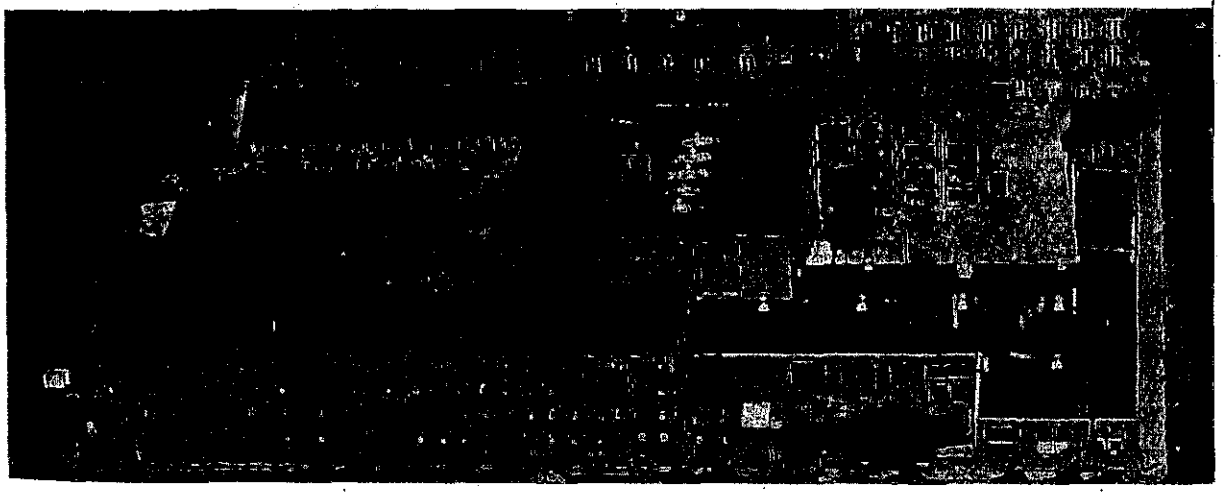


doctor's and dentist's office, barber shop, beauty parlor and innumerable other applications.

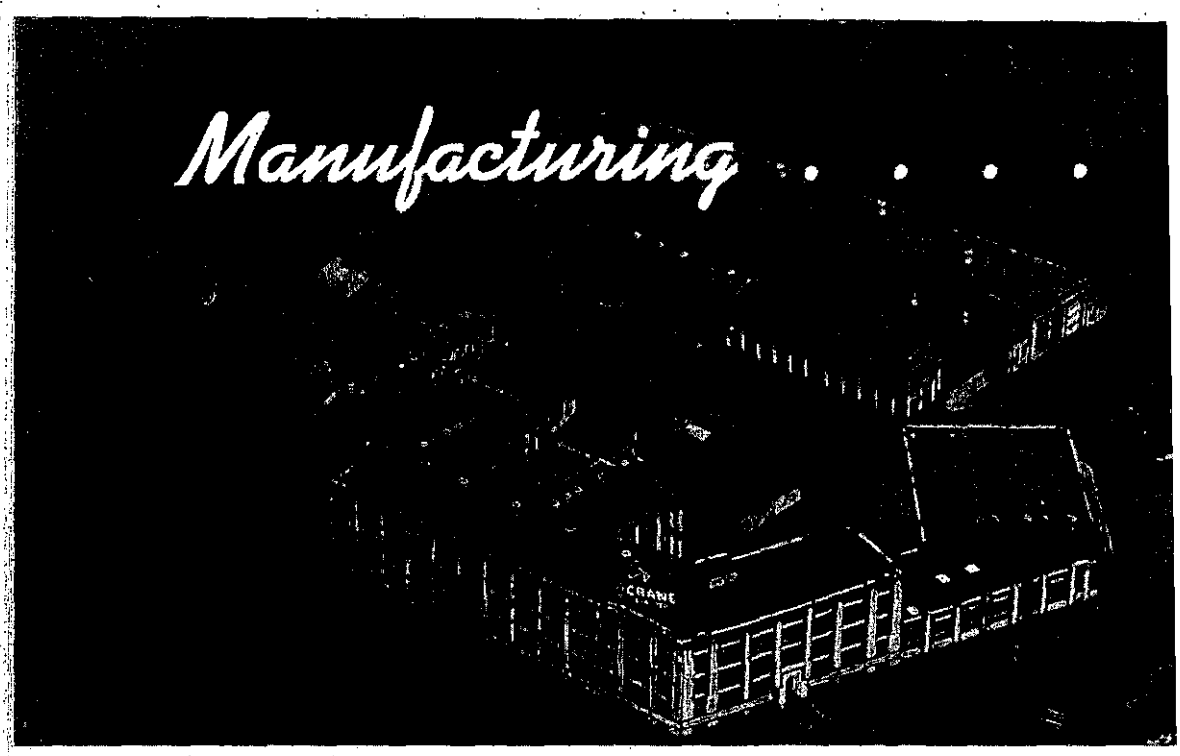
The two plants at Trenton, N. J., illustrated at the bottom of these pages, are devoted to the manufacture of Crane ceramic sanitary ware. The larger of these plants, shown at the left, makes vitreous china fixtures—such as lavatories, drinking fountains and closets. The plant below makes Duraclay, the exclusive Crane material used in bathtubs, surgeon's washup sinks, laundry tubs, urinals, and other larger fixtures for hospital and domestic service.

Artisans—skilled potters—are employed in these plants to shape and mold Crane ware which bears the trademark most people remember and respect for quality and beauty.

Another Crane plant, shown above, is located in Chattanooga, Tenn. While referred to as a single plant, this is in reality three plants; one making sanitary ware, one boilers and one, radiators. Here in the foundries, metal is cast into boilers for residential and commercial heating plants—radiators in many styles, and the structural bases for enameled iron plumbing ware. The latter are further processed in the Enameling Department where the glass-like, porcelain surface is applied and baked.

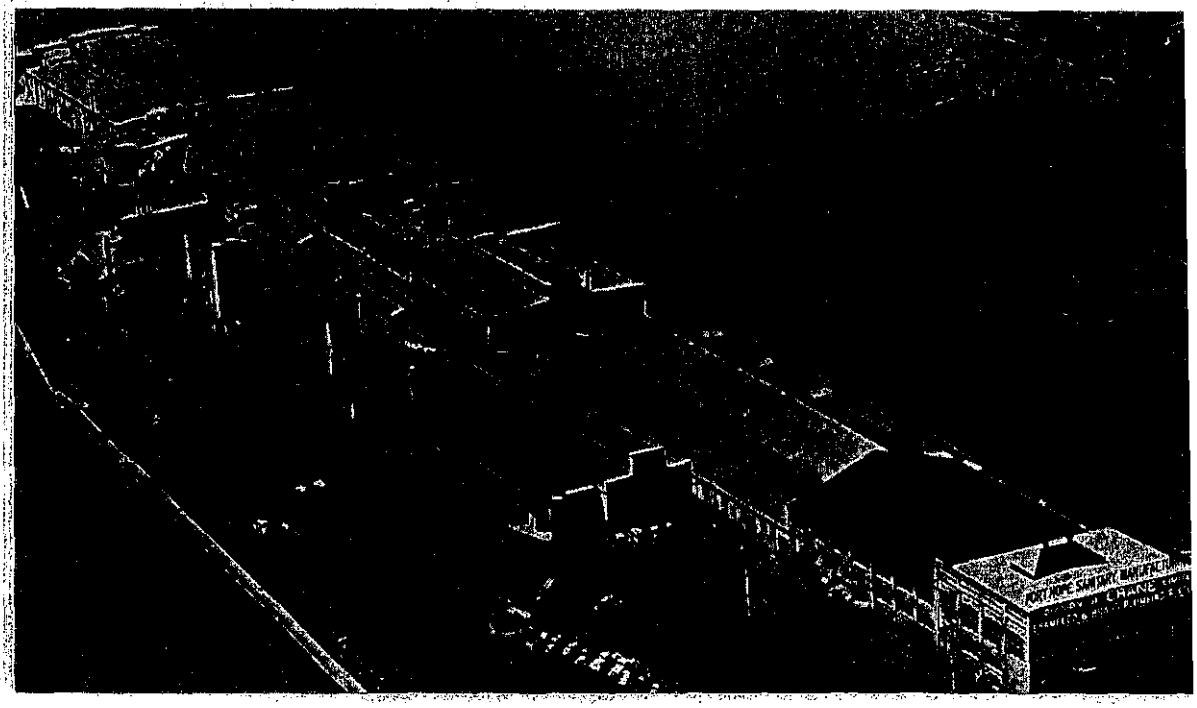


Manufacturing . . . .



CRANE CO.'S manufacturing organization for servicing the Canadian market is a counterpart of that in the United States. The four plants are devoted to making Crane products for residential, commercial and industrial use.

The St. Patrick St. Plant, illustrated above, manufactures valves, fittings and appliances in standard and special sizes, utilizing the many types of metals and designs best suited for the product's application. Brass, iron and steel are cast and machined into an extensive line of valves for the controlled transmission of liquids, steam and gases. Fittings, such as elbows, tees and unions, formed from many metals and varying from the small size required for a residential installation to those huge parts necessary for hydroelectric and steam power plants are likewise produced by this Canadian organization.



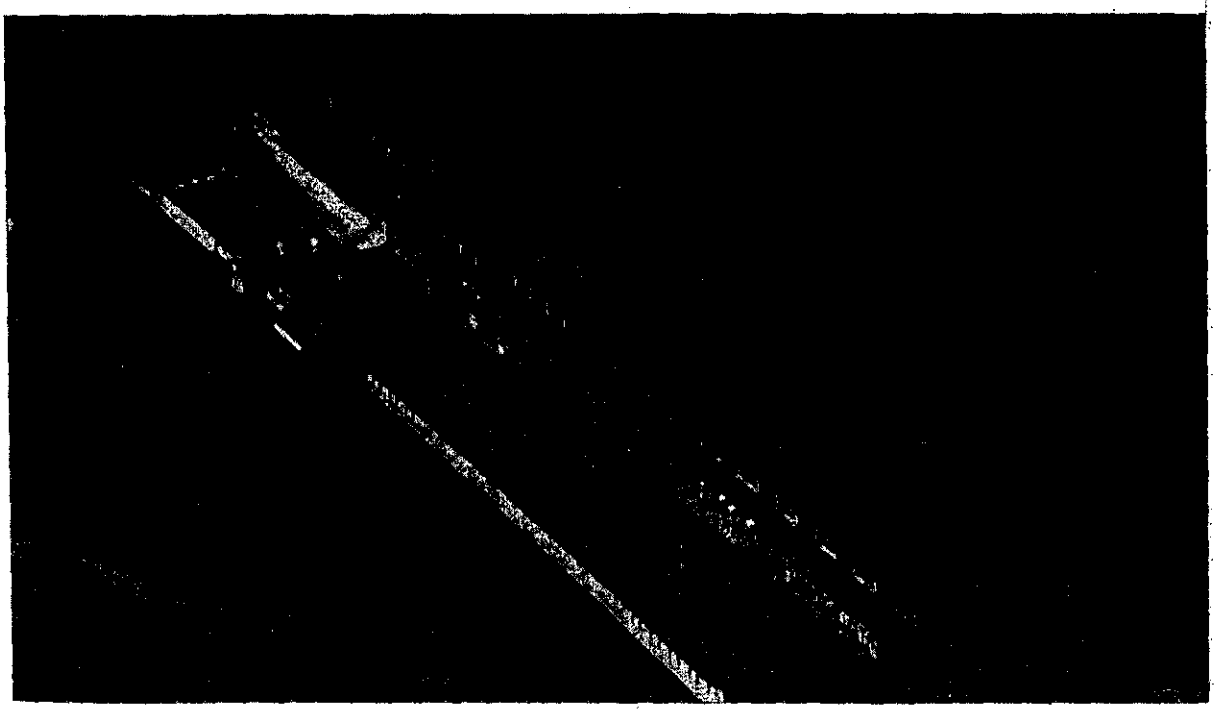
CRANE LTD. *Canada*

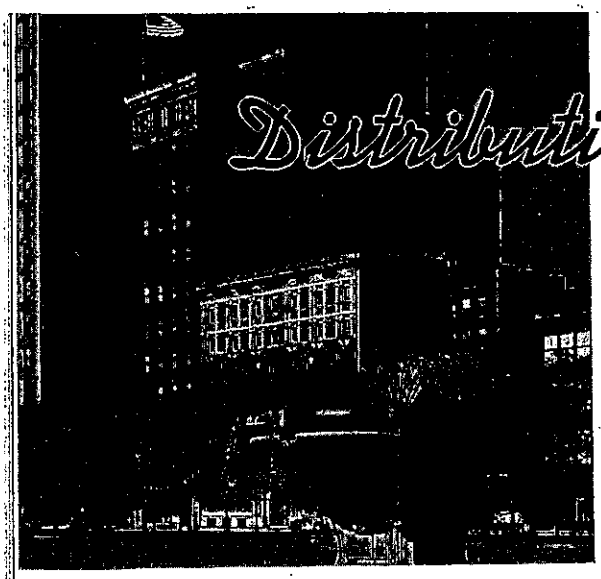
Enameled iron sanitary ware used in Canadian homes, commercial buildings and industrial organizations is produced in the Crane Ltd. Plant shown at left below. Included in its manufacture are bathtubs, both hydro-therapeutic and domestic, lavatories, sinks, laundry tubs, factory washup sinks, urinals, closet tanks and drinking fountains.

Many of these products are made in a wide range of sizes and models. For example, there are sinks with right and left hand drainboards, with single or double basin, and in flat rim or free-standing models.

Heating apparatus and auxiliary products are manufactured in the Warden-King division of Crane Ltd. shown above. Products turned out by this plant include cast iron radiators, and coal, oil and gas burning boilers (both steam and hot water) of varying sizes and types for domestic and industrial use.

In the plant of the Canadian Potteries, Ltd., shown below, vitreous china sanitary ware is manufactured for residential and commercial use. Here, too, the scope in sizes and designs produced is extremely broad.





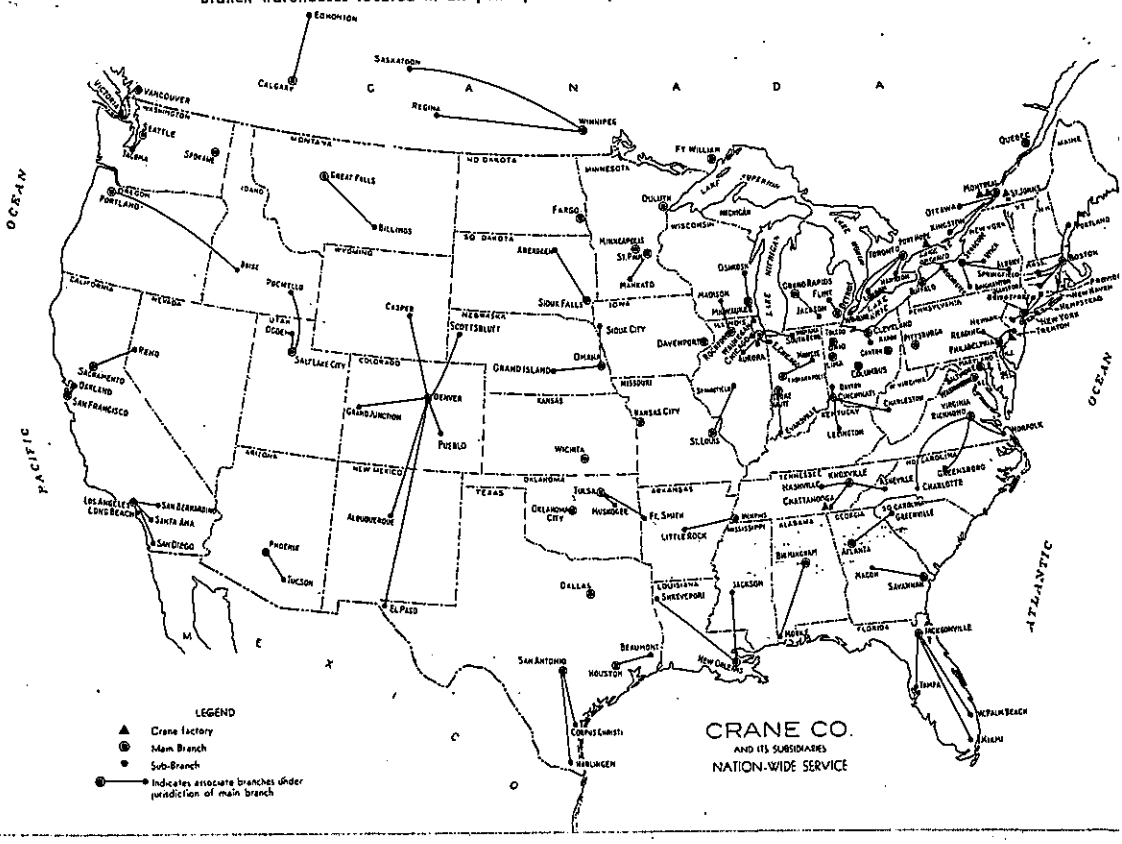
Distribution . . . U.S.A

SHOWN AT left is the twelve story Chicago General Office building of Crane Co. At right is the Canadian General Office, located in Montreal, Que., Canada.

In these offices and the 144 Crane owned branches, located in the United States and Canada, are thousands of people engaged in the sale and servicing of Crane manufactured and jobbed products. Contact is maintained with thousands of plumbing and heating contractor-dealers, builders and architects who buy or specify plumbing and heating. In the industrial field, Crane men have similar contact with many thousands of plants using piping equipment for all sorts of applications. Among the major industrial groups thus served are petroleum, food, paper, railroad, marine, chemical, mining and power plants.

A substantial part of the Crane business is the distribution of numerous items related to Crane products and the markets they serve. Such products are bought from hundreds of other manufacturers, stocked in Crane branches and sold by Crane men. They include durable goods for both the plumbing and heating market and for industrial piping applications, such as water heaters,

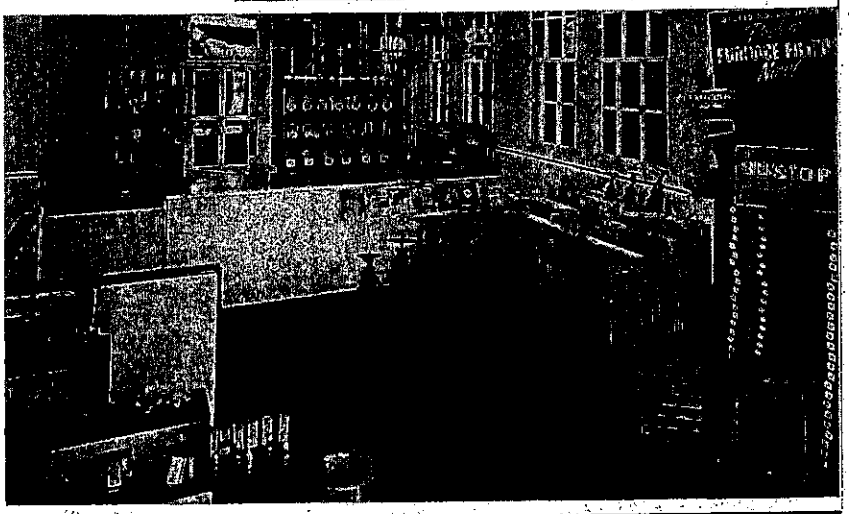
Branch warehouses located in all principal cities provide materials available at the point of use.



. . . . and Canada

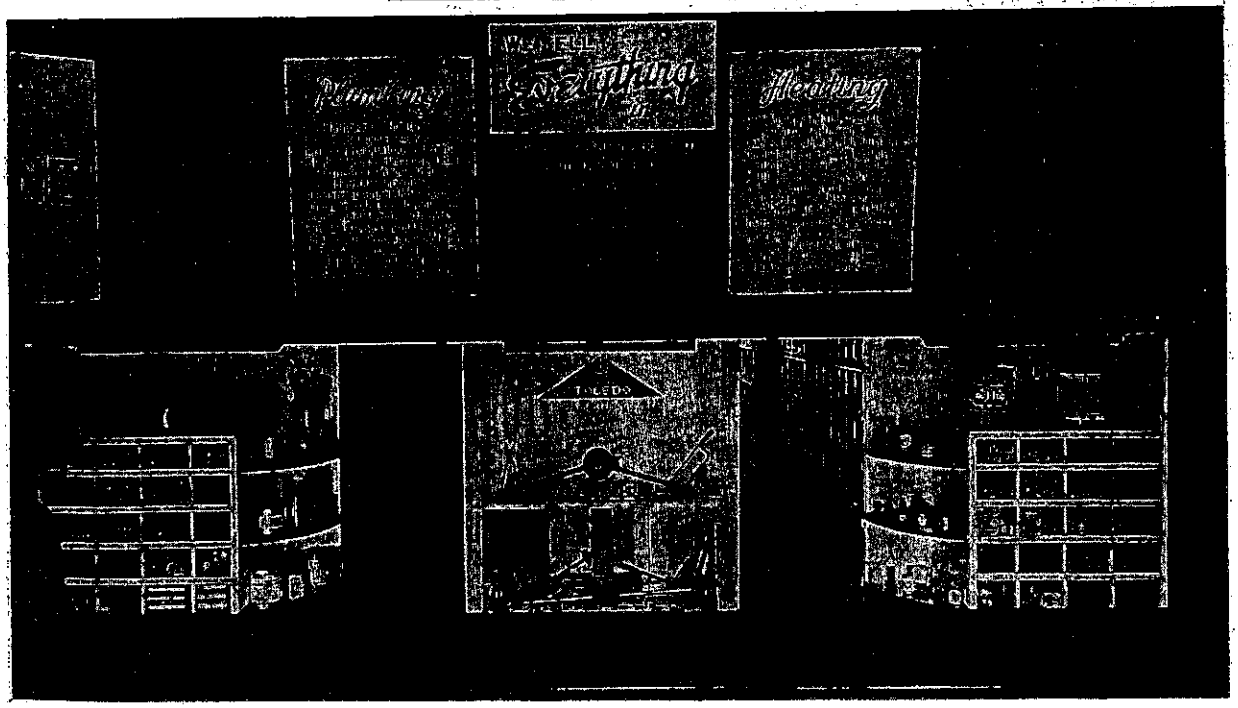
softeners, stokers, valve specialties, pressure regulators, gaskets, oil burners, furnaces, dishwashers, garbage Disposall units, shower curtains and sundry plumbing and heating supplies, in addition to steel, iron, brass and copper pipe.

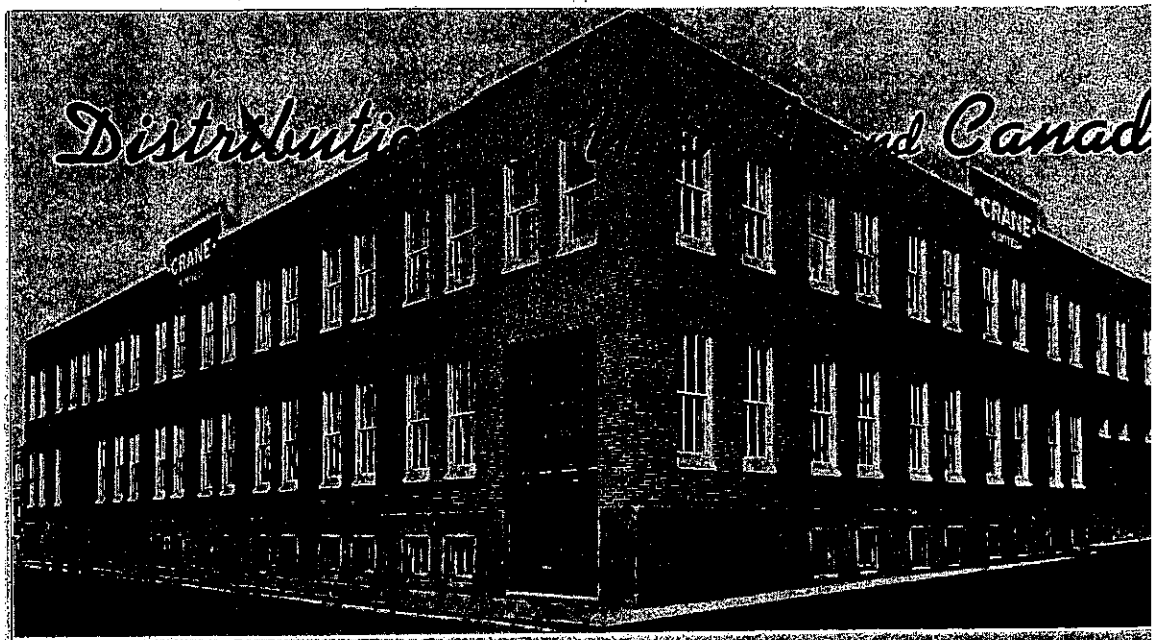
Obviously, this widespread sales and distribution organization of Crane Co. and its subsidiaries is providing gainful employment for thousands of Americans outside its own organization.



Near the city counter of a Crane branch, shown at right, is displayed a typical variety of products.

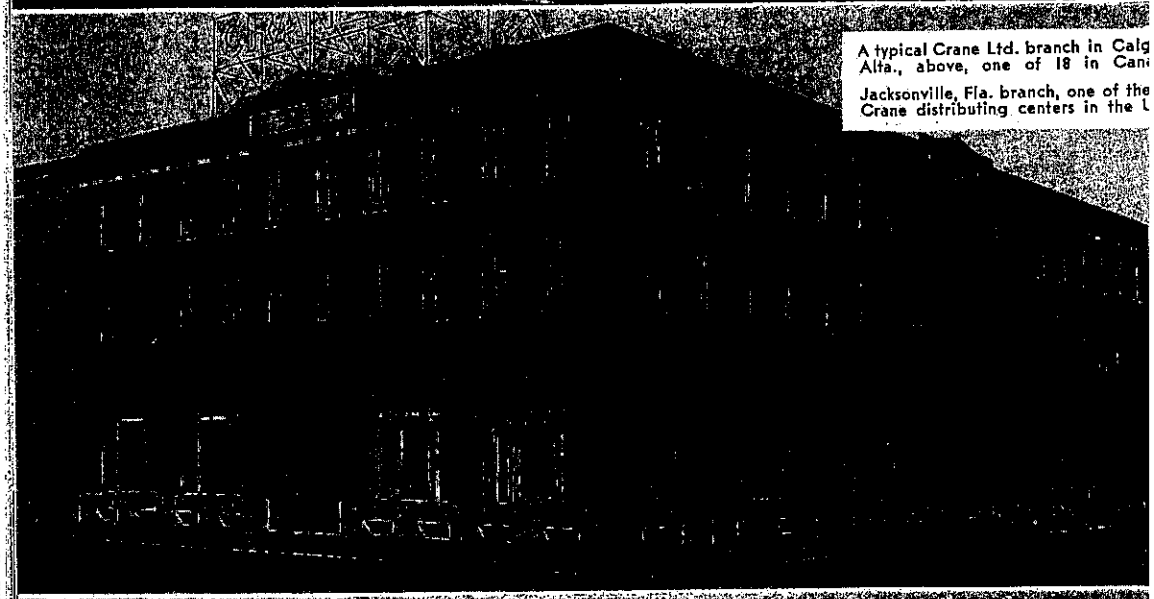
Sign over a Crane branch counter shown below illustrates the diversified line of Crane products sold.



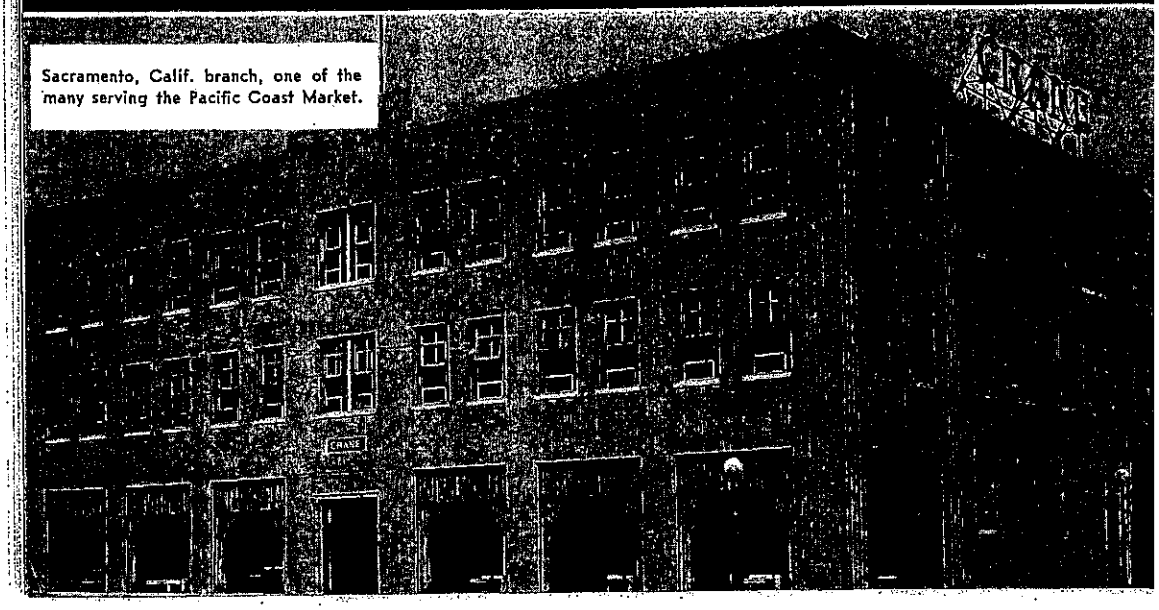


A typical Crane Ltd. branch in Calg
Alta., above, one of 18 in Can

Jacksonville, Fla. branch, one of the
Crane distributing centers in the U



Sacramento, Calif. branch, one of the many serving the Pacific Coast Market.



CRANE LTD.

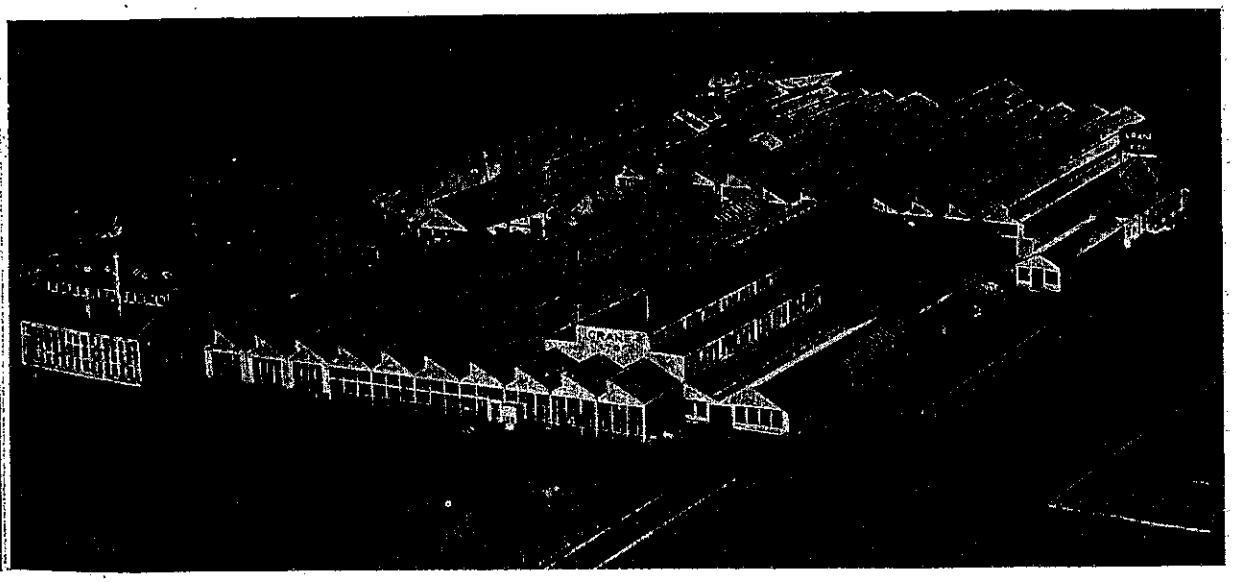
CRANE operations in England include the General Office in London, illustrated at the right; the manufacturing plant at Ipswich, shown below, and four Company-owned branches of which three are illustrated on the following page.

The first step in building the Crane Ltd. organization was taken in 1919 when E. Bennett & Son, one of England's largest distributors of valves and fittings was purchased. Crane products were imported until 1926 when the Ipswich plant was started to make possible production of many of these items in England. Since that time the plant facilities have been frequently expanded.

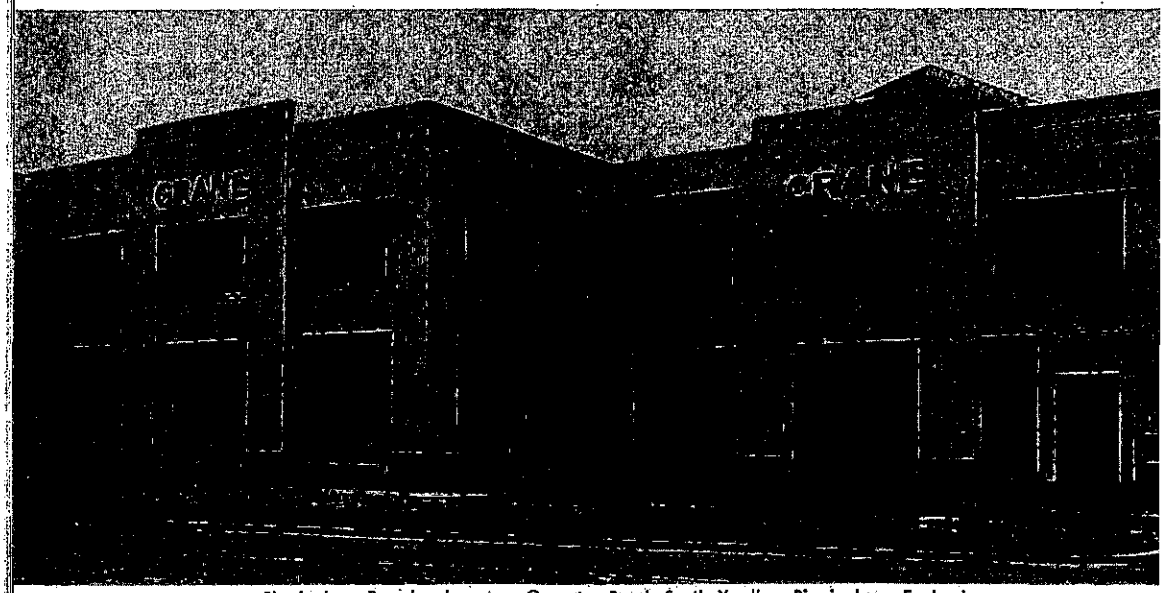
Today Crane Ltd. is the largest producer of malleable fittings in England, and in addition is a large producer of boilers and radiators, cast iron valves and fittings, brass valves and fittings, and is now going into steel valves.

As in all Crane Plants, laboratory control from raw material to finished product is maintained throughout to insure the high degree of quality expected of all Crane products. The value of scientific control in the Ipswich foundries is characteristic of the entire Crane production organization.

A substantial part of the output of Crane Ltd. is exported. The markets served are very wide and include such areas as South Africa, New Zealand, India, and other far Eastern countries.

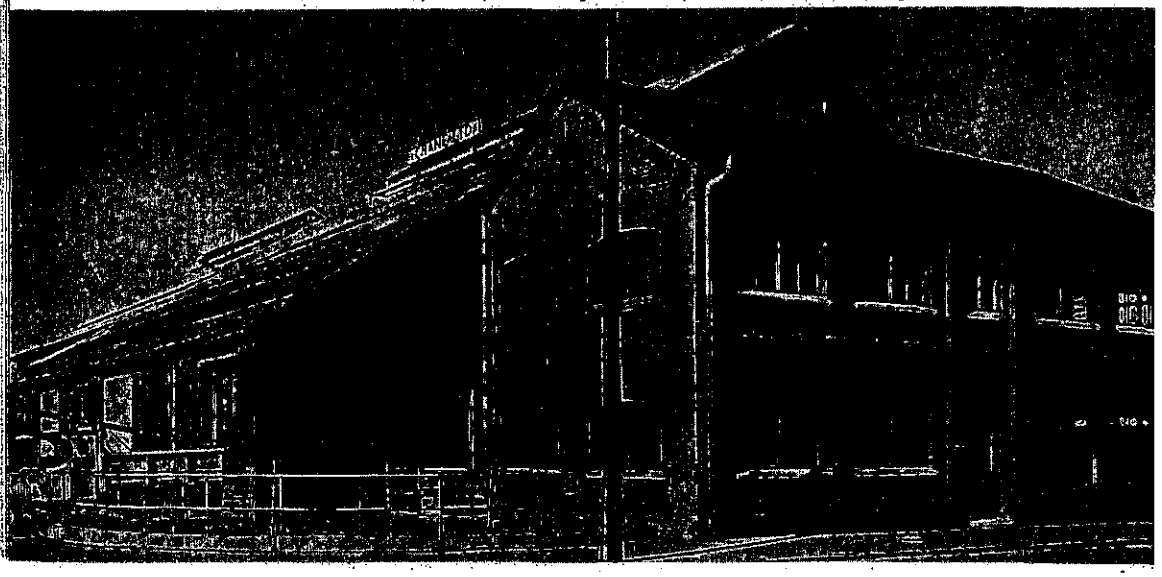


Brentford Branch, above, on Great Western Road, Brentford, Middlesex, England.



Birmingham Branch, above, on Coventry Road, South Yardley, Birmingham, England.

Manchester Branch, below, on Westinghouse Road, Trafford, Manchester, England.



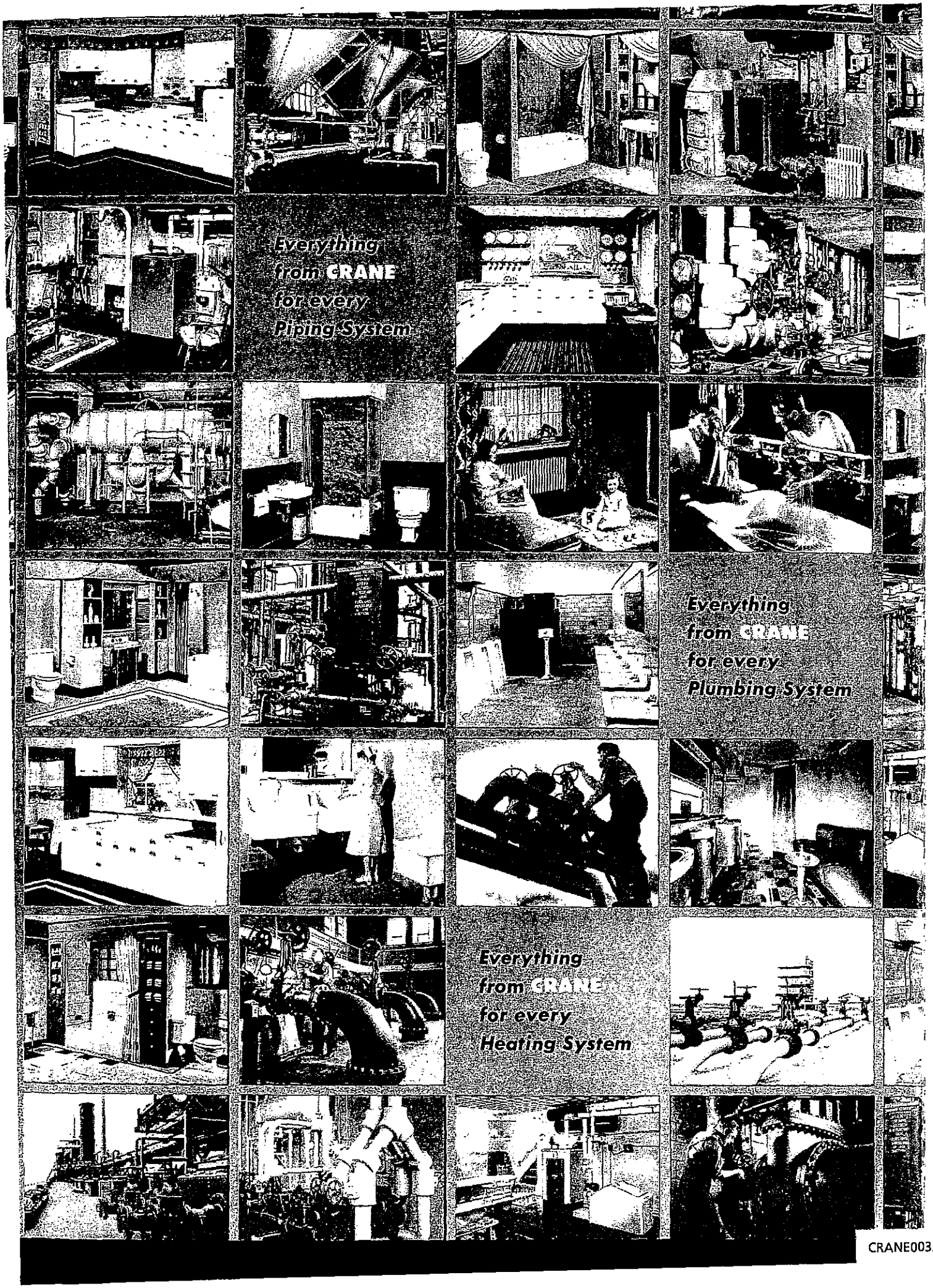
CRANE

1947

ANNUAL REPORT

CRANE CO.

OUR NINETY-SECOND YEAR


Everything
from CRANE
for every
Piping System
Everything
from CRANE
for every
Plumbing System
Everything
from CRANE
for every
Heating System

ANNUAL REPORT

FOR THE YEAR ENDED DECEMBER THIRTY-FIRST

1947

CRANE CO.

836 SOUTH MICHIGAN AVENUE, CHICAGO

Founded 1855 Incorporated 1865

DIRECTORS

ARTHUR O. CHOATE
JOHN H. COLLIER
C. R. CRANE, II
G. A. EASTWOOD
J. L. HOLLOWAY
GORDON H. KELLOGG
MARK W. LOWELL
E. H. MCDERMOTT
P. R. MORK
WILLIAM R. ODELL

OFFICERS

JOHN H. COLLIER, *Chairman*

J. L. HOLLOWAY ..... *President*
P. R. MORK ..... *Executive Vice President*
C. R. CRANE, II ..... *Vice President*
J. A. DWYER ..... *Vice President*
V. P. RUMELY ..... *Vice President*
H. F. POTTER ..... *Vice President*
WALTER EVENSEN ..... *Secretary*
F. H. KAISER ..... *Treasurer*
E. E. WYATT ..... *Comptroller*
I. A. COTHRIN ..... *Assistant Comptroller*
A. R. GLASS ..... *Assistant Secretary*
H. H. BUNCHMAN ..... *Assistant Secretary*
C. W. DITTMAR ..... *Assistant Treasurer*
J. K. O'NEILL ..... *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & CO., *Incorporated*
Wall and Broad Streets
New York City

A. R. GLASS, *Transfer Clerk*
Crane Co., 836 South Michigan Avenue
Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK
OF THE CITY OF NEW YORK
Pine and Nassau Streets
New York City

CONTINENTAL ILLINOIS NATIONAL BANK
AND TRUST COMPANY OF CHICAGO
231 South La Salle Street
Chicago, Illinois

ANNUAL REPORT

To the Shareholders of Crane Co.:

The Management presents with the approval of the Board of Directors the Annual Report covering the operations of your company for the year 1947.

FINANCIAL REVIEW

Statements of Profit and Loss and Surplus for the year, and a Balance Sheet as of December 31, 1947, for the company and its United States subsidiaries consolidated, together with statements reflecting the net assets and the results of operations of the wholly owned subsidiary companies located in Canada and England, and a certificate of Arthur Young & Company, independent public accountants, are shown on pages 8 to 13.

The financial and statistical information contained in this report is, except where the context indicates otherwise, on a basis of consolidating only the figures of the United States companies and relates to the year 1947.

CONSOLIDATED PROFIT AND LOSS STATEMENT

The Profit and Loss Statement shows $12,744,072 of net profit transferred to earned surplus for the year. This is equal to $5.17 per share on the 2,348,628 Common Shares outstanding after allowance for the dividend requirements of the 3¾% Cumulative Preferred Shares. It compares with $8,597,317 of net profit transferred to earned surplus for the year 1946.

Sales:

Net sales amounted to $191,672,400 for the year 1947 compared with $142,445,818 for the year 1946. The demand for the company's products continued at high levels and the dollar volume of sales for the year was the highest in its history. The company's program for increasing the use of its extensive distribution system for the sale of products manufactured by others was continued and the sales of such products again accounted for nearly 50% of total net sales. In line with this program the company, during the year, made a substantial equity investment in AllianceWare, Inc., Alliance, Ohio, and is distributing on a non-exclusive basis, the enameled steel plumbing fixtures manufactured by that company.

Notwithstanding the satisfactory dollar volume of sales the year was not without difficulties. Material shortages and inability to obtain adequate supplies caused delays in the production lines and handicapped deliveries to our customers. It should be kept in mind too, that because of the reduced value of the dollar and higher operating costs, selling prices were also on a higher level. Consequently, physical volume of output and sales was not comparatively as great as indicated by the dollar volume.

Cost of Sales:

Net profits from operations in the United States only, after reserves, taxes and appropriations, but before dividends, amounted to approximately 5½ cents on each dollar of sales. There is included in cost of sales, selling, administrative and general expenses, a charge of $1,080,000 as provision for possible future price decline on the principal part of the company's inventory not carried on "Last-in, First-out" basis of inventory valuation which is discussed under the heading "Inventories"; also an item of

CRANE00331

$1,500,000 toward provision for future payments in recognition of past services of employees. Although having no formal pension plan it has long been the practice of the company to pay pensions to aged employees of long service. During the year such payments in the United States amounted to $487,924. The provision of $1,500,000 was in addition to a similar provision during 1946 in the amount of $500,000, both of which were made with a view to more fully assuring the company's ability to make pension payments in the future. If a formal pension plan is later adopted under the authority currently requested of the shareholders, this reserve or any balance thereof might then be used toward funding the past service benefits under such plan.

A chart illustrating in condensed form the disposition of the sales dollars for the year 1947 is given on page 7.

Additions to Plant and Equipment:

Depreciation charged to operations in 1947 amounted to $2,315,815 compared with $2,008,714 in 1946. The charge for depreciation of machinery and equipment is established on a basis of the estimated remaining life of the individual item. The charge for depreciation of buildings and structures is computed at rates established from the experience of this and other companies for the various types of construction. This has been the general depreciation policy of your company for many years.

While the provision for depreciation is generally considered the appropriate charge for absorbing the original cost of depreciable assets, it does not include any provision for the extra cost of replacing such assets at present price levels. Accordingly, pursuant to action taken by the Board of Directors, $500,000 has been appropriated out of 1947 earnings toward the excess of anticipated replacement cost over the original cost of machinery and equipment. This appropriation, and a similar appropriation in the same amount during 1946 do not purport to represent the extra cost which would be encountered were the company faced with replacing all of its machinery and equipment at present prices. For example, it is estimated that the depreciation on machinery and equipment charged during 1947 would have been increased by $900,000 had it been computed on a basis of replacement cost of such items at the end of 1947, rather than the actual cost of acquisition. Similarly, the entire depreciation reserve for machinery and equipment would have to be increased by $14,238,000 if it were to reflect the required reserve based on such replacement cost. This factor is not of comparable significance in regard to buildings in view of their much more permanent nature. However, it is to be remembered that they too will eventually have to be replaced, and present indications are that such replacement cost may greatly exceed the original cost of those in use.

During the year the company expended $4,691,710 for replacements and additions to property, plant and equipment compared with similar expenditure in the amount of $5,132,759 during 1946. The amount for 1947 is comprised of $38,200 for land, $1,123,564 for buildings, and $3,529,946 for machinery and equipment. The expenditures for buildings were largely for additions to the company's Chattanooga plant and the construction of two new branch warehouses. The additions to machinery and equipment included items for the production of new products, but consisted largely of replacements of slower and less efficient machinery.

CRANE00332

Operations of Foreign Subsidiaries:

Operations of the wholly owned foreign subsidiaries located in Canada and England continued at satisfactory levels during the year. Net profits of the wholly owned Canadian subsidiaries for 1947 were $1,464,931 compared with $1,401,866 for 1946, and the net profit of the subsidiary company in England amounted to $916,302 compared with $837,506 for the previous year. Summary statements of the net assets at December 31, 1947, and of their operating results for the year are given on pages 11 and 12 of this report.

The income of $1,591,045 shown as dividends from the Canadian subsidiary represents in effect a dividend of $1,194,030 from the operations of the Canadian subsidiaries, and a dividend of $397,015 from the subsidiary in England, which dividend was paid first to the principal Canadian subsidiary, it being the parent of the subsidiary in England. The principal Canadian subsidiary received an additional dividend of $321,399 from the subsidiary in England. This dividend was retained by the Canadian subsidiary to aid in financing the purchase of a controlling equity interest in AllianceWare, Limited, Vancouver, British Columbia, Canada, and in Crane Steelware, Limited, Quebec City, Quebec, Canada.

The principal operation of AllianceWare, Limited, is the application of porcelain enamel to pressed steel forms of sanitary ware, which are purchased from AllianceWare, Inc., Alliance, Ohio. Crane Steelware, Limited, was organized in 1947 but at the end of the year had not engaged in productive operations. Its operation to start with will be the application of porcelain enamel to pressed steel forms of bath tubs and flat rim sinks and other steel sanitary ware, but ultimately it will also engage in the forming of parts and in some cases in the entire production of enameled steel sanitary ware.

Taxation:

During the year the company paid or accrued in combined direct taxes of all kinds in the United States a total of $11,566,393 including $9,129,506 as provision for federal income taxes.

Dividends Paid:

A total of $6,691,058 was paid in dividends during 1947. This consisted of regular quarterly dividends at the annual rate of $3.75 per share on the 3¾% Cumulative Preferred Shares amounting to $584,625, and regular quarterly dividends of $.40 per share and a special dividend of $1.00 per share on the Common Shares totaling $2.60 per share or $6,106,433.

CONSOLIDATED BALANCE SHEET

Financial Condition:

Net working capital, as of December 31, 1947, amounted to $64,409,509 which represents an increase of $4,739,189 over the comparable position at December 31, 1946. The ratio of current assets to current liabilities was 6.21 to 1 at the close of 1947 as compared with 6.04 to 1 at the close of the previous year.

Inventories:

Consolidated inventories, which a year ago totaled $31,143,746, after deducting the provision for possible future price decline, increased by $3,838,672 to a total of $34,982,418 on a comparable basis. This increase resulted from an increase of $328,527 in raw materials and supplies, a decrease of $1,613,259 in work in process, and an increase of $5,123,404 in finished goods.

The major portion of the inventory is priced on the basis of the "Last-in, First-out" method of inventory valuation. The principal part of the remaining inventory is priced at the lower of cost or market but has been reduced by a taxable reserve of $2,420,000 provided for possible future price decline. This

CRANE00333

reserve has been deducted from the applicable inventory accounts and has the effect of stating such inventories on a basis substantially equivalent to the "Last-in, First-out" method. As a result, inventories at December 31, 1947, priced at cost on a "Last-in, First-out" or substantially equivalent basis, aggregated $33,806,561 and the remainder, aggregating $1,175,857, representing special order products, is priced at the lower of cost or market.

Open commitments for raw materials made in the ordinary course of business amounted to approximately $836,000 at the end of the year. Prices thereon were substantially the same as current market quotations.

Investment in Foreign Subsidiaries:

Except for the two recently acquired subsidiaries mentioned under the heading "Operations of Foreign Subsidiaries" the foreign subsidiaries of the company located in Canada and England are wholly owned. The company's investment in them is carried in the balance sheet at cost, namely $12,000,000. The company's equity in the surplus of its wholly owned foreign subsidiaries, which amounted to $7,608,272 at December 31, 1947, when computed at official rates of exchange, is not included in the consolidated surplus.

During 1947 the company acquired a small minority interest in capital stock of the Nederlands-Amerikaanse Fittingfabrick, which company was formed in Holland under the sponsorship of agencies of the Netherlands Government, for the erection of a plant and the production of whiteheart malleable iron fittings at Deventer, Holland. In consideration for this investment the company transferred to the Dutch interests its equity in 46,000,000 francs on deposit in France, and restricted by the French Government as to practically any use, and also agreed to deposit in escrow to the credit of the Dutch company approximately $150,000 for use by that company in purchasing machinery and equipment produced in this country. The "frozen" francs represented practically all of the remaining proceeds from the sale of the company's interest in a plant located in Paris, France, as reported in a previous year. The investment in the Dutch company is restricted as to sale or transfer for a period of years.

Sinking Fund for 3¾% Cumulative Preferred Shares:

The 3¾% Cumulative Preferred Shares are subject to sinking fund requirements as follows: On or before April 30 in each year beginning with the year 1947 the company is to pay over in cash to a sinking fund agent appointed by the Board of Directors, as a sinking fund for the redemption or purchase of shares of such series, an amount equal to the amount by which the consolidated net income of the company and its domestic subsidiaries for its latest fiscal year ended prior to the preceding January 1 shall exceed the sum of (i) all dividends (whether or not paid) accrued during such year on the outstanding Preferred Shares plus (ii) $2,500,000, but the amount so to be paid over to the sinking fund agent with respect to any such fiscal year shall not exceed $320,000. Against its obligation to make the cash sinking fund payment in any year the company may, at its election, take credit for shares of such series purchased or redeemed by it otherwise than through the sinking fund.

During the year the company purchased 5,600 shares of its 3¾% Cumulative Preferred Shares at an aggregate principal cost of $573,350, all purchases being at less than the sinking fund redemption price. On or before April 30, 1948, 3,135 of these shares will be deposited with the sinking fund trustee in lieu of $320,000 cash payment which otherwise would be required.

CRANE00334

Reserve for Contingencies:

During the war years the Board of Directors provided from earnings a Reserve for Contingencies totaling $13,000,000 against possible losses and costs resulting from the war. By appropriate transfer to Earned Surplus this reserve at December 31, 1946 had been reduced to $2,000,000 which amount, in the opinion of the Board of Directors, is still necessary to provide for contingencies which have not been eliminated.

Litigation:

In last year's annual report attention was called to the fact that the company and its manager of plumbing and heating sales, together with approximately seventy other defendants, both corporate and individual, were on trial in the Federal District Court in Cleveland, Ohio, under an indictment, returned in 1940 and continued during the war, charging conspiracy to restrain trade in the sale of plumbing supplies. The case was terminated on April 8, 1947, when the court entered an order at the close of the Government's case, acquitting all defendants.

In December, 1946, a "portal to portal" action was instituted against the company claiming approximately $7,400,000, together with an equal amount as liquidated damages and attorneys' fees. It is believed that these claims are barred by the Portal to Portal Act of 1947. The company's liability, if any, is not now determinable.

General:

The physical properties of the company have been maintained in excellent condition. Substantial progress has been made in improving its products and in developing better methods for producing these products. Major attention has been devoted to maintaining a sound and aggressive enterprise and to producing better and better products at the lowest cost consistent with high quality.

Subject to unfavorable economic developments or other circumstances over which the company has no control, the business prospects of the company for 1948 appear favorable. Generally speaking the activity of the company is closely allied to industrial, commercial and residential construction, and the back-log of construction demand continues to appear large. However, production of the plumbing and heating industry has been substantially increased and supply may well reach and exceed the demand in these categories during 1948. Also, construction costs continued to increase during 1947 and the present level may prove a deterrent in many instances. In this connection, it will be observed from the chart on page 28 of this report that the cost of plumbing fixtures and materials in relation to the total cost of a typical house has decreased from an average of 6.9% for 1931 to 3.6% for 1947.

The management desires to acknowledge its appreciation of the continued loyalty and cooperation of the company's some 19,500 shareholders, its countless customers, its many suppliers, and the 21,700 officers and employees of the organization.

JOHN H. COLLIER — *Chairman*

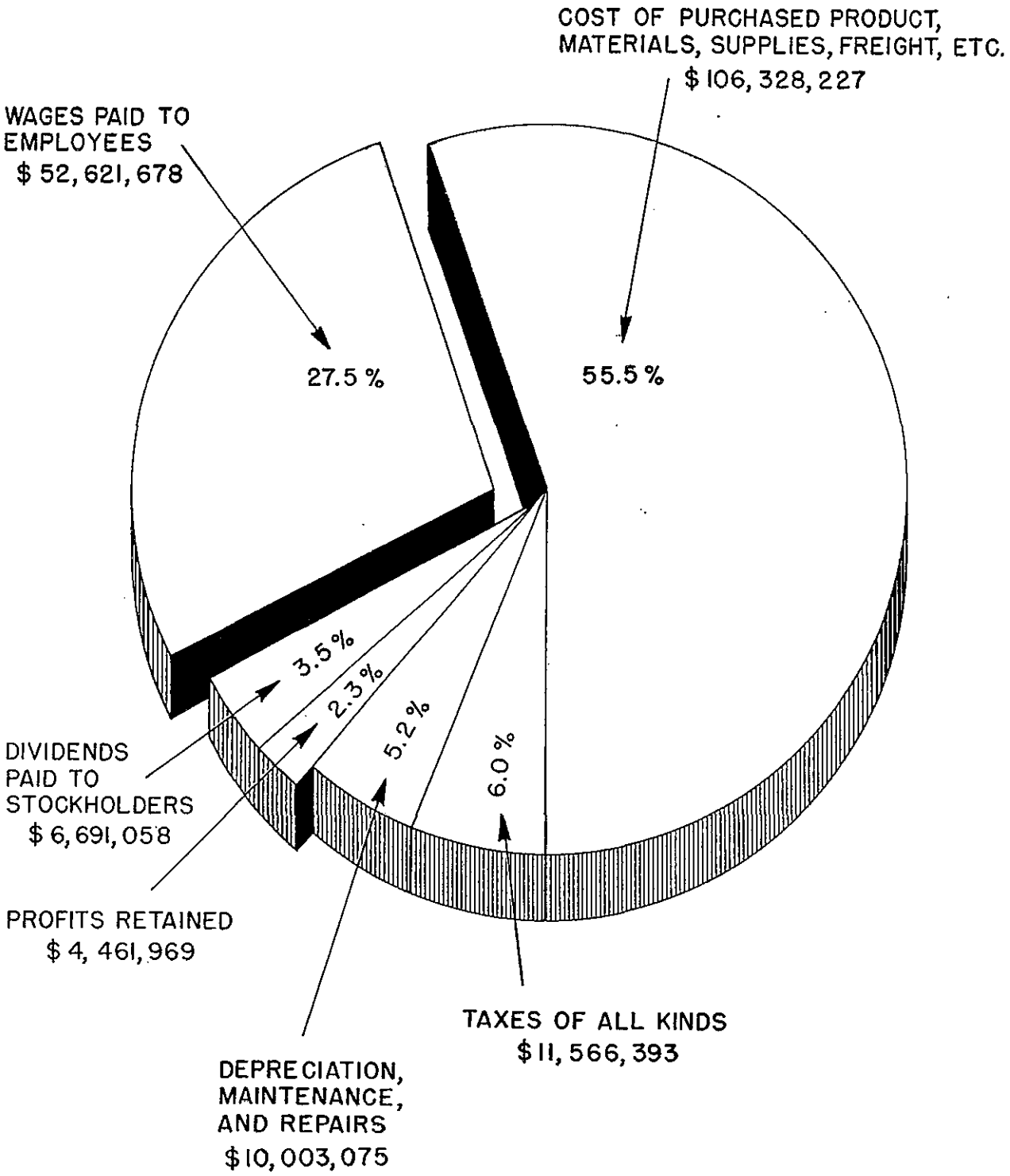
J. L. HOLLOWAY — *President*

March 25, 1948

With deep regret we record the death on November 5, 1947, of Dr. Frank R. Lillie, a Director since 1935. His death closed a long active life during which he distinguished himself in various fields.

CRANE00335

DISTRIBUTION OF CRANE CO.'S 1947 SALES DOLLAR



CRANE00336

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1947

ASSETS

CURRENT ASSETS:		
Cash		$ 11,890,867
U. S. Government securities at cost, which approximates market value		8,018,746
Accounts receivable	$ 23,053,497	
Less: Reserve for doubtful accounts	1,453,598	
		21,599,899
Inventories (Note 1)—		
Raw material and supplies	$ 6,724,868	
Work in process	7,796,522	
Finished goods	20,461,028	
		34,982,418
Due from foreign subsidiaries not consolidated		281,609
Total Current Assets		$ 76,773,539
INVESTMENTS:		
Investment in foreign subsidiary not consolidated, at cost (Note 2)	$ 12,000,000	
Other investments, at cost or nominal value (less reserve, $144,588)	741,208	
		12,741,208
FIXED ASSETS:		
Land and land improvements	$ 5,842,790	
Buildings	$31,319,644	
Less: Reserve for depreciation	14,180,193	
	17,139,451	
Machinery and equipment	$39,119,514	
Less: Reserve for depreciation	23,202,817	
	15,916,697	
Unfinished construction	480,805	
		39,379,743
DEFERRED CHARGES:		
Prepaid insurance, etc.		516,474
		$129,410,964

See accompanying notes

CRANE00337

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1947

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued payrolls		$ 10,373,574
Accrued federal income and excess profits taxes	$ 10,253,192	
Less: U. S. Treasury tax notes, at cost plus accrued interest	10,012,770	
		240,422
Accrued general taxes		1,750,034
Total Current Liabilities		$ 12,364,030
RESERVES AND APPROPRIATIONS:		
Reserve toward future payments in recognition of past services of employees	$ 2,000,000	
Reserve for contingencies	2,000,000	
Miscellaneous reserves	162,182	
Appropriation toward excess of future replacement cost of machinery and equipment over original cost	1,000,000	
		5,162,182
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Common stockholders (par value $668,700 plus equity in surplus of $486,231)		1,154,931
CAPITAL STOCK AND SURPLUS:		
Capital Stock—		
3¾% cumulative preferred shares, par value $100—		
Authorized—160,000 shares		
Outstanding—156,906 shares (including 3,656 shares in treasury) (Note 3)	$ 15,690,600	
Common shares, par value $25—		
Authorized—3,000,000 shares		
Outstanding—2,348,628 shares	58,715,700	
	$ 74,406,300	
Surplus—		
Capital surplus (unchanged during year)	$ 1,509,050	
Earned surplus (Notes 3 and 4)	35,186,948	
	36,695,998	
	$111,102,298	
Less: Cost of 3,656 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 3)	372,477	
		110,729,821
		$129,410,964

See accompanying notes

CRANE00338

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1947

Gross sales, less discounts, returns and allowances:		
Sales to customers		$189,884,090
Sales to foreign subsidiaries		1,788,310
Total		$191,672,400
Cost of sales, selling, administrative and general expenses (Note 1), including provision of $1,500,000 toward future payments in recognition of past services of employees	$168,534,138	
Provision for depreciation	2,315,815	
		170,849,953
Net operating profit		$ 20,822,447
Other income:		
Interest income	$ 210,602	
Miscellaneous other income (net)	65,009	
		275,611
		$ 21,098,058
Minority stockholders' interest in net income of subsidiaries		315,525
Net profit (exclusive of dividends received from foreign subsidiary) before federal income taxes		$ 20,782,533
Provision for federal income taxes		9,129,506
		$ 11,653,027
Dividends received from Canadian subsidiary (Note 2)		1,591,045
Net profit for the year		$ 13,244,072
Appropriation toward excess of future replacement cost of machinery and equipment over original cost		500,000
Amount of profit transferred to earned surplus		$ 12,744,072

See accompanying notes

CRANE00339

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED EARNED SURPLUS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1947

Balance, December 31, 1946		$29,145,693
Add:		
Amount of profit for the year transferred to earned surplus		12,744,072
		$41,889,765
Deduct:		
Cash dividends paid—		
On 3¾% cumulative preferred shares, $3.75 per share	$ 584,625	
On common shares, $2.60 per share	6,106,433	
		6,691,058
Deduct:		$35,198,707
Excess of cost over par value of 3,094 shares of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements		11,759
Balance, December 31, 1947 (Notes 3 and 4)		$35,186,948

NOTES TO FINANCIAL STATEMENTS

1. INVENTORIES:

The major portion of the inventories of finished goods, work in process and raw materials of the Company and its subsidiaries in the United States are priced at cost on a "last-in, first-out" basis, which was first applied as of January 1, 1941.

In 1946, a charge of $1,340,000 was included in cost of sales as provision for possible future price decline on certain inventories not carried on a "last-in, first-out" basis. This amount, together with a further provision of $1,080,000 charged to cost of sales in 1947, a total of $2,420,000, has been deducted from the applicable inventory accounts at December 31, 1947 and has the effect of stating such inventories on a basis substantially equivalent to the "last-in, first-out" method, except that this provision has not been deducted in computing the provision for federal income taxes.

At December 31, 1947, inventories priced at cost on a "last-in, first-out" or equivalent basis, aggregated $33,806,561 and the remainder, aggregating $1,175,857, representing special order products, is priced at the lower of cost or market on a "first-in, first-out" basis.

2. INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND:

The investment in the Canadian subsidiary, Crane, Limited (Canada), is carried in the balance sheet at U. S. dollar cost, $12,000,000. The net assets of this Company and its wholly owned subsidiaries, segregated as between Canada and England, are summarized below:

	Canada	England	Total
Fixed assets at U. S. dollar cost at date of acquisition, less accrued depreciation	$ 6,273,441	$ 2,081,081	$ 8,354,522
Net current assets at official rates of exchange	6,550,737	3,805,694	10,356,431
Other assets at official rates of exchange	376,195	25,224	401,419
Investments in affiliated companies at U. S. dollar cost at dates of acquisition	495,900	.....	495,900
	$13,696,273	$ 5,911,999	$19,608,272

CRANE00340

The results of operations of the wholly owned subsidiaries operating in Canada and England for the year ended December 31, 1947 (converted at official rates of exchange, except that the provision for depreciation on fixed assets has been computed on U. S. dollar cost) are shown below:

	Canada	England
Gross sales, less discounts, returns and allowances	$30,363,168	$ 6,674,502
Cost of sales, including selling, administrative and general expenses, but before provision for depreciation	25,669,209	4,850,314
	$ 4,693,959	$ 1,824,188
Provision for depreciation	539,271	125,225
Net operating profit	$ 4,154,688	$ 1,698,963
Other income, less other deductions	60,243	(967)
Net profit before income and excess profits taxes	$ 4,214,931	$ 1,697,996
Provision for income and excess profits taxes	2,750,000	781,694
Net Profit	$ 1,464,931	$ 916,302

During the year 1947, Crane, Limited (Canada) received from its English subsidiary a dividend of $723,148 Canadian dollars (equivalent to $723,148 U. S. dollars) which, being an inter-company dividend, is not reflected in the operating results of the Canadian companies.

During the year 1947, Crane Co. received dividends of $1,591,045 (U. S. Dollars) from Crane, Limited (Canada) which have been reflected in the consolidated income account of Crane Co. and subsidiaries in the United States.

Canada and England have enacted certain exchange regulations restricting the withdrawal of funds, etc., and the investments in and the profits of the Companies located therein are subject to such restrictions, as well as to such income and excess profits taxes as may be payable on the transfer of profits between England, Canada and the United States. For the year 1947, the dividends from Crane, Limited (England) to Crane, Limited (Canada) and from Crane, Limited (Canada) to Crane Co. were not subject to taxes on income because of credits for taxes paid to these foreign countries.

3. 3¾% Cumulative Preferred Shares:

These shares are redeemable at the option of the Company at $107 per share if called for redemption prior to June 15, 1955 (an aggregate amount of $16,397,750), and at $104.50 per share if called for redemption on or after June 15, 1955, in each case plus accrued dividends to the date fixed for redemption. They are also redeemable through the operation of the sinking fund at any time at the sinking fund redemption price of $104.50 per share, plus unpaid accrued dividends. Reference is made to the narrative section of this report for a statement in respect of the sinking fund requirements.

Under the Business Corporation Act of Illinois, earned surplus of Crane Co. is restricted in the amount of $372,477, the cost of 3,656 re-acquired shares in the treasury at December 31, 1947.

4. Dividends on Common Stock:

Under the provisions of the Articles of Incorporation, earned surplus at December 31, 1947, in the amount of $18,770,694, is not available for the payment of dividends on the Company's common shares.

5. Litigation:

Reserves and Appropriations:

Reference is made to the narrative section of this report for statement regarding the position of the Company in regard to so-called "portal to portal" claims and for comment in respect of certain reserves and appropriations.

CRANE00341

CERTIFICATE OF INDEPENDENT PUBLIC ACCOUNTANTS

To the Shareholders of Crane Co.:

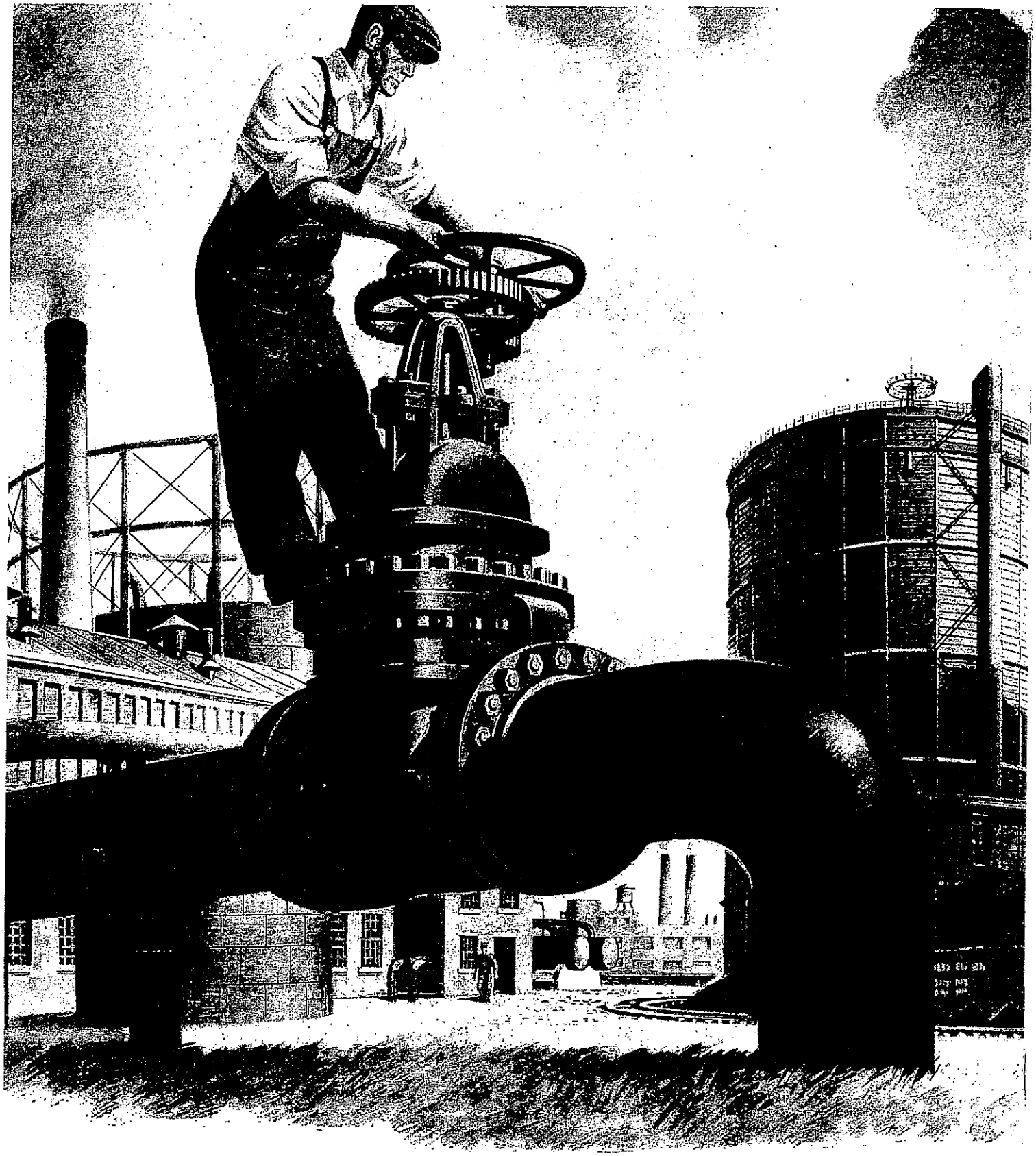
We have examined the consolidated balance sheet of Crane Co. (an Illinois Corporation) and subsidiaries in the United States at December 31, 1947, and the consolidated profit and loss and surplus statements for the year then ended, have reviewed the system of internal control and the accounting procedures of the Companies and, without making a detailed audit of the transactions, have examined or tested accounting records of the Companies and other supporting evidence, by methods and to the extent we deemed appropriate. Our examination was made in accordance with generally accepted auditing standards and included all procedures which we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated profit and loss and surplus statements present fairly the position of Crane Co. and its subsidiaries in the United States at December 31, 1947, and the results of their operations for the year ended that date, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY

Chicago, Illinois,
March 15, 1948.

CRANE00342



This Crane valve controlling the flow of gas into the city's mains typifies the dependence of modern man upon the products your company manufactures. No industry, no public utility, no building, no home within the compass of the American way of life is feasible without the kinds of valves and fittings, the sanitary and heating equipment produced by Crane Co.

the Challenge and THE ANSWER

THE preceding pages have provided a succinct report on the level of Crane Co.'s operations. Actually, this level of high demand and high production instituted a distinct challenge to manufacturing and distributing operations.

Like many another manufacturer, Crane has been faced since the war's end by a triple challenge: To produce more, to combat the strong tendencies toward higher and higher costs, and to anticipate the demand for new and improved products.

Throughout all industry the coming of peace released long-delayed construction projects and renewed maintenance programs—all creating new and exigent demands for valves and piping equipment.

The great upsurge in home construction has taxed Crane and other manufacturers' capacities to produce plumbing and heating equipment. New hospitals, schools and other types of institutional and commercial construction added materially to the swelling tide of demand.

Along with the demand for more products there was, of course, an imperative need for modernization of many products on which design had been frozen through the war period. In product after product, in the design of lavatories and high pressure valves, of domestic boilers and corrosion-resistant piping, of brass valves for home water lines and steel valves for petroleum refinery service, there was a constant challenge to Crane research, engineering and production departments.

And underlying all of these forces of demand there was the pressing necessity of combatting the pressures tending to force costs higher and higher.

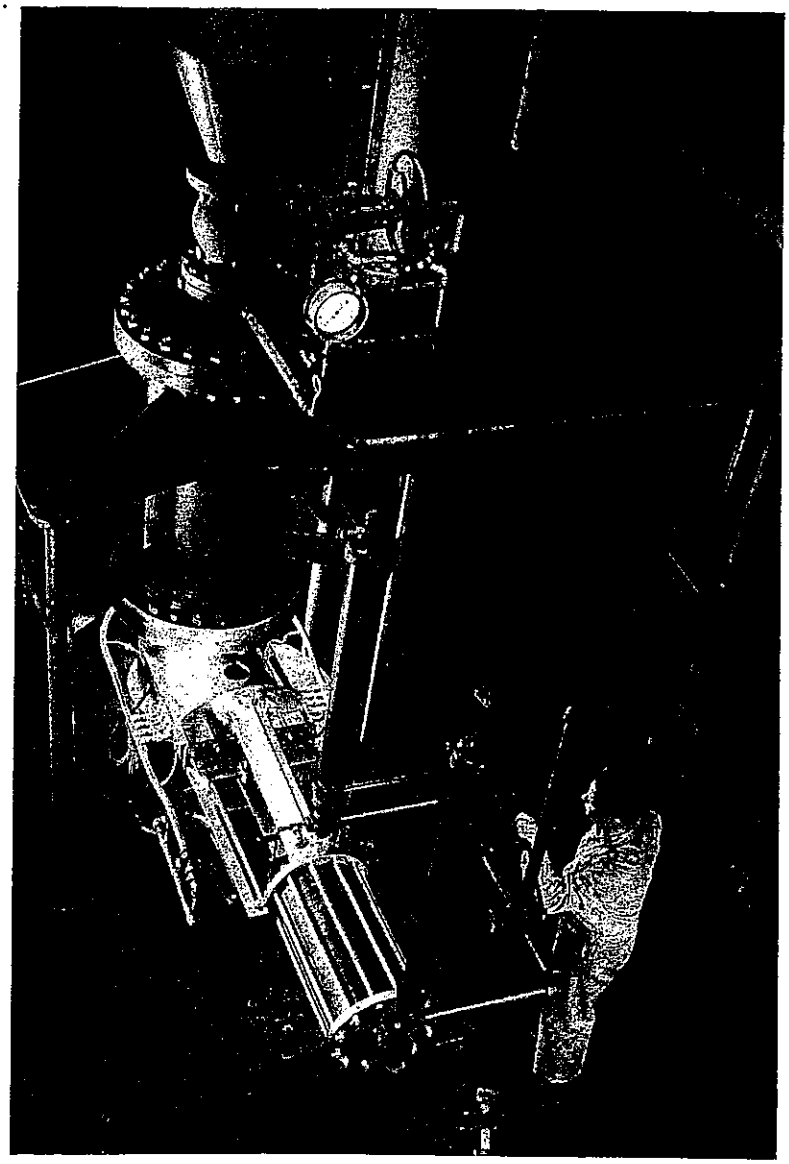
Starting with basic engineering research, carrying on through scores of manufacturing operations, and ending in the various aspects of distribution, the policy of increasing supply, bettering product, and fighting advancing costs has been vigorously furthered.

Some of the steps taken were in the realm of intangibles – of better personnel training, of morale improvement, of methods, of relationships between departments – of progress in the realms which do not lend themselves to illustration in a brief report.

But many others were in the physical facilities and techniques of production. On the following pages will be found a few — a very few — examples of manufacturing developments by which Crane Co. has sought to meet the challenges of the times.

CRANE00344

New Frontiers in RESEARCH



LABORATORY and shop are closely allied at Crane. For the development of new products, designs and materials must always recognize the problems of how to produce them and produce them at a cost that makes the project practical.

Often too, the development of a product to meet new service requirements involves basic metallurgical research before the designer can put pencil to page.

Recent developments in the power, petroleum, chemical and other fields exerted important influences upon Crane's research and engineering studies before they could be reflected in manufacturing programs.

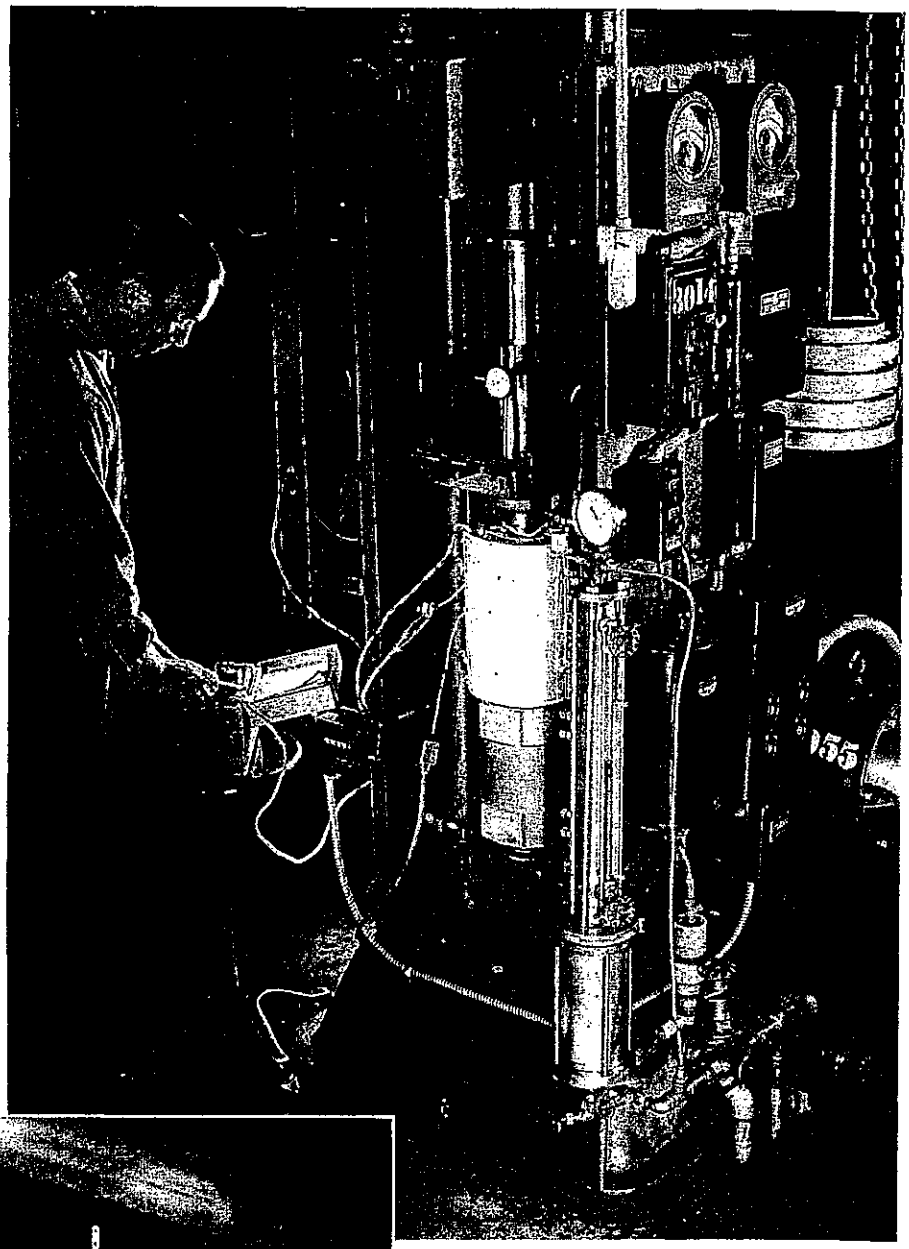
For example, new power plants are operating with steam at temperatures up to 1050°F and at very high pressures, thus creating a demand for new alloy steels as well as new product designs. At the other extreme, new processes utilize temperatures as low as liquid air (minus 317°F) in the conversion of natural gas and the production of liquid fuels from coal conversion; these, too, place new emphasis upon the research for new alloys.

Even in the field of nuclear energy, Crane researchers have been active in the study of materials and products which will be required to make this new and startling source of energy available for the production of power and other peacetime uses.

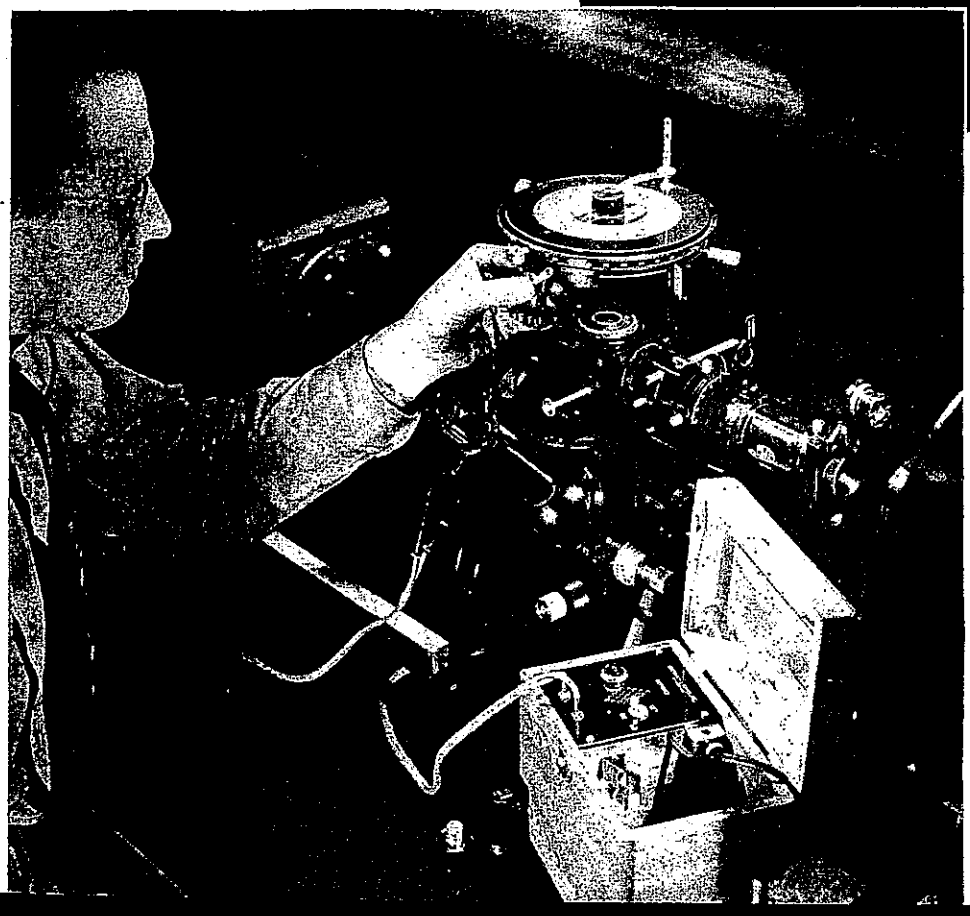
But along with such dramatic developments, research and engineering has been patiently and effectively pioneering many changes and improvements in product and in the techniques of production. The laboratory is an important Crane weapon in meeting the triple challenge of these postwar days.

Simulated Service Test on a Valve for the Pulp & Paper Industry.

CRANE00345



Special Machine for determining the Resistance of Various Materials to Wear and Seizure at High Temperatures.



Utilizing Microscopic Techniques to Measure the Hardness of the Grains of a Metal.

New Techniques at the CHICAGO WORKS

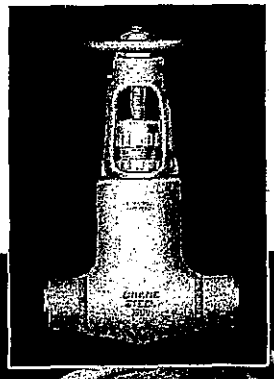
IN a plant as large and as diversified in its operations as our Chicago Works, equipment and its application are under constant study. The saving of even a few seconds in "floor-to-floor" time on an operation may mean a considerable cost reduction or, conversely, an increase in production.

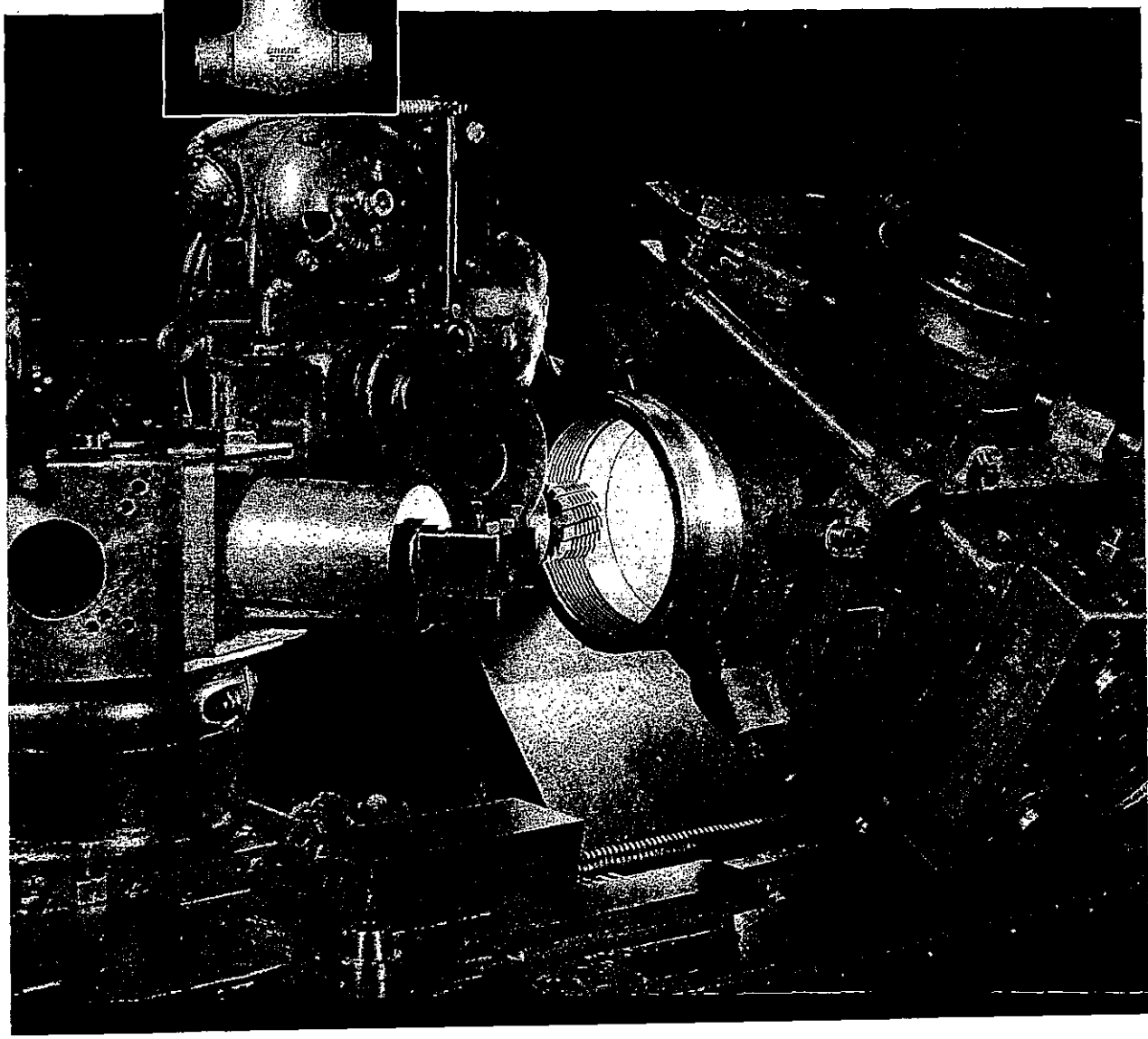
Crane shareholders would find much to interest them in a tour of the Chicago Works. For example, Crane foundry techniques are, we believe, the most modern to be found anywhere. Mechanization of plant transportation in scores of places has been instrumental in reducing the loss of time between successive manufacturing steps and helps to assure uniform flow of work. And in department after department, new machines and new ways of using old machines have made possible substantial increases in production per hour.

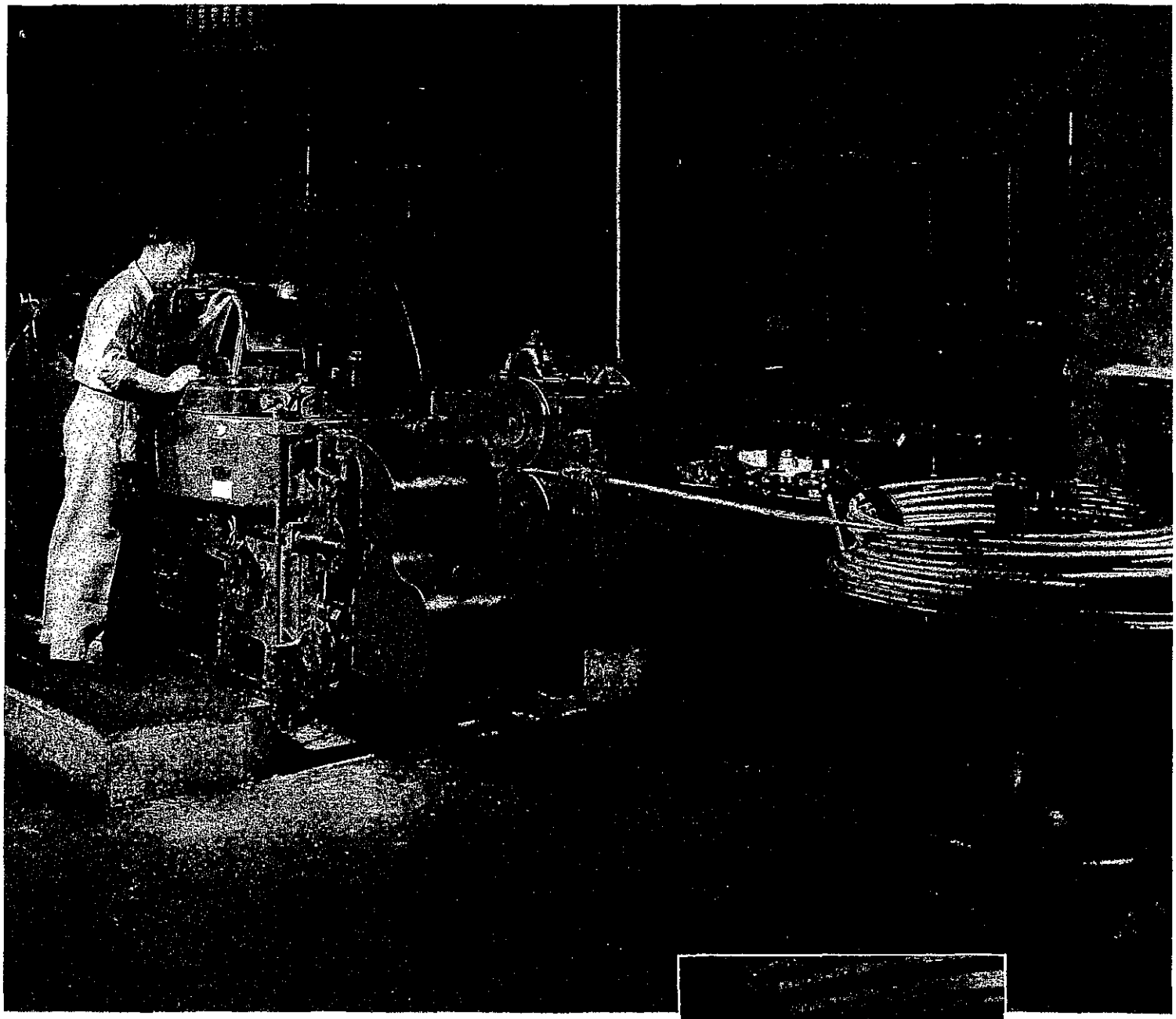
Illustrated on these pages are a few typical examples of machines which are helping Crane Co. meet the challenges of the times.

A NEW METHOD OF MACHINING

One of the outstanding Crane postwar developments is the Pressure Seal Valve which is meeting wide acceptance in high pressure steam service. Its production has inspired a number of innovations in metal cutting and other techniques. Illustrated here is the machine set-up for milling the thread in the bonnet end of the valve body. Anyone familiar with turret lathe tooling set-ups will recognize much ingenuity in this. The 3-ton chuck fixture in which the big valve is held was specially designed by Crane engineers; so was the multiple-tool cutting device which makes possible material reductions in the time required for this operation.



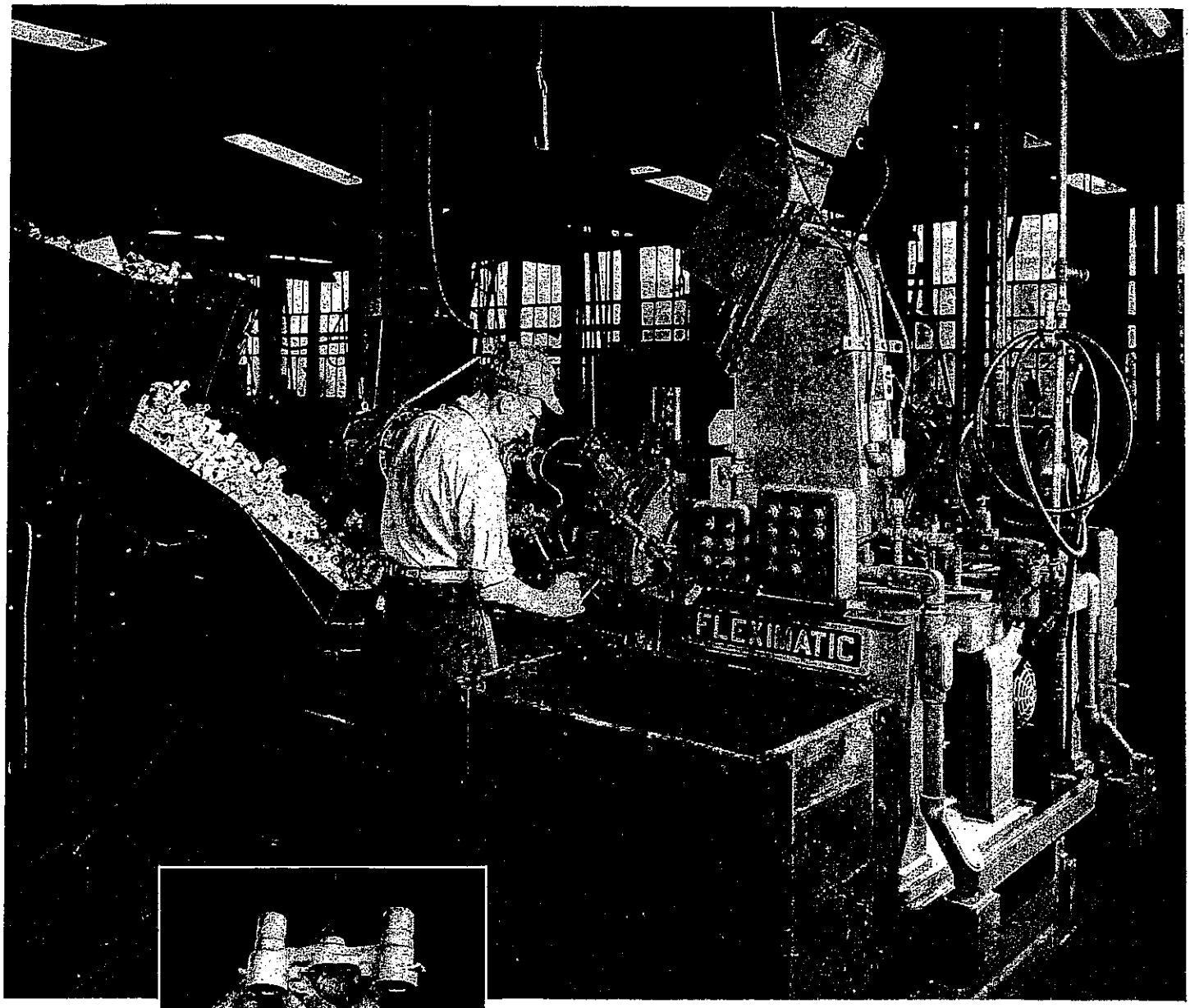


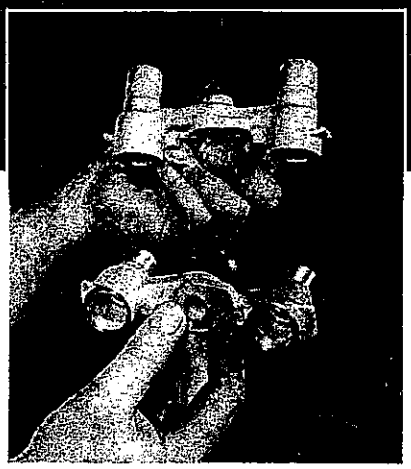


PLUG MAKING

This is one of the kinds of machines that make a job easy. Its purpose is to produce pipe plugs—you've undoubtedly seen them closing the ends of pipe. But it does this job at a rate of better than one per second, first biting off a section of half-inch steel rod, then performing three upsetting operations to form the square head, and finally rolling on a sharp accurate thread. Formerly, this part was cast and then went through several additional operations.

CRANE00348





MULTIPLE OPERATION MACHINERY

Typical of the automaticity being introduced into so many phases of Crane production is this machine which is one of the new units used to produce *Dial-ese* faucets. The specific part here illustrated is the body of a *Dial-ese* mixing faucet such as you will find on new Crane lavatories. The rough brass casting must be machined and threaded at several points. All of these operations are performed at once in this machine which has 8 jaws, each of which is loaded with a rough part which is then revolved from station to station. 300 of these faucet parts are completed per hour.

CRANE00349

COPPER TUBE PRESS

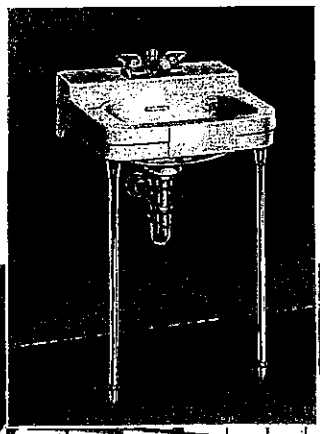
Note the two objects in this close-up view. One is a 2″ tube of copper; the other is a 2″ Tee. It is one unit in the new line of Crane solder-joint fittings for copper piping. The Tee was made from the straight piece of tube simply by pressure—but by pressure so great that it causes solid cold copper to "flow." The job is accomplished on this hydraulic press. A piece of tubing (with an inserted core of base metal) is placed in a die, clamped together with a force of 750 tons. Then two plungers come in from either side—each with a force of 300 tons—and force part of the metal out through an orifice in the die to form a "Tee." 700 half-inch Tees can be produced per hour.

New Developments in the TRENTON POTTERIES

FROM time immemorial the length of the period required to turn out a pottery product was determined primarily by the slow process of natural drying.

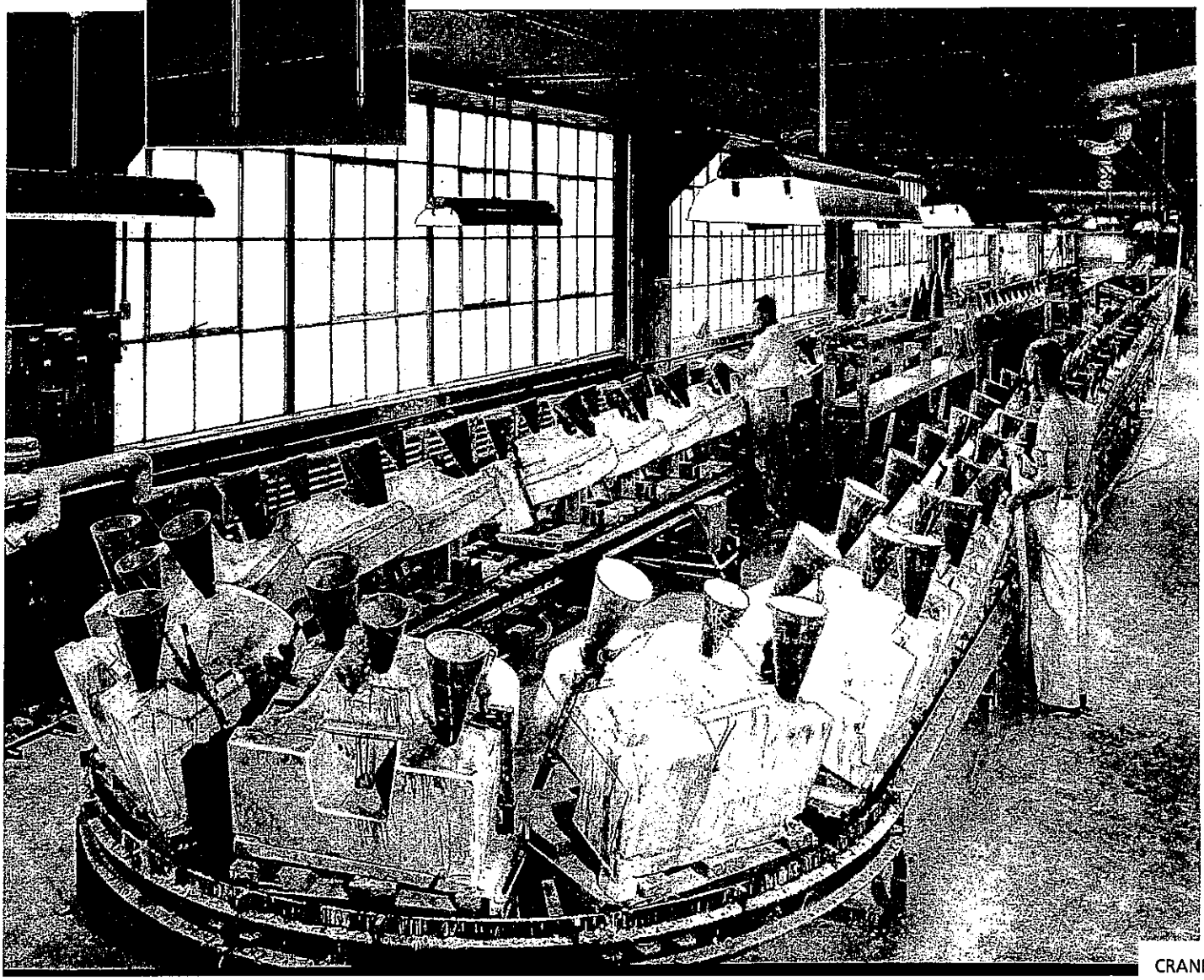
Now, however, substitutes for time have been found at Crane's Trenton potteries, and with these developments it has been possible to step up production. Now, for example, infra-red lamps, and other processes are used to accelerate nature's slower drying process.

In addition, Trenton now employs continuous conveyor line production. New techniques of utilizing to the fullest the skill of individual craftsmen—these and many more developments are today speeding Crane chinaware to the market in increased volume. Thus, they take their part in Crane's answer to the demand for more and better products.



CASTING LAVATORIES

One of the major new developments is conveyor casting. Molds for lavatories are mechanically pushed around this roller conveyor, the advance of each mold being timed for some particular operation. Here, for instance, the molds are being filled with fluid clay by the operator in the right foreground. At later stations on this "main line," the clay form of the lavatory, still in a plastic state, will be removed from the mold.



CRANE00351

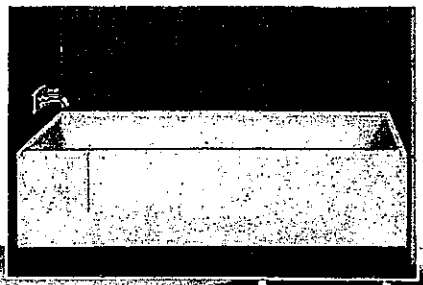
FINISHING

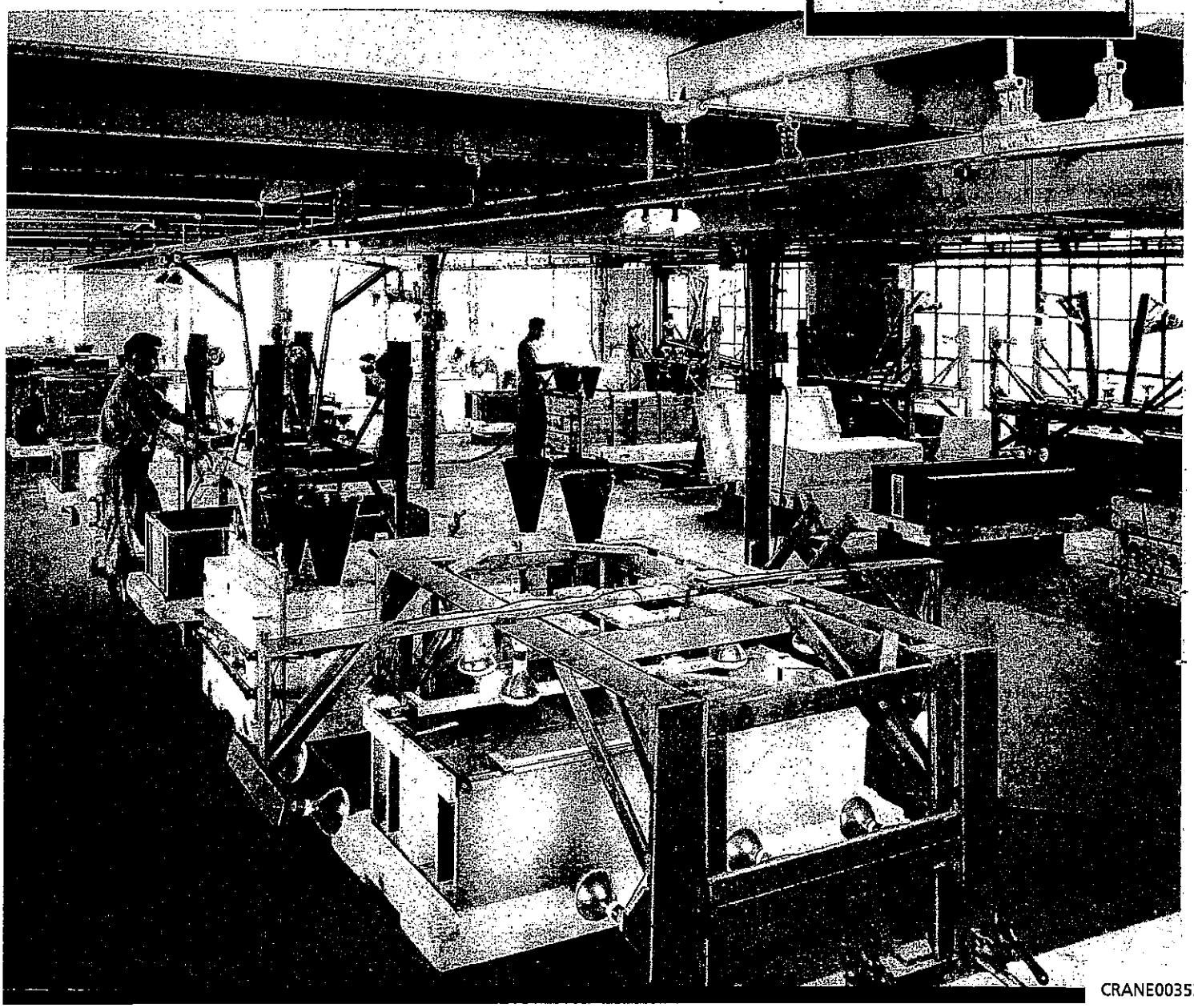
After removal from the molds, these semi-solid forms riding the cradles suspended from a continuous chain conveyor, pass through a preliminary dryer to the "finishers" who work over the entire surface to produce a satin-smooth finish. The piece is then placed on another conveyor entering the final drying chambers. The complete cycle from pouring to shipment is much shorter than was possible with former methods.

CRANE00352

TUB DRYING

A Crane Duraclay bathtub under a battery of infra-red lamps. The tub being treated has been removed from the mold (examples of which can be seen in the background) and has been surface-finished. After the infra-red radiation, the tubs are ready for glazing and firing. At each step in the process, special handling and conveying equipment speeds up transfer and eases the job for Crane craftsmen.





CRANE00353

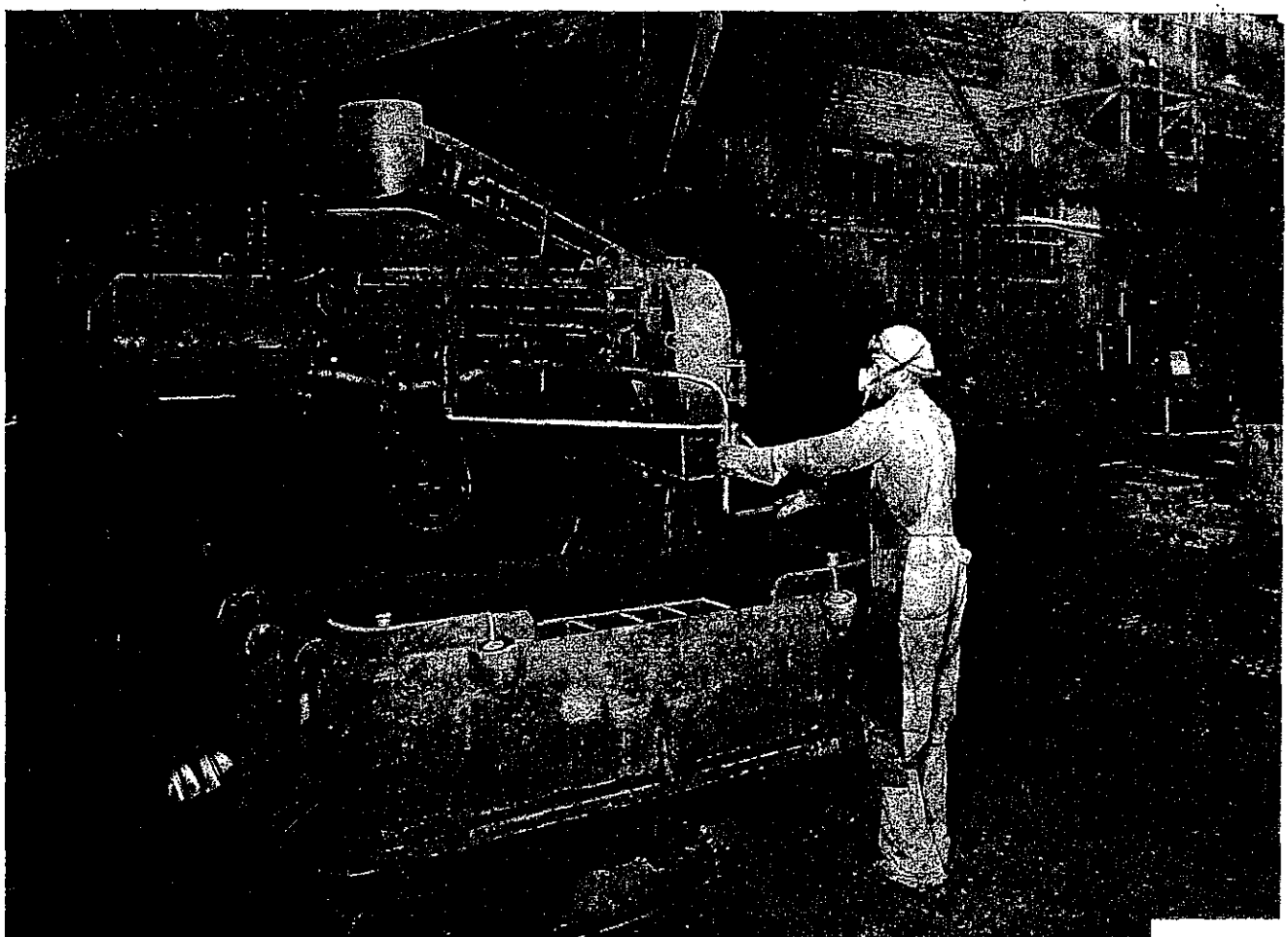
Speeding up Production of ENAMELED WARE *at Chattanooga*

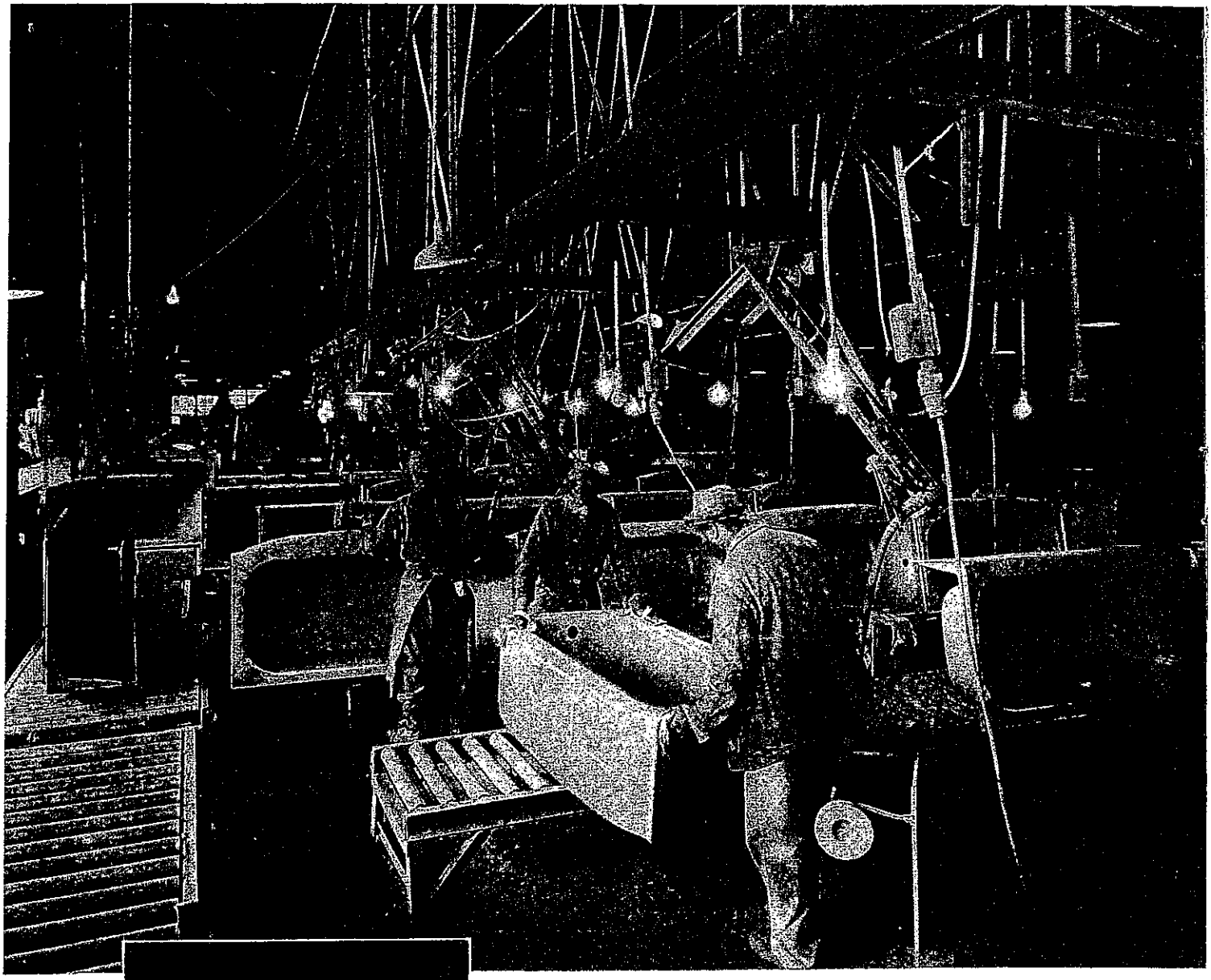
PORCELAIN enameled cast iron bathtubs, lavatories or sinks are not complex mechanisms. Yet, in spite of their comparative simplicity, Crane has found many means of stepping up output and combatting rising costs at the Chattanooga plant.

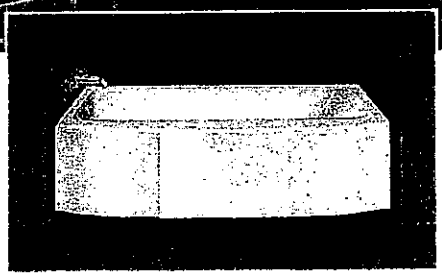
A major development over the years, but especially since the war, has been the "conveyorizing" of production, the mechanization of every conceivable handling operation. The result has been not only better jobs, more attractive jobs for our men, but greater efficiency and an increase in production.

SAND SLINGER

Nothing is more surprising to a layman getting his first look at a foundry than the tremendous volume of sand used. For, of course, most castings are made by pouring molten iron into a mold made of sand. For each casting a new mold is made. Here illustrated is a "Sand Slinger" that literally throws sand at a pattern in a special form—"ramming the cope half of a mold" in the foundryman's parlance. Another device used for smaller castings—such as lavatories—is a Jolt-Squeeze-Strip machine which, all but automatically, rams the sand mold into which the iron will be poured. Both these techniques assure not only better, smoother, more uniform castings, but a much higher production rate.







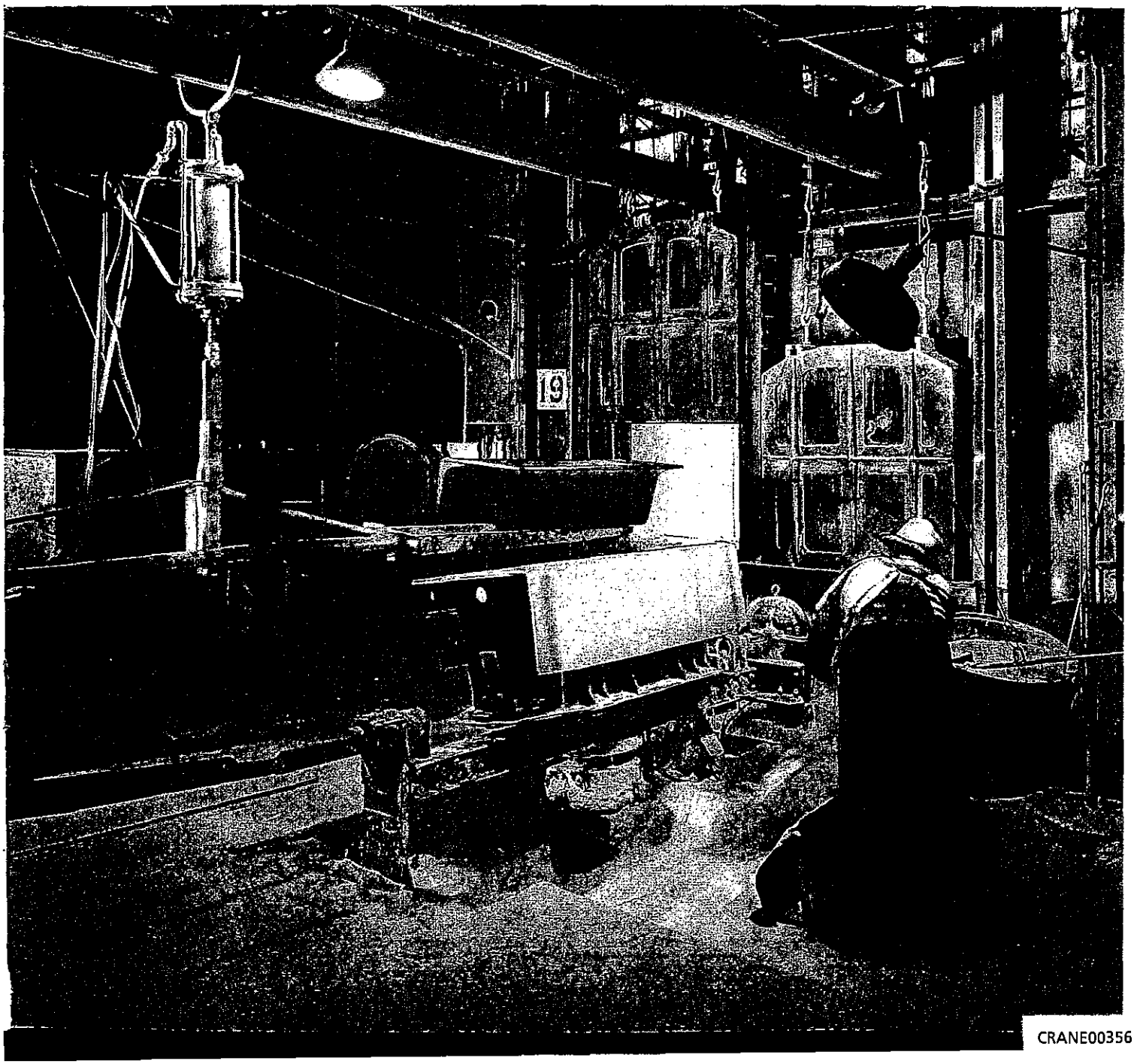
TUB FINISHING

After a tub has been cast (and shaken free of all clinging sand on special mechanical shakers), it is surface-dressed to provide a smooth, even surface for the subsequent enameling. But here, as in most operations at Chattanooga, the tubs never leave the conveyor. You can see them coming down the line at the left, from which they are "switched" to the work conveyor with no wasteful handling.

CRANE00355

ENAMELING

Here's where a piece of gray cast iron is metamorphosed into the gleaming porcelain tub which you know. Basically the transformation is accomplished by coating the tub with a "frit" which when subjected to intense heat is vitrified onto the tub surface. Improvements on these operations and in the equipment have been directed at bettering of the finished product—in the appearance and quality of the vitrified porcelain enamel.



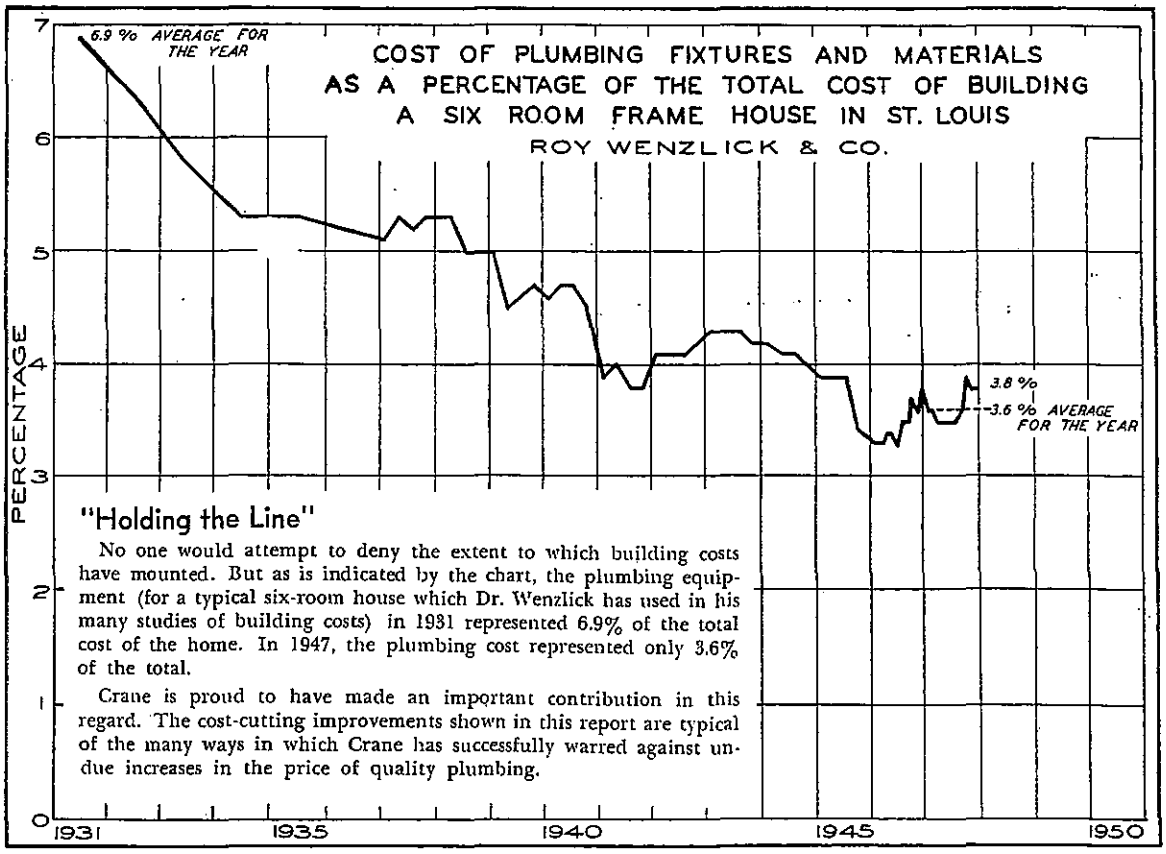
CRANE00356

New Achievements in DISTRIBUTION

On the opposite page is a list of the 150 Crane Branches in this country and elsewhere. The list is clear evidence of the importance of distributive channels in serving markets as large and as diverse as are those for Crane products.

Through this branch system, as well as in manufacturing plants, Crane has sought to meet the challenge of increased demand and of holding costs in line. Improved mechanization in product handling and warehousing has been installed in certain branches, and the results are being carefully studied. The size, design and floor plan of branch buildings are under close inspection that new construction or remodeling projects which the Company undertakes may incorporate every facility for low-cost branch operation.

And on the human side, Crane's programs for the training of branch personnel are doing much to assure improvement in selling techniques, in the servicing of customers, and the efficiency of branch operation.



"Holding the Line"

No one would attempt to deny the extent to which building costs have mounted. But as is indicated by the chart, the plumbing equipment (for a typical six-room house which Dr. Wenzlick has used in his many studies of building costs) in 1931 represented 6.9% of the total cost of the home. In 1947, the plumbing cost represented only 3.6% of the total.

Crane is proud to have made an important contribution in this regard. The cost-cutting improvements shown in this report are typical of the many ways in which Crane has successfully warred against undue increases in the price of quality plumbing.

CRANE00357

CRANE CO. BRANCHES

ALABAMA
BIRMINGHAM (3) . 2 S. Twentieth St.
MOBILE (3) . . . 300 N. Royal St.

ARIZONA
PHOENIX (1) . . 233 S. First Ave.
TUCSON . . . . 35 E. Toole Ave.

ARKANSAS
FT. SMITH . . . . 221 S. Ninth St.
LITTLE ROCK (10) 120 Commerce St.

CALIFORNIA
LONG BEACH (1) . . . . . 824 W. Anaheim St.
LOS ANGELES (54) 321 E. Third St.
OAKLAND (7) . . . 346 Ninth St.
SACRAMENTO (5) . 1227 Front St.
SAN BERNARDINO 110 South "E" St.
SAN DIEGO (1) . . 1138 India St.
SAN FRANCISCO (19) . . . . . 301 Brannan St.
SANTA ANA . . 919 Poinsettia St.

COLORADO
DENVER* (17) . 1631 Fifteenth St.
GRAND JUNCTION* . . . . . 601 Pitkin Ave.
PUEBLO* . . . . 216 W. Third St.

CONNECTICUT
BRIDGEPORT (3) . . 302 John St.
HARTFORD (5) . . 710 Windsor St.
NEW HAVEN (11) 365 Orchard St.

DISTRICT OF COLUMBIA
WASHINGTON (5) . . . . . 1225 Eye St. N. W.

FLORIDA
JACKSONVILLE (3) . . . . . 1007 W. Bay St.
MIAMI (30) . . 85 N. W. Tenth St.
TAMPA (1) . . . 1105 E. Twiggs St.
WEST PALM BEACH . 217 Fifth St.

GEORGIA
ATLANTA (3) Washington St. Viaduct
MACON . . . . . 500 Broadway
SAVANNAH . . . 14 W. Broad St.

IDAHO
BOISE . . . . . 214 S. Fifth St.
POCATELLO . . . 756 S. First Ave.

ILLINOIS
AURORA (A) . . . 544 S. Lake St.
CHICAGO (6) . 156 N. Jefferson St.
Southside branch (20) . . . . . 231 W. 79th St.
ROCKFORD . . . 800 S. Main St.
SPRINGFIELD . . 921 E. Monroe St.
WAUKEGAN . 1219 Glen Rock Ave.

INDIANA
EAST CHICAGO . . . . . 1004 E. Chicago Ave.
EVANSVILLE (6) . 118 S. Eighth St.
INDIANAPOLIS (6) . . . . . 333 W. Market St.
MUNCIE . . . 342 N. Pershing Dr.
SOUTH BEND (23) . . . . . 1616 S. Franklin St.
TERRE HAUTE . . 209 N. Ninth St.

IOWA
DAVENPORT (8) . 217 E. Second St.
SIOUX CITY (3) . . 223 Jackson St.

KANSAS
WICHITA (2) . . . 624 E. First St.

KENTUCKY
LEXINGTON (1) . 165 Midland Ave.

LOUISIANA
NEW ORLEANS (11) . . . . . 710 S. Broad St.
SHREVEPORT (92) 1320 Winston St.

MAINE
PORTLAND (4) . . 70 St. John St.

MARYLAND
BALTIMORE (1) . 626 W. Pratt St.

MASSACHUSETTS
BOSTON (27) . . . . . 48 W. First St., South Boston
SPRINGFIELD (3) . . 60 Cypress St.

MICHIGAN
DETROIT (26) . . 150 Randolph St.
FLINT (1) . . . . . 155 Lewis St.
GRAND RAPIDS (2) . . . . . 56 Grandville Ave., S. W.
JACKSON . . . . 409 Hupp Ave.

MINNESOTA
DULUTH** (2) . . 102 Lake Ave., S.
MANKATO** . . . 510 S. Pike St.
MINNEAPOLIS** (1) . . . . . 400 Third Ave., N.
ST. PAUL** (1) . . Broadway at 5th

MISSISSIPPI
JACKSON (111) . 176 N. Gallatin St.

MISSOURI
KANSAS CITY (7) . . . . . 1328 W. Twelfth St.
ST. LOUIS (3) . 30 S. Sixteenth St.

MONTANA
BILLINGS** 30th St. and First Ave., S.
GREAT FALLS** . . . . . 2 Third Ave., South

NEBRASKA
GRAND ISLAND . . 115 E. Front St.
OMAHA (8) . . . 323 S. Tenth St.
SCOTTSBLUFF* . . 1617 Avenue "A"

NEVADA
RENO . . . . . 401 E. Fourth St.

NEW JERSEY
NEWARK (5) . . . . 90 South St.
TRENTON (5) . . . 50 Escher St.

NEW MEXICO
ALBUQUERQUE* . . 612 N. First St.

NEW YORK
ALBANY (1) . . . North Broadway
BINGHAMTON (36) . . . . . 21 Washington St.
BUFFALO (5) . . . 201 Church St.
HEMPSTEAD . . . . 209 Main St.
LONG ISLAND CITY (1) . . . 47-30 Twenty-ninth St.
ROCHESTER (2) . . 200 South Ave.
SYRACUSE (1) . 760 W. Genesee St.
UTICA (2) . . . . . 326 Broad St.

NORTH CAROLINA
ASHEVILLE . . . 531 McDowell St.
CHARLOTTE (1) . . . . . 1307 W. Morehead St.
GREENSBORO . . 205 S. Lyndon St.
ROCKY MOUNT . 300 N. Church St.

NORTH DAKOTA
Fargo** . . . . . 636 Northern Pacific Ave.

OHIO
AKRON (11) . . . 425 S. High St.
CANTON (2) . . . . . 210 Piedmont Ave., S. E.
CINCINNATI (1) . . 824 Broadway
CLEVELAND (3) 6215 Carnegie Ave.
COLUMBUS (15) . . 67 N. Front St.
DAYTON (2) . . . 901 S. Perry St.
LIMA . . . . 207 S. Central Ave.
TOLEDO (1) . . . 390 S. Erie St.

OKLAHOMA
MUSKOGEE . . 302 Commercial St.
OKLAHOMA CITY (2) . . . . . 705 W. Main St.
TULSA (1) . . . . 623 E. Third St.

OREGON
PORTLAND (8) . . . . . 710 N. W. Fourteenth Ave.

PENNSYLVANIA
PHILADELPHIA (22) . 245 Master St.
PITTSBURGH (30) . . . . . 40 Twenty-fourth St.
READING (5) . . . 407 N. Front St.

RHODE ISLAND
PROVIDENCE (3) . . . . . 245 W. Exchange St.

SOUTH CAROLINA
GREENVILLE . . 223 W. McBee Ave.

SOUTH DAKOTA
ABERDEEN** 324 Railroad Ave., S. E.
SIOUX FALLS** . 326 E. Eighth St.

TENNESSEE
CHATTANOOGA (1) . . . . . 1317 Chestnut St.
KNOXVILLE (1) 523 W. Jackson Ave.
MEMPHIS (1) . . . 254 Court Ave.
NASHVILLE (2) . . . . . 532 Eighth Ave., South

TEXAS
BEAUMONT . . . . 720 Fannin St.
CORPUS CHRISTI . . . . . 1212 N. Tancahua St.
DALLAS (2) . . . . 814 Young St.
EL PASO* . . . . 1609 Texas St.
HARLINGEN . . 201 West "C" St.
HOUSTON (1) . . 2204 Pease Ave.
SAN ANTONIO (6) . . . . . 1200 E. Houston St.

UTAH
OGDEN . . . . 2001 Wall Ave.
SALT LAKE CITY (11) . . . . . 307 W. Second South

VIRGINIA
NORFOLK (10) . . . . . 2 E. Twenty-second St.
RICHMOND (20) 1225 W. Broad St.

WASHINGTON
SEATTLE (14) . 419 Second Ave., S.
SPOKANE (8) . . . 126 S. Post St.
TACOMA (1) . . 1209 South "A" St.

WEST VIRGINIA
CHARLESTON (25) . 502 Broad St.

WISCONSIN
MADISON (3) . 641 Williamson St.
MILWAUKEE (2) . . . . . 2123 W. Michigan St.
OSHKOSH . . . . 37 Market St.

WYOMING
CASPER* (5) . . . 802 East "C" St.

CRANE Limited
GENERAL OFFICE
1170 Beaver Hall Square
Montreal, Que.

BRANCHES

ALBERTA
CALGARY . 602 Eleventh Ave., W.
EDMONTON Jasper Ave. & 109th St.

BRITISH COLUMBIA
VANCOUVER . . . 540 Beatty St.
VICTORIA . . 1010 Government St.

MANITOBA
WINNIPEG . . . . 93 Lombard St.

NEW BRUNSWICK
MONCTON . . 225 St. George St.

NEWFOUNDLAND
ST. JOHN'S . . . . . Hill O'Chips

NOVA SCOTIA
HALIFAX . . . . 131 W. Young St.

ONTARIO
FORT WILLIAM . . 600 Simpson St.
HAMILTON . . 40 Wellington St., N.
KINGSTON . . . . . 71 Brock St.
LONDON . . . . . 304 York St.
OTTAWA . . . . . 148 Bank St.
TORONTO . . . 306 Front St., W.

QUEBEC
MONTREAL . 1121 St. James St. W.
QUEBEC . . . . . 39 St. Roch St.

SASKATCHEWAN
REGINA . . . . . 1408 Broad St.
SASKATOON . . 359 First Ave., N.

CRANE LTD. (Great Britain)

ENGLAND
LONDON . . . . . 45-51, Leman St., London E. 1
BIRMINGHAM . . . . . 1277 Coventry Road, South Yardley
MANCHESTER . . . . . Westinghouse Road, Trafford Park
BRISTOL . . 1, Broadmead, Bristol, 1

SCOTLAND
GLASGOW . . . . . 94-100 Clyde Ferry St., Anderston

*(Crane-O'Fallon Co.)
**(Crane Co., Minnesota)

CRANE00358

CRANE

1948

ANNUAL REPORT

CRANE CO.

OUR NINETY-THIRD YEAR

CRANE00359

ANNUAL REPORT

FOR THE YEAR ENDED

DECEMBER 31, 1948

CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

FOUNDED 1855 INCORPORATED 1865

CRANE00360

CRANE CO.

OFFICERS AND DIRECTORS

DIRECTORS

JOHN H. COLLIER, *Chairman*

ARTHUR O. CHOATE
C. R. CRANE, II
G. A. EASTWOOD
J. L. HOLLOWAY
GORDON H. KELLOGG
DAVID LEVINGER
MARK W. LOWELL
E. H. McDERMOTT
P. R. MORK
WILLIAM R. ODELL

OFFICERS

J. L. HOLLOWAY, *President*

P. R. MORK
Executive Vice President

C. R. CRANE, II
Vice President

J. A. DWYER
Vice President

V. P. RUMELY
Vice President

H. F. POTTER
Secretary

H. H. BUNCHMAN
Treasurer

F. H. KAISER
Comptroller

E. E. WYATT
Assistant Comptroller

A. R. GLASS
Assistant Secretary

J. W. HEDERICK
Assistant Secretary

C. W. DITTMAR
Assistant Treasurer

J. K. O'NEILL
Assistant Treasurer

H. A. TACON
Assistant Treasurer

STOCK TRANSFER AGENTS

J. P. MORGAN & Co., Incorporated, Wall and Broad Streets, New York City
A. R. GLASS, Transfer Clerk, Crane Co., 836 South Michigan Avenue, Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK OF THE CITY OF NEW YORK, Pine and Nassau Streets, New York City
CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY OF CHICAGO, 231 South La Salle Street, Chicago, Illinois

FINANCIAL SUMMARY

CRANE CO. AND SUBSIDIARIES IN THE UNITED STATES

	1948	1947
Fixed Assets less Reserves for Depreciation	$ 40,361,205	$ 39,379,743
Capital Expenditures—Property, Plant and Equipment	3,626,460	4,691,710
Depreciation charged to Operations	2,462,245	2,315,815
Net Working Capital	74,327,448	64,409,509
Ratio Current Assets to Current Liabilities	6.42–1	6.21–1
Net Worth	118,474,372	110,729,821
Book Value per Common Share	44.05	40.62
Net Sales	$222,825,206	$191,672,400
Net Profit, including Dividends received from Foreign Subsidiaries	16,695,719	13,244,072
Net Profit per Common Share	6.86	5.39
Special Appropriation of Income	1,029,000	500,000
Amount of Profit transferred to Earned Surplus	15,666,719	12,744,072
Net Profit per Common Share, transferred to Earned Surplus	6.42	5.17
Total Dividends Paid—		
Preferred Shares	$ 566,503	$ 584,625
Common Shares	7,045,884	6,106,433
Dividends paid per Common Share	3.00	2.60
Number of Employees	17,635	16,656
Payroll	$ 59,495,105	$ 52,621,678
Number of Shareholders—		
Preferred	1,798	1,845
Common	18,155	17,564

CRANE00362

THE PRESIDENT'S MESSAGE

TO THE SHAREHOLDERS OF CRANE CO.

The Management presents with the approval of the Board of Directors the Annual Report of your company for the year 1948. Financial Statements of the company and its United States subsidiaries consolidated, together with statements reflecting the net assets and results of operations of the wholly owned subsidiary companies located in Canada and England, as certified by our auditors, Arthur Young & Company, will be found at the back of the report.

The financial and statistical information contained in this report relates to the year 1948 and is on a basis of consolidating only the figures of the United States companies except where otherwise indicated.

SALES AND PROFITS

The company's sales and profits for 1948 were at all time highs, and physical volume exceeded that of 1947; however, in reviewing the financial results in comparison with other periods due consideration must be given the relative purchasing power of the dollar. Net sales were $222,825,206 compared with $191,672,400 for the previous year, an increase of 16%. Sales of "Jobbed Products", that is, products manufactured by others, accounted for approximately 50% of total net sales for the year.

In summary, the financial results for 1948 compared with 1947 were as follows:

	1948	1947
Profit before Federal income taxes—domestic operations	$26,742,700	$20,782,533
Provision for Federal income taxes applicable to above profit	12,202,205	9,129,506
Net Profit—domestic operations	14,540,495	11,653,027
Dividends received from Foreign subsidiaries	2,155,224	1,591,045
Net profit including dividends received	16,695,719	13,244,072
Appropriation of profit toward excess of future replacement cost of machinery and equipment over original cost (see additions to plant and equipment)	1,029,000	500,000
Net profit transferred to earned surplus	15,666,719	12,744,072

DIVIDEND PAYMENTS

Dividend payments during 1948, totaling $7,612,387, represented 48.6% of profit transferred to earned surplus during the year. This consisted of regular quarterly dividends at the annual rate of $3.75 per share on the 3¾% Cumulative Preferred Shares amounting to $566,503, and regular quarterly dividends of 40 cents a share and an extra dividend at the year-end of $1.40 a share on the Common Shares, totaling $3.00 a share or $7,045,884. The remaining $8,054,332, or 51.4% of profit transferred to earned surplus was retained in the business to meet

CRANE00363

the requirements for capital expenditures and working capital necessary to keep the company in a sound operating and financial position. The management believes that to meet current requirements quickly and to prepare now for the years to come is essential to the welfare of the Crane organization, the security of its employees and future returns to its shareholders. Retained profits resulted in increasing the book value of the Common Shares by $3.43 per share during 1948.

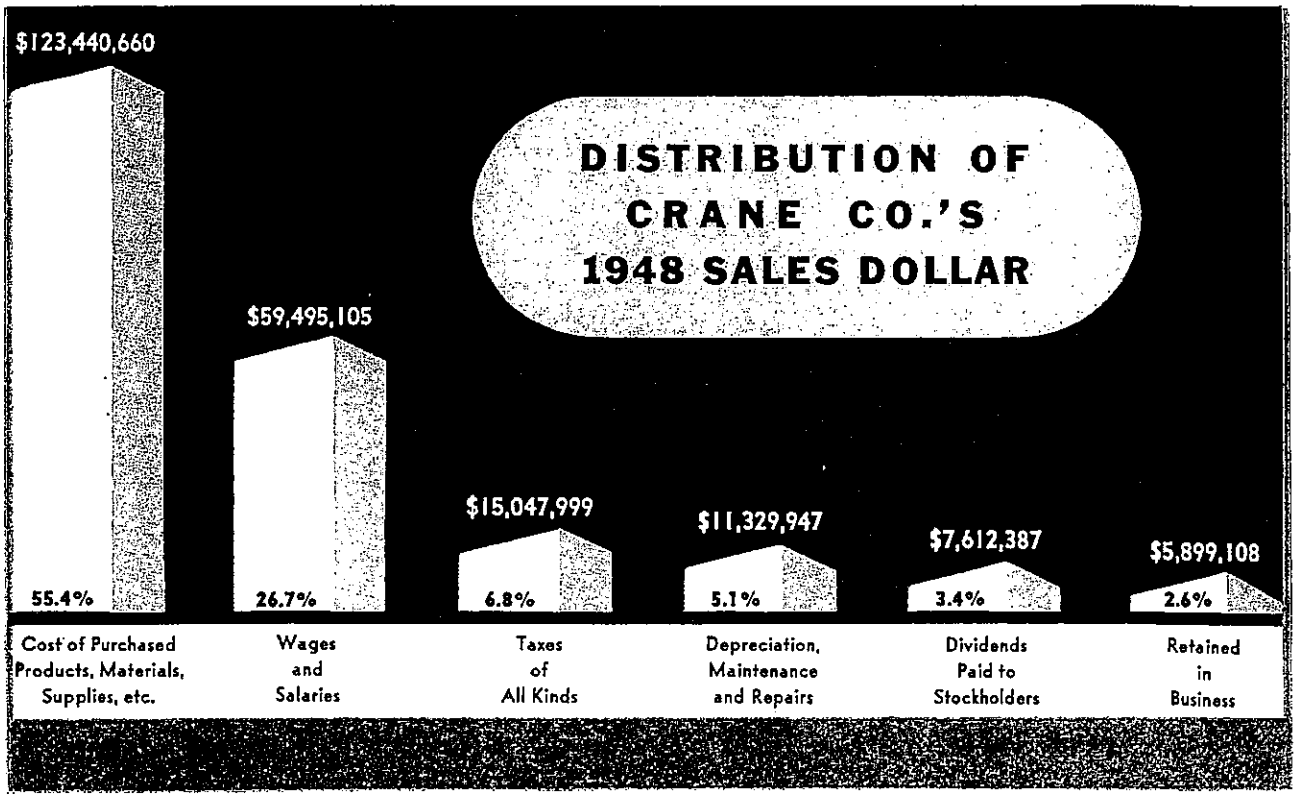
COST OF SALES

Cost of Sales including Provision for Depreciation for the year amounted to 87.96% of net sales compared with 89.14% for the year 1947. Included in cost of sales and expenses is a charge of $1,640,000 as provision for possible future price decline on the major portion of the company's inventory not carried on the "last-in, first-out" (LIFO) basis of valuation which is discussed under the heading "Inventories". Also included is a provision of $2,500,000 toward future payments in recognition of past services of employees which compares with a provision of $1,500,000 during 1947.

ADDITIONS TO PLANT AND EQUIPMENT

During 1948, replacements and additions to property, plant and equipment amounted to $3,626,460 compared with $4,691,710 during 1947. The amount for the current year is comprised of $49,050 for land, $498,879 for buildings, and $3,078,531 for machinery and equipment. All of our capital expenditures were met from current depreciation charges and retained earnings. The expenditures for buildings were largely for new branch buildings and additions to existing branch structures, plus some additions to the Trenton and Chattanooga plants. Machinery and equipment additions include items for the production of newly designed products, but most of the additions consisted of items meant to replace slower or less efficient machinery.

Depreciation charged to operations in 1948 amounted to $2,462,245 compared with $2,315,815 in 1947. The charge for depreciation of machinery and equipment is based on the estimated remaining life of the individual items and for buildings and structures it is computed at rates established from



CRANE00364

experience of this and other companies for the various types of construction. This has been the general depreciation policy of your company for many years.

Depreciation charges based on original cost continue inadequate when considered in relation to current replacement costs. Thus the management of your company continues to face the problem of financing substantial outlays for future replacement of fixed assets which were acquired at prices far below present day costs. For example, the company's charge in 1948 for depreciation of machinery and equipment on the basis of original cost was $1,822,446. If calculated on the basis of current costs, it would be $2,851,446. Accordingly, pursuant to action taken by the Board of Directors, the excess of $1,029,000 has been appropriated as a provision toward the excess of anticipated replacement cost over the original cost of machinery and equipment. This amount has been deducted from net profit in determining the amount of profit transferred to earned surplus. Similar appropriations, although only token in character, were made in the amount of $500,000 for each of the years 1946 and 1947. These appropriations do not purport to represent the total additional provision, estimated at $18,223,000, which would be required on the basis of providing for depreciation of the company's machinery and equipment at current replacement costs. While this factor is not of comparable significance with respect to buildings in view of their relatively longer life, they too will eventually have to be replaced at a cost which may greatly exceed their original cost.

TAXES

Total direct taxes paid or accrued during the year, including Federal income taxes of $12,202,205, amounted to $15,161,999 and were equivalent to $6.45 for each Common Share outstanding.

FINANCIAL POSITION

Net working capital, as of December 31, 1948, amounted to $74,327,448, an increase of $9,917,939 during the year. The ratio of current assets to current liabilities was 6.42 to 1 as compared with 6.21 to 1 a year ago.

INVENTORIES

Year-end inventories totaled $42,219,607, reflecting an increase of $7,237,189 during the year, of which $3,161,322 was in raw materials and supplies, $1,456,987 in work in process, and $2,618,880 in finished goods.

The major portion of the inventory is priced on the "last-in, first-out" (LIFO) basis of valuation. The principal part of the remaining inventory is priced at the lower of cost or market but has been reduced by a taxable reserve which has the effect of stating such inventory on a basis substantially equivalent to the LIFO method. The remaining inventory aggregating $1,170,555, representing special order products, is priced at the lower of cost or market.

At December 31, 1948, open commitments for raw materials made in the ordinary course of business approximated $1,213,000. Prices thereon were substantially the same as current market quotations.

FOREIGN SUBSIDIARIES

During the year 1948 our wholly owned subsidiaries located in Canada and England enjoyed substantial gains in both dollar and physical volume of sales. Net profits of the wholly owned Canadian subsidiaries for 1948 were $2,785,103 compared with $1,464,931 for 1947, and the net profit of the subsidiary in England amounted to $1,421,966 compared with $916,302 in 1947. Summary financial statements of the wholly owned foreign companies are given on pages 21 and 22 of this report.

The income of $2,155,224 shown as dividends from the Canadian subsidiary represents in effect dividends of $1,471,654 from the Canadian company, and a dividend of $683,570 from the company in England, which dividend was paid first to the principal Canadian company it being the immediate parent.

CRANE00365

Operations of the two partially owned Canadian subsidiaries were satisfactory, although not substantial in relation to total foreign operations.

The company's investment in its wholly owned foreign subsidiaries located in Canada and England is carried in the balance sheet at cost, namely, $12,000,000. The company's equity in the surplus of these subsidiaries, which amounted to $10,803,078 at December 31, 1948, when computed at official rates of exchange, is not included in the consolidated surplus.

SINKING FUND FOR 3¾% CUMULATIVE PREFERRED SHARES

The 3¾% Cumulative Preferred Shares are subject to sinking fund requirements as follows: On or before April 30 in each year beginning with the year 1947 the company is to pay over in cash to a sinking fund agent appointed by the Board of Directors, as a sinking fund for the redemption or purchase of shares of such series, an amount equal to the amount by which the consolidated net income of the company and its domestic subsidiaries for its latest fiscal year ended prior to the preceding January 1 shall exceed the sum of (i) all dividends (whether or not paid) accrued during such year on the outstanding Preferred Shares plus (ii) $2,500,000, but the amount so to be paid over to the sinking fund agent with respect to any such fiscal year shall not exceed $320,000. Against its obligation to make the cash sinking fund payment in any year the company may, at its election, take credit for shares of such series purchased or redeemed by it otherwise than through the sinking fund.

During the year the company purchased 3,200 shares of its 3¾% Cumulative Preferred Shares at an aggregate principal cost of $308,596.25, all purchases being at less than the sinking fund redemption price. On or before April 30, 1949, a sufficient number of these shares together with shares previously purchased will be deposited with the sinking fund agent in lieu of $320,000 cash payment which otherwise would be required.

RESERVE FOR CONTINGENCIES

During the war years the Board of Directors provided from earnings a Reserve for Contingencies totaling $13,000,000 against possible losses and costs resulting from the war. By appropriate transfers to Earned Surplus this Reserve at December 31, 1946 had been reduced to $2,000,000 which Reserve, in the opinion of the Board of Directors, is still necessary.

LITIGATION

In our last annual report we called attention to a so-called "portal to portal" suit instituted against the company in 1946. An order of dismissal was entered on June 4, 1948 and the plaintiffs' appeal therefrom was dismissed on October 1, 1948.

GENERAL

During the year the company expanded its distribution system by opening four additional Crane branches. This brings to 129 the total number of branches in the United States which together with stocking wholesalers afford a source of supply of the company's products at 542 locations in 487 cities in the United States. It is expected that three or four additional Crane branches will be opened during the ensuing year.

It is extremely difficult, if not impossible, at this time to predict with any degree of assurance the business and profits of the company for 1949. Certainly there is still a large unfilled need for housing, on the other hand it is apparent that the housing must be to a large extent of lower cost not only as to size, but also as to relative cost. This is shown by the fact that in many cities in the country there are now numerous houses built during 1948 which are standing unsold and vacant.

A reliable index on construction cost showed a decline of a few points for residential construction during the last three months of 1948 but at the same time commercial and industrial construction cost indices moved up a few points.

CRANE00366

Distributors' inventories of the company's products and products of others which the company sells were considerably larger at the end of 1948 than a year earlier and were adequate if not excessive, with few exceptions; supply has not only caught up with demand but in many lines currently exceeds it.

The company's dollar volume of sales for January 1949 was only slightly below that of January 1948, but prices in 1949, particularly as they apply to products distributed although not produced by the company, were higher than during the same month of the preceding year.

Profits for the first month of 1949 were substantially below those for January of 1948 as it was impossible to offset increases in wages and salary cost during 1948 through increases in manufacturing and distribution efficiency, and it was impractical to attempt to pass more than a small part of such increases on to the consumer.

The physical properties of the company are in excellent condition and again new tooling and mechanization has been added where efficiency and economy could be realized. New products have been developed and further lines of products manufactured by others added to the products which we offer to our customers. Employee relations are generally harmonious and the morale of the organization is good. We are not apprehensive regarding the future but feel that all must exert an even greater effort and realize a greater degree of productivity if established standards are to be maintained.

The management desires to express its warm and hearty thanks to all the company's employees, shareholders, suppliers and customers whose loyal cooperation contributed so materially to the results achieved in 1948.

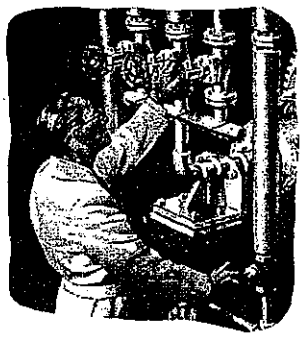
J. L. HOLLOWAY
President

JOHN H. COLLIER
Chairman

March 24, 1949.

CRANE00367

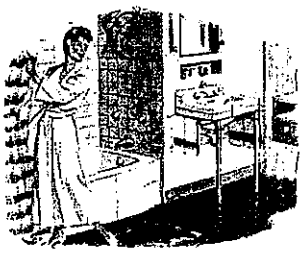
Crane's Position in the Market



Breadth of line and sales coverage are two major factors which aid your company in meeting changing market conditions.

The company serves three major markets with a broad line of products unequalled for variety and quality.

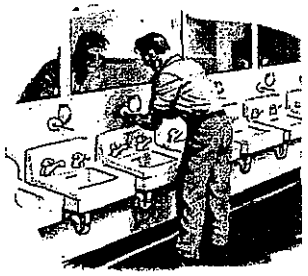
Crane enjoys outstanding leadership in valves, fittings, pipe, fabricated piping and all accessory materials needed for complete piping systems to handle any fluid—steam, air, oil, water, gas or process liquids.



In the plumbing line Crane has quality fixtures for every residential requirement—bathrooms, kitchens and water systems—and for every institutional, commercial and industrial need. Crane also supplies all material for hidden piping systems which is necessary for the proper functioning of the fixtures.

In the heating field Crane has products for all types of heating systems for all fuels and for all types of automatic operation—in residential, commercial, institutional and small industrial applications. The Crane heating line comprises not only boilers and furnaces to generate heat, and radiators, convectors and radiant baseboard panels to distribute the heat, but also the pipe, valves and fittings to complete the hook-up and the electrical controls to maintain the desired comfort conditions.

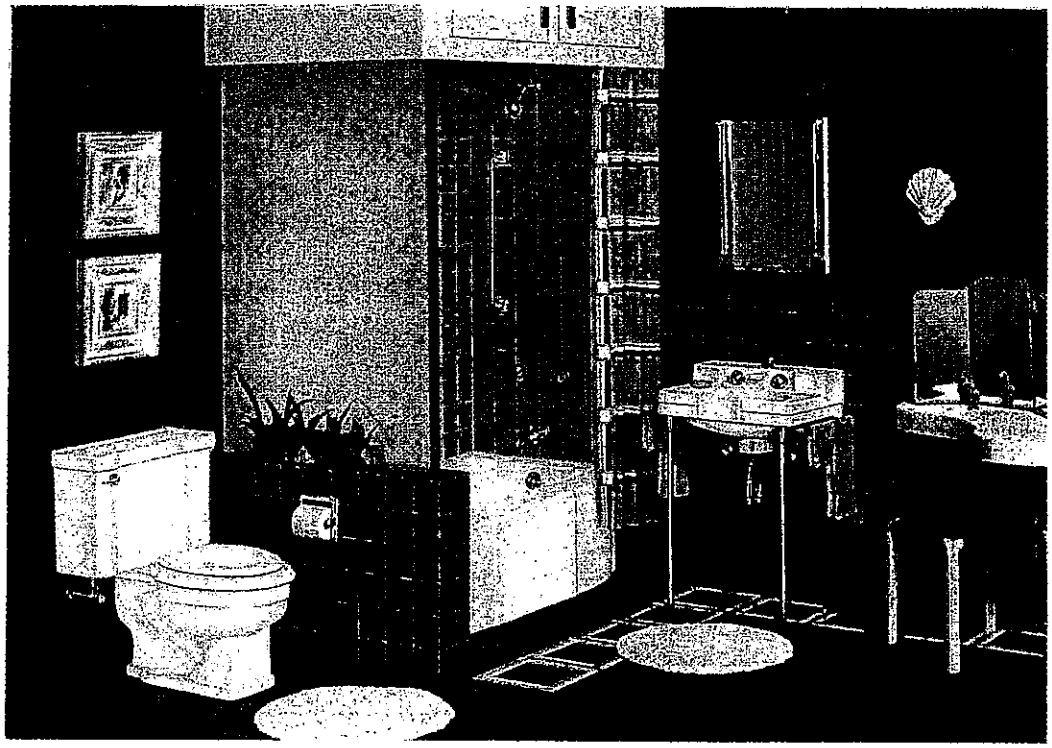
Crane distributes hundreds of products—accessories to the major equipment which it manufactures. These auxiliary products round out the line, permitting the customer to purchase his requirements from a single source. The breadth of the Crane line permits buyers to choose from the widest possible selection—an advantage that becomes very important when the buyer controls the market.



The company distributes these many and varied products through a network of wholesale outlets that provides broad sales coverage in all major markets.

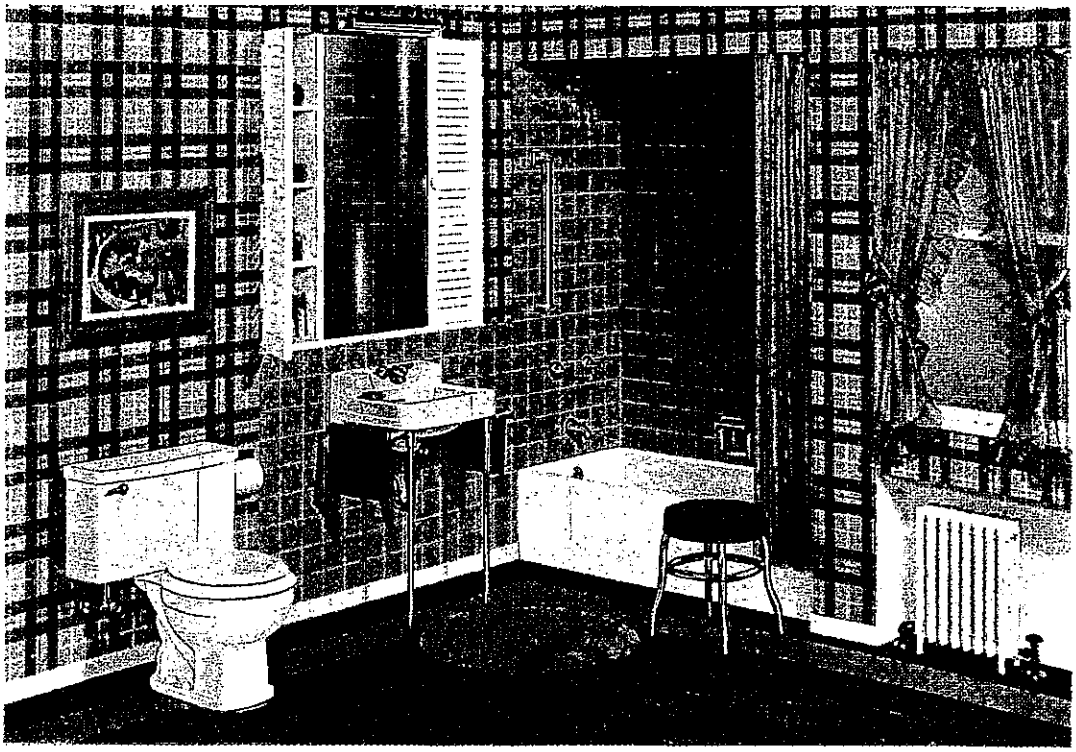
Crane branches and wholesalers are steadily increasing their facilities. New branches are being opened and new wholesalers added in territories where even greater service can be rendered to customers than in the past.

CRANE00368

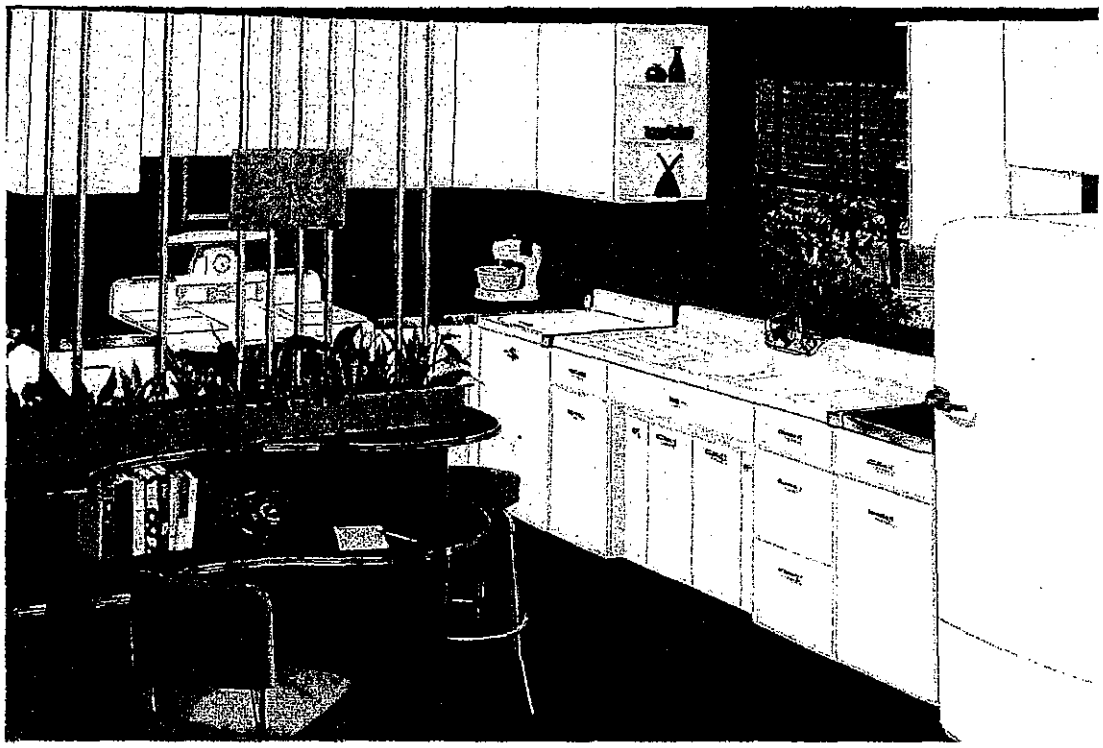


This bathroom group, the DREXEL, *is one of Crane's finest. Crane supplies not only the three basic plumbing fixtures, but also the many accessories in the plumbing system. Note the radiant baseboard panels for heating the room.*

The Crane OXFORD *Group, planned for modest budgets. In this case the modern Crane radiator recessed under the window, was chosen from the complete Crane heating line.*

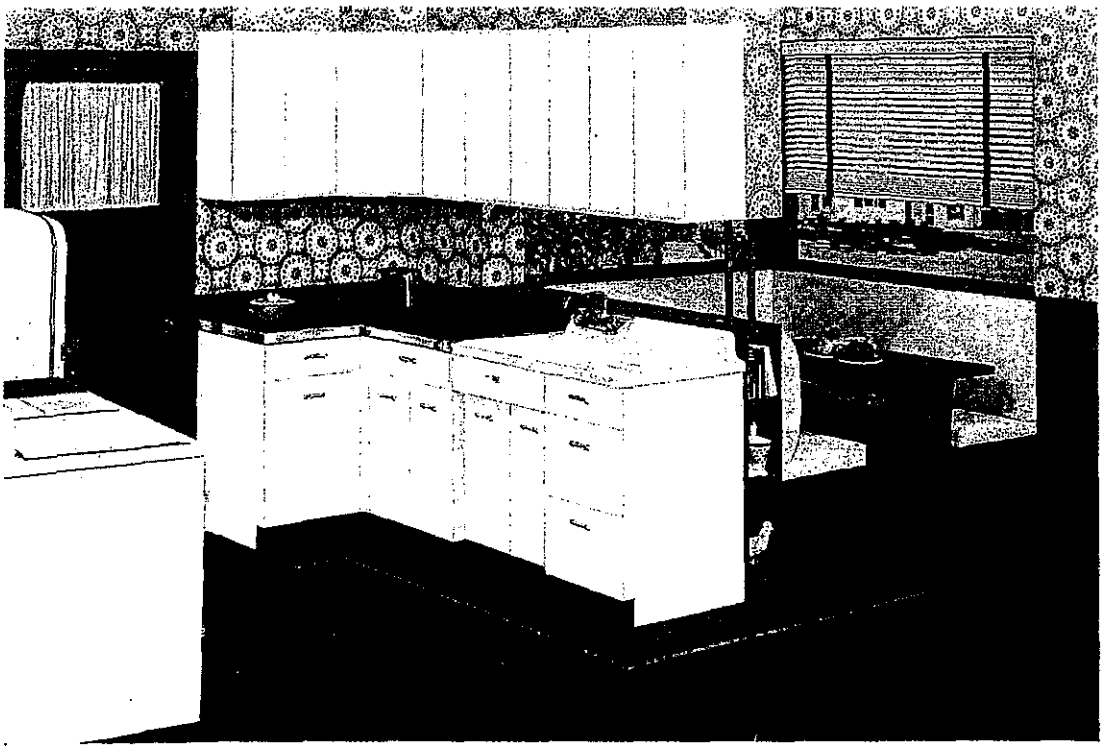


CRANE00369



Crane's most commodious sink, the KITCHEN QUEEN, *pictured in a modern setting. Also distributed by Crane are the wall and base cabinets, dishwasher, disposall unit, gas range, and ventilating fan.*

The Crane HOMEMAKER *Sink, styled for space-saving. The* DIAL-ESE *faucets, an exclusive Crane development, bring new ease of operation to all Crane sinks, lavatories, baths, and laundry tubs.*



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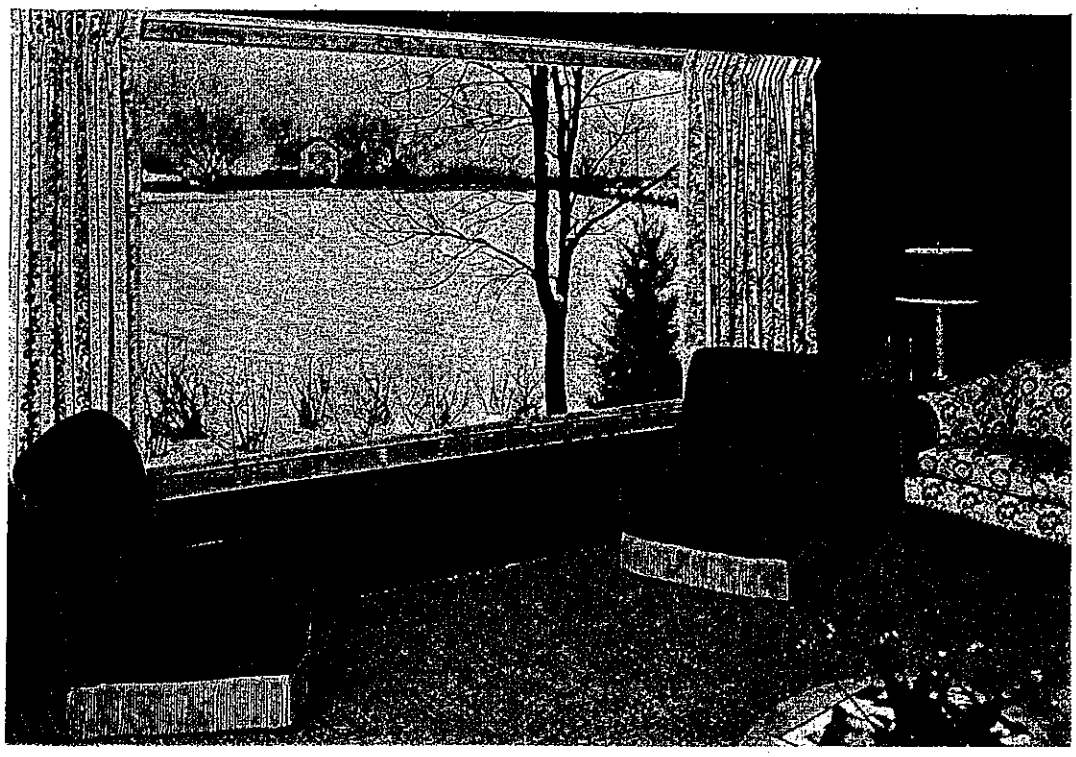
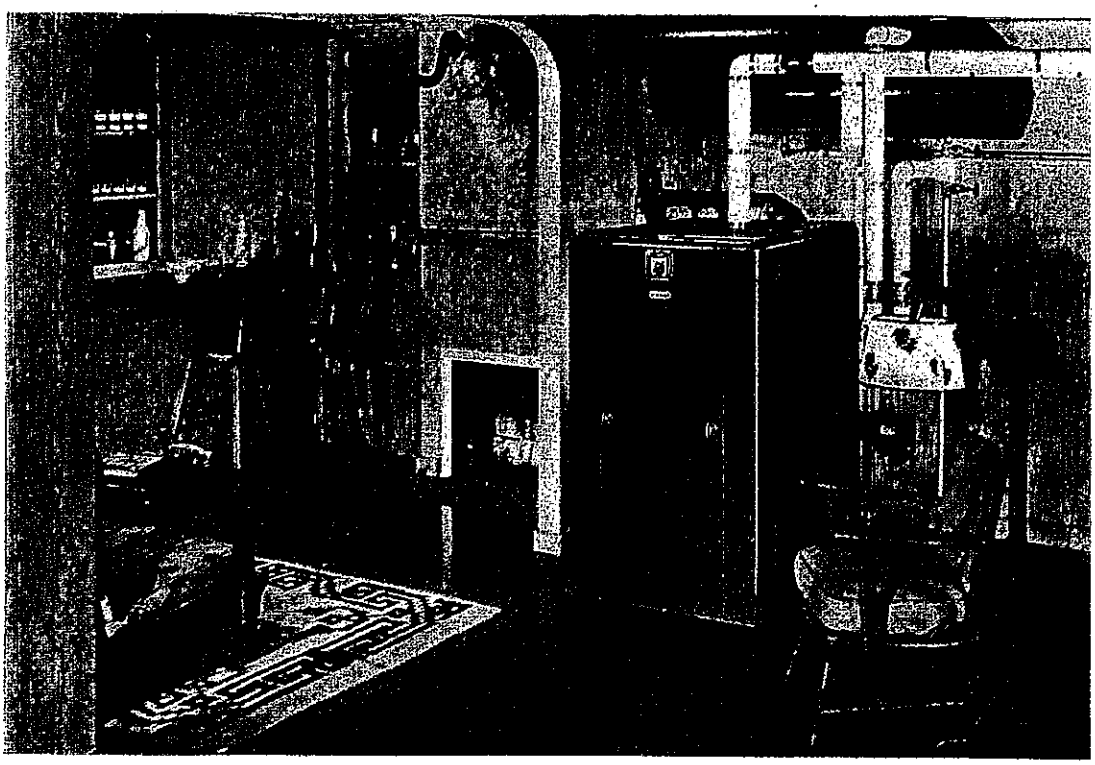


AND HERE IS THE LATEST IN HEATING — *radiant baseboard panels. As engineered by Crane, they maintain even heat throughout the room. Blending into the background, radiant panels leave all walls clear for furniture.*

CRANE SUPPLIES HEATING UNITS, *radiators, and controls for any size home . . . for warm air, steam, or hot water systems . . . for burning coal, coke, oil or gas. Shown: the* CRANE SIXTEEN *Boiler, a completely packaged oil burning unit.*



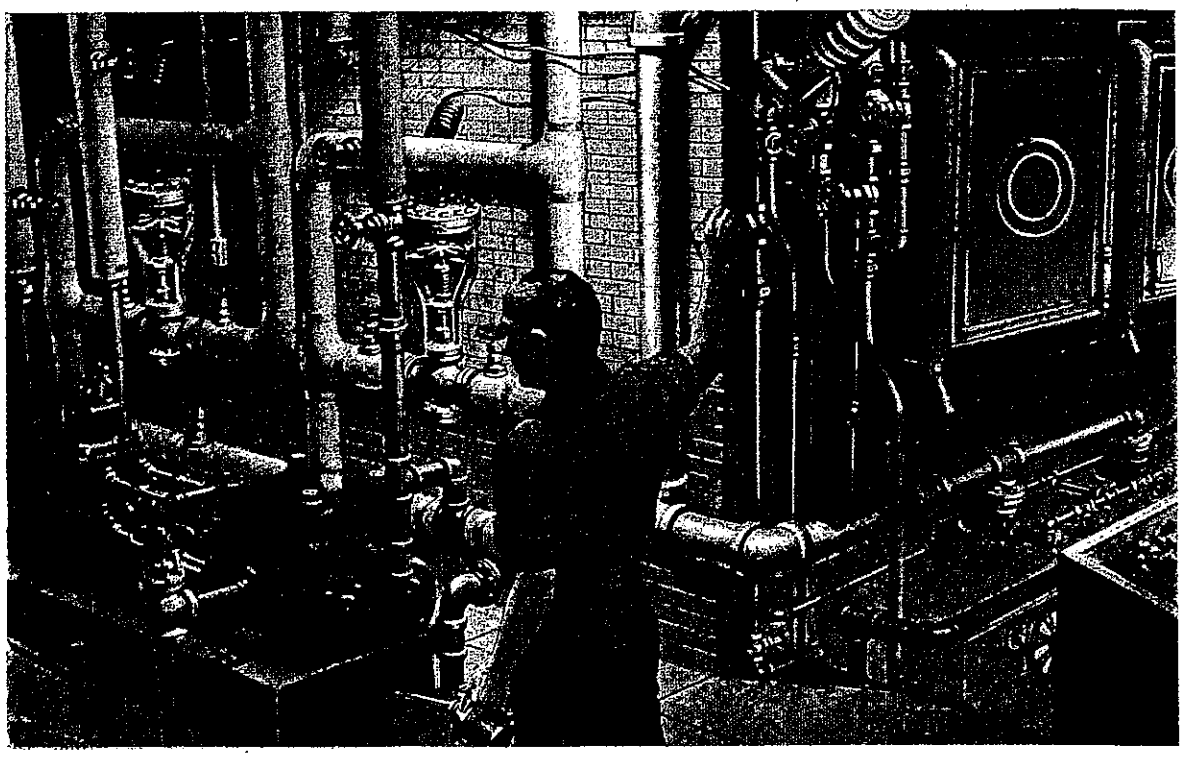
CRANE00371

In the Plumbing and Heating Field

The illustrations on the preceding pages show residential applications of Crane products and suggest something of the wide range included. In addition, the company enjoys an enviable position in supplying specialized plumbing and heating equipment for hospitals, schools, hotels and commercial buildings.

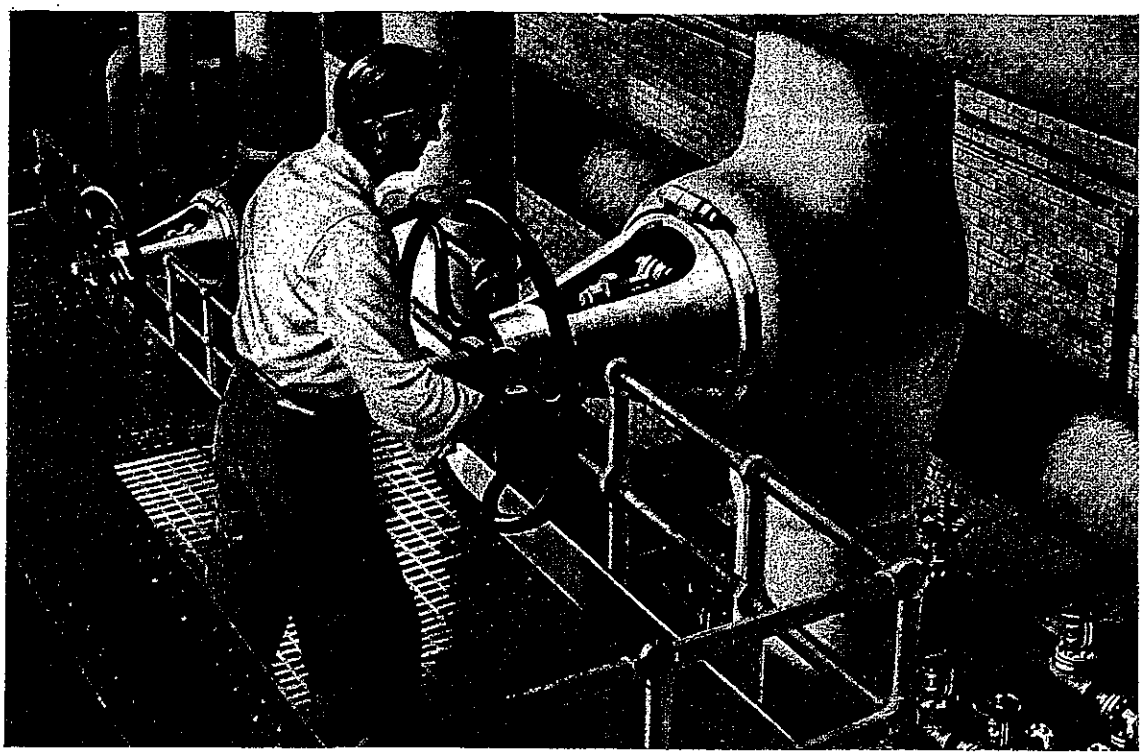
Throughout all Industry

On the following pages you will see a few of the applications of Crane products in industry. Perhaps you will feel that you have seen some of the pictures before. You have. They are taken from Crane magazine advertising in which men in all types of industry learn why it is to their interest to depend on Crane for "everything in piping".



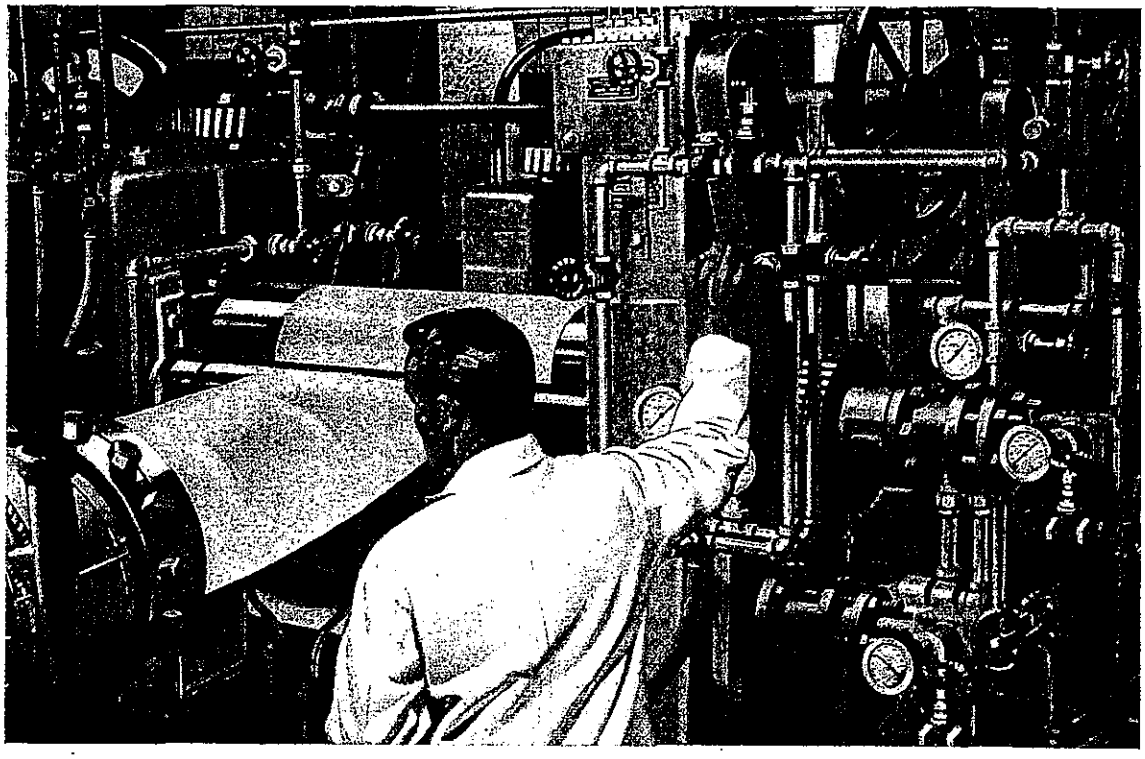
BOILER ROOMS—*Every industrial, commercial and institutional boiler room requires a lot of piping products furnished by Crane.*

CRANE00372



UTILITIES. *This scene in a big electric power plant typifies Crane's service to public utilities. The valve shown is the revolutionary Pressure-Seal Bonnet design, combining performance and unmatched economy of maintenance.*

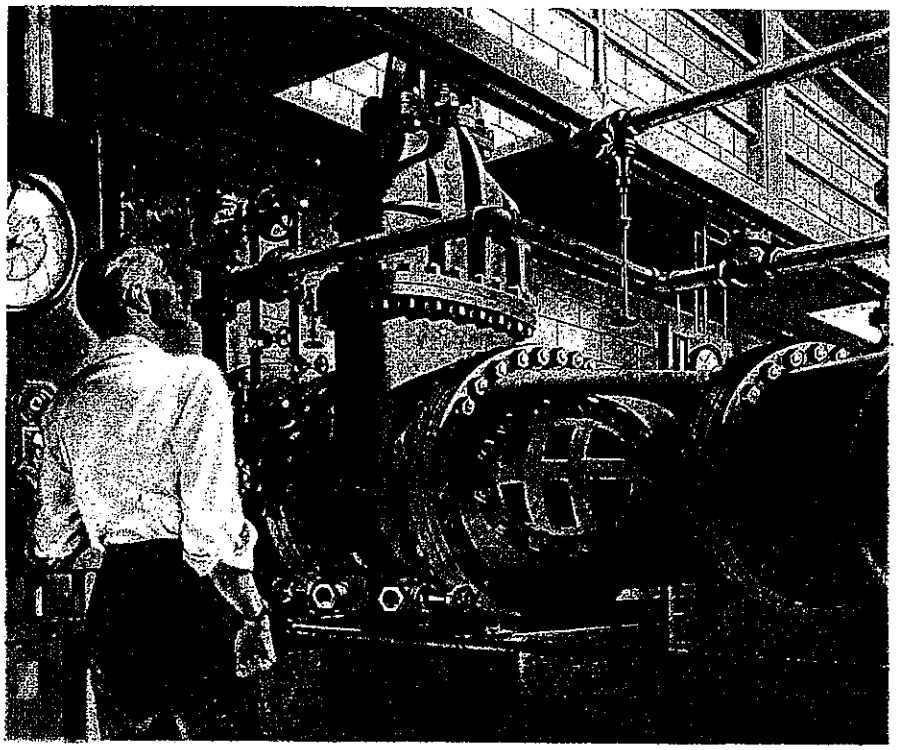
MANUFACTURING. *Every industry has its piping systems — like this complex one, used in the extrusion of plastic sheets — calling for an almost endless variety of valves and fittings. Crane is one source for all.*



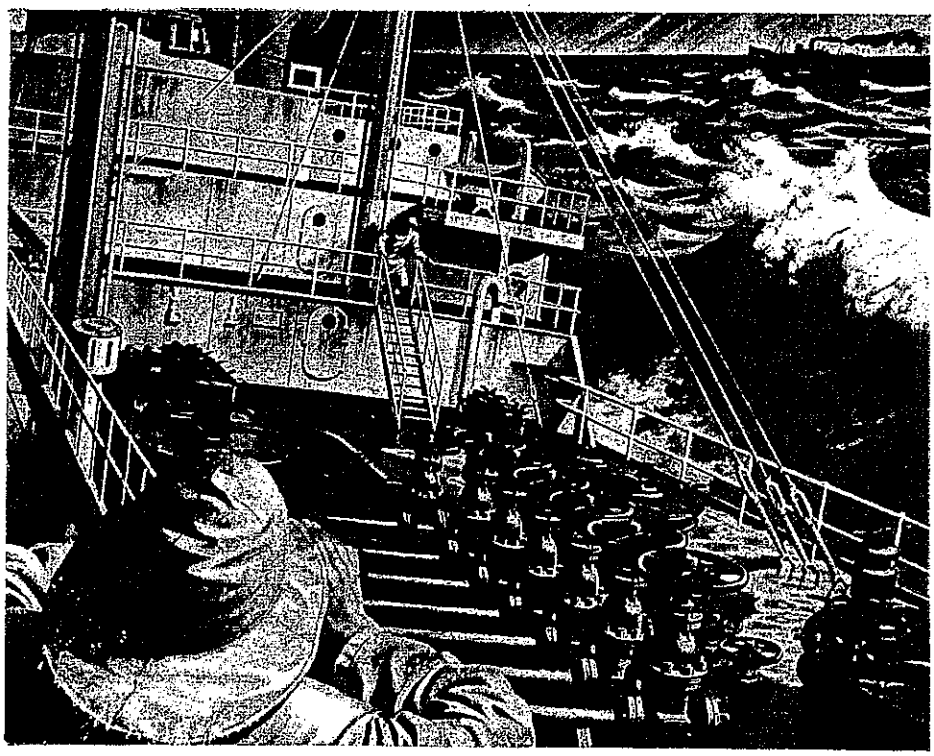
CRANE00373

FOOD PROCESSING. *Cleanliness is the watchword here — that, and strict quality control. Crane valves and fittings help assure them in this soup canning plant as throughout the food industry.*

MUNICIPAL SERVICE. *The control valve on the water main in a large community pumping station. This giant valve suggests the big job Crane undertakes in serving all manner of public works.*

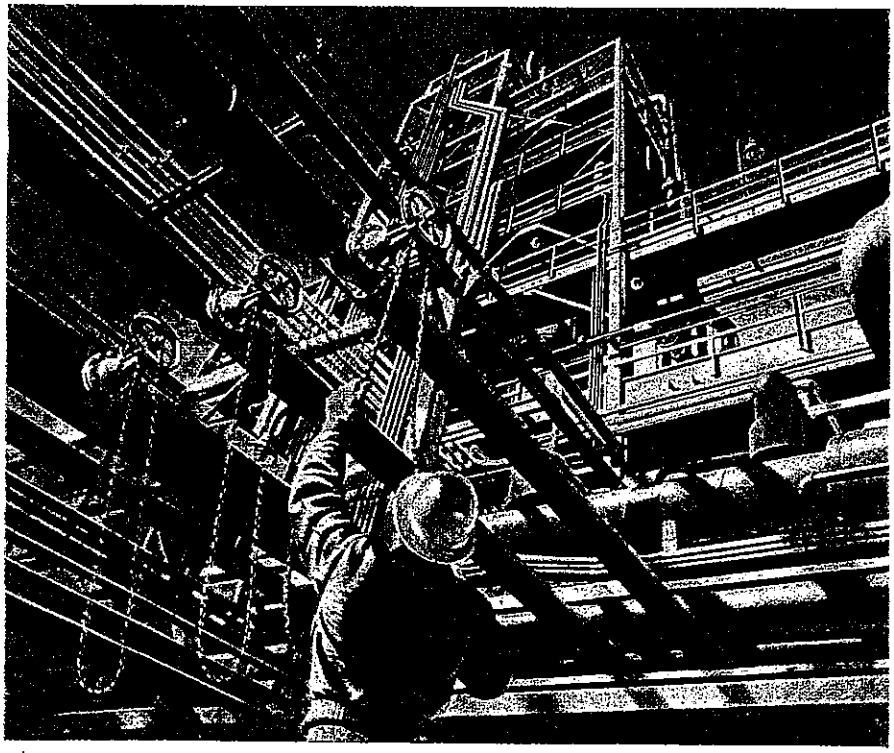


CRANE00374



TRANSPORTATION. *Ships, like the tanker pictured here, are a maze of pipe lines and valves. Railroads are leading users of Crane piping materials. And much of the fuel for auto and air transport is piped through Crane equipment.*

PETROLEUM. *Up from the ground, now up in the sky, goes crude oil in this modern oil refinery. One of these units requires more than 100 miles of piping, 7000 valves — all part of the vast Crane line.*



CRANE00375

CERTIFICATE OF INDEPENDENT PUBLIC ACCOUNTANTS

NEW YORK
CHICAGO
BOSTON
DALLAS
KANSAS CITY
LOS ANGELES
MILWAUKEE
PHILADELPHIA
PITTSBURGH
TULSA

ARTHUR YOUNG & COMPANY
ACCOUNTANTS AND AUDITORS
1 NORTH LA SALLE STREET
CHICAGO 2

CANADA
ENGLAND
FRANCE
VENEZUELA

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. and Subsidiaries in the United States at December 31, 1948 and the related consolidated profit and loss and earned surplus statements for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated profit and loss and earned surplus statements present fairly the financial position of Crane Co. and Subsidiaries in the United States at December 31, 1948, and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Arthur Young & Company

Chicago, Illinois,
March 15, 1949.

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1928

ASSETS

CURRENT ASSETS:			
Cash			$ 14,891,867
U. S. Government securities at cost, which approximates market value			8,206,910
Accounts receivable		$ 24,248,972	
Less: Reserve for doubtful accounts		1,758,075	
			22,490,897
Inventories (Note 1)—			
Raw material and supplies		$ 9,886,190	
Work in process		9,253,509	
Finished goods		23,079,908	
			42,219,607
Due from foreign subsidiaries not consolidated			234,330
Total Current Assets			$ 88,043,611
INVESTMENTS:			
Investment in foreign subsidiary not consolidated, at cost (Note 2)		$ 12,000,000	
Other investments, at cost or nominal value (less reserve, $237,738)		1,077,790	
			13,077,790
FIXED ASSETS:			
Land and land improvements		$ 5,891,840	
Buildings	$31,815,446		
Less: Reserve for depreciation	14,705,596		
		17,109,850	
Machinery and equipment	$41,261,677		
Less: Reserve for depreciation	24,467,859		
		16,793,818	
Unfinished construction		565,697	
			40,361,205
DEFERRED CHARGES:			
Prepaid insurance, etc.			588,265
			$142,070,871

See accompanying notes.

CRANE00377

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1970

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued payrolls		$ 11,002,409
Accrued federal taxes on income	$ 13,215,513	
Less: U. S. Treasury tax notes, at cost plus accrued interest	12,316,506	
		899,007
Accrued general taxes		1,814,747
Total Current Liabilities		$ 13,716,163
RESERVES AND APPROPRIATIONS:		
Reserve toward future payments in recognition of past services of employees	$ 4,500,000	
Reserve for contingencies	2,000,000	
Miscellaneous reserves	230,285	
Appropriation toward excess of future replacement cost of machinery and equipment over original cost	2,029,000	
		8,759,285
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Common stockholders (par value $547,800 plus equity in surplus of $573,251)		1,121,051
CAPITAL STOCK AND SURPLUS:		
Capital Stock—		
3¾% cumulative preferred shares, par value $100—		
Authorized—160,000 shares		
Outstanding—153,771 shares (including 3,721 shares in treasury) (Note 3)	$ 15,377,100	
Common shares, par value $25—		
Authorized—3,000,000 shares		
Outstanding—2,348,628 shares	58,715,700	
	$ 74,092,800	
Surplus—		
Capital surplus (unchanged during year)	$ 1,509,050	
Earned surplus (Notes 3 and 4)	43,233,640	
	44,742,690	
	$118,835,490	
Less: Cost of 3,721 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 3)	361,118	
		118,474,372
		$142,070,871

See accompanying notes.

CRANF00378

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

FOR THE [illegible] ENDED DECEMBER 31, 1971

Gross sales, less discounts, returns and allowances:		
Sales to customers		$220,605,397
Sales to foreign subsidiaries		2,219,809
Total		$222,825,206
Cost of sales, selling, administrative and general expenses (Note 1), including provision of $2,500,000 toward future payments in recognition of past services of employees	$193,526,475	
Provision for depreciation	2,462,245	
		195,988,720
Net operating profit		$ 26,836,486
Miscellaneous other income (net)		212,314
		$ 27,048,800
Minority stockholders' interest in net income of subsidiaries		306,100
Net profit (exclusive of dividends received from foreign subsidiary) before federal taxes on income		$ 26,742,700
Provision for federal taxes on income		12,202,205
		$ 14,540,495
Dividends received from Canadian subsidiary (Note 2)		2,155,224
Net profit for the year		$ 16,695,719
Appropriation toward excess of future replacement cost of machinery and equipment over original cost		1,029,000
Amount of profit transferred to earned surplus		$ 15,666,719

See accompanying notes.

CRANE00379

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED EARNED SURPLUS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1948

Balance, December 31, 1947		$ 35,186,948
Add:		
Amount of profit for the year transferred to earned surplus		15,666,719
		$ 50,853,667
Deduct:		
Cash dividends paid—		
On 3¾% cumulative preferred shares, $3.75 per share	$ 566,503	
On common shares, $3.00 per share	7,045,884	
		7,612,387
		$ 43,241,280
Deduct:		
Excess of cost over par value of 3,135 shares of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements		7,640
Balance, December 31, 1948. (Notes 3 and 4)		$ 43,233,640

NOTES TO FINANCIAL STATEMENTS

1. INVENTORIES:

The major portion of the inventory is priced on the "last-in, first-out" (LIFO) basis of valuation which was first applied January 1, 1941. The principal part of the remaining inventory is priced at the lower of cost or market but has been reduced by a taxable reserve which has the effect of stating such inventory on a basis substantially equivalent to the LIFO method. The amount of such reserve applicable to the year 1948, $1,640,000, has been charged to cost of sales but has not been deducted in computing the provision for Federal income taxes. The remaining inventory, aggregating $1,170,555, representing special order products, is priced at the lower of cost or market.

2. INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND:

The investment in the Canadian subsidiary, Crane, Limited (Canada) is carried in the balance sheet at U. S. dollar cost, $12,000,000. The net assets of this company and its wholly owned subsidiaries, segregated as between Canada and England, are summarized below:

	Canada	England	Total
Fixed assets at U. S. dollar cost at date of acquisition, less accrued depreciation	$ 6,705,437	$2,956,625	$ 9,662,062
Net current assets at official rates of exchange	8,795,968*	3,633,698	12,429,666
Other assets at official rates of exchange	197,218	18,232	215,450
Investments in subsidiary companies not consolidated, at U. S. dollar cost at date of acquisition	495,900		495,900
	$16,194,523	$6,608,555	$22,803,078

*Prior to January 1, 1948, the major portion of the inventories of the wholly owned subsidiaries operating in Canada were valued on the "base stock" method permitted under the applicable Canadian tax laws in effect during the period of January 1, 1940 to December 31, 1947 for the purpose of determining income subject to excess profits taxes. This law expired at the end of 1947 and effective January 1, 1948, inventories have been valued on a basis substantially equivalent to the "last-in, first-out" method (computed at January 1, 1940 costs) although such method is not allowable under present Canadian tax regulations for the purpose of determining taxable income.

CRANE00380

The results of operations of the wholly owned subsidiaries operating in Canada and England for the year ended December 31, 1948 (converted at official rates of exchange, except that the provision for depreciation on fixed assets has been computed on U. S. dollar cost) are shown below:

	Canada	England
Gross sales, less discounts, returns and allowances	$38,687,344	$9,169,139
Cost of sales, including selling, administrative and general expenses, but before provision for depreciation	32,842,077	6,358,234
	$ 5,845,267	$2,810,905
Provision for depreciation	704,957	155,219
Net operating profit	$ 5,140,310	$2,655,686
Other income, less other deductions	214,793	9,827
Net profit before taxes on income	$ 5,355,103	$2,665,513
Provision for taxes on income	2,570,000	1,243,547
Net Profit	$ 2,785,103**	$1,421,966

**The above net profit of the wholly owned subsidiaries operating in Canada does not include a reduction of $1,270,000 in the provisions for taxes on income of prior years which has been credited directly to earned surplus.

During the year 1948, Crane, Limited (Canada) received from its English subsidiary dividends of $723,148 Canadian dollars (equivalent to $723,148 U. S. dollars), which, being an inter-company dividend, is not reflected in the operating results of the Canadian companies.

During the year 1948, Crane Co. received dividends of $2,155,224 (U. S. dollars) from Crane, Limited (Canada) which have been reflected in the consolidated profit and loss statement of Crane Co. and subsidiaries in the United States.

Canada and England have enacted certain exchange regulations restricting the withdrawal of funds, etc., and the investments in and the profits of the companies located therein are subject to such restrictions, as well as to such taxes on income as may be payable on the transfer of profits between England, Canada and the United States. For the year 1948 the dividends from Crane, Limited (England) to Crane, Limited (Canada) were not subject to taxes on income because of credits for taxes paid to England. The dividends from Crane, Limited (Canada) to Crane Co. of $2,155,224 are net after deducting the Canadian income tax of 5% on dividends to a non-resident parent company and exchange charges and are not subject to further taxes on income because of credits for taxes paid to Canada.

3. 3¾% Cumulative Preferred Shares:

These shares are redeemable at the option of the company at $107 per share if called for redemption prior to June 15, 1955 (an aggregate amount of $16,055,350) and at $104.50 per share if called for redemption on or after June 15, 1955, in each case plus accrued dividends to the date fixed for redemption. They are also redeemable through the operation of the sinking fund at any time at the sinking fund redemption price of $104.50 per share, plus unpaid accrued dividends. Reference is made to the narrative section of this report for a statement in respect of the sinking fund requirements.

Under the Business Corporation Act of Illinois, earned surplus of Crane Co. is restricted in the amount of $361,118, the cost of 3,721 re-acquired shares in the treasury at December 31, 1948.

4. Dividends on Common Stock:

Under the provisions of the Articles of Incorporation, as amended in connection with the issuance of the 3¾% Cumulative Preferred Shares, earned surplus at December 31, 1948, in the amount of $18,763,054, is not available for the payment of dividends on the company's Common Shares.

5. Reserves and Appropriations:

Reference is made to the narrative section of this report for comment in respect of certain reserves and appropriations.

CRANE00381

INTERNATIONAL DISTRIBUTION

One of the important elements of strength in the Crane organization is its integrated system of distribution. Crane manufactured products, and hundreds of related items, are made available to a maximum number of users with a minimum duplication of facilities.

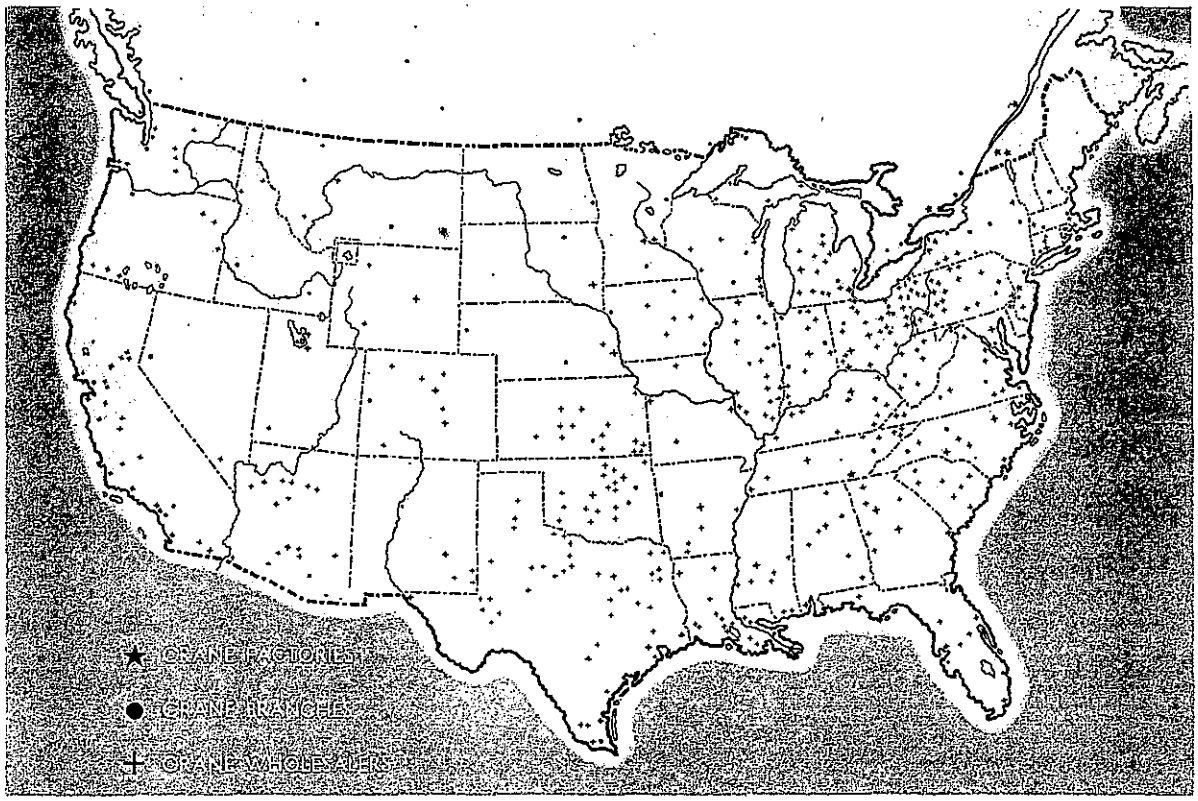
At present this distribution system (particularly in the United States) is being broadened by adding outlets and increasing facilities to keep pace with the growth in population and the growth in industry. New branches have been opened and others are planned. Old branches have been enlarged and their equipment for handling greater volume improved. The list of wholesalers stocking Crane products is also increasing, so that more and more customers can be served from local stocks and by well-trained personnel.

In Canada five plants, nineteen branches and numerous wholesalers provide a similar integrated distribution system serving the country's needs for valves, fittings, plumbing and heating.

Crane products are distributed in Great Britain through seven branches and are made available in most other world markets through agents.

The map below pictures this distribution system in the United States and Canada and also shows the wholesalers in the United States.

The list on the following page shows the present scope of Crane branches in the United States, Canada and Great Britain.



CRANE00382

CRANE CO. BRANCHES

ALABAMA
BIRMINGHAM (3).....2 S. Twentieth St.
MOBILE (3).....300 N. Royal St.

ARIZONA
PHOENIX (1).....233 S. First Ave.
TUCSON.....35 E. Toole Ave.

ARKANSAS
FT. SMITH.....221 S. Ninth St.
LITTLE ROCK (10).....120 Commerce St.

CALIFORNIA
LONG BEACH (1).....824 W. Anaheim St.
LOS ANGELES (54).....321 E. Third St.
OAKLAND (7).....346 Ninth St.
SACRAMENTO (5).....1227 Front St.
SAN BERNARDINO.....110 S. "E" St.
SAN DIEGO (1).....1138 India St.
SAN FRANCISCO (19).....301 Brannan St.
SANTA ANA.....919 Poinsettia St.

COLORADO
DENVER* (17).....1631 Fifteenth St.
GRAND JUNCTION*.....601 Pitkin Ave.
PUEBLO*.....180 Central Main

CONNECTICUT
BRIDGEPORT (3).....302 John St.
HARTFORD (5).....710 Windsor St.
NEW HAVEN (11).....365 Orchard St.

DISTRICT OF COLUMBIA
WASHINGTON (5).....1225 Eye St., N.W.

FLORIDA
JACKSONVILLE (3).....1007 W. Bay St.
MIAMI (30).....85 N. W. Tenth St.
TAMPA (1).....1105 E. Twiggs St.
WEST PALM BEACH.....217 W. 5th St.

GEORGIA
ATLANTA (3).....Washington St. Viaduct
MACON.....500 Broadway
SAVANNAH.....14 W. Broad St.

IDAHO
BOISE.....214 S. Fifth St.
POCATELLO.....756 S. First Ave.

ILLINOIS
AURORA (A).....544 S. Lake St.
CHICAGO (6).....156 N. Jefferson St.
Southside branch (20).....231 W. 79th St.
ROCKFORD.....800 S. Main St.
SPRINGFIELD.....921 E. Monroe St.
WAUKEGAN.....1219 Glen Rock Ave.

INDIANA
EAST CHICAGO.....1004 E. Chicago Ave.
EVANSVILLE (6).....118 S. E. Eighth St.
INDIANAPOLIS (6).....333 W. Market St.
MUNCIE.....342 N. Pershing Dr.
SOUTH BEND (23).....1616 S. Franklin St.
TERRE HAUTE.....209 N. Ninth St.

IOWA
DAVENPORT (8).....217 E. Second St.
SIOUX CITY (3).....223 Jackson St.

KANSAS
WICHITA (2).....624 E. First St.

KENTUCKY
LEXINGTON (1).....165 Midland Ave.

LOUISIANA
NEW ORLEANS (11).....710 S. Broad St.
SHREVEPORT (92).....1320 Winston St.

MAINE
PORTLAND (4).....70 St. John St.

MARYLAND
BALTIMORE (1).....626 W. Pratt St.

MASSACHUSETTS
BOSTON (27).....48 W. First St., South Boston
SPRINGFIELD (3).....60 Cypress St.

MICHIGAN
DETROIT (26).....150 Randolph St.
FLINT (1).....155 Lewis St.
GRAND RAPIDS (2)...56 Grandville Ave., S.W.
JACKSON.....409 Hupp Ave.

*(Crane-O'Fallon Co.)

MINNESOTA
DULUTH** (2).....102 Lake Ave., S.
MANKATO**.....510 S. Pike St.
MINNEAPOLIS** (1).....400 Third Ave., N.
ST. PAUL** (1).....Broadway at 5th

MISSISSIPPI
JACKSON (5).....176 N. Gallatin St.

MISSOURI
KANSAS CITY (7).....1328 W. Twelfth St.
ST. LOUIS (3).....30 S. Sixteenth St.

MONTANA
BILLINGS**.....30th St. and First Ave., S.
GREAT FALLS**.....2 Third Ave., South

NEBRASKA
GRAND ISLAND.....115 E. Front St.
OMAHA (8).....323 S. Tenth St.
SCOTTSBLUFF*.....1617 Avenue "A"

NEVADA
RENO.....401 E. Fourth St.

NEW JERSEY
CAMDEN (4).....2994 Ephraim Ave.
NEWARK (5).....90 South St.
TRENTON (5).....50 Escher St.

NEW MEXICO
ALBUQUERQUE*.....612 N. First St.
ROSWELL.....102 S. Virginia St.

NEW YORK
ALBANY (1).....North Broadway
BINGHAMTON (36).....21 Washington St.
BUFFALO (5).....201 Church St.
HEMPSTEAD.....209 Main St.
LONG ISLAND CITY (1)...47-30 Twenty-ninth St.
ROCHESTER (2).....200 South Ave.
SYRACUSE (1).....760 W. Genesee St.
UTICA (2).....326 Broad St.

NORTH CAROLINA
ASHEVILLE.....531 McDowell St.
CHARLOTTE (1).....1307 W. Morehead St.
GREENSBORO.....205 S. Lyndon St.
ROCKY MOUNT.....300 N. Church St.

NORTH DAKOTA
FARGO**.....636 Northern Pacific Ave.

OHIO
AKRON (11).....425 S. High St.
CANTON (2).....210 Piedmont Ave., S.E.
CINCINNATI (1).....824 Broadway
CLEVELAND (3).....6215 Carnegie Ave.
COLUMBUS (15).....67 N. Front St.
DAYTON (2).....901 S. Perry St.
LIMA.....207 S. Central Ave.
TOLEDO (1).....390 S. Erie St.

OKLAHOMA
MUSKOGEE.....302 Commercial St.
OKLAHOMA CITY (2).....705 W. Main St.
TULSA (1).....623 E. Third St.

OREGON
MEDFORD.....125 W. 4th St.
PORTLAND (8).....710 N. W. Fourteenth Ave.

PENNSYLVANIA
PHILADELPHIA (22).....245 Master St.
PITTSBURGH (30).....40 Twenty-fourth St.
READING (5).....407 N. Front St.

RHODE ISLAND
PROVIDENCE (3).....245 W. Exchange St.

SOUTH CAROLINA
GREENVILLE.....223 W. McBee Ave.

SOUTH DAKOTA
ABERDEEN**.....324 Railroad Ave., S. E.
SIOUX FALLS**.....326 E. Eighth St.

TENNESSEE
CHATTANOOGA (1).....1317 Chestnut St.
KNOXVILLE (1).....523 W. Jackson Ave.
MEMPHIS (1).....254 Court Ave.
NASHVILLE (2).....532 Eighth Ave., South

**(Crane Co., Minnesota)

TEXAS
BEAUMONT.....720 Fannin St.
CORPUS CHRISTI.....1212 N. Tancahua St.
DALLAS (2).....814 Young St.
EL PASO*.....1609 Texas St.
HARLINGEN.....201 W. "C" St.
HOUSTON (1).....2204 Pease Ave.
SAN ANTONIO (6).....1200 E. Houston St.

UTAH
OGDEN.....2001 Wall Ave.
SALT LAKE CITY (11).....307 W. Second South

VIRGINIA
NORFOLK (10).....2 E. Twenty-second St.
RICHMOND (20).....1225 W. Broad St.
ROANOKE.....404 Center Ave., N.W.

WASHINGTON
SEATTLE (14).....419 Second Ave., S.
SPOKANE (8).....126 S. Post St.
TACOMA (1).....1209 S. "A" St.

WEST VIRGINIA
CHARLESTON (25).....502 Broad St.

WISCONSIN
MADISON (3).....641 Williamson St.
MILWAUKEE (3).....2123 W. Michigan St.
OSHKOSH.....37 Market St.

WYOMING
CASPER* (5).....802 E. "C" St.

CRANE, Limited (Canada)

GENERAL OFFICE

1170 Beaver Hall Square, Montreal, Que.

BRANCHES

ALBERTA
CALGARY.....602 Eleventh Ave., W.
EDMONTON.....Jasper Ave. and 109th St.

BRITISH COLUMBIA
VANCOUVER.....540 Beatty St.
VICTORIA.....1010 Government St.

MANITOBA
WINNIPEG.....93 Lombard St.

NEW BRUNSWICK
MONCTON.....225 St. George St.

NEWFOUNDLAND
ST. JOHN'S.....Hill O'Chips

NOVA SCOTIA
HALIFAX.....7-15 Doyle St.

ONTARIO
FORT WILLIAM.....600 Simpson St.
HAMILTON.....40 Wellington St., N.
KINGSTON.....71 Brock St.
LONDON.....304 York St.
OTTAWA.....148 Bank St.
TORONTO.....306 Front St., W.

QUEBEC
MONTREAL.....1121 St. James St., W.
QUEBEC.....39 St. Roch St.

SASKATCHEWAN
REGINA.....1408 Broad St.
SASKATOON.....359 First Ave., N.

CRANE, Limited (Great Britain)

ENGLAND
LONDON.....45-51, Leman St., London E. 1
BIRMINGHAM..1277 Coventry Rd., South Yardley
MANCHESTER..Westinghouse Rd., Trafford Park
BRISTOL.....1, Broadmead, Bristol, 1
BRENTFORD.....Great West Rd.

SCOTLAND
GLASGOW....94-100 Clyde Ferry St., Anderston

CRANE00383

Annual Report

1949

CRANE CO.

Our 94th Year

ANNUAL REPORT

FOR THE YEAR ENDED DECEMBER 31, 1949

CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

FOUNDED 1855 INCORPORATED 1865

CRANE00385

CRANE CO.

OFFICERS AND DIRECTORS

DIRECTORS

JOHN H. COLLIER, *Chairman*

ARTHUR O. CHOATE	J. L. HOLLOWAY	MARK W. LOWELL
C. R. CRANE, II	GORDON H. KELLOGG	E. H. McDERMOTT
G. A. EASTWOOD	DAVID LEVINGER	P. R. MORK

OFFICERS

J. L. HOLLOWAY, *President*

P. R. MORK *Executive Vice President*		J. W. HEDERICK *Assistant Secretary*
C. R. CRANE, II *Vice President*	H. H. BUNCHMAN *Treasurer*	L. L. HILL *Assistant Secretary*
J. A. DWYER *Vice President*	F. H. KAISER *Comptroller*	C. W. DITTMAR *Assistant Treasurer*
V. P. RUMELY *Vice President*	E. E. WYATT *Assistant Comptroller*	J. K. O'NEILL *Assistant Treasurer*
P. L. YATES *Secretary*	A. R. GLASS *Assistant Secretary*	H. A. TACON *Assistant Treasurer*

STOCK TRANSFER AGENTS

J. P. MORGAN & Co., Incorporated, Wall and Broad Streets, New York City
A. R. GLASS, Transfer Clerk, Crane Co., 836 South Michigan Avenue, Chicago, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK OF THE CITY OF NEW YORK, Pine and Nassau Streets, New York City
CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY OF CHICAGO, 231 South La Salle Street, Chicago, Illinois

CRANE00386

FINANCIAL SUMMARY

CRANE CO. AND SUBSIDIARIES IN THE UNITED STATES

	1949	1948
Fixed Assets less Reserves for Depreciation	$ 40,022,198	$ 40,361,205
Capital Expenditures—Property, Plant and Equipment	2,555,332	3,626,460
Depreciation charged to Operations	2,647,700	2,462,245
Net Working Capital	78,732,040	74,327,448
Ratio Current Assets to Current Liabilities	9.86–1	6.42–1
Net Worth	122,368,650	118,474,372
Book Value per Common Share	45.83	44.05
Net Sales	$174,894,798	$222,825,206
Net Profit—Domestic Operations	5,770,422	14,540,495
Dividends received from Foreign Subsidiaries	3,073,465	2,155,224
Net Profit, including Dividends received from Foreign Subsidiaries	8,843,887	16,695,719
Net Profit per Common Share	3.52	6.86
Special Appropriation of Income	832,000	1,029,000
Amount of Profit transferred to Earned Surplus	8,011,887	15,666,719
Net Profit per Common Share, transferred to Earned Surplus	3.17	6.42
Total Dividends Paid—		
Preferred Shares	$ 555,080	$ 566,503
Common Shares	5,284,413	7,045,884
Dividends paid per Common Share	2.25	3.00
Number of Employees	13,862	17,635
Payroll	$ 47,282,930	$ 59,495,105
Number of Shareholders—		
Preferred	1,738	1,798
Common	18,462	18,155

CRANE00387

THE PRESIDENT'S MESSAGE

TO THE SHAREHOLDERS OF CRANE CO.

The Management presents with the approval of the Board of Directors the Annual Report of your Company for the year 1949. Financial Statements of the Company and its United States subsidiaries consolidated, together with statements reflecting the net assets and results of operations of the subsidiary companies located in Canada and England, as certified by our auditors, Arthur Young & Company, will be found at the back of the report.

The financial and statistical information contained in this report relates to the year 1949, and is on a basis of consolidating only the figures of the United States companies, except where otherwise indicated.

Sales and Profits

The Company's sales and profits for 1949 were considerably below the year 1948 in which record sales and profits were experienced. Net sales were $174,894,798 compared with $222,825,206 for the previous year, a decrease of 21½%. Sales of "Jobbed Products", that is, products manufactured by others, accounted for approximately 51% of total net sales.

Net profits transferred to earned surplus for the year 1949 were $8,011,887, compared with $15,666,719 for the previous year, a decrease of 48.9%. Net profits for the year from domestic operations were $5,770,442 compared with $14,540,495 for 1948, a decline of 60.3%.

The decline in sales volume is substantially attributable to a lower potential market for the Company's product going into industrial construction combined with inventory liquidation on the part of its dealers. The decline in profits resulted from a combination of the reduction in sales volume, a further reduction in production levels due to some liquidation of company inventories, lower prices on practically all of the Company's product, averagely higher labor rates and increased freight costs.

In summary, the financial results for 1949 compared with 1948 were as follows:

	1949	1948
Profit before Federal income taxes—domestic operations	$10,034,414	$26,742,700
Provision for Federal income taxes applicable to above profit	4,263,992	12,202,205
Net Profit—domestic operations	5,770,422	14,540,495
Dividends received from Foreign subsidiaries	3,073,465	2,155,224
Net profit including dividends received	8,843,887	16,695,719
Appropriation of profit toward excess of future replacement cost of machinery and equipment over original cost (see additions to plant and equipment)	832,000	1,029,000
Net profit transferred to earned surplus	8,011,887	15,666,719

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Dividend Payments

Dividend payments during 1949, totaling $5,839,-493, represented 72.9% of profit transferred to earned surplus during the year. This consisted of regular quarterly dividends at the annual rate of $3.75 per share on the 3¾% Cumulative Preferred Shares, amounting to $555,080, and regular quarterly dividends of 40 cents a share, and an extra dividend at the year end of 65 cents a share on the Common Shares, totaling $2.25 a share, or $5,284,413. The remaining $2,172,394 or 27.1% of profit transferred to earned surplus was retained in the business for capital expenditures required to keep our plants modern, efficient and competitive and for working capital necessary to meet any reasonable demands that may confront the business.

Cost of Sales

Cost of Sales including Provision for Depreciation for the year amounted to 94.32% of net sales compared with 87.96% for the year 1948. Included in cost of sales and expenses is a provision of $1,000,000 toward future payments in recognition of past services of employees which compares with a provision of $2,500,000 in 1948. Cost of Sales was reduced in the amount of $370,000 representing a decrease in a taxable reserve for future decline on a major portion of the Company's inventory not carried on the "last-in, first-out" (LIFO) basis of valuation which is discussed under the heading "Inventories."

Additions to Plant and Equipment

During 1949, replacements and additions to property, plant and equipment amounted to $2,555,332, compared with $3,626,460 during 1948. The amount for the current year is comprised of $9,000 for land, $164,571 for buildings, and $2,381,761 for machinery and equipment. These expenditures were in line with our normal policy of maintaining and where practicable improving the utility of our facilities.

Depreciation charged to operations in 1949 amounted to $2,647,700, compared with $2,462,245 in 1948. The charge for depreciation of machinery and equipment is based on the estimated remaining life of the individual items, and for buildings and structures it is computed at rates established from experience of this and other companies for the various types of construction. This has been the general depreciation policy of your Company for many years.

Depreciation charges for the year computed on the basis of the original cost were inadequate when related to the higher current replacement costs of fixed assets. The products of your Company require a large investment in fixed assets, and we continue to be confronted with financing expenditures for the replacement of fixed assets acquired at prices below current costs. For example, the Company's charge in 1949 for depreciation of machinery and equipment on the basis of original cost was $2,008,326 whereas, when calculated on the basis of current cost indices, it amounts to $2,840,326. Accordingly, to provide for the expected replacement of machinery and equipment on a more realistic current cost basis, the deficiency of $832,000 has been appropriated as a provision for the year toward the excess of anticipated cost over the original cost of machinery and equipment. This amount has been deducted from net profit in determining the amount of profit transferred to earned surplus and compares with a similar appropriation of $1,029,000 in 1948. These appropriations together with token appropriations of $500,000 in each of the years 1946 and 1947, aggregate $2,861,000. The total reserve necessary to provide full depreciation of the Company's machinery and equipment on the basis of current replacement costs is estimated at $14,147,000. While this factor is not of comparable significance with respect to buildings in view of their relatively longer life, they too will eventually need to be replaced at a cost which may greatly exceed their original cost.

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Taxes

Total direct taxes paid or accrued during the year, including Federal income taxes of $4,263,992, amounted to $7,174,444 and were equivalent to $3.05 for each Common Share outstanding.

Financial Position

Net working capital as of December 31, 1949, amounted to $78,732,040, an increase of $4,404,592 during the year. The ratio of current assets to current liabilities was 9.86 to 1 as compared with 6.42 to 1 a year ago.

Inventories

Year-end inventories totaled $32,702,898, reflecting a decrease of $9,516,709 during the year of which $4,823,336 was in raw materials and supplies, $2,488,936 in work in process and $2,204,437 in finished goods.

The major portion of the inventory is priced on the "last-in, first-out" (LIFO) basis of valuation. The remaining inventory is priced at the lower of cost or market but has been reduced by a taxable reserve which has the effect of stating such inventory, except for special order products amounting to $879,639, on a basis substantially equivalent to the LIFO method.

At December 31, 1949 open commitments for raw materials made in the ordinary course of business approximated $629,000. Prices thereon were substantially the same as current market quotations.

Foreign Subsidiaries

In 1949, our subsidiaries in Canada and England had an increase in sales volume of 7.1% and 27.3%, and an increase in net profits after taxes of 24.8% and 22.5%, over 1948, respectively. However, the sales and profits for the year converted at the official rates of exchange as of December 31, 1949 to United States dollars reflect a decrease as a result of the decrease in the rates of exchange of their currencies during the year.

Following the policy of past years only the dividends received from foreign subsidiaries have been included in the profit and loss accounts of the Company. The Company's investment in its foreign subsidiaries located in Canada and England is carried in the balance sheet at cost, namely $12,000,000. The Company's equity in the surplus of these subsidiaries, which amounted to $10,465,956 at December 31, 1949, when computed at official rates of exchange, is not included in the consolidated surplus.

The income of $3,073,465 shown as dividends from the Canadian subsidiary represents in effect dividends of $2,436,203 from the Canadian company and dividends of $637,262 from the company in England, which dividends were paid first to the principal Canadian company, it being the immediate parent. $2,041,791 of the dividends were received by the Company prior to decrease in the rates of exchange for the Canadian and English currencies.

Summary financial data relating to the foreign companies and footnotes pertaining thereto are included on pages 21 and 22 of this report.

Sinking Fund for 3¾% Cumulative Preferred Shares

The 3¾% Cumulative Preferred Shares are subject to sinking fund requirements as follows: On or before April 30, in each year, beginning with the year 1947, the Company is to pay over in cash to a sinking fund agent appointed by the Board of Directors, as a sinking fund for the redemption or purchase of shares of such series, an amount equal to the amount by which the consolidated net income of the Company and its domestic subsidiaries for its latest fiscal year ended prior to the preceding January 1 shall exceed

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the sum of (i) all dividends (whether or not paid) accrued during such year on the outstanding Preferred Shares plus (ii) $2,500,000, but the amounts so to be paid over to the sinking fund agent with respect to any such fiscal year shall not exceed $320,000. Against its obligation to make the cash sinking fund payment in any year the Company may, at its election, take credit for shares of such series purchased or redeemed by it otherwise than through the sinking fund.

During the year the Company purchased 2,800 shares of its 3¾% Cumulative Preferred Shares at an aggregate principal cost of $277,105, such purchases being at less than the sinking fund redemption price. On or before April 30, 1950, these shares together with sufficient other shares previously and subsequently acquired will be deposited with the sinking fund agent in lieu of the $320,000 cash payment which otherwise would be required.

Reserve for Contingencies

The Reserve for Contingencies created during the war years in the amount of $13,000,000 and previously reduced to a balance of $2,000,000 by transfers to Earned Surplus was eliminated entirely during 1949 as, in the opinion of the Board of Directors, the contingencies had been eliminated.

General

During 1949 five additional sales branch houses were opened by the Company, bringing to 134 the total number in operation at the end of the year. Several further additions are anticipated for 1950 and it is expected that the number of its stocking wholesalers, 574 at the end of 1949, will be substantially increased.

The outlook for 1950 is somewhat mixed with the expectation of as great if not a larger volume of residential construction and a decided decline in industrial construction.

Sales and plant operating levels should be at a higher rate in relation to consumption in 1949 when they were adversely affected by inventory liquidation. The market for our products is highly competitive and it is expected that costs will be increased through the adoption of a formal Pension Plan for the Company's employees, generally in line with the pattern established in the steel industry.

Further efficiencies have been brought about in the Company's plants and its organization and a greater benefit is anticipated from these during this year than was possible during 1949. Our Sales Division is being strengthened both in caliber and number, and some considerable benefit should be realized this year from the addition of new products. Our high standard of quality, service and public relations is being, where possible, further advanced.

The Management appreciates greatly the cooperation and loyalty of the Company's employees, shareholders, suppliers and customers which contribute so much to successful operation.

J. L. Holloway
President

John H. Collier
Chairman

March 23, 1950.

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In Memoriam . . .

With deep regret we record the death on June 27, 1949, of William Rice Odell, a director since 1939. His death closed a long active life during which he distinguished himself in various fields.

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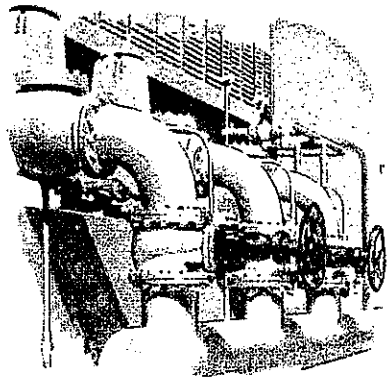
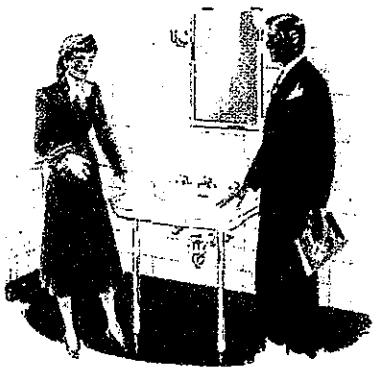
SERVING INDUSTRY AND THE HOME

Space limitations permit mention of but a few of the products manufactured and sold by your Company which are of interest to practically every branch of industry, as well as to the general public. The illustrations on the following pages serve merely to present some of our products which are contributing so largely to today's living standards.



FIRST CHOICE IN VALVES

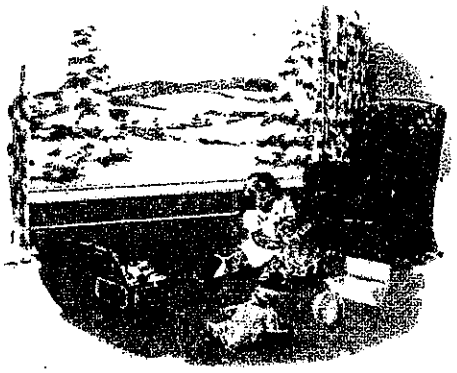
Leadership in any field imposes an obligation to maintain the highest standard of performance. In the field of valves and fittings Crane has accepted that obligation and through its continuous program of research and development is constantly improving quality and developing new products not only to meet the needs of industry but permit advances previously impossible.



Among the additions to the Crane line is the diaphragm valve. Manufactured in an improved design, either unlined or lined with varied corrosion-resistant materials, they offer an extended period of efficient performance in controlling the flow of liquids, gases, and corrosive fluids. Additionally, pressure-seal bonnet valves capable of accommodating record-high steam temperatures and pressures are now being manufactured.

"PREFERRED PLUMBING"

Of major importance to the success of any company is the quality of its products. Over the years Crane has continued to manufacture a superior product that has made the trademark "Crane" synonymous with quality wherever plumbing fixtures are used. The combination of beauty and quality of Crane plumbing fixtures has earned for them the "preferred" rating accorded by the American public.



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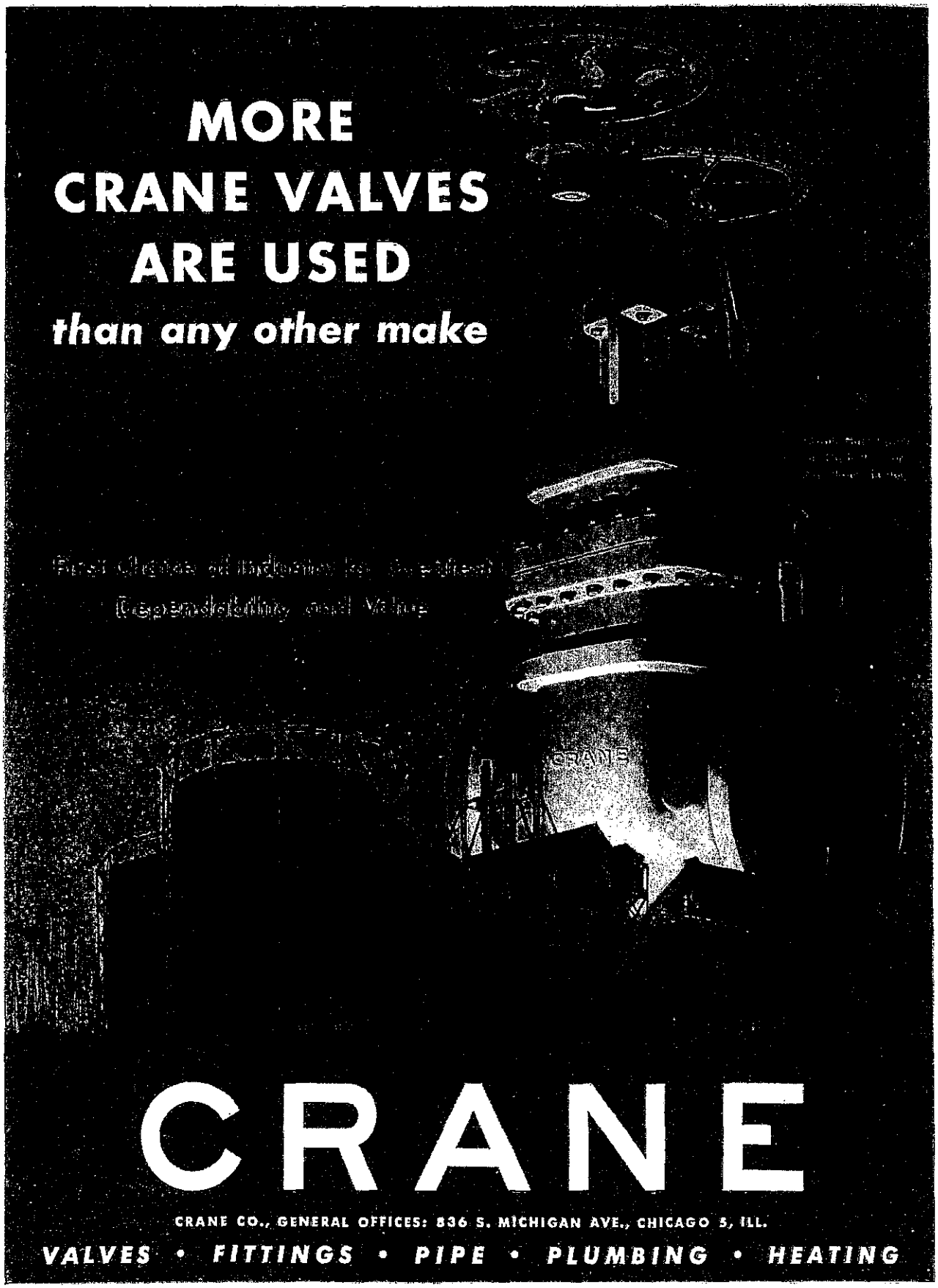
Soon to be added to the Company's line of products is the "Jet-Heet Unit". This is a new forced warm air heating furnace burning either oil or gas and utilizing a complete new method of fuel conversion and heat distribution. This unit will feature uniform temperature control and substantial economies in fuel consumption and installation costs over those of the conventional type presently in use.

"CRANE WORLD"

During the past year the Company's employee communication's program was enlarged by the launching of a new publication "Crane World" which is made available to all Crane people in the United States. This publication is designed to further inform all employees about the Company's operations, its products and their uses, and includes articles of general interest to the entire organization.

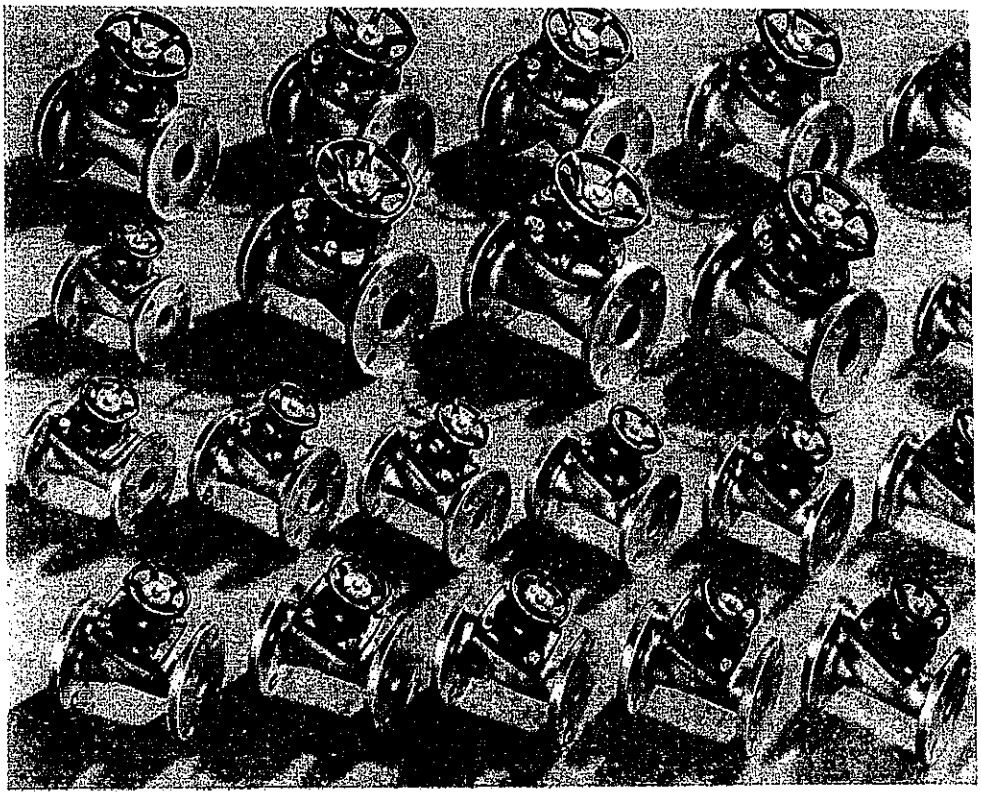
CRANE00393

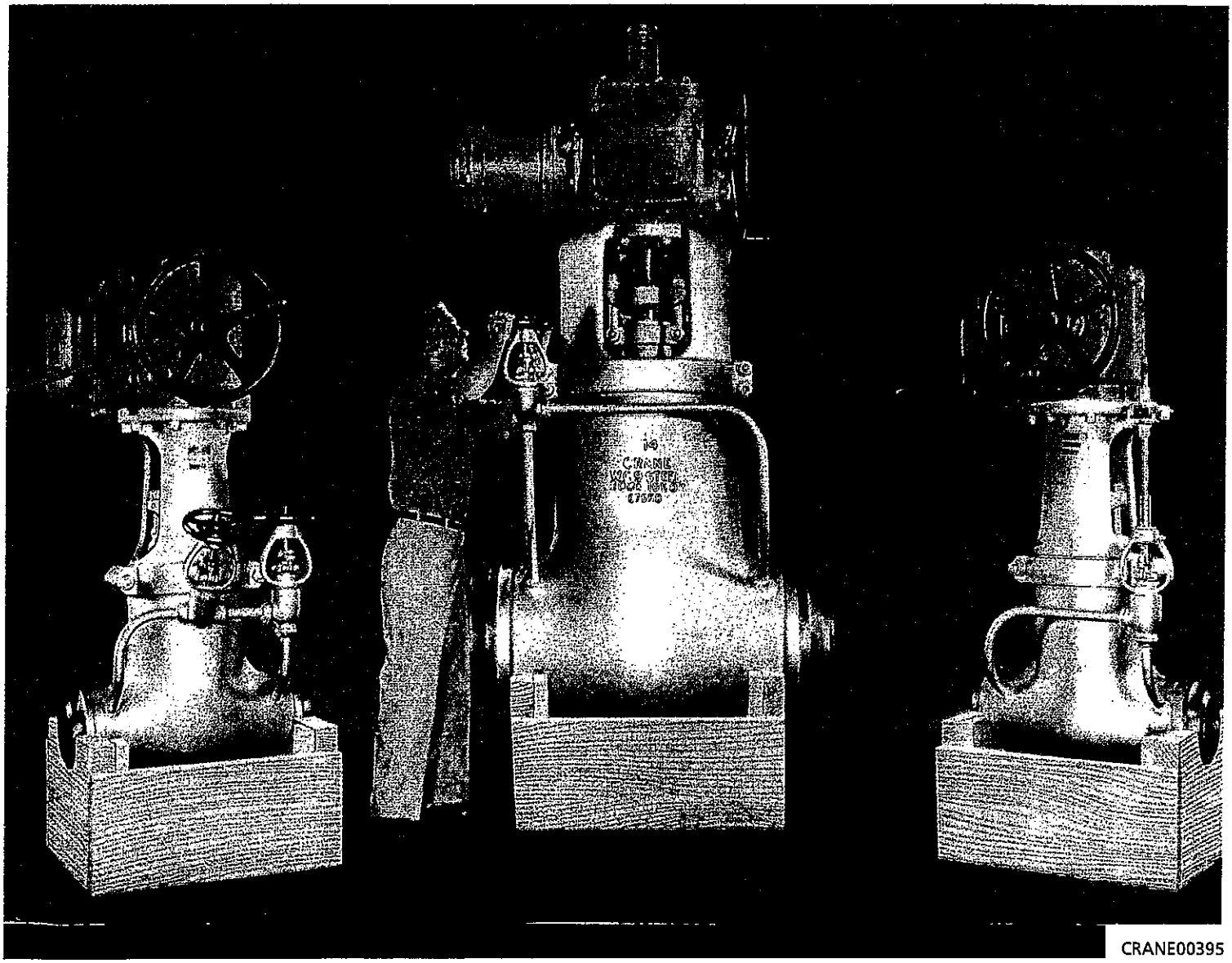

MORE
CRANE VALVES
ARE USED
than any other make
CRANE
CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO 5, ILL.
VALVES • FITTINGS • PIPE • PLUMBING • HEATING

At left Typical valve advertisement in current series.

At right An assortment of Crane diaphragm valves from a recent shipment for use in highly corrosive service.

Below Three of the 416 Crane Pressure-Seal bonnet valves for one new high-pressure power plant.

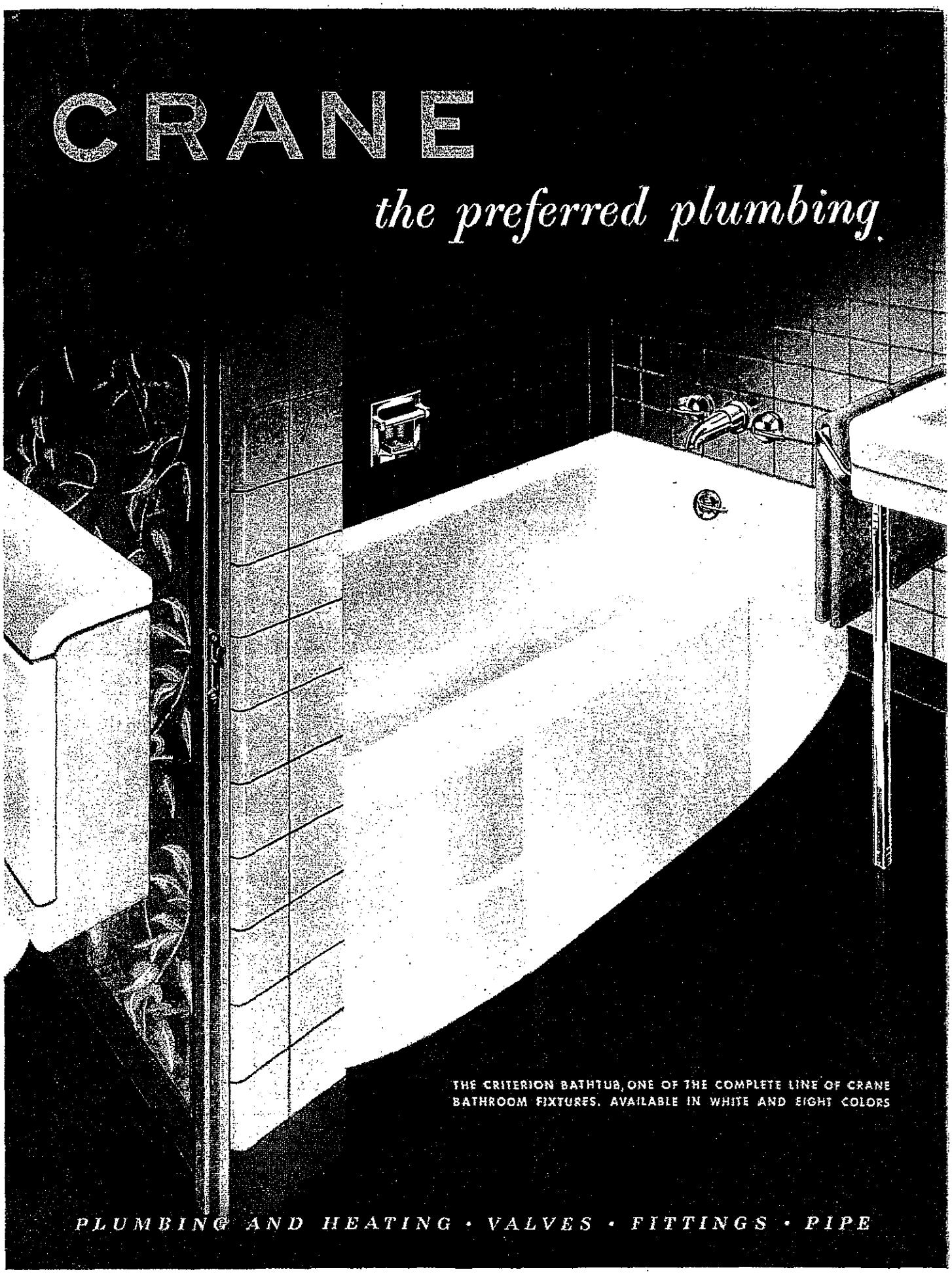




CRANE00395

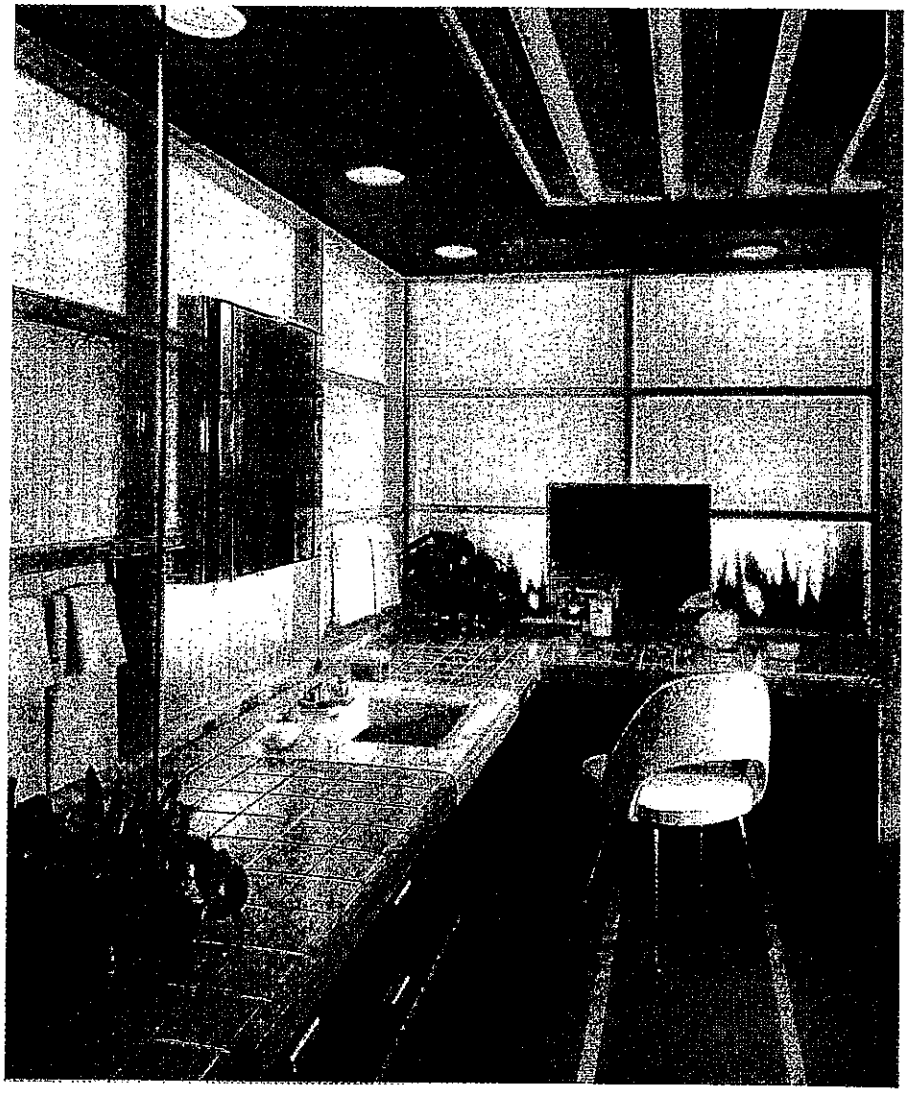
CRANE

the preferred plumbing



THE CRITERION BATHTUB, ONE OF THE COMPLETE LINE OF CRANE BATHROOM FIXTURES. AVAILABLE IN WHITE AND EIGHT COLORS

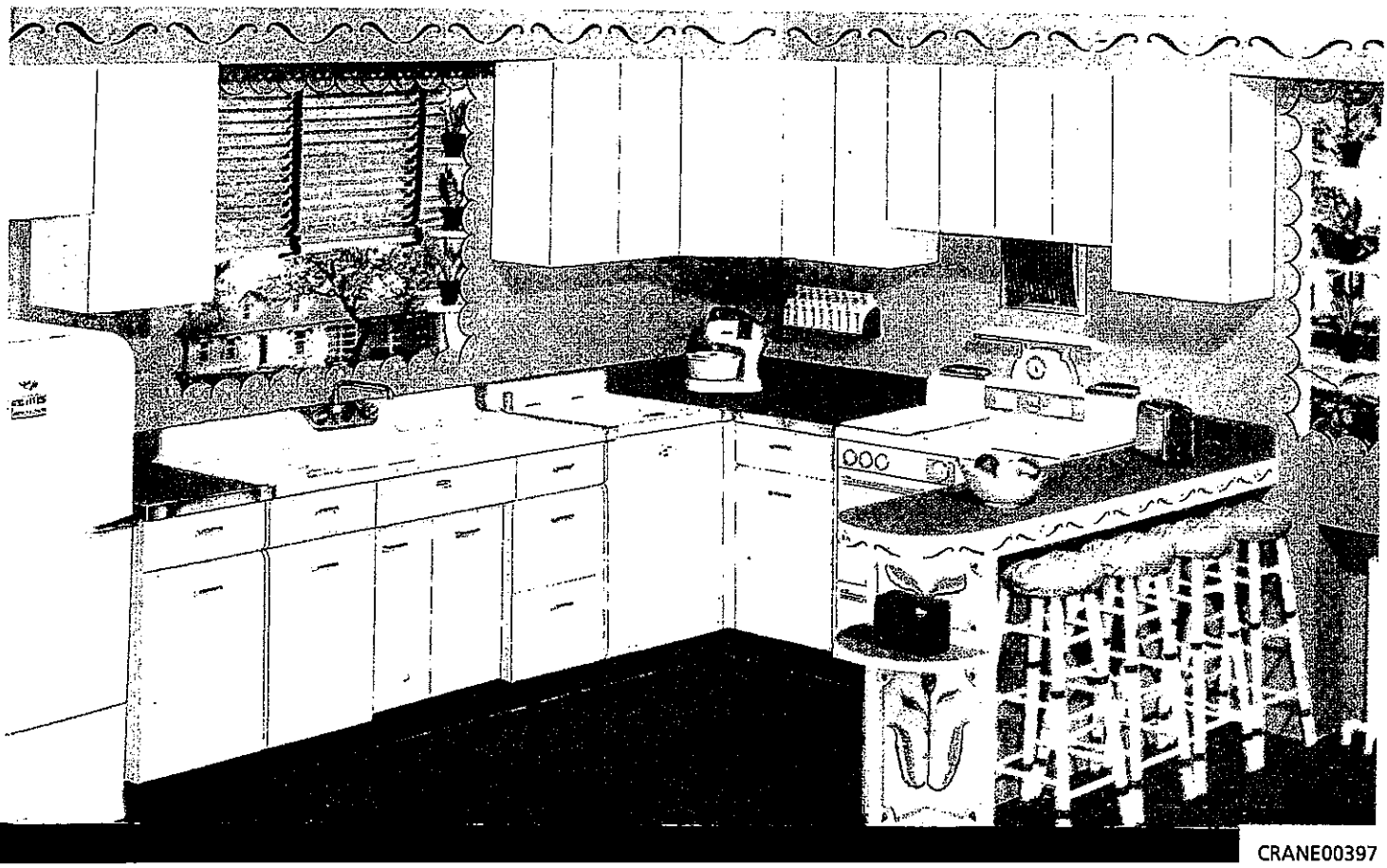
PLUMBING AND HEATING · VALVES · FITTINGS · PIPE



At left The public is being frequently reminded of Crane's position in the plumbing field by ads like this one.

At right The latest design of Crane lavatory installed in a dressing table.

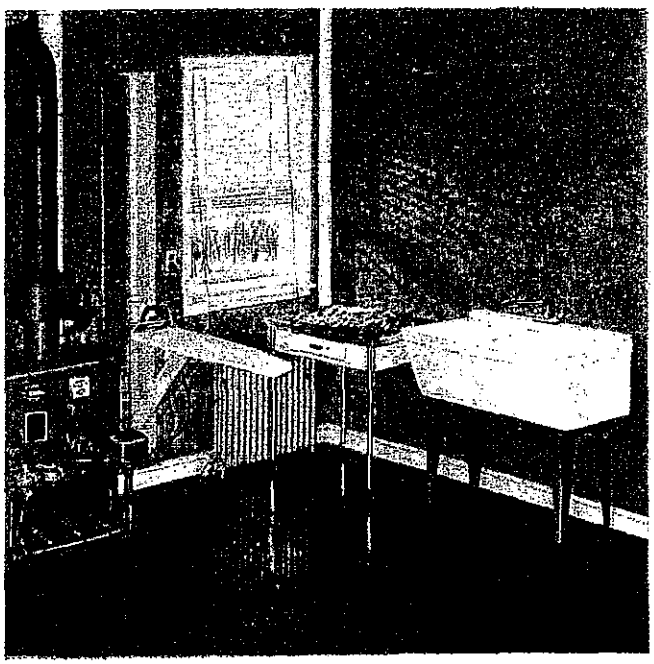
Below Crane sinks and cabinets make possible a wide variety of modern kitchen arrangements.

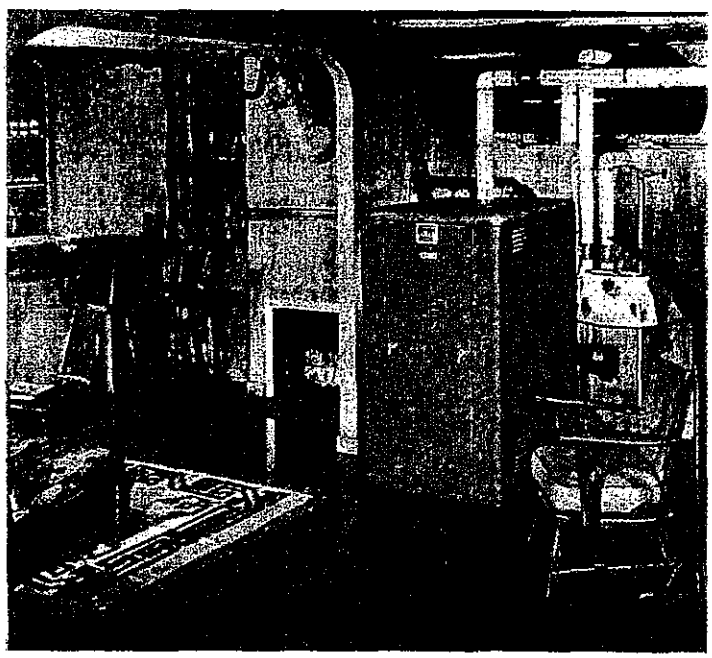


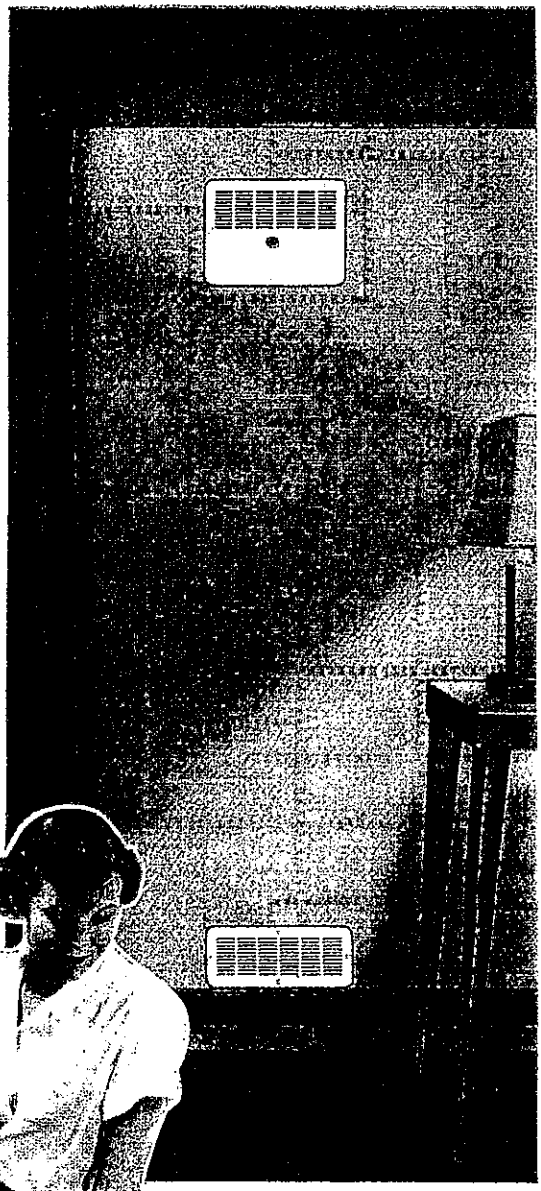
CRANE00397

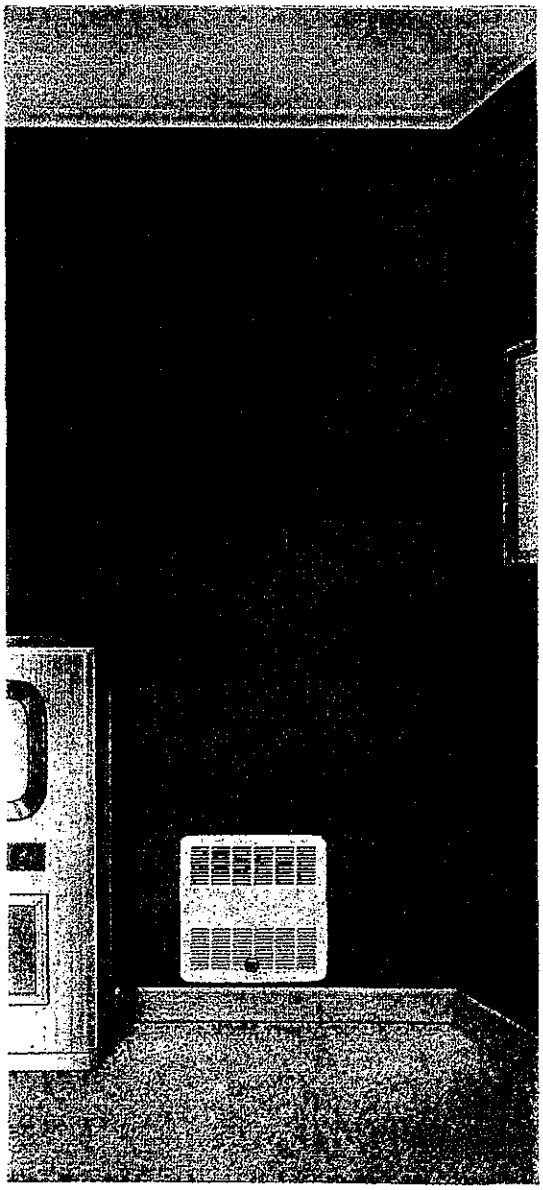
Above The radiant baseboard panels in this living room supply adequate heat and occupy no floor space.

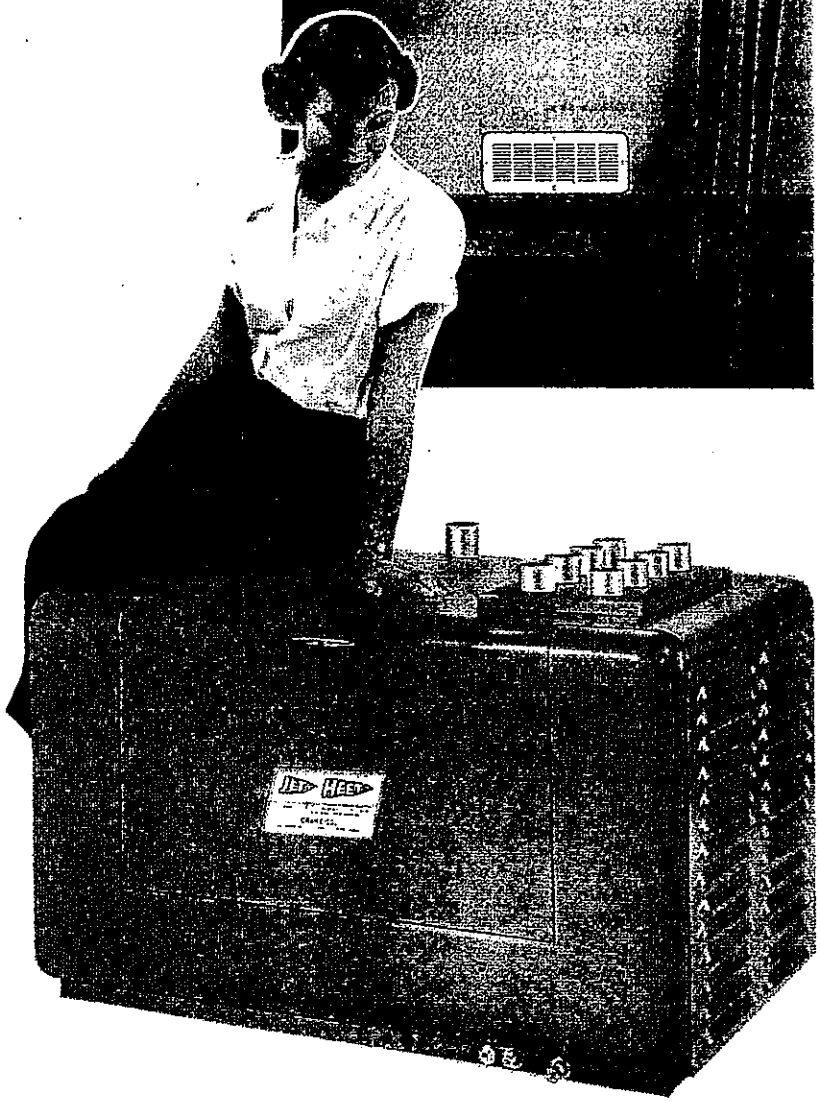
Below Two typical boilers from the Crane line—a gas-fired unit and a packaged oil-fired boiler.







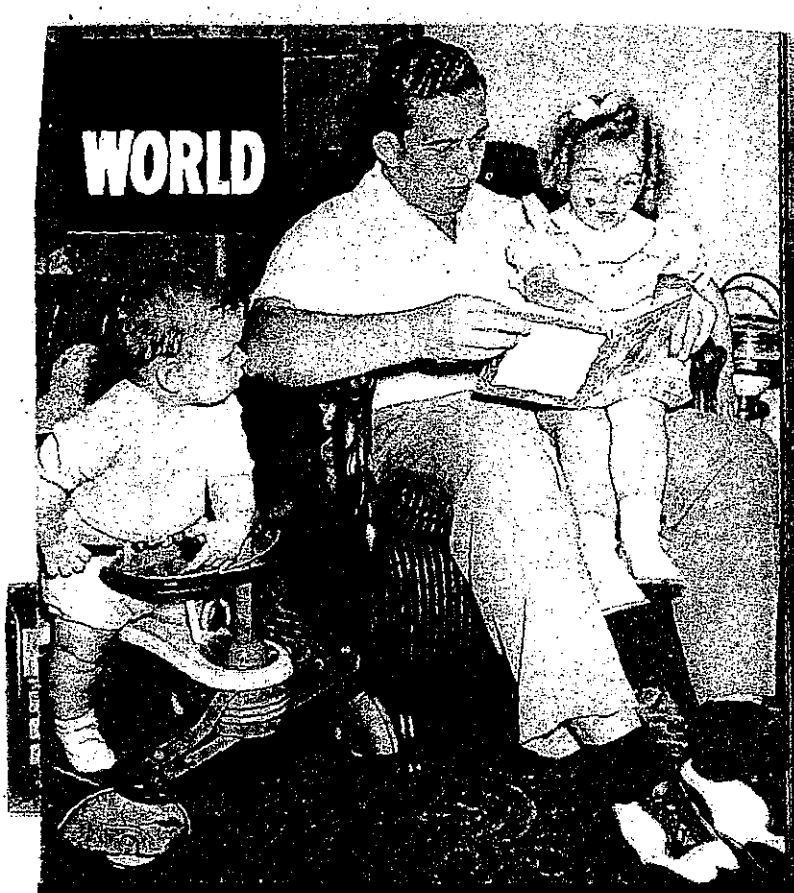


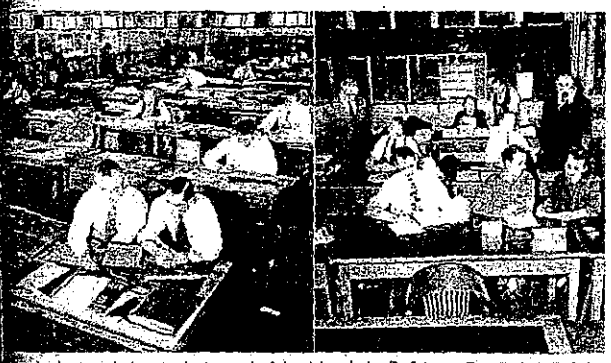


The "Jet-Heet" unit shown at the left is a revolutionary type of warm air heating furnace large enough for small and medium-sized houses. The heated air is distributed in 2-in. insulated tubes to room registers shown above. The air from the furnace is mixed with room air and released through either a high or low register. No return cold air ducts are required in this new heating system.

THE CRANE WORLD...

Typical pages from recent issues of the new Crane magazine for employees.





WORKS continued

Drafting department, development engineering supervisor Earl Thiessen discuss design with Anton Korczowski. Shown are Walter Knaack, Anderson, Robert Wendt, George Brown, John Svabek, Wallace Andrew Anderson, Emil Kopecky, John Paulist and others

In brass planning office first row are Charles Blanchard, Miss Stankowski, Lorette Ohlweiler; second row, Fred Jasmund, foreman, Frank Tyrpenski, Stephen Sidd, Roy Wiltshire; third row, Josephine Barack, John Wild. These shop office folks keep the orders moving in the plant.

om Idea to Finished Product

Blanche Lisle, jobbed product department is preparing a bulletin for Crane branches on a new jobbed product and Anne Cali (right) is at work filing information sent on suppliers

Tests an internal grinder to finish a part which all Accuracy assures that valve will be efficient.

On the multiple drill press Fern Trees drills steel valve seat. She has drill presses that will drill 36 holes in one operation.

Valves process Boy

sisters Nina and Richard at St Pancratius

Pastor Ev. Lutheran seminary and Rev. Bayer

EN AND MACHINES

Many different type of steel articles are machined in the Crane are known. There are in the ordinary cast iron through cast steel and forging steel to corrosion- and heat-resisting stainless steel. Each material requires its own special handling. For cutting speed and feeds, and even the cutting tools, must be to the grid. This is some be thought about, but a careful study of the problems and how they are solved will be of interest to you.

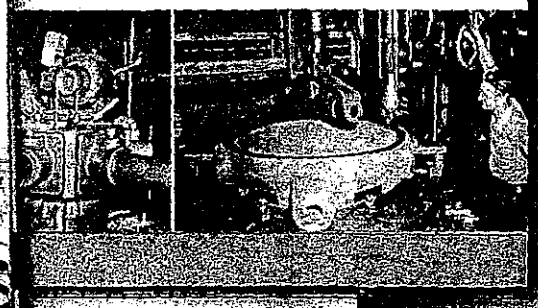
In most machine shops there is a dividing characteristic that is one that the machine is operating a high cut or is it to be one or two passes to get the special cutting tools and set them up to do the job in the shortest time.

Many different types of machine tools are used in the Crane plants. Some of the common ones are lathes, drill presses, milling machines, boring mills, grinders, broaches and screw machines.

The basis of metal cutting is the use of a cutting tool against the work piece. The tool is held in a tool holder which is mounted on the machine. The work piece is held in a chuck or fixture which is mounted on the machine. The tool is moved against the work piece to remove material. The amount of material removed is called the depth of cut. The speed at which the tool moves relative to the work piece is called the cutting speed. The feed is the distance the tool moves per revolution of the work piece. The cutting speed, feed, and depth of cut are all important factors in determining the rate at which material is removed and the life of the tool.

Chuck Chester Wooley is facing inside disc valve body for compression

Jimmy Cora is starting to machine one face of a large disc on an 84inch Lathing mill. Note tool and the cutting in brass seat ring.



15

Crane Folks Have Many Interests

CHURCH jobs in Bridgeport and Crane Chicago. Both are active in the affairs of Bethlehem Lutheran church in Chicago. Mrs. Nies is president of the Ladies' Aid society and Mr. Nies is a member of the church council. Both are active in the Sunday school. Mrs. Nies is a member of the Ladies' Aid society of St. Peter and Paul church in Bridgeport. Mr. Nies is a member of the church council of St. Peter and Paul and of St. Richard's church. Both are active in the affairs of their parish churches.

Many Crane employees are active in the affairs of their churches. Mrs. Nies is a member of the Ladies' Aid society of St. Peter and Paul church in Bridgeport. Mr. Nies is a member of the church council of St. Peter and Paul and of St. Richard's church. Both are active in the affairs of their parish churches.

Mildred Schmaal and Irma Spatz at alleys.

After bowling, Mildred shops with Evelyn Sisters Shirley Evelyn, Violet visit Mildred.

Ed, billiard and sisters enjoy players games.

CERTIFICATE OF INDEPENDENT PUBLIC ACCOUNTANTS

NEW YORK
CHICAGO
BOSTON
DALLAS
DETROIT
HOUSTON
KANSAS CITY
LOS ANGELES
MILWAUKEE
PHILADELPHIA
PITTSBURGH
TOLEDO
TULSA
WICHITA

ARTHUR YOUNG & COMPANY
ACCOUNTANTS AND AUDITORS
1 NORTH LA SALLE STREET
CHICAGO 2

CANADA
ENGLAND
FRANCE
VENEZUELA

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. and Subsidiaries in the United States at December 31, 1949 and the related consolidated profit and loss and earned surplus statements for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated profit and loss and earned surplus statements present fairly the financial position of Crane Co. and Subsidiaries in the United States at December 31, 1949, and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Arthur Young & Company

Chicago, Illinois,
March 15, 1950

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET • DECEMBER 31, 1949

ASSETS

CURRENT ASSETS:			
Cash			$ 15,288,022
U. S. Government securities, at cost, which approximates market value			23,823,182
Accounts receivable		$ 17,361,248	
Less: Reserve for doubtful accounts		1,665,602	
			15,695,646
Inventories (Note 1)—			
Raw material and supplies		$ 5,062,854	
Work in process		6,764,573	
Finished goods		20,875,471	
			32,702,898
Due from foreign subsidiaries not consolidated			108,148
Total Current Assets			$ 87,617,896
INVESTMENTS:			
Investment in foreign subsidiary not consolidated, at cost (Note 2)		$ 12,000,000	
Other investments, at cost or nominal value (less reserve, $305,338)		809,094	
			12,809,094
FIXED ASSETS:			
Land and land improvements		$ 5,900,840	
Buildings	$31,977,129		
Less: Reserve for depreciation	15,231,099		
		16,746,030	
Machinery and equipment	$42,674,455		
Less: Reserve for depreciation	25,521,069		
		17,153,386	
Unfinished construction		221,942	
			40,022,198
DEFERRED CHARGES:			
Prepaid insurance, etc.			613,595
			$141,062,783

(See accompanying notes)

CRANE00402

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET • DECEMBER 31, 1949

LIABILITIES, CAPITAL STOCK AND SURPLUS

CURRENT LIABILITIES:		
Accounts payable and accrued payrolls		$ 7,203,688
Accrued Federal taxes on income	$ 5,539,250	
Less: U. S. Treasury tax notes, at cost, plus accrued interest	5,517,534	
		21,716
Accrued general taxes		1,660,452
Total Current Liabilities		$ 8,885,856
RESERVES AND APPROPRIATIONS:		
Reserve toward future payments in recognition of past services of employees	$ 5,500,000	
Miscellaneous reserves	218,970	
Appropriation toward excess of future replacement cost of machinery and equipment over original cost	2,861,000	
		8,579,970
MINORITY INTEREST IN SUBSIDIARY COMPANIES:		
Common stockholders (par value $547,800 plus equity in surplus of $680,507)		1,228,307
CAPITAL STOCK AND SURPLUS:		
Capital Stock—		
3¾% cumulative preferred shares, par value $100—		
Authorized—160,000 shares		
Outstanding—150,476 shares (including 3,226 shares in treasury) (Note 3)	$ 15,047,600	
Common shares, par value $25—		
Authorized—3,000,000 shares		
Outstanding—2,348,628 shares	58,715,700	
	$ 73,763,300	
Surplus—		
Capital surplus (unchanged during year) $ 1,509,050		
Earned surplus (Notes 3 and 4) 47,414,279		
	48,923,329	
	$122,686,629	
Less: Cost of 3,226 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 3)	317,979	
		122,368,650
		$141,062,783

(See accompanying notes)

CRANE00403

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1949

Gross sales, less discounts, returns and allowances:		
Sales to customers		$172,585,908
Sales to foreign subsidiaries		2,308,890
Total		$174,894,798
Cost of sales, selling, administrative and general expenses (Note 1), including provision of $1,000,000 toward future payments in recognition of past services of employees	$162,314,173	
Provision for depreciation	2,647,700	
		164,961,873
Net operating profit		$ 9,932,925
Miscellaneous other income (net)		318,147
		$ 10,251,072
Minority stockholders' interest in net income of subsidiaries		216,658
Net profit (exclusive of dividends received from foreign subsidiary) before Federal taxes on income		$ 10,034,414
Provision for Federal taxes on income		4,263,992
		$ 5,770,422
Dividends received from Canadian subsidiary (Note 2)		3,073,465
Net profit for the year		$ 8,843,887
Appropriation toward excess of future replacement cost of machinery and equipment over original cost		832,000
Amount of profit transferred to earned surplus		$ 8,011,887

(See accompanying notes)

CRANE00404

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED EARNED SURPLUS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1949

Balance, December 31, 1948		$43,233,640
Add:		
Amount of profit for the year transferred to earned surplus		8,011,887
Reserve for contingencies transferred to earned surplus		2,000,000
Excess of par value over cost of 3,295 shares of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements		8,245
		$53,253,772
Deduct:		
Cash dividends paid—		
On 3¾% cumulative preferred shares, $3.75 per share	$ 555,080	
On common shares, $2.25 per share	5,284,413	
		5,839,493
Balance, December 31, 1949 (Notes 3 and 4)		$47,414,279

NOTES TO FINANCIAL STATEMENTS

1. INVENTORIES:

The major portion of the inventory is priced on the "last-in, first-out" (LIFO) basis of valuation which was first applied January 1, 1941. The remaining inventory is priced at the lower of cost or market but has been reduced (except as to special order products aggregating $879,639) by a taxable reserve which has the effect of stating such inventory on a basis substantially equivalent to the LIFO method. The decrease in this taxable reserve amounting to $370,000 has the effect of reducing cost of sales for 1949, but has not been included in computing the provision for Federal income taxes.

2. INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND:

The investment in the Canadian subsidiary, Crane Limited (Canada), is carried in the balance sheet at U. S. dollar cost, $12,000,000. Except for this investment and dividends from the Canadian subsidiary, the operations of the Canadian and English companies are not reflected in the consolidated statements.

The net assets of this Company and its subsidiaries, segregated as between Canada and England, stated at equivalent U. S. dollars, are summarized as follows:

	Canada	England	Total
Fixed assets	$ 7,394,806	$3,324,161	$10,718,967
Net current assets	8,846,917	2,900,072	11,746,989
	$16,241.723	$6,224,233	$22,465,956

CRANE00405

The operations of the subsidiaries in Canada and England for the year ended December 31, 1949, stated at equivalent U. S. dollars, resulted in a net profit of $3,132,482 for the Canadian subsidiaries and $1,149,473 for the English subsidiary.

The reductions during 1949 occasioned by the changes in the official rates of exchange for the Canadian and English currencies are summarized as follows:

	Canada	England	Total
Amount of reduction reflected in operating results of foreign subsidiaries for the year	$ 418,058	$ 904,499	$1,322,557
Amount of reduction applied directly to earned surplus of foreign subsidiaries	503,656	658,995	1,162,651
TOTAL	$ 921,714	$1,563,494	$2,485,208

Crane Limited (Canada) received from its English subsidiary dividends of $685,271 Canadian dollars (equivalent to $637,262 U. S. dollars), which, being intercompany dividends, are not reflected in the 1949 operating results of the Canadian companies.

Investments in and the profits of the companies located in Canada and England are subject to certain exchange restrictions, as well as to such taxes on income as may be payable on the transfer of profits between England, Canada and the United States. For the year 1949 the dividends from Crane, Limited (England) to Crane Limited (Canada) were not subject to Canadian taxes on income because of credits for taxes paid to England. Dividends received from Crane Limited (Canada) by Crane Co. of $3,073,465 have been reflected in the consolidated profit and loss statement of Crane Co. and subsidiaries in the United States and are net after deducting the Canadian income tax of 5% on dividends to a non-resident parent company and exchange charges, and are not subject to United States taxes on income because of credits for taxes paid to Canada.

3. 3¾% CUMULATIVE PREFERRED SHARES:

These shares are redeemable at the option of the Company at $107 per share if called for redemption prior to June 15, 1955 (an aggregate amount of $15,755,750) and at $104.50 per share if called for redemption on or after June 15, 1955, in each case plus accrued dividends to the date fixed for redemption. They are also redeemable through the operation of the sinking fund at any time at the sinking fund redemption price of $104.50 per share, plus unpaid accrued dividends. Reference is made to the narrative section of this report for a statement in respect of the sinking fund requirements.

Under the Business Corporation Act of Illinois, earned surplus of Crane Co. is restricted in the amount of $317,979, the cost of 3,226 reacquired shares in the treasury at December 31, 1949.

4. DIVIDENDS ON COMMON STOCK:

Under the provisions of the Articles of Incorporation, as amended in connection with the issuance of the 3¾% Cumulative Preferred Shares, earned surplus at December 31, 1949, in the amount of $20,771,299, is not available for the payment of dividends on the company's Common Shares.

5. RESERVES AND APPROPRIATIONS:

Reference is made to the narrative section of this report for comment in respect of certain reserves and appropriations.

CRANE00406

CRANE CO.

VALVES, FITTINGS, FABRICATED PIPE
HEATING AND PLUMBING MATERIAL

GENERAL OFFICE
836 S. MICHIGAN AVENUE, CHICAGO CABLE ADDRESS, CRANECOY—CHICAGO

MANUFACTURING PLANTS CHICAGO ★ CHATTANOOGA ★ TRENTON

BRANCH HOUSES

ALABAMA
BIRMINGHAM (3).....2 S. Twentieth St.
MOBILE (3).....300 N. Royal St.

ARIZONA
PHOENIX .....233 S. First Ave.
TUCSON.....35 Toole Ave.

ARKANSAS
FT. SMITH.....221 S. Ninth St.
LITTLE ROCK.....120 Commerce St.

CALIFORNIA
LONG BEACH (1).....824 W. Anaheim St.
LOS ANGELES (54).....321 E. Third St.
OAKLAND (7).....346 Ninth St.
SACRAMENTO (5).....1227 Front St.
SAN BERNARDINO.....110 South "E" St.
SAN DIEGO (1).....1138 India St.
SAN FRANCISCO (19).....301 Brannan St.
SANTA ANA.....919 Poinsettia St.

COLORADO
DENVER* (17).....1631 Fifteenth St.
GRAND JUNCTION*.....601 Pitkin Ave.
PUEBLO*.....180 Central Main

CONNECTICUT
BRIDGEPORT (3).....302 John St
HARTFORD (5).....710 Windsor St.
NEW HAVEN (11).....365 Orchard St.

DISTRICT OF COLUMBIA
WASHINGTON (5).....1225 Eye St. N.W.

FLORIDA
JACKSONVILLE (3).....1007 W. Bay St.
MIAMI (30).....85 N. W. Tenth St.
TAMPA (1).....1105 E. Twiggs St.
WEST PALM BEACH.....217 5th St.

GEORGIA
ATLANTA (3).....Washington St. Viaduct
MACON.....500 Broadway
SAVANNAH.....14 W. Broad St.

*(Crane-O'Fallon Co.)

IDAHO
BOISE.....214 S. Fifth St.
POCATELLO.....756 S. First Ave.

ILLINOIS
AURORA.....544 S. Lake St.
CHICAGO (6).....156 N. Jefferson St.
Southside branch (20).....231 W. 79th St.
ROCKFORD.....800 S. Main St.
SPRINGFIELD.....921 E. Monroe St.
WAUKEGAN.....1219 Glen Rock Ave.

INDIANA
EAST CHICAGO.....1004 E. Chicago Ave.
EVANSVILLE (6).....118 S. E. Eighth St.
INDIANAPOLIS (6).....333 W. Market St.
MUNCIE.....342 N. Pershing Dr.
SOUTH BEND (23).....1616 S. Franklin St.
TERRE HAUTE.....209 N. Ninth St.

IOWA
DAVENPORT (8).....217 E. Second St.
SIOUX CITY (3).....223 Jackson St.

KANSAS
WICHITA (2) .....624 E. First St.

KENTUCKY
LEXINGTON (1).....165 Midland Ave.
LOUISVILLE (2).....756 S. First St.

LOUISIANA
NEW ORLEANS (11).....710 S. Broad St.
P. O. Box 1700
SHREVEPORT (92).....1320 Winston St.

MAINE
PORTLAND (4).....70 St. John St.

MARYLAND
BALTIMORE (1).....626 W. Pratt St.
SALISBURY .....1911 N. Salisbury Blvd.

MASSACHUSETTS
BOSTON (27).....48 W. First St., South Boston
SPRINGFIELD (1) .....60 Cypress St.

MICHIGAN
DETROIT (26).....150 Randolph St.
FLINT (1).....155 Lewis St.
GRAND RAPIDS (2)..56 Grandville Ave., S. W.
JACKSON.....409 Hupp Ave.

MINNESOTA
DULUTH** (2).....102 Lake Ave., S.
MANKATO** .....510 Pike St.
MINNEAPOLIS** (1).....400 Third Ave., N.
ST. PAUL** (1).....Broadway at 5th

MISSISSIPPI
JACKSON (5).....176 N. Gallatin St.

MISSOURI
KANSAS CITY (7).....1328 W. Twelfth St.
ST. LOUIS (3).....30 S. Sixteenth St.

MONTANA
BILLINGS**.....30th St. and First Ave., S.
GREAT FALLS**.....2 Third Ave., South

NEBRASKA
GRAND ISLAND.....115 E. Front St.
OMAHA (8).....323 S. Tenth St.
SCOTTSBLUFF*.....1617 Avenue "A"

NEVADA
RENO.....401 E. Fourth St.

NEW JERSEY
CAMDEN (4).....2994 Mt. Ephraim Ave.
NEWARK (5).....90 South St.
TRENTON (5).....50 Escher St.

NEW MEXICO
ALBUQUERQUE*.....612 N. First St.
ROSWELL* .....102 So. Virginia St.

NEW YORK
ALBANY (1).....North Broadway
BINGHAMTON (36).....21 Washington St.
BUFFALO (5).....201 Church St.
HEMPSTEAD.....209 Main St.
LONG ISLAND CITY (1)...47-30 Twenty-ninth St.
NEW YORK CITY (Display Room) 101 Park Ave.
ROCHESTER (2).....200 South Ave.
SYRACUSE (1).....760 W. Genesee St.
UTICA (2).....326 Broad St.

**(Crane Co., Minnesota)

CRANE00407

CRANE CO. BRANCHES *Continued*

NORTH CAROLINA

ASHEVILLE.....531 McDowell St.
CHARLOTTE (1).....1307 W. Morehead St.
GREENSBORO .....205 Lyndon St.
ROCKY MOUNT.....300 N. Church St.

NORTH DAKOTA

FARGO**.....636 Northern Pacific Ave.

OHIO

AKRON (11).....425 S. High St.
CANTON (2).....210 Piedmont Ave., S.E.
CINCINNATI (1).....824 Broadway
CLEVELAND (3).....6215 Carnegie Ave.
COLUMBUS (15).....67 N. Front St.
DAYTON (2).....901 S. Perry St.
LIMA.....207 S. Central Ave.
TOLEDO (1).....390 S. Erie St.

OKLAHOMA

MUSKOGEE.....302 Commercial St.
OKLAHOMA CITY (2).....705 W. Main St.
TULSA (2) .....623 E. Third St.

OREGON

MEDFORD..... .....125 West 4th St.
PORTLAND (8).....710 N. W. Fourteenth Ave.

PENNSYLVANIA

ERIE.....222 E. Eighth St.
PHILADELPHIA (22).....245 Master St.
West Philadelphia Branch (43).1600 So. 59th St.
PITTSBURGH (30).....40 Twenty-fourth St.
READING .....407 N. Front St.

RHODE ISLAND

PROVIDENCE (3).....245 W. Exchange St.

SOUTH CAROLINA

CHARLESTON .....2026 Meeting St.
GREENVILLE.....223 W. McBee Ave.

SOUTH DAKOTA

ABERDEEN**.....324 Railroad Ave., E.
SIOUX FALLS**.....326 E. Eighth St.

TENNESSEE

CHATTANOOGA (1).....1317 Chestnut St.
KNOXVILLE (1).....523 W. Jackson Ave.
MEMPHIS (1).....254 Court Ave.
NASHVILLE (2).....532 Eighth Ave., South

TEXAS

BEAUMONT.....720 Fannin St.
CORPUS CHRISTI.....1212 N. Tancahua St.
DALLAS (2).....814 Young St.
EL PASO*.....1609 Texas St.
HARLINGEN.....201 West "C" St.
HOUSTON (1).....2204 Pease Ave.
SAN ANTONIO (6).....1200 E. Houston St.

UTAH

OGDEN.....201 Wall Ave.
SALT LAKE CITY (11).....307 W. Second South

VIRGINIA

NORFOLK (10).....2 E. Twenty-second St.
RICHMOND (20).....1225 W. Broad St.
ROANOKE (17).....404 Center Ave., N.W.

WASHINGTON

SEATTLE (14).....419 Second Ave., S.
SPOKANE (8).....126 S. Post St.
TACOMA (1).....1209 South "A" St.

WEST VIRGINIA

CHARLESTON (25).....502 Broad St.

WISCONSIN

MADISON (3).....641 Williamson St.
MILWAUKEE (3).....2123 W. Michigan St.
OSHKOSH.....37 Market St.

WYOMING

CASPER* (5).....802 East "C" St.

EXPORT

NEW YORK BRANCH ★ SAN ANTONIO BRANCH
SAN FRANCISCO BRANCH

CRANE Limited (Canada)

GENERAL OFFICE

1170 Beaver Hall Square, Montreal, Que.
Cable Address, Cranelit—Montreal

MANUFACTURING PLANTS

Montreal, Que. St. John's, Que.
Quebec, Que. Port Hope, Ont.
Vancouver, B.C.

BRANCH HOUSES

ALBERTA

CALGARY.....602 Eleventh Ave., W.
EDMONTON.....Jasper Ave. & 109th St.

BRITISH COLUMBIA

VANCOUVER.....540 Beatty St.
VICTORIA.....1010 Government St.

MANITOBA

WINNIPEG.....93 Lombard St.

NEW BRUNSWICK

MONCTON.....293 Church St.

NEWFOUNDLAND

ST. JOHN'S.....Hill O'Chips

NOVA SCOTIA

HALIFAX.....7-15 Doyle St.
Warehouse.....City Market Bldg.

ONTARIO

FORT WILLIAM.....600 Simpson St.
HAMILTON.....40 Wellington St., N.
KINGSTON.....71 Brock St.
LONDON.....304 York St.
OTTAWA .....288 Catherine St.
TORONTO.....306 Front St., W.

QUEBEC

MONTREAL.....1121 St. James St., W.
QUEBEC.....39 St. Roch St.

SASKATCHEWAN

REGINA.....1408 Broad St.
SASKATOON.....359 First Ave., N.

CRANE, Limited (Great Britain)

GENERAL OFFICE

45-51 Leman St., London, E. 1.

Cable Address, Cranelon—London

MANUFACTURING PLANT

Ipswich, Suffolk

BRANCH HOUSES

ENGLAND

LONDON .....45-51 Leman St.
BIRMINGHAM.1277 Coventry Road, South Yardley
MANCHESTER.Westinghouse Road, Trafford Park
BRISTOL .....1 Broadmead, Bristol, 1
BRENTFORD.....Great West Road

SCOTLAND

GLASGOW....94-100 Clyde Ferry St., Anderston

*(Crane-O'Fallon Co.)

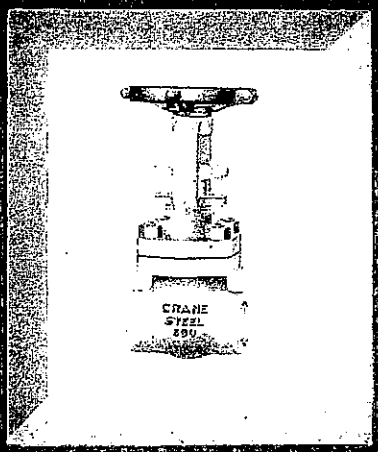
**(Crane Co., Minnesota)

CRANE00408

CRANE CO.

Annual Report

TO SHAREHOLDERS



1950

Our ninety-fifth year

ANNUAL REPORT TO SHAREHOLDERS

FOR THE YEAR ENDED
DECEMBER 31, 1950

CRANE CO.

836 SOUTH MICHIGAN AVENUE

CHICAGO

FOUNDED 1855 INCORPORATED 1865

CRANE CO.

DIRECTORS AND OFFICERS

DIRECTORS

C. R. Crane, II
J. L. Holloway
Gordon H. Kellogg
David Levinger
Mark W. Lowell
Edward H. McDermott
William L. McKnight
P. R. Mork
Peter V. Moulder
Cyrus R. Osborn

OFFICERS

J. L. Holloway, *President*

V. P. Rumely
Vice President

H. H. Bunchman
Treasurer

C. W. Dittmar
Assistant Treasurer

J. K. O'Neill
Assistant Treasurer

H. A. Tacon
Assistant Treasurer

J. A. Dwyer
Vice President

F. H. Kaiser
Comptroller

E. E. Wyatt
Assistant Comptroller

C. R. Crane, II
Vice President

P. L. Yates
Secretary

A. R. Glass
Assistant Secretary

J. W. Hederick
Assistant Secretary

L. L. Hill
Assistant Secretary

L. W. Moore
Director, Purchases

H. H. Simmons
Manager, Advertising

R. G. Creviston
Director, Public Relations

J. P. Magos
Director, Engineering

K. L. Karr
Staff Counsel

STOCK TRANSFER AGENTS

J. P. Morgan & Co., Incorporated, New York 8, New York
A. R. Glass, Transfer Clerk, Crane Co., Chicago 5, Illinois

REGISTRARS OF STOCK

The Chase National Bank of the City of New York, New York 15, New York
Continental Illinois National Bank and Trust Company, Chicago 4, Illinois

AUDITORS

Arthur Young & Company, Chicago 2, Illinois

CRANE00411

FINANCIAL SUMMARY

CRANE CO. AND SUBSIDIARIES IN THE UNITED STATES

	1950	1949
Fixed Assets less Reserves for Depreciation	$ 40,293,760	$ 40,022,198
Capital Expenditures—Property, Plant and Equipment	3,829,534	2,555,332
Depreciation charged to Operations	2,796,833	2,647,700
Net Working Capital	87,836,313	78,732,040
Ratio Current Assets to Current Liabilities	6.35-1	9.86-1
Net Worth	132,852,745	122,368,650
Book Value per Common Share	50.45	45.83
Net Sales	$220,066,910	$174,894,798
Net Profit—Domestic Operations	12,068,184	5,770,422
Dividends received from Foreign Subsidiaries	4,676,987	3,073,465
Net Profit, including Dividends received from Foreign Subsidiaries	16,745,171	8,843,887
Net Profit per Common Share	6.89	3.52
Special Appropriation of Income	979,000	832,000
Amount of Profit transferred to Earned Surplus	15,766,171	8,011,887
Net Profit, per Common Share, transferred to Earned Surplus	6.48	3.17
Direct Taxes per Common Share	4.65	3.05
Total Dividends Paid—		
Preferred Shares	$ 544,969	$ 555,080
Common Shares	6,106,433	5,284,413
Dividends paid per Common Share	2.60	2.25
Number of Employees	16,024	13,862
Payroll	$ 55,932,667	$ 47,282,930
Number of Shareholders—		
Preferred	1,625	1,738
Common	18,693	18,462

CRANE00412

THE PRESIDENT'S REPORT

TO THE SHAREHOLDERS OF CRANE CO.

The Management presents with the approval of the Board of Directors the Annual Report of your Company for the year 1950. Financial Statements of the Company and its United States subsidiaries consolidated, together with statements reflecting the net assets and results of operations of the subsidiary companies located in Canada and England, as certified by our auditors, Arthur Young & Company, will be found at the back of the report.

The financial and statistical information contained in this report relates to the year 1950, and is on a basis of consolidating only the figures of the United States companies, except where otherwise indicated.

Sales and Profits

Dollar sales for 1950 were the second highest in the Company's history amounting to $220,066,910 compared with $174,894,798 for 1949, an increase of 25.8%. Sales of "Jobbed Products", that is products manufactured by others, accounted for approximately 52% of the total sales as compared with 51% in 1949.

Net profits transferred to earned surplus for the year 1950 were $15,766,171, compared with $8,011,887 for the previous year, an increase of 96%. Net profits for the year from domestic operations, before appropriation of profit toward excess of future replacement cost of machinery and equipment over original cost, were $12,068,184, compared with $5,770,422 for 1949, an increase of 109%.

The increase in sales volume in 1950 was due largely to a sharp increase in the demand for practically all products going into residential construction occasioned principally by the increase in residential units built during the year.

The demand for valves and fittings was decidedly low in the early part of the year and increased only slowly until the fourth quarter, whereas the demand for plumbing and heating materials increased rapidly from month to month reaching capacity levels by May.

Dividends from foreign subsidiaries exceeded those received during 1949 by $1,603,522 and contributed substantially to the improved results. This increase was made possible largely by a change in the regulations of the Canadian Government which permitted the declaration of dividends from earnings of the current year up to the amount of earnings for the first nine months, dividends from current year earnings having previously been prohibited. Operations of our Canadian and English subsidiaries for the year ended December 31, 1950, resulted in a net profit of $3,757,340 and $1,543,536 respectively, stated in equivalent U. S. dollars.

In summary, the financial results of the Company and its United States subsidiaries consolidated for 1950 compared with 1949, were as follows:

	1950	1949
Profit before Federal income taxes—domestic operations	$19,968,647	$10,034,414
Provision for Federal income taxes applicable to above profit	7,900,463	4,263,992
Net profit—domestic operations	12,068,184	5,770,422
Dividends received from Foreign subsidiaries	4,676,987	3,073,465
Net profit for the year	16,745,171	8,843,887
Appropriation of profit toward excess of future replacement cost of machinery and equipment over original cost (see additions to plant and equipment)	979,000	832,000
Net profit transferred to earned surplus	15,766,171	8,011,887

CRANE00413

Dividend Payments

Dividend payments during 1950, totaling $6,651,402, represented 42.2% of profit transferred to earned surplus during the year. This consisted of regular quarterly dividends at the annual rate of $3.75 per share on the 3¾% Cumulative Preferred Shares, amounting to $544,969, and regular quarterly dividends of 40¢ a share, and an extra dividend at the year end of $1.00 a share on the Common Shares, totaling $2.60 a share, or $6,106,433. The remaining $9,114,769 or 57.8% of profit transferred to earned surplus was retained in the business to finance the expansion and further improvement of manufacturing and distributing facilities.

Cost of Sales

Cost of Sales including Provision for Depreciation for the year amounted to 90.89% of net sales compared with 94.32% for the previous year. Cost of sales and expenses includes $1,936,986 as provision for pension cost under the formal pension program adopted by the Company during 1950, compared with a token provision of $1,000,000 in 1949.

Employees

During 1950 your Company adopted a formal retirement program to supersede its previous informal procedures. In general the new program, which has been approved by the Commissioner of Internal Revenue, is consistent with the current trend in pension plans. The entire cost of the new retirement program will be paid by the Company and the program will be administered under Pension Trusts.

The cost for past services of employees under the new retirement program initially has been computed by independent actuaries to be approximately $30,500,000 against which a reserve of $5,500,000 previously had been provided. The cost for past and current service charged to operations for the current year was $1,936,986, based on amortizing the past service cost over a period of approximately 24 years. The future annual cost of the program will tend to vary with changes in pay, increase or decrease in the number of employees, interest, and other variable factors. During the year, $4,053,051 was deposited with the Trustees for the payment of pensions under the retirement program.

During the year the Company adopted a more comprehensive Welfare Plan with increased benefits for employees and hospitalization and surgical benefits for employee dependents. The employees contribute to the premium cost with the Company paying the balance. The net cost to the Company is estimated to be approximately $50.00 a year per employee.

Additions to Plant and Equipment

During 1950 replacements and additions to property, plant and equipment amounted to $3,829,534 compared with $2,555,332 during 1949. The amount for the current year is comprised of $186,337 for land, $828,143 for buildings, and $2,815,054 for machinery and equipment. These expenditures include $901,060 in respect of the new Colton plant and otherwise represent the cost of improvements and a number of smaller additions to our facilities.

Equipment has been ordered and contracts let to fully modernize the Company's malleable iron foundry at its Chicago plant which will eventually entail the expenditure of several million dollars. Steel melting capacity is being increased and several other projects of material importance are under study. Modernization and expansion of the facilities of our Canadian subsidiaries, most of which is expected to be undertaken this year, is estimated to cost in the neighborhood of $3,000,000.

Depreciation charged to operations in 1950 amounted to $2,796,833 as compared with $2,647,700 in 1949. Following the policy of recent years of providing toward the excess of future replacement cost of machinery and equipment based on current cost indices, over the original cost thereof, $979,000 was appropriated in 1950 for this purpose. This amount together with amounts previously appropriated, including $832,000 for 1949, aggregate $3,840,000 whereas the total reserve necessary to provide full depreciation of machinery and equipment on the basis of current cost indices is estimated at $18,466,000. Because of their relatively longer life this factor is not of comparable significance with respect to buildings although they too will eventually need to be replaced at a cost which may greatly exceed their original cost.

Taxes

Total direct taxes paid or accrued during the year, including Federal income taxes of $7,900,463, amounted to $10,922,298 and were equivalent to $4.65 for each Common Share outstanding.

CRANE00414

Financial Position

Net working capital as of December 31, 1950, amounted to $87,836,313, an increase of $9,104,273 during the year. The ratio of current assets to current liabilities was 6.35 to 1 as compared with 9.86 to 1 a year ago.

Inventories

Year-end inventories totaled $42,692,596, reflecting an increase of $9,989,698 during the year, of which $1,794,559 was in raw material and supplies, $2,529,160 in work in process and $5,665,979 in finished goods.

The major portion of the inventory is priced on the "last-in, first-out" (LIFO) basis of valuation. The remainder of the inventory not on a LIFO basis is priced at the lower of cost or market, but has been reduced by a taxable reserve which has the effect of stating such inventory, except for special order products amounting to $1,228,265, on a basis substantially equivalent to the LIFO method.

As of January 1, 1950, the Company placed on a LIFO basis of valuation a portion of its inventory previously valued on a basis of the lower of cost or market prices. The taxable reserve which had been provided to reduce such inventory to substantially the equivalent of the LIFO valuation of other inventory amounted to $1,950,000 at December 31, 1949, and the adjustment of such inventory to January 1, 1950 cost amounted to $190,000. The net adjustment of $1,760,000 has been credited to Surplus.

Accordingly a portion of the total inventory on a LIFO basis at December 31, 1950 is on such basis predicated on amounts and prices in effect at December 31, 1949, a further portion has as a LIFO base the amounts and prices existent at December 31, 1946, whereas the major portion has as a LIFO base the amounts and prices existent at December 31, 1940.

At December 31, 1950, open commitments for raw materials made in the ordinary course of business approximated $1,757,000. Prices thereon were substantially the same as current market quotations.

Foreign Subsidiaries

Summary financial data relating to the foreign subsidiaries and footnotes pertaining thereto are included on pages 21 and 22 of this report. Net Profits of the Canadian and English Subsidiaries for 1950 were $624,858 and $394,063 greater than in the preceding year, stated at equivalent U. S. dollars.

Following the policy of past years, only the dividends received from foreign subsidiaries have been included in the profit and loss accounts of the Company. The Company's investment in its foreign subsidiaries located in Canada and England is carried in the balance sheet at cost, namely, $12,000,000. The Company's equity in the surplus of these subsidiaries, which amounted to $11,089,845 at December 31, 1950, is not included in the consolidated surplus.

The income of $4,676,987 shown as dividends from the Canadian subsidiary in 1950 represents in effect dividends of $3,983,549 from the Canadian companies and dividends of $693,438 from the company in England, which dividends were paid first to the parent Canadian company. The amount of dividends from these subsidiaries for 1950 exceeded the 1949 dividends by $1,603,522.

Engineering and Development

The activities of the Company's Engineering Division have been broadened and accelerated through an increase in personnel and an increase in the work being done for the Company by independent engineering and research organizations.

While the improvement and development of valves for new and more exacting services remains a primary objective, our work embraced improvements in the oil-fired "Jet Heet" unit, the development of a gas-fired unit, and the adaptation of the principles involved to other uses, as well as studies in the ceramics fields.

During the year we also initiated studies and work on the production as well as the use of refractory type metals. In this connection we are well along with the construction of a pilot plant at Chicago for the production of titanium.

The activity of our field engineering force which studies the problems of customers as they pertain to the control and flow of fluids and gases has been increased as has our research work for Government agencies.

General

During 1950 the Company placed on the market a number of new products including a "Jet Heet" warm air heating unit, a conduit type line of steel valves

CRANE00415

designed primarily for use in gas transmission lines, a locomotive and car end heat valve and pressure seal type gaskets for hose connections for railroad cars.

The construction of a most modern two-kiln pottery was started and substantially completed at Colton, California, for the production of vitreous china plumbing fixtures for delivery to western areas.

Four additional branches and three service stores were opened, bringing the Crane-operated branches and stores to a total of 141 at the end of 1950, at which time there were also 595 independent wholesalers handling and distributing the Company's products in the United States.

The Company's facilities for the production of valves and fittings are now being operated at the highest levels since 1948 and, subject to reduction of the direct and indirect demands of our country's war preparedness program, this condition is expected to continue throughout the year.

The Company's facilities for the production of plumbing fixtures, with the exception of the new plant at Colton, are currently operating at capacity but curtailment of residential construction and restrictions on the use of materials may bring about a substantial decline in this activity later this year.

Our subsidiary companies in Canada and England are operating at near capacity levels with the exception of the pressed steel plumbing fixture plants in Canada which are suffering from a short supply of steel and steel shapes. The outlook for operations in these countries during the balance of the year closely parallels that for our operations in this country.

In brief, subject to the many unknowns such as price and wage ceilings, regimentation, taxes and the like, the 1951 outlook for the Company is good.

Management

Mr. John H. Collier, Chairman, and Mr. P. R. Mork, Vice Chairman of the Board of Directors, have announced their retirement as of January 31, and April 23, 1951, respectively. They served the Company well and long in various capacities from boyhood jobs up to top executive positions which they held for many years, and their leadership, wise counsel and kind consideration will be sorely missed.

It is with deep sorrow we record the death in October, 1950, of Mr. J. I. Robinson, President of Crane Limited, Canada, and operating head of the Company's subsidiaries in Canada. His ability and friendliness had gained for him the respect and affection of his associates and all who knew him, and his leadership contributed greatly to the prominent position our Companies now enjoy in Canada.

The gaps in our ranks these veterans leave would have been of much greater consequence had they not recognized the responsibility of leaders to help build men to follow them.

The Management deeply appreciates the loyalty and cooperation of the Company's employees, shareholders, suppliers and customers for their contributions which mean so much in the successful operation of the business.

J. L. HOLLOWAY
President

March 23, 1951.

CRANE00416

CRANE CO.

Plants • Products • Personnel

CHICAGO PLANT, Chicago, Illinois
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication, Jet Heet Furnace
V. P. RUMELY, *Vice President in Charge of Manufacturing*
G. C. DETLEFSEN, *Works Manager*
G. L. LARSON, *General Superintendent*

CHATTANOOGA DIVISION, Chattanooga, Tennessee
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks, Lavatories, Iron Heating Boilers and Radiation
V. P. RUMELY, *Vice President in Charge of Manufacturing*
W. M. HAMILTON, *Manager*
O. J. STOESSER, *General Superintendent*

THE TRENTON POTTERIES COMPANY, Trenton, New Jersey
Vitreous China and Duraclay Plumbing Fixtures, Water Closets, Lavatories, Urinals, Tubs, Fountains, Hospital Fixtures
H. A. RYDSTROM, *President*
J. W. PIESLAK, *Superintendent*

CRANE PACIFIC DIVISION, Colton, California
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
H. A. RYDSTROM, *General Manager*
A. E. HOCH, *Superintendent*

CRANE LIMITED, (Canada)
Montreal
L. H. T. CLEGG, *President*

ST. PATRICK ST. PLANT, Montreal, Quebec
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
J. D. WALKER, *General Superintendent*

CANADIAN POTTERIES LIMITED, St. Johns, Quebec
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
A. J. BURGNER, *Manager*
GEO. TOEPFER, *Superintendent*

PORT HOPE SANITARY MFG. CO., LIMITED, Port Hope, Ontario
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks and Lavatories
J. S. OWENS, *General Manager*
E. H. DITHRIDGE, *Superintendent*

ALLIANCEWARE, LTD., Vancouver, B. C.
Enameled Steel Plumbing Fixtures
R. E. STRAIN, *General Manager*
A. T. GELZ, *Superintendent*

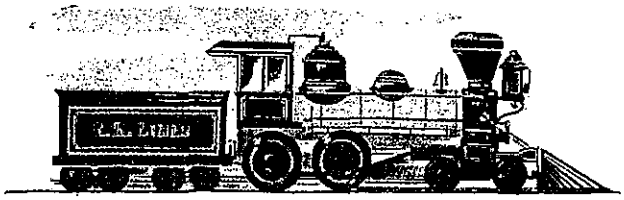
CRANE STEELWARE, LIMITED, Quebec, Quebec
Enameled Steel Plumbing Fixtures
R. S. COOKE, *Manager*
J. E. DOYLE, *General Superintendent*

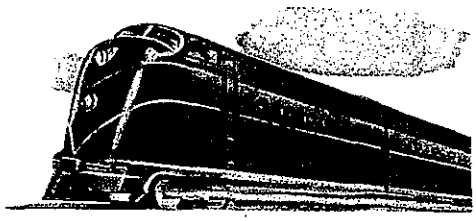
WARDEN KING, LIMITED, Montreal, Quebec
Iron Heating Boilers, Radiators and Soil Pipe
J. B. FLANAGAN, *Manager*
E. N. DELAHUNT, *General Superintendent*

CRANE, LIMITED (Great Britain)
London
J. E. BENNETT, *Chairman of the Board*
R. E. DUNNETT, *Managing Director*

IPSWICH WORKS, Suffolk, England — Valves, Fittings, Boilers, Radiation
J. B. WEBSTER, *Works Manager*

CRANE00417

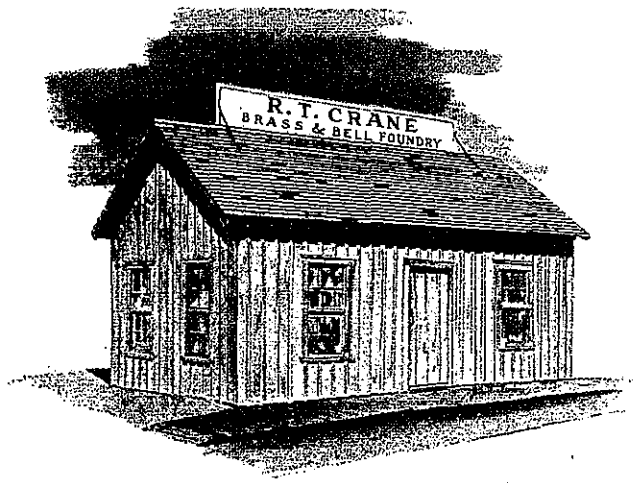




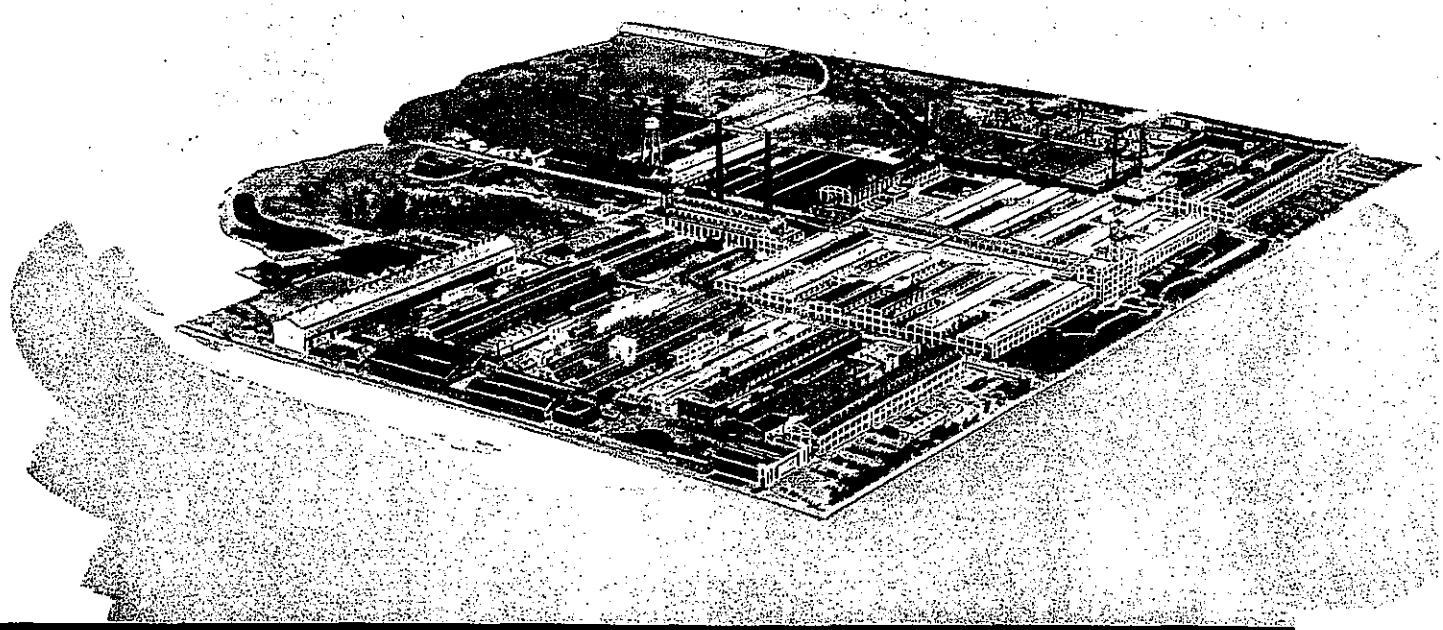
Crane Co.'s present position was achieved through 95 years of growth

Crane Co. has been characterized through the years by high ideals. Its products have always filled basic needs of industry and construction. In the 95 years of this company's life, population has grown rapidly, living standards have been raised continuously and the technological developments in industry have surpassed the wildest forecasts. All these factors have contributed to the steady growth of this company to its present position.

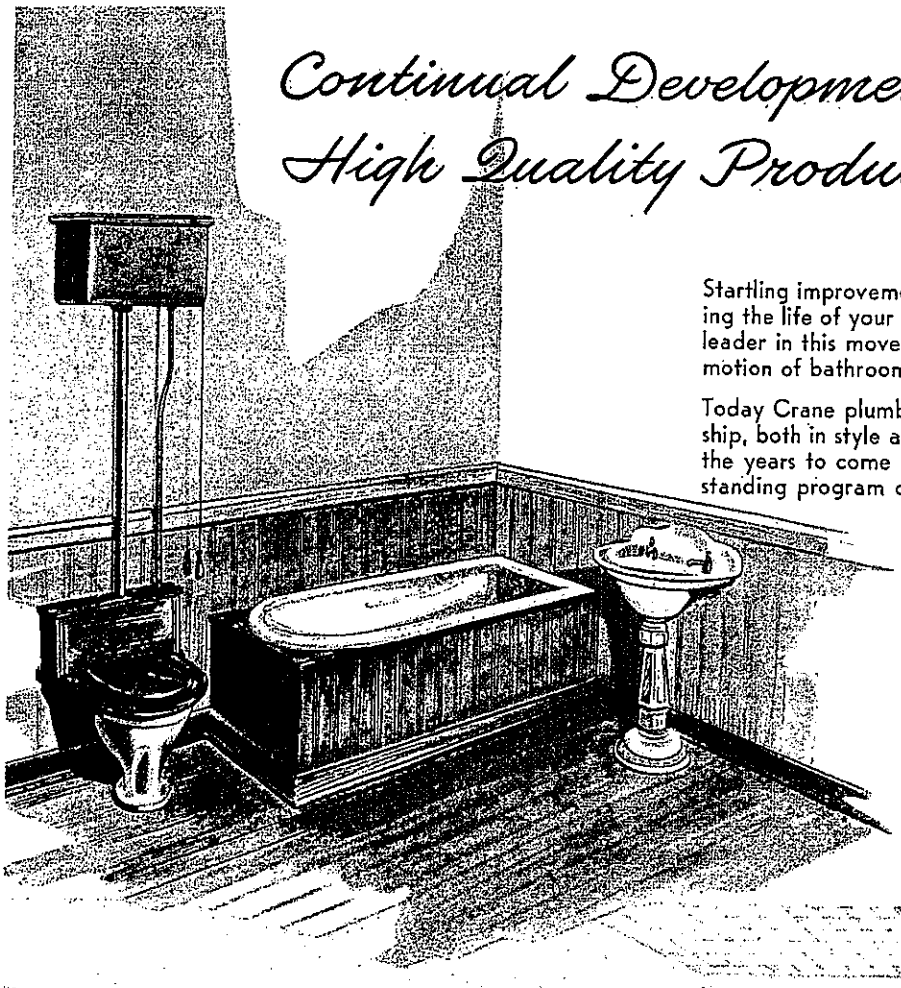
Population continues to grow. Living standards are still climbing. Technological improvements are routine in American industry. Crane products still meet basic needs. The following pages illustrate a few of the ways in which your company is prepared to meet these opportunities—and challenges.



A striking contrast in Crane plants—from 1855 to the present. The Chicago Works, shown below, is one of four plants now operating in the U. S.



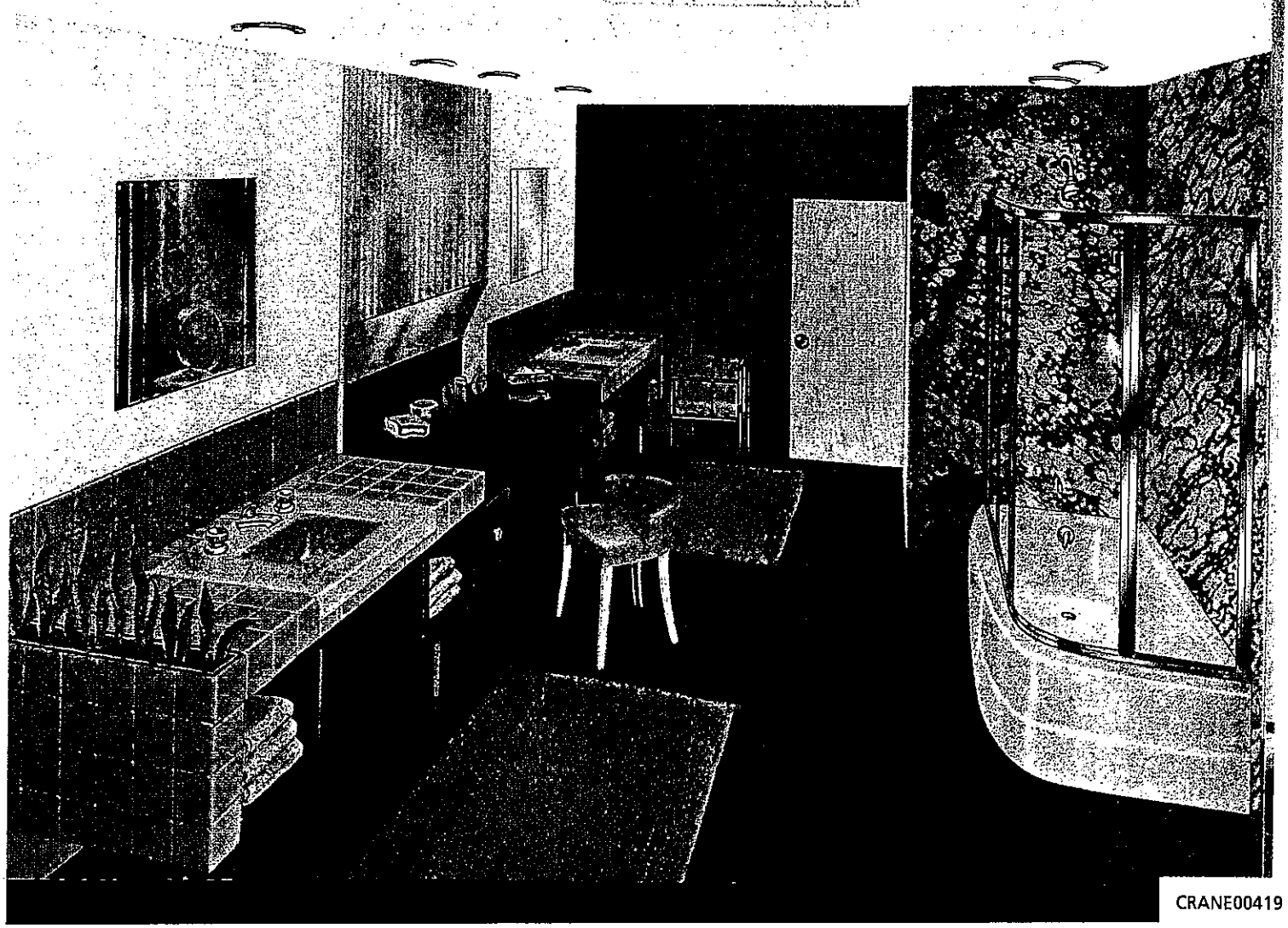
Continual Development of High Quality Products



Startling improvements have been made in home sanitation during the life of your company. Crane Co. was privileged to be a leader in this movement, through the introduction and the promotion of bathroom fixtures which set new standards.

Today Crane plumbing fixtures are recognized for their leadership, both in style and in quality. Further improvements through the years to come will naturally result from the company's outstanding program of research and development.

Crane's latest fixtures in the display bathroom shown below contrast strikingly with those prized by our grandparents.



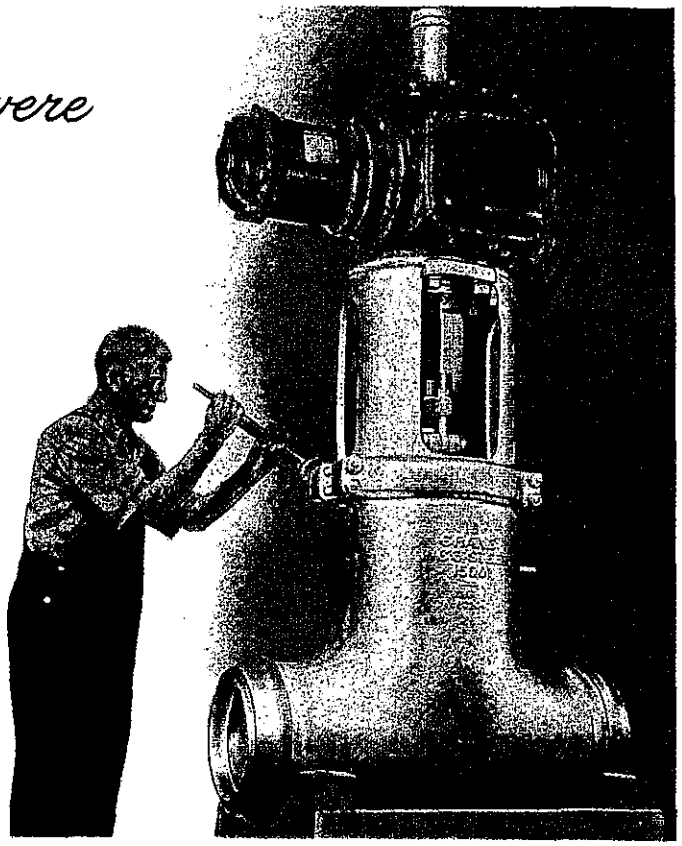
CRANE00419

Meeting Even the Most Severe Service Requirements

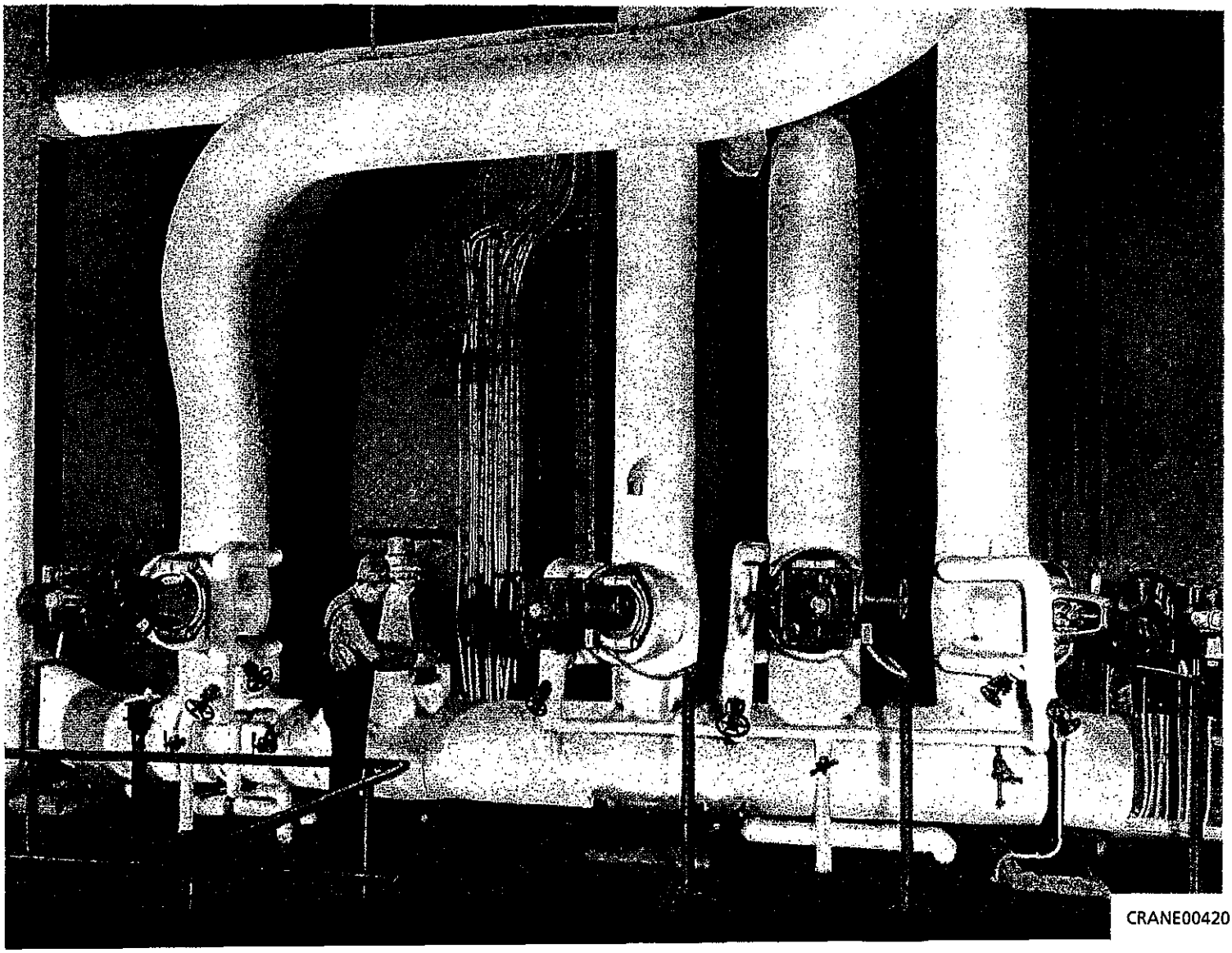
Many changes in industrial processing and power production have called for improved piping to meet more severe requirements in pressures, temperatures or fluid characteristics.

Crane Co. has kept pace with such changes by improving the design and construction of its valves and fittings. Further, it has frequently contributed important research along lines that lead to new and higher service ratings on major equipment.

Crane metallurgists and designers face industry's expanding needs in the future with a confidence based on past performance.



Giant Crane valves of latest design help industry achieve new high standards of operating efficiency. Shown below is a piping installation in a modern power plant.

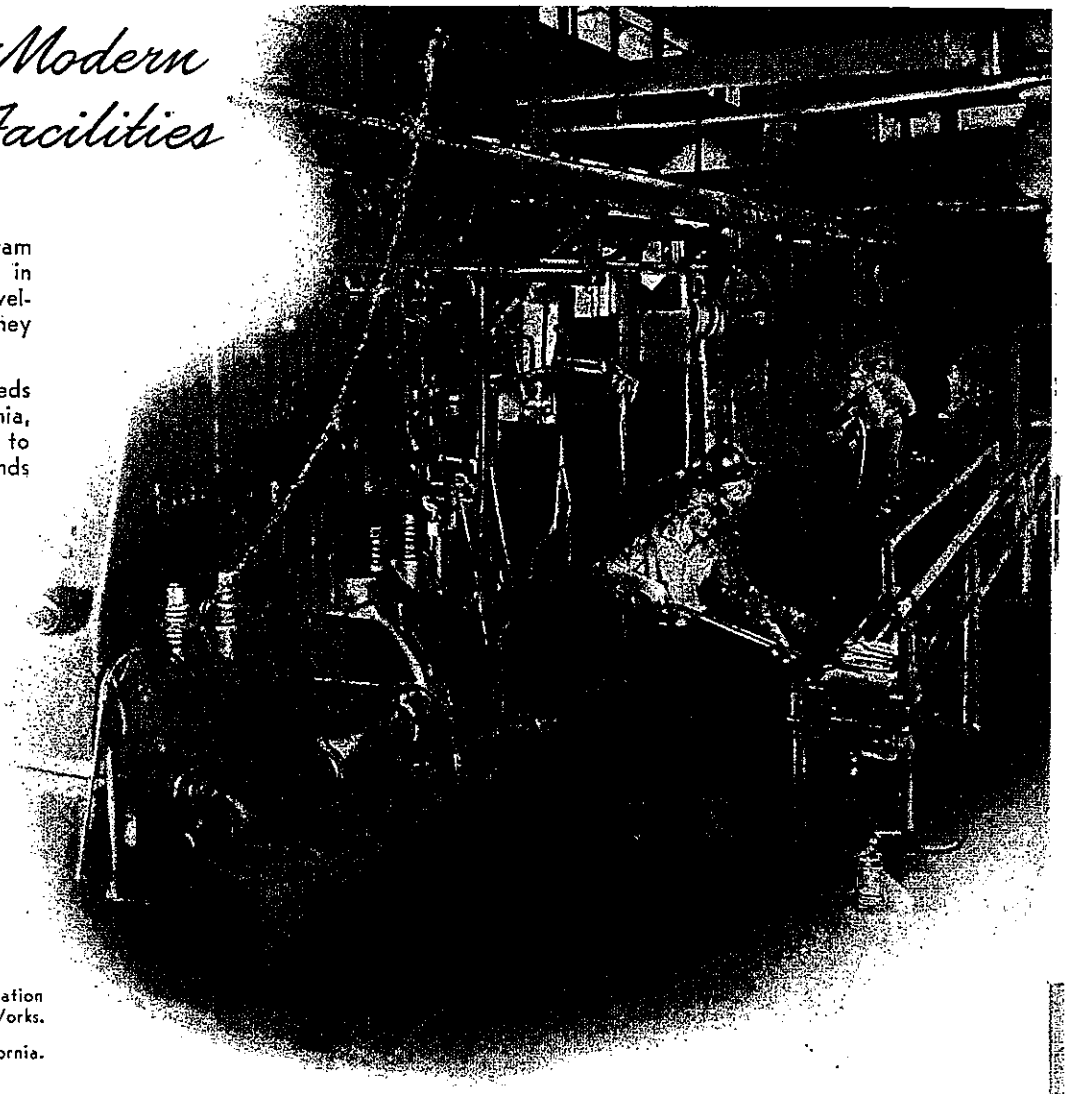


CRANE00420

Adequate and Modern Production Facilities

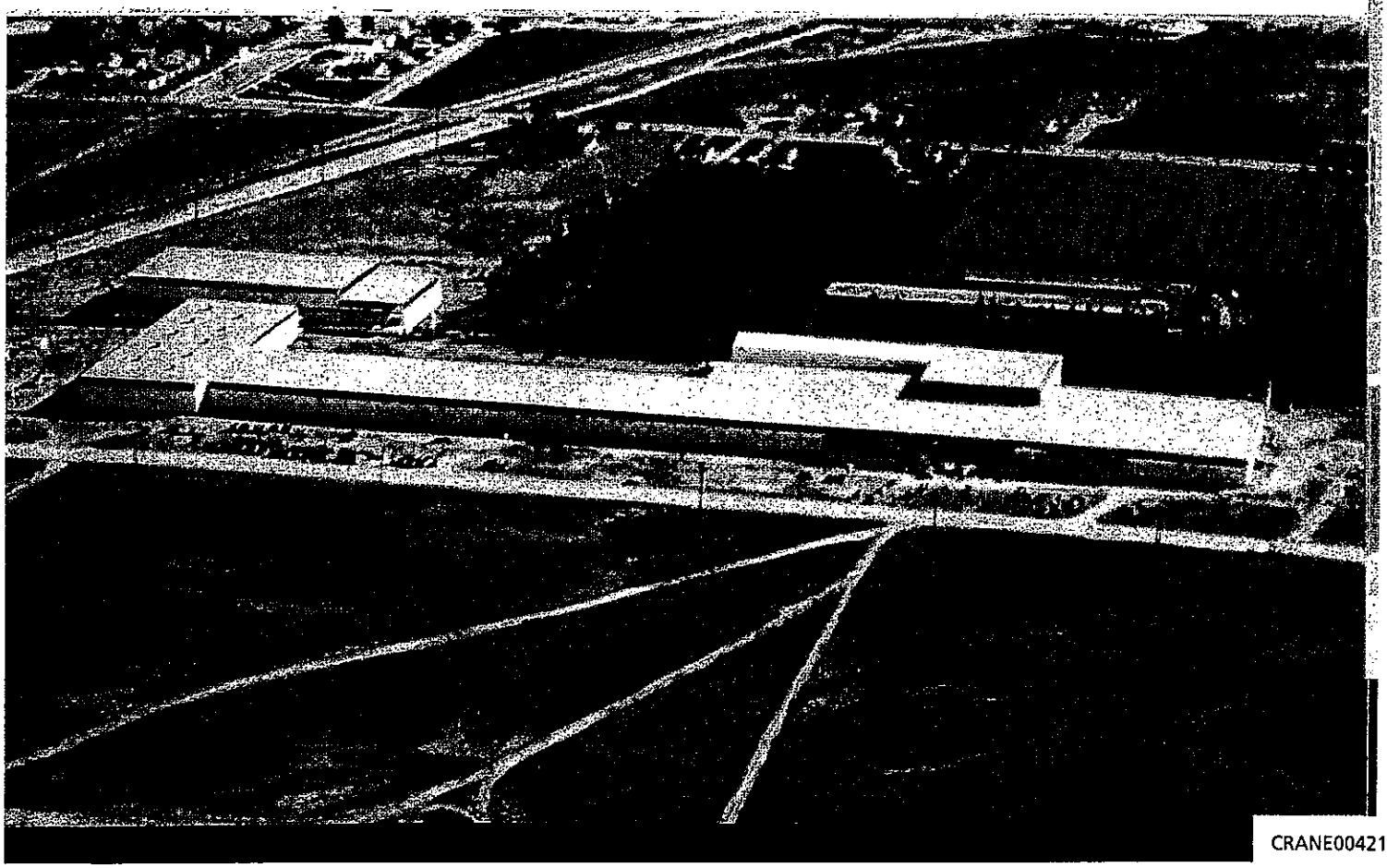
Crane Co. maintains a continuing program for improving manufacturing processes in existing plants. New methods are developed, tested and applied as soon as they are found practical.

New facilities are added when new needs arise. The new Crane pottery in California, for example, is being placed in operation to take care of the vastly increased demands for Crane china plumbing fixtures.

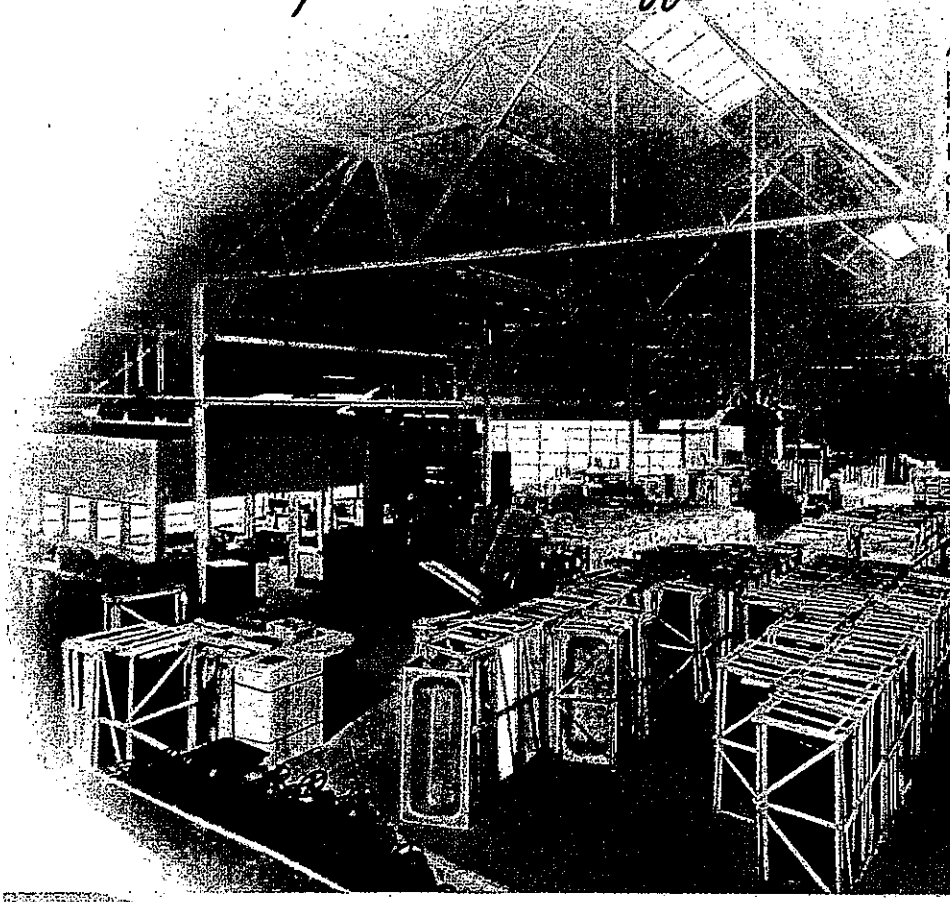


Right—Production is speeded up by this installation in the forge shop of the Chicago Works.

Below—New Crane pottery at Colton, California.



A Comprehensive, Efficient Distributing System

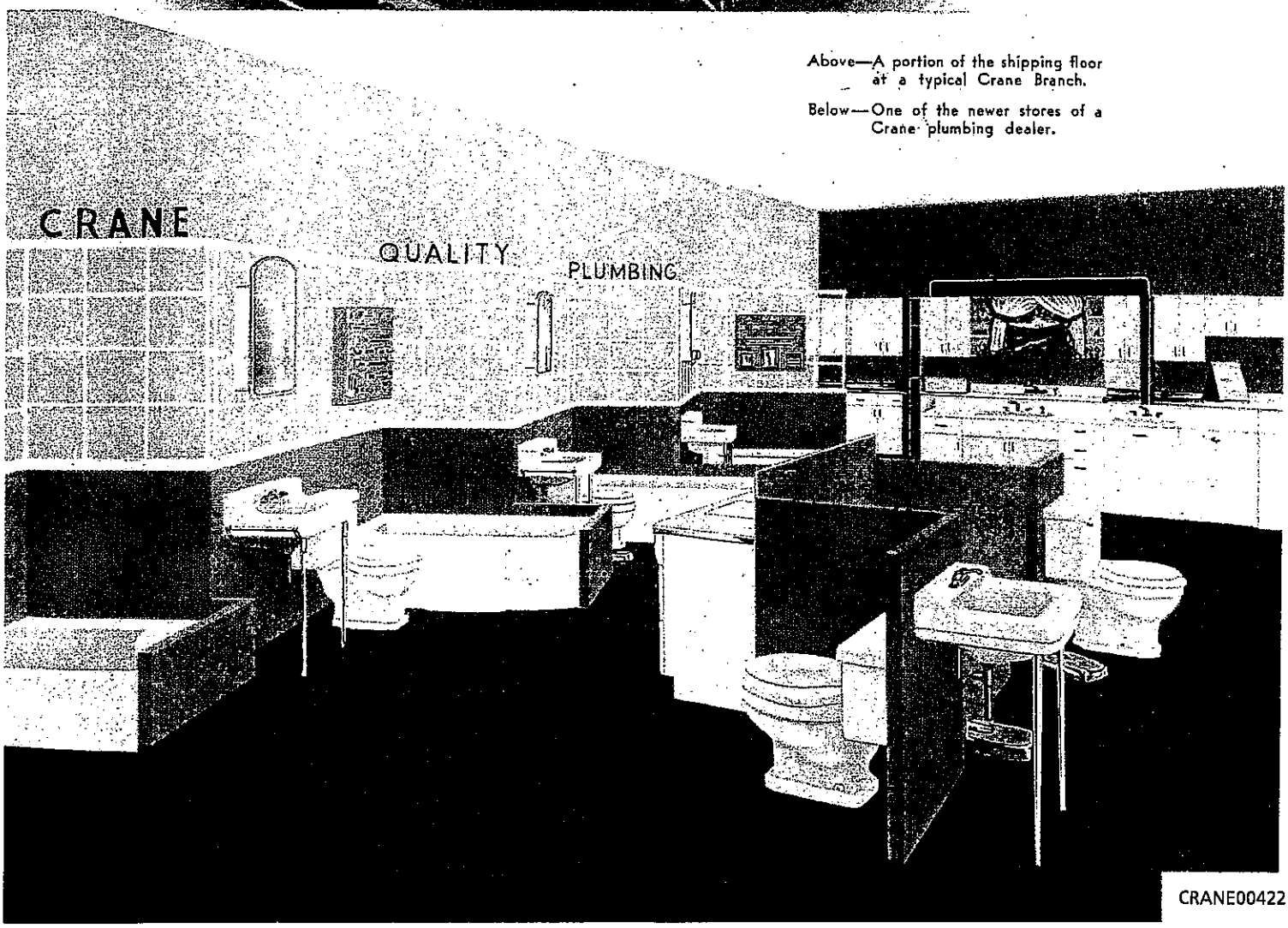


A world-wide organization for getting Crane products to their markets has been built up by the same process of growth that has characterized the company's production facilities. Today the primary distribution outlets in this country comprise 142 company-operated branches and hundreds of wholesalers.

Both these branches and wholesalers sell valves, fittings, pipe and other related items direct to industrial users. The same branches and many of the same wholesalers distribute plumbing and heating equipment to 30,000 retailers. These retailers also install and service plumbing and heating in all types of buildings.

Above—A portion of the shipping floor at a typical Crane Branch.

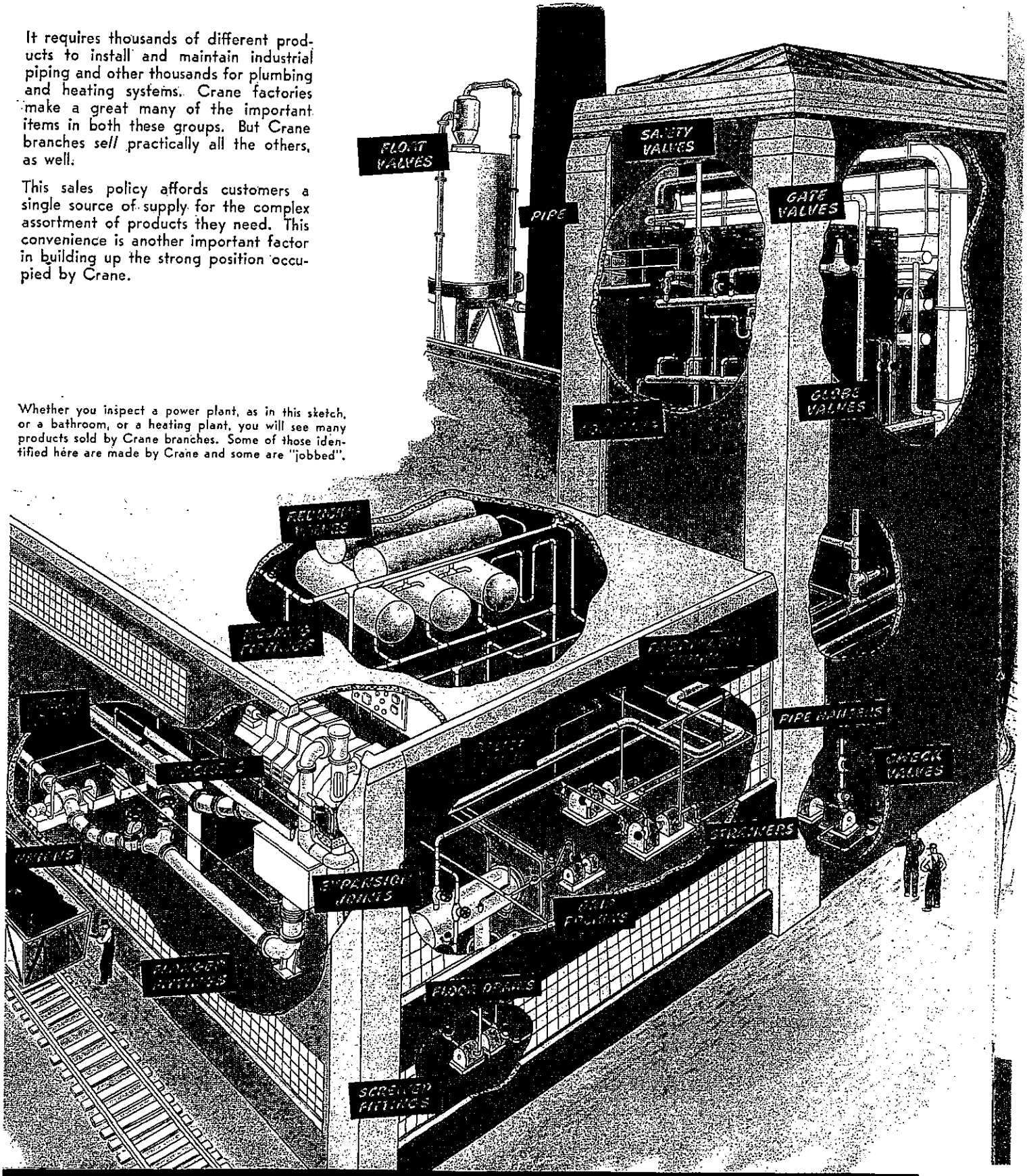
Below—One of the newer stores of a Crane plumbing dealer.



Sales Volume Increased by Adding Related Items

It requires thousands of different products to install and maintain industrial piping and other thousands for plumbing and heating systems. Crane factories make a great many of the important items in both these groups. But Crane branches *sell* practically all the others, as well.

This sales policy affords customers a single source of supply for the complex assortment of products they need. This convenience is another important factor in building up the strong position occupied by Crane.



Whether you inspect a power plant, as in this sketch, or a bathroom, or a heating plant, you will see many products sold by Crane branches. Some of those identified here are made by Crane and some are "jobbed".

Telling the Public of Crane's Position

As indicated in the preceding pages, there are substantial reasons for the development of Crane Co. to its present stature. But obviously, the extent to which the public knows these facts has an important bearing on the company's position in its field. Advertising and sales promotion are therefore used in many forms to present Crane Co. and its products to the public.

Continuing research demonstrates that this program pays off in acceptance and preference. Home owners know and prefer Crane plumbing above all others. Industrial users of piping similarly rate Crane valves at the top of the list.

Typical recent Crane advertisement in the Saturday Evening Post.

Crane's Relation to Military Preparedness

Crane products are used in the production and operation of the varied equipment required in modern warfare, since piping is an essential component of almost every industrial plant and of many weapons of war.

Therefore, whether the present emergency leads to war, peace or a continuation of the "armed camp" economy, Crane will continue to do its part.

The U.S.S. Missouri typifies the many mighty war machines in whose production or operation Crane products are used.

CERTIFICATE OF INDEPENDENT PUBLIC ACCOUNTANTS

NEW YORK
CHICAGO
BOSTON
DALLAS
DETROIT
HOUSTON
KANSAS CITY
LOS ANGELES
MILWAUKEE
PHILADELPHIA
PITTSBURGH
SAN FRANCISCO
TOLEDO
TULSA
WICHITA

ARTHUR YOUNG & COMPANY
ACCOUNTANTS AND AUDITORS
1 NORTH LA SALLE STREET
CHICAGO 2

CANADA
ENGLAND
FRANCE
VENEZUELA

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. and Subsidiaries in the United States at December 31, 1950 and the related consolidated profit and loss and earned surplus statements for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated profit and loss and earned surplus statements present fairly the financial position of Crane Co. and Subsidiaries in the United States at December 31, 1950 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year, except for the change referred to in Note 1 to the financial statements, which has our approval.

Arthur Young & Company

Chicago, Illinois,
March 14, 1951.

CRANE00426

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET • DECEMBER 31, 1950

ASSETS

CURRENT ASSETS:			
Cash			$ 14,827,270
U. S. Government securities, at cost, which approximates market value			15,131,147
Accounts receivable		$ 33,128,607	
Less: Reserve for doubtful accounts		2,017,051	
			31,111,556
Inventories (Note 1)—			
Raw material and supplies		$ 6,857,413	
Work in process		9,293,733	
Finished goods		26,541,450	
			42,692,596
Due from foreign subsidiaries not consolidated			474,051
Total Current Assets			$104,236,620
INVESTMENTS:			
Investment in foreign subsidiary not consolidated, at cost (Note 2)		$ 12,000,000	
Other investments, at cost or nominal value (less reserve, $305,338)		841,437	
			12,841,437
FIXED ASSETS:			
Land and land improvements		$ 5,913,702	
Buildings	$32,077,149		
Less: Reserve for depreciation	15,671,132		
		16,406,017	
Machinery and equipment	$42,864,613		
Less: Reserve for depreciation	26,122,199		
		16,742,414	
Unfinished construction		1,231,627	
			40,293,760
DEFERRED CHARGES			564,080
			$157,935,897

(See accompanying notes)

CRANE00427

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET • DECEMBER 31, 1950

LIABILITIES

CURRENT LIABILITIES:		
Accounts payable, accrued payrolls, etc.		$ 14,458,188
Accrued Federal taxes on income	$ 8,518,720	
Less: U. S. Treasury tax notes	8,365,373	
		153,347
Accrued general taxes		1,788,772
Total Current Liabilities		$ 16,400,307
RESERVES AND APPROPRIATIONS:		
Reserve for pensions (Note 3)	$ 3,383,935	
Miscellaneous reserves	196,594	
Appropriation toward excess of future replacement cost of machinery and equipment over original cost	3,840,000	
		7,420,529
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES		1,262,316
CAPITAL STOCK AND SURPLUS:		
Capital Stock—		
3¾% cumulative preferred shares, par value $100—		
Authorized—160,000 shares		
Outstanding—147,219 shares (including 3,749 shares in treasury) (Note 4)	$ 14,721,900	
Common shares, par value $25—		
Authorized—3,000,000 shares		
Outstanding—2,348,628 shares	58,715,700	
	$ 73,437,600	
Surplus—		
Capital surplus (unchanged during year)	$ 1,509,050	
Earned surplus (Note 5)	58,293,503	
	59,802,553	
	$133,240,153	
Less: Cost of 3,749 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 4)	387,408	
		132,852,745
		$157,935,897

(See accompanying notes)

CRANE00428

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED PROFIT AND LOSS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1950

Net sales:		
To customers		$217,866,510
To foreign subsidiaries		2,200,400
Total		$220,066,910
Cost of sales, selling, administrative and general expenses (Notes 1 and 3)	$197,213,804	
Provision for depreciation	2,796,833	
		$200,010,637
Net operating profit		$ 20,056,273
Miscellaneous other income (net)		110,135
		$ 20,166,408
Minority stockholders' interest in net income of subsidiaries		197,761
Net profit (exclusive of dividends received from foreign subsidiary) before Federal taxes on income		$ 19,968,647
Provision for Federal taxes on income (including $64,291 for excess profits taxes)		7,900,463
		$ 12,068,184
Dividends received from Canadian subsidiary (Note 2)		4,676,987
Net profit for the year		$ 16,745,171
Appropriation toward excess of future replacement cost of machinery and equipment over original cost		979,000
Amount of profit transferred to earned surplus		$ 15,766,171

(See accompanying notes)

CRANE00429

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED EARNED SURPLUS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1950

Balance, December 31, 1949		$47,414,279
Add:		
Amount of profit for the year transferred to earned surplus		15,766,171
Adjustment resulting from change in method of valuing certain December 31, 1949 inventories (Note 1)		1,760,000
Excess of par value over cost of 3,257 shares of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements		4,455
		$64,944,905
Deduct:		
Cash dividends paid—		
On 3¾% cumulative preferred shares, $3.75 per share	$ 544,969	
On common shares, $2.60 per share	6,106,433	
		$ 6,651,402
Balance, December 31, 1950 (Note 5)		$58,293,503

NOTES TO FINANCIAL STATEMENTS

1. INVENTORIES:

The major portion of the inventory is priced on the "last-in, first-out" (LIFO) basis of valuation which was first applied January 1, 1941, and extended as of January 1, 1947 and January 1, 1950. The remaining inventory is priced at the lower of cost or market but has been reduced (except as to special order products aggregating $1,228,265) by a reserve (not deductible for income tax purposes) which has the effect of stating such inventory on a basis substantially equivalent to the LIFO basis.

As of January 1, 1950, Crane Co. and its Subsidiaries in the United States extended the "last-in, first-out" (LIFO) basis of valuation to certain of the inventories previously stated on the above-mentioned "LIFO equivalent" basis. The adjustment of such "LIFO equivalent" inventories to January 1, 1950 cost had the effect of (a) increasing the valuation thereof at that date by $1,760,000, which amount has been credited to earned surplus and (b) decreasing the net profit for the year ended December 31, 1950 by approximately $310,000 from what it would have been had the basis of valuation used in the preceding years been continued.

2. INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND:

Crane Co.'s investment in Crane Limited (Canada) is carried in the consolidated balance sheet at U. S. dollar cost, $12,000,000, and dividends of $4,676,987 received from that company in 1950 are reflected in the consolidated profit and loss statement for the year. Such dividends are net after deducting the Canadian tax of 5% on dividends to a non-resident parent company and exchange charges, and are not subject to United States taxes on income because of foreign tax credits.

The net assets of Crane Limited (Canada) and its subsidiaries, segregated as between Canada and England, stated at equivalent U. S. dollars, are summarized as follows:

	Canada	England	Total
Fixed assets at U. S. dollar cost at dates of acquisition, less accrued depreciation	$ 7,654,128	$3,679,901	$11,334,029
Net current assets at $.9425 for Canadian dollar and $2.80 for English pound	8,774,389	3,394,429	12,168,818
Minority interests	(413,002)	—	(413,002)
	$16,015,515	$7,074,330	$23,089,845

CRANE00430

The results of operations of the subsidiaries in Canada and England for the year ended December 31, 1950, stated at equivalent U. S. dollars, are summarized below:

	Canada	England	Total
Net sales	$43,807,018	$9,576,465	$53,383,483
Cost of sales, including selling, administrative and general expenses	36,921,433	6,458,234	43,379,667
	$ 6,885,585	$3,118,231	$10,003,816
Provision for depreciation	739,068	156,711	895,779
	$ 6,146,517	$2,961,520	$ 9,108,037
Other income, less other deductions which include minority interests in Canadian subsidiaries of $54,661	31,842	37,534	69,376
	$ 6,178,359	$2,999,054	$ 9,177,413
Provision for taxes on income	2,526,843	1,418,323	3,945,166
Net profit for the year	$ 3,651,516	$1,580,731	$ 5,232,247
Special item: Adjustment of conversion values of foreign net assets	105,824	(37,195)	68,629
Net profit and special item	$ 3,757,340	$1,543,536	$ 5,300,876

Crane Limited (Canada) received dividends from its wholly-owned English subsidiary of $777,614 Canadian dollars (equivalent to $693,438 U. S. dollars after deducting dividend tax and exchange charges), which, being intercompany dividends, are not reflected in the above 1950 operating results of the Canadian companies.

Investments in and the profits of the companies located in Canada and England are subject to certain exchange restrictions, as well as to such taxes on income as may be payable on the transfer of profits between England, Canada and the United States.

3. PENSIONS:

Reference is made to the narrative section of this report for information regarding pensions.

Following is a summary of the changes during the year in the "Reserve for pensions":

Balance, December 31, 1949	$5,500,000
Provision charged against earnings for the year 1950	1,936,986
	$7,436,986
Contributions to Trustees	4,053,051
Balance, December 31, 1950	$3,383,935

4. 3¾% CUMULATIVE PREFERRED SHARES:

These shares are redeemable at the option of the Company at $107 per share if called for redemption prior to June 15, 1955 (an aggregate amount of $15,351,290) and at $104.50 per share if called for redemption on or after June 15, 1955, in each case plus accrued dividends to the date fixed for redemption. They are also redeemable through the operation of the sinking fund at any time at the sinking fund redemption price of $104.50 per share, plus unpaid acccrued dividends.

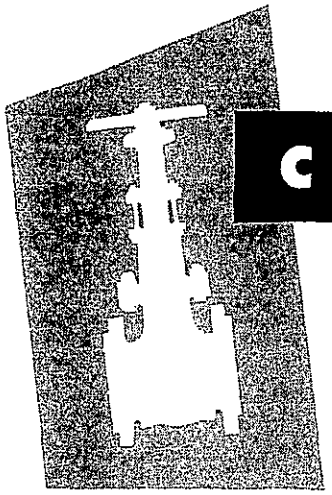
Under the provisions of the Articles of Incorporation relating to the 3¾% Cumulative Preferred Shares the Company is required, on or before April 30 in each year beginning with the year 1947, to pay over to the sinking fund agent for the redemption or purchase of such shares a determinable amount of cash but not in excess of $320,000 with respect to any fiscal year. Against its obligation to make the cash sinking fund payment in any year the company may, at its election, take credit for shares of such series purchased or redeemed by it otherwise than through the sinking fund.

During the year, the Company purchased 3,780 shares of its 3¾% Cumulative Preferred Shares at an aggregate principal cost of $389,300. On or before April 30, 1951, a sufficient number of these shares will be deposited with the sinking fund agent in lieu of the $320,000 cash payment which otherwise would be required.

5. DIVIDENDS ON COMMON STOCK:

Under the provisions of the Articles of Incorporation, as amended in connection with the issuance of the 3¾% cumulative preferred shares, earned surplus at December 31, 1950, in the amount of $20,775,754, is not available for the payment of dividends on the Company's common shares.

CRANE00431



CRANE CO.

VALVES, FITTINGS, FABRICATED PIPE
HEATING AND PLUMBING MATERIAL

GENERAL OFFICE

836 S. MICHIGAN AVENUE, CHICAGO CABLE ADDRESS, CRANECOY—CHICAGO

PLANTS CHICAGO ★ CHATTANOOGA ★ TRENTON ★ COLTON, CAL.

In addition to Crane branch houses listed below, Wholesalers in all major markets sell Crane products.

BRANCH HOUSES—

ALABAMA

BIRMINGHAM (3).....2 S. Twentieth St.
MOBILE (3).....300 N. Royal St.

ARIZONA

PHOENIX.....233 S. First Ave.
TUCSON.....35 Toole Ave.

ARKANSAS

FT. SMITH .....221 S. Ninth St.
LITTLE ROCK .....120 Commerce St.

CALIFORNIA

LONG BEACH (1).....824 W. Anaheim St.
LOS ANGELES (54).....321 E. Third St.
OAKLAND (7).....346 Ninth St.
SACRAMENTO (5).....1227 Front St.
SALINAS.....239 East Alisal St.
SAN BERNARDINO.....777 Mill St.
SAN DIEGO (1).....1138 India St.
SAN FRANCISCO (19).....301 Brannan St.
SANTA ANA.....919 Poinsettia St.

COLORADO

DENVER* (17).....1631 Fifteenth St.
GRAND JUNCTION*.....601 Pitkin Ave.
PUEBLO*.....180 Central Main

CONNECTICUT

BRIDGEPORT (3).....302 John St.
HARTFORD (5).....710 Windsor St.
NEW HAVEN (11).....365 Orchard St.

DISTRICT OF COLUMBIA

WASHINGTON (5).....1225 Eye St. N.W.

FLORIDA

JACKSONVILLE (3).....1007 W. Bay St.
MIAMI (30).....85 N. W. Tenth St.
ORLANDO.....1027 Sligh Blvd.
TAMPA (1).....1105 E. Twiggs St.
WEST PALM BEACH.....217 5th St.

GEORGIA

ATLANTA (3).....Washington St. Viaduct
MACON.....500 Broadway
SAVANNAH.....14 W. Broad St.

*(Crane-O'Fallon Co.)

IDAHO

BOISE.....214 S. Fifth St.
POCATELLO.....756 S. First Ave.

ILLINOIS

AURORA.....544 S. Lake St.
CHICAGO (6).....156 N. Jefferson St.
Southside branch (20).....231 W. 79th St.
ROCKFORD.....800 S. Main St.
SPRINGFIELD.....921 E. Monroe St.
WAUKEGAN.....1219 Glen Rock Ave.

INDIANA

EAST CHICAGO.....1004 E. Chicago Ave.
EVANSVILLE (6).....118 S. E. Eighth St.
INDIANAPOLIS (6).....333 W. Market St.
MUNCIE.....342 N. Pershing Dr.
SOUTH BEND (23).....1616 S. Franklin St.
TERRE HAUTE.....209 N. Ninth St.

IOWA

DAVENPORT (8).....217 E. Second St.
SIOUX CITY (3).....223 Jackson St.

KANSAS

TOPEKA.....132 No. Kansas Ave.
WICHITA (1).....624 E. First St.

KENTUCKY

LEXINGTON (1).....165 Midland Ave.
LOUISVILLE (2).....756 S. First St.

LOUISIANA

NEW ORLEANS (11).....710 S. Broad St.
P. O. Box 1700
SHREVEPORT (92).....1320 Winston St.

MAINE

PORTLAND (4).....70 St. John St.

MARYLAND

BALTIMORE (1).....626 W. Pratt St.
SALISBURY.....1911 N. Salisbury Blvd.

MASSACHUSETTS

BOSTON (27).....48 W. First St., South Boston
SPRINGFIELD (1).....60 Cypress St.

MICHIGAN

DETROIT (26).....150 Randolph St.
FLINT (1).....155 Lewis St.
GRAND RAPIDS (2)....56 Grandville Ave., S. W.
JACKSON.....409 Hupp Ave.

MINNESOTA

DULUTH** (2).....102 Lake Ave., S.
MANKATO**.....510 Pike St.
MINNEAPOLIS** (1).....400 Third Ave., N.
ST. PAUL** (1).....Broadway at 5th

MISSISSIPPI

JACKSON (5).....176 N. Gallatin St.

MISSOURI

KANSAS CITY (7).....2819 Warwick Trafficway
ST. LOUIS (3).....30 S. Sixteenth St.

MONTANA

BILLINGS**.....30th St. and First Ave., S.
GREAT FALLS**.....2 Third Ave., South

NEBRASKA

GRAND ISLAND.....115 E. Front St.
OMAHA (8).....323 S. Tenth St.
SCOTTSBLUFF*.....1617 Avenue "A"

NEVADA

RENO.....401 E. Fourth St.

NEW JERSEY

CAMDEN (4).....2994 Mt. Ephraim Ave.
NEWARK (5).....90 South St.
TRENTON (5).....50 Escher St.

NEW MEXICO

ALBUQUERQUE*.....612 N. First St.
ROSWELL*.....102 So. Virginia St.

NEW YORK

ALBANY (1).....North Broadway
BINGHAMTON (36).....21 Washington St.
BUFFALO (5).....201 Church St.
HEMPSTEAD.....209 Main St.
LONG ISLAND CITY (1)...47–30 Twenty-ninth St.
NEW YORK CITY (Display Room) 101 Park Ave.
ROCHESTER (2).....200 South Ave.
SYRACUSE (1).....760 W. Genesee St.
UTICA (2).....326 Broad St.

**(Crane Co., Minnesota)

CRANE00432

CRANE CO. BRANCHES *Continued*

NORTH CAROLINA
ASHEVILLE.....531 McDowell St.
CHARLOTTE (8).....1307 W. Morehead St.
GREENSBORO.....205 Lyndon St.
ROCKY MOUNT.....300 N. Church St.

NORTH DAKOTA
FARGO**.....636 Northern Pacific Ave.
MINOT**.....Box 1189

OHIO
AKRON (11).....425 S. High St.
CANTON (2).....210 Piedmont Ave., S.E.
CINCINNATI (1).....824 Broadway
CLEVELAND (3).....6215 Carnegie Ave.
COLUMBUS (15).....67 N. Front St.
DAYTON (2).....901 S. Perry St.
LIMA.....207 S. Central Ave.
TOLEDO (1).....390 S. Erie St.

OKLAHOMA
MUSKOGEE.....302 Commercial St.
OKLAHOMA CITY (2).....705 W. Main St.
TULSA (2).....623 E. Third St.

OREGON
MEDFORD.....125 West 4th St.
PORTLAND (8).....710 N. W. Fourteenth Ave.

*(Crane-O'Fallon Co.)

PENNSYLVANIA
ERIE.....222 E. Eighth St.
PHILADELPHIA (22).....245 Master St.
West Philadelphia Branch (43) 1600 So. 59th St.
PITTSBURGH (30).....40 Twenty-fourth St.
READING.....407 N. Front St.

RHODE ISLAND
PROVIDENCE (3).....245 W. Exchange St.

SOUTH CAROLINA
CHARLESTON.....2026 Meeting St.
GREENVILLE.....223 W. McBee Ave.

SOUTH DAKOTA
ABERDEEN**.....324 Railroad Ave., E.
SIOUX FALLS**.....326 E. Eighth St.

TENNESSEE
CHATTANOOGA (1).....1317 Chestnut St.
KNOXVILLE (1).....523 W. Jackson Ave.
MEMPHIS (1).....254 Court Ave.
NASHVILLE (2).....532 Eighth Ave., South

TEXAS
BEAUMONT.....720 Fannin St.
CORPUS CHRISTI.....1212 N. Tancahua St.
DALLAS (2).....814 Young St.
EL PASO*.....1609 Texas St.
HARLINGEN.....201 West "C" St.
HOUSTON (1).....2204 Pease Ave.
SAN ANTONIO (6).....1200 E. Houston St.

**(Crane Co., Minnesota)

UTAH
OGDEN.....2001 Wall Ave.
PROVO.....237 W. 5th No. St.
SALT LAKE CITY (10).....307 W. Second South

VIRGINIA
NEWPORT NEWS.....7706 Virginia Ave.
NORFOLK (10).....2 E. Twenty-second St.
RICHMOND (20).....1225 W. Broad St.
ROANOKE (17).....404 Center Ave., N.W.

WASHINGTON
SEATTLE (14).....419 Second Ave., S.
SPOKANE (8).....126 S. Post St.
TACOMA (1).....1209 South "A" St.

WEST VIRGINIA
CHARLESTON (25).....502 Broad St.

WISCONSIN
MADISON (3).....641 Williamson St.
MILWAUKEE (3).....2123 W. Michigan St.
OSHKOSH.....37 Market St.

WYOMING
CASPER* (5).....802 East "C" St.

EXPORT
NEW YORK BRANCH ★ SAN ANTONIO BRANCH
SAN FRANCISCO BRANCH

CRANE Limited (Canada)

GENERAL OFFICE • • 1170 Beaver Hall Square, Montreal, Que. • • Cable Address, Cranelit—Montreal
MANUFACTURING PLANTS • • Montreal, Que. • • Quebec, Que. • • St. John's, Que. • • Port Hope, Ont. • • Vancouver, B. C.

BRANCH HOUSES

ALBERTA
CALGARY.....602 Eleventh Ave., W.
EDMONTON.....11925 Kingsway

BRITISH COLUMBIA
VANCOUVER.....540 Beatty St.
VICTORIA.....1010 Government St.

MANITOBA
WINNIPEG.....93 Lombard St.

NEW BRUNSWICK
MONCTON.....293 Church St.

NEWFOUNDLAND
ST. JOHN'S.....Hill O'Chips

NOVA SCOTIA
HALIFAX.....7-15 Doyle St.
Warehouse.....City Market Bldg.

ONTARIO
FORT WILLIAM.....600 Simpson St.
HAMILTON.....58 Chedoke Ave.
KINGSTON.....71 Brock St.
LONDON.....304 York St.
OTTAWA.....288 Catherine St.
TORONTO.....306 Front St., W.

QUEBEC
MONTREAL.....1121 St. James St., W.
QUEBEC.....39 St. Roch St.

SASKATCHEWAN
REGINA.....1408 Broad St.
SASKATOON.....359 First Ave., N.

CRANE, Limited (Great Britain)

GENERAL OFFICE • • 45-51 Leman St., London E. 1 • • Cable Address, Cranelon—London
MANUFACTURING PLANT • • Nacton Road, Ipswich, Suffolk

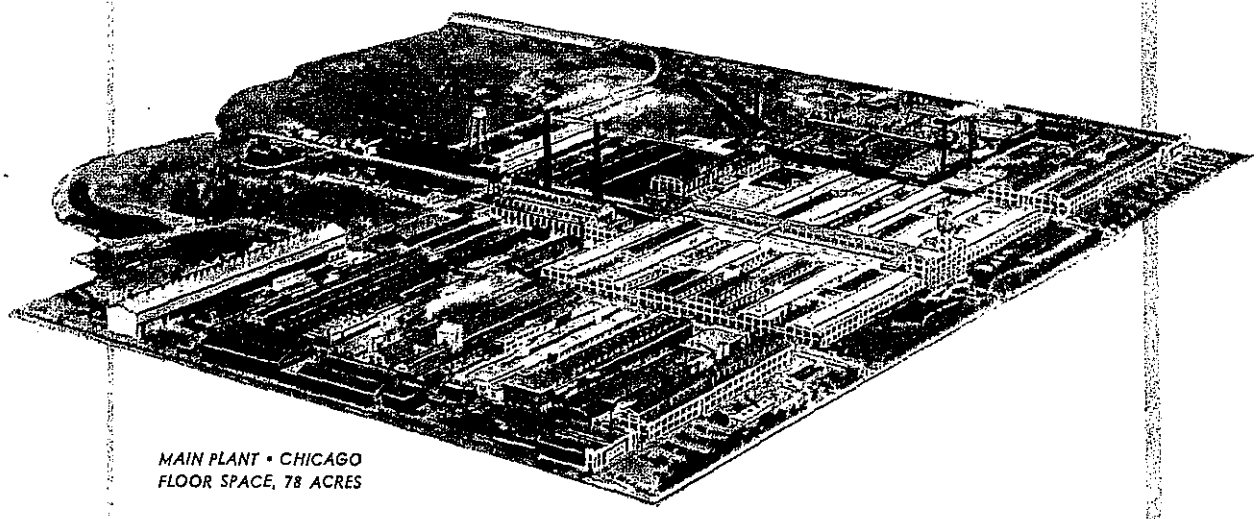
BRANCH HOUSES

BIRMINGHAM 1277 Coventry Road, South Yardley
BRENTFORD.....Great West Road
BRISTOL.....1, 19 Colston St.
GLASGOW.....94-100 Clyde Ferry St., Anderston
LONDON.....45-51 Leman St.
MANCHESTER..Westinghouse Road, Trafford Park

CRANE00433

CRANE CO.

ANNUAL REPORT TO SHAREHOLDERS



MAIN PLANT • CHICAGO
FLOOR SPACE, 78 ACRES

1951

CRANE CO.

DIRECTORS AND OFFICERS

DIRECTORS

H. H. BUNCHMAN
C. R. CRANE, II
J. L. HOLLOWAY
DAVID LEVINGER
MARK W. LOWELL
EDWARD H. McDERMOTT
WILLIAM L. McKNIGHT
PETER V. MOULDER
S. M. ROBERTS
V. P. RUMELY

OFFICERS

J. L. HOLLOWAY, *President*

V. P. RUMELY
Vice President

J. A. DWYER
Vice President

F. H. KAISER
Comptroller

P. L. YATES
Assistant Comptroller

E. E. WYATT
Executive Assistant

C. T. POLLOCK
Vice President

H. H. BUNCHMAN
Treasurer

C. W. DITTMAR
Assistant Treasurer

J. K. O'NEILL
Assistant Treasurer

H. A. TACON
Assistant Treasurer

F. F. ELLIOTT
Vice President

C. R. CRANE, II
Vice President

K. L. KARR
Secretary

A. R. GLASS
Assistant Secretary

J. W. HEDERICK
Assistant Secretary

R. G. CREVISTON
Director, Public Relations

J. P. MAGOS
Director, Engineering

L. W. MOORE
Director, Purchases

J. N. KROHNE
Manager, Public Relations

H. H. SIMMONS
Manager, Advertising

STOCK TRANSFER AGENTS

J. P. MORGAN & Co., Incorporated, New York 8, New York
A. R. GLASS, Transfer Clerk, Crane Co., Chicago 5, Illinois

REGISTRARS

THE CHASE NATIONAL BANK OF THE CITY OF NEW YORK, New York 15, New York
CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY, Chicago 4, Illinois

AUDITORS

ARTHUR YOUNG & COMPANY, Chicago 2, Illinois

PLANTS
PRODUCTS
PERSONNEL

IN THE UNITED STATES

CHICAGO PLANT, Chicago, Illinois
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
V. P. RUMELY, *Vice President, Manufacturing*
G. C. DETLEFSEN, *Works Manager*
G. L. LARSON, *General Superintendent*

CHATTANOOGA DIVISION, Chattanooga, Tennessee
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks, Lavatories, Iron Heating Boilers and Radiation
V. P. RUMELY, *Vice President, Manufacturing*
W. M. HAMILTON, *Manager*
O. J. STOESSER, *General Superintendent*

CRANE PACIFIC DIVISION, Colton, California
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
H. A. RYDSTROM, *General Manager*
A. E. HOCH, *Superintendent*

THE TRENTON POTTERIES COMPANY, Trenton, New Jersey
Vitreous China and Duraclay Plumbing Fixtures, Water Closets, Lavatories, Urinals, Tubs, Fountains, Hospital Fixtures
H. A. RYDSTROM, *President*
J. W. PIESLAK, *Superintendent*
J. R. BEAM, *Technical Director*

HYDRO-AIRE, INC., Burbank, California
Aircraft Valves, Filters and Actuators
H. H. RHOADS, *President*
J. H. OVERHOLSER, *Executive Vice President*
L. L. HILL, *Vice President*
D. A. LIGHTY, *Vice President*
G. S. MASSA, *Vice President*
R. C. STUNKEL, *Vice President*

IN CANADA

CRANE, LIMITED (Canada)
Montreal
L. H. T. CLEGG, *President*
G. R. GUSTIN, *Vice President*
E. J. LAIDLAW, *Vice President*
F. D. MACNAUGHTON, *Vice President*
F. H. MEYER, *Vice President*

ST. PATRICK ST. PLANT, Montreal, Quebec
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
J. D. WALKER, *General Superintendent*

CANADIAN POTTERIES LIMITED, St. Johns, Quebec
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
A. J. BURGNER, *Manager*
GEO. TOEPFER, *Superintendent*

PORT HOPE SANITARY MFG. CO., LIMITED, Port Hope, Ontario
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks and Lavatories
G. M. JACOB, *Acting General Manager*
E. H. DITHRIDGE, *Superintendent*

ALLIANCEWARE, LTD., Vancouver, B. C.
Enameled Steel Plumbing Fixtures
R. E. STRAIN, *General Manager*
A. T. GELZ, *Superintendent*

CRANE STEELWARE, LIMITED, Quebec, Quebec
Enameled Steel Plumbing Fixtures
R. S. COOKE, *Manager*
J. E. DOYLE, *General Superintendent*

WARDEN KING (LIMITED), Montreal, Quebec
Iron Heating Boilers, Radiators and Soil Pipe
J. B. FLANAGAN, *Manager*
E. N. DELAHUNT, *General Superintendent*

IN GREAT BRITAIN

CRANE, LIMITED (Great Britain)
London
J. E. BENNETT, *Chairman of the Board*
R. E. DUNNETT, *Managing Director*

IPSWICH WORKS, Ipswich, England
Valves, Fittings, Boilers, Radiation
J. B. WEBSTER, *Works Manager*

CRANE00436

FINANCIAL SUMMARY

Crane Co. and Subsidiaries in the United States

	1951	1950
Fixed Assets less Reserves for Depreciation	$ 47,008,302	$ 40,293,760
Capital Expenditures—Property, Plant and Equipment	10,315,983	3,829,534
Depreciation charged to Operations	3,253,787	2,796,833
Net Working Capital	91,785,734	87,836,313
Ratio Current Assets to Current Liabilities	5.64-1	6.35-1
Shareholders' Equities	140,500,445	132,852,745
Shareholders' Equity per Common Share	53.64	50.45
Net Sales, including Sales to Foreign Subsidiaries	$270,350,583	$220,066,910
Net Earnings—Domestic Operations	12,761,530	12,068,184
Net Earnings—Domestic Operations—per Dollar of Sales	4.7¢	5.5¢
Dividends received from Foreign Subsidiaries	2,562,737	4,676,987
Net Earnings, including Dividends received from Foreign Subsidiaries	15,324,267	16,745,171
Net Earnings per Common Share	6.26	6.89
Special Appropriation of Income	1,080,000	979,000
Amount of Earnings transferred to Earned Surplus	14,244,267	15,766,171
Net Earnings, per Common Share, transferred to Earned Surplus	5.81	6.48
Direct Taxes per Common Share	6.89	4.65
Total Dividends Paid—		
Preferred Shares	$ 529,237	$ 544,969
Common Shares	6,120,432	6,106,433
Dividends paid per Common Share	2.60	2.60
Number of Employees	17,939	16,024
Payroll, Group Insurance and Pension Expense	$ 79,058,496	$ 56,278,228
Number of Shareholders—		
Preferred	1,545	1,625
Common	19,020	18,693

CRANE00437

FOUNDED BY R.T. CRANE 1855

CRANE CO.

VALVES - FITTINGS - PIPE
PLUMBING AND HEATING
836 SO. MICHIGAN AVE.
CHICAGO 5

OFFICE OF THE PRESIDENT

March 11, 1952

To our Shareholders:

The Management, with the approval of the Board of Directors, presents herewith the Annual Report of Crane Co. for the year 1951.

Sales of the Crane organization if consolidated amounted to $334,406,471 in 1951, the Company and its United States subsidiaries accounting for a record $267,365,809 exclusive of sales to foreign subsidiaries, up 22.7% over 1950, and the consolidated operations of the Company's subsidiaries in Canada and England resulting in record sales of $67,040,662, an increase of 25.5% over the previous year. However, despite the substantial increase in sales, net earnings from domestic operations increased only 5.7% and consolidated earnings of our Canadian and English subsidiaries decreased 9.4% compared with 1950. Higher taxes were the principal reason for earnings not keeping pace with the increase in sales volume. Direct taxes in the United States increased from $4.65 in 1950 to $6.89 per common share in 1951, and in Canada and England from $1.86 to $2.86 per Crane Co. common share. The story of our operations is told in more detail in the Financial and Operating Review Section of this report.

Dividends received from the Company's foreign subsidiaries amounted to $2,562,737 compared with $4,676,987 received in 1950. Dividends in 1950 were abnormally high as a result of a change in Canadian Government regulations liberalizing the restrictions on the distribution of current earnings.

Net earnings of the Company's subsidiaries in Canada amounted to $3,205,903 in 1951 vs. $3,757,340 in 1950, and in England to $1,598,393 in 1951 vs. $1,543,536 for 1950, stated in equivalent United States dollars. Further details regarding the operations of these companies are also shown in later sections of this report.

Modernization and expansion of the Company's facilities in this country and Canada and England progressed satisfactorily during 1951.

The new pottery plant of the Crane-Pacific Division at Colton, California, started operations in June and showed satisfactory results in training employees new to the pottery business and in reaching a good level of efficiency.

In May of 1951 The Trenton Potteries Company and a newly created subsidiary Repcal Land Co., acquired the assets of Repcal Brass Mfg. Co., Los Angeles, California, producers of a high grade line of moderately

CRANE CO.

priced plumbers brass, such as faucets, shower heads and the like. No change has been made or is contemplated in the management or method of conducting that company's business and it will continue to operate independently. Crane Co. branches have purchased some of this company's products for resale for a number of years and expect to continue to do so.

Late in 1951 a newly organized subsidiary of Crane Co. purchased the assets of Hydro-Aire, Incorporated, Burbank, California, and is carrying on the business of that company under the name of Hydro-Aire, Inc. This company produces valves, filters, actuators, and other common and exclusive components for aircraft and aircraft engines. The business is being carried on by the previous management with no disruption to the organization. Facilities are in process of being increased several fold to better serve the heavy demand for its product. For the most part the new facilities will be equipped with government-owned tools.

The pilot plant for the production of titanium was completed during 1951 and has been in operation on an experimental basis for a number of months. No revolutionary discoveries have been made but a lot has been learned at first hand regarding the problems to be solved. Plans are now underway to extend the pilot operation over the entire scope of the process from the earth to finished metal. Exploration for titanium and other mineral bearing deposits by Company geologists and mineralogists has so far resulted largely only in the elimination of some of the prospects from further exploration; however, developments have decidedly warranted a continuation of the program.

The activities of the Company's already substantial Engineering and Development Division are being continuously though gradually increased. A large part of the work is still devoted to improvement and expansion of basic products but increasing emphasis is being placed on the development of new and diversified lines.

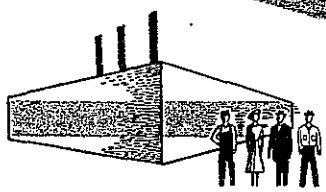
The outlook for volume of business for 1952 is good. Residential building is expected to be some lower than in 1951 and, further, 1952 does not have the large carryover from the preceding year that existed in 1951. However, a high demand for the Company's products going into the industrial and commercial field is expected to continue throughout the year, and the Company's participation in the Armament Program both directly and indirectly is expected to be larger than in 1951.

Your Management is very appreciative of the helpful cooperation of the shareholders, the employees, and the Company's customers and suppliers, without which the results of 1951 could not have been achieved.

Sincerely

J. L. Holloway
President

FINANCIAL AND OPERATING REVIEW 1951



The financial and statistical information contained in this review relates to the year 1951, and is on the basis of consolidating only the figures of the United States companies, except where otherwise indicated. Financial statements of the Company and its United States subsidiaries consolidated and of the Company's subsidiaries in Canada and England consolidated, as certified by our auditors, Arthur Young & Company, will be found on pages 17 to 22 of the report.

Sales and Earnings

Net sales of $270,350,583 in 1951 established a new high and compared with $220,066,910 for the previous year, an increase of $50,283,673 or over 22%. While all segments of the Company's sales recorded gains the major portion of the increase represented increased sales of valves and fittings. Sales of products manufactured by others (jobbed products) accounted for approximately 47% of total sales compared with 52% in 1950.

Net earnings for 1951 transferred to earned surplus were $14,244,267 after appropriation toward excess of future replacement cost of machinery and equipment over original cost. This compares with $15,766,171 for the previous year.

Reflecting the increase in sales, earnings from domestic operations before Federal income and excess profits taxes were $25,393,803 for 1951, an increase of $5,425,156, or more than 27%, over the comparable item for 1950. However, this increase in earnings before taxes was substantially offset by an increase of $4,731,810 in Federal income taxes so that net earnings from domestic operations after taxes increased only $693,346 to $12,761,530 for 1951, compared to $12,068,184 for 1950.

Sales during 1951 reflect the effect of requirements of the Nation's mobilization program. A substantial increase in the demand for valves and fittings, during the last quarter of 1950, continued throughout most of 1951.

Sales of plumbing and heating increased slightly for the year, partially as a result of carryover from activity in residential construction that attained a

In summary, the financial results of the Company and its United States subsidiaries consolidated for 1951 compared with 1950, were as follows:

	1951	1950
Earnings before Federal income taxes—domestic operations	$25,393,803	$19,968,647
Provision for Federal income taxes applicable to above earnings	12,632,273	7,900,463
Net earnings—domestic operations	12,761,530	12,068,184
Dividends received from Foreign subsidiaries	2,562,737	4,676,987
Net earnings for the year	15,324,267	16,745,171
Appropriation of earnings toward excess of future replacement cost of machinery and equipment over original cost (see plant and equipment)	1,080,000	979,000
Net earnings transferred to earned surplus	14,244,267	15,766,171

CRANE00440

high rate during 1950. However, demand for these products declined considerably during the last half of 1951.

Cost of sales and expenses including provision for depreciation was 90.81% of net sales compared with 90.89% for the previous year.

Taxes

Total direct taxes paid or accrued during the year, including Federal income taxes of $12,632,273, amounted to $16,272,905 and were equivalent to $6.89 for each common share outstanding.

Inventories

At the close of the year, inventories totaled $65,417,384 reflecting an increase of $22,724,788. Of this increase $4,097,649 was in raw material and supplies, $7,069,699 in work in process and $11,557,440 in finished goods.

The major portion of the Company's inventory is priced on the "last-in, first-out" (LIFO) basis. The remainder of the inventory not on the LIFO basis was priced at the lower of cost or market, but has been reduced by a taxable reserve which has the effect of stating such inventory, except for special order product and inventories of subsidiaries acquired during 1951 aggregating $7,824,319, on a basis substantially equivalent to the LIFO method.

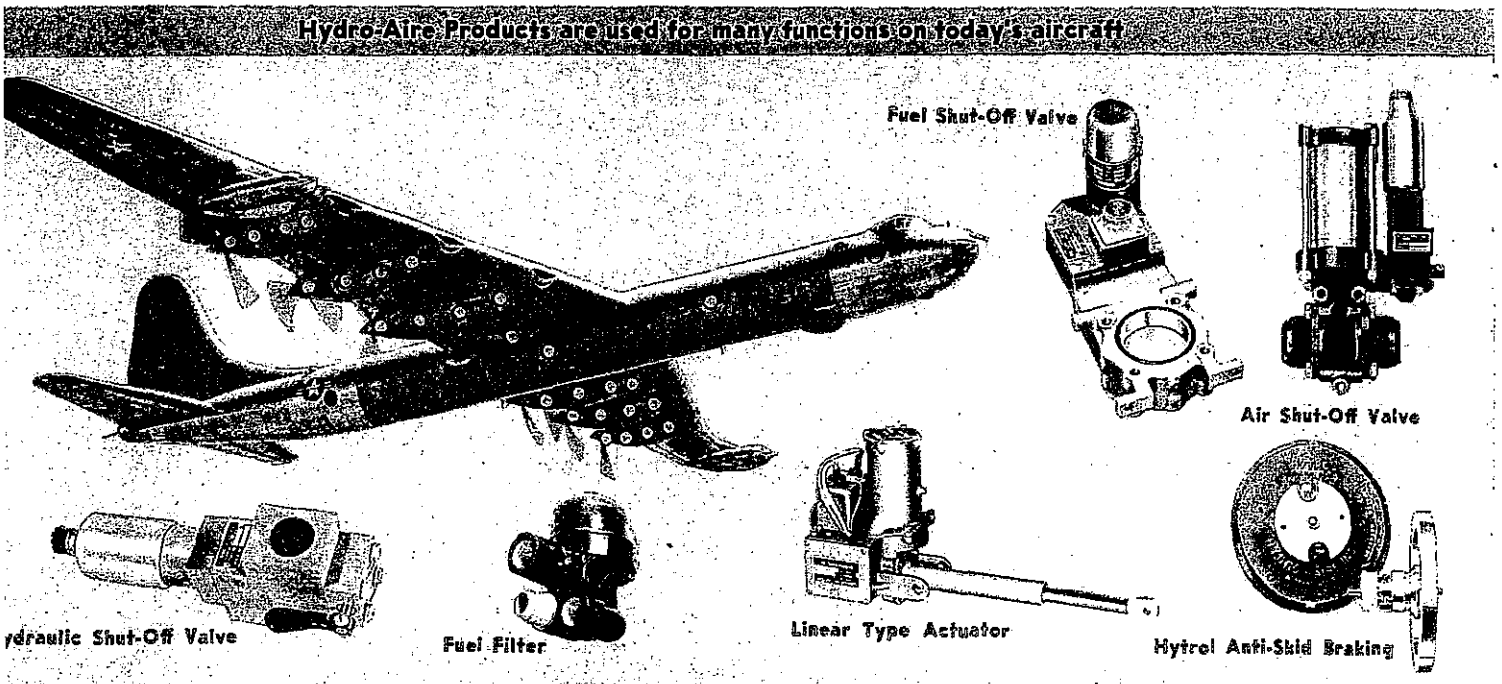
At December 31, 1951 open commitments for raw materials, made in the ordinary course of business, approximated $1,218,000, based on prices substantially the same as current market quotations.

Working Capital

Net working capital as of December 31, 1951, amounted to $91,785,734, an increase of $3,949,421 during the year. The ratio of current assets to current liabilities was 5.64 to 1 compared with 6.35 to 1 a year ago.

Plant and Equipment

Replacements and additions to plant and equipment during 1951 totaled $10,315,983 compared with $3,829,534 in 1950. The amount for the current year is comprised of $342,015 for land, $1,453,401 for buildings and $8,520,567 for machinery and equipment. These expenditures include approximately



$1,029,000 for the new pottery plant in Colton, California; $4,167,000 for manufacturing facilities at the Chicago plant; and $2,665,000 for the plant and equipment portion of the assets acquired in Repcal and Hydro-Aire as mentioned in the President's letter.

Depreciation charged to operations in 1951 amounted to $3,253,787 compared with $2,796,833 for 1950. In addition $1,080,000 was appropriated toward providing for excess of future replacement cost of machinery and equipment, based on current cost indices, over original cost. The comparable amount appropriated in 1950 was $979,000. The total of such appropriations at the close of the current year was $4,920,000 whereas the total reserve necessary on the basis indicated is estimated at $19,322,000.

Dividend Payments

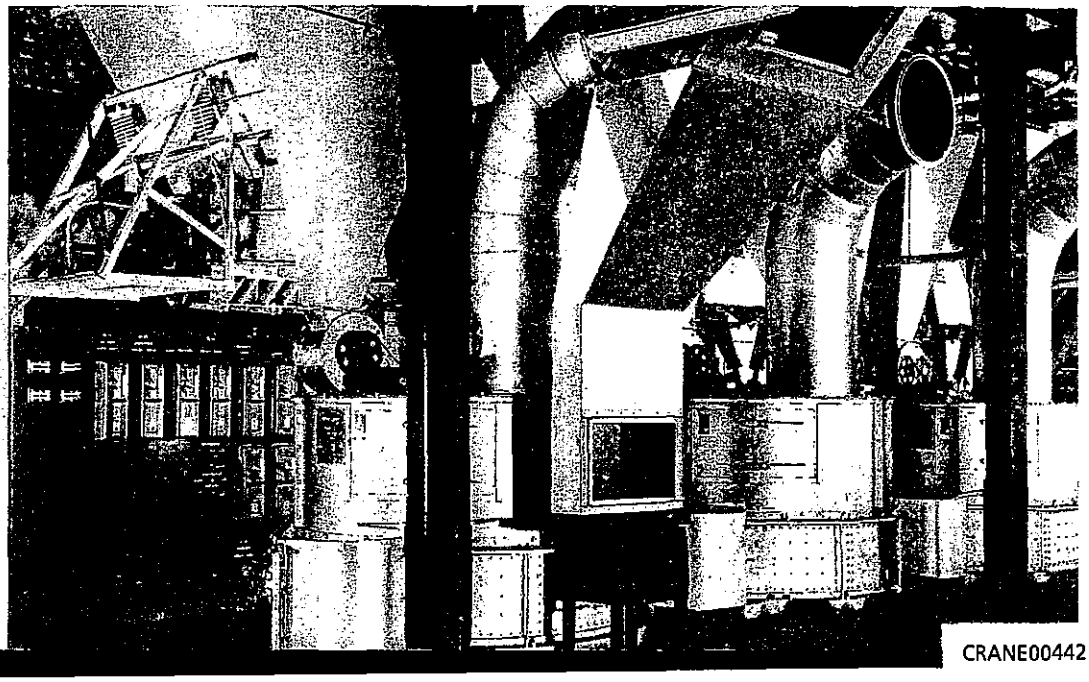
Dividend payments during 1951, totaling $6,649,669, represented 46.7% of earnings transferred to earned surplus during the year. These payments consisted of regular quarterly dividends at the annual rate of $3.75 per share on the 3¾% cumulative preferred shares, amounting to $529,237, and dividends totaling $6,120,432 on common shares, or $2.60 per share. The first quarterly dividend paid on common shares was 40¢ per share, with the rate being increased to 50¢ for the three remaining quarters. In addition, an extra dividend of 70¢ was paid at the year end. The remaining $7,594,598, or 53.3% of earnings transferred to earned surplus, was retained in the business to finance current operations.

The book value of Crane common shares rose from $50.45 to $53.64 per share during the year.

Employees

The number of employees increased during 1951 to 17,939, as at the close of business on December 31. This number compares with 16,024 employees on the same date in 1950.

A Stock Option Plan for officers and key employees of the Company and its subsidiaries was adopted by the Board of Directors in 1951, subject to ratification by shareholders. Under the plan the Stock Option Committee may grant ten-year options to purchase the Company's common shares at not less than 85% of the fair market price on the day the option is granted. No more than 200,000 shares may be optioned, subject to adjustments in case of stock split-ups or dividends. In November 1951, options were granted to 91 officers and key employees for 98,750 shares at $37 per



Partial view of the highly efficient sand system in the modernized malleable iron foundry at the Chicago Plant

share, or slightly more than 95% of the closing market price on the day the options were granted.

The formal program for pensions to retiring employees which was adopted in 1950 has been functioning satisfactorily. Based on experience under the plan, such as interest and changes in the number of employees and rates of pay, the estimated cost for past service of employees as most recently computed by independent actuaries is approximately $34,600,000, an increase of $4,100,000 over the estimate made a year ago. The estimated actuarial cost of the program for the year 1951 amounted to $4,268,957, of which amount $1,573,286 relates to past service on the basis of amortizing the past service liability over a period of approximately 24 years.

During the year 1951, $2,128,594 was deposited with the Trustees for the payment of pensions under the retirement program. The estimated unfunded actuarial liability of the program at December 31, 1951 amounted to approximately $32,800,000, on account of which payments aggregating $5,000,000 have been made in January and February 1952. Total payments to the Trustees including the $5,000,000 amount to $11,181,645.

Subsidiaries in Canada and England

Net sales of the Canadian and English subsidiaries for 1951 (which are in addition to our domestic sales) amounted to $55,554,525 and $11,486,137, respectively, representing an increase over 1950 of 26% in Canada and 19% in England. In both countries the major portion of the sales increase resulted from an increase in demand for valves and fittings and jobbed products.

Net earnings for 1951 in Canada were $3,205,903, a decrease of $551,437 from 1950, and in England were $1,598,393, an increase of $54,857. Such earnings were after taxes on income in the amount of $4,464,885 in Canada and $1,837,869 in England, representing increases over 1950 of $1,938,042 and $419,546, respectively.

The major portion of the Canadian inventories has been reduced by a reserve which has the effect of stating such inventory on a basis substantially equivalent to the "last-in, first-out" method. The charge against earnings (not deductible for income tax purposes) for the increase in this reserve amounted to $1,092,224 in 1951 compared with $406,087 in 1950.

Dividends received from the Canadian subsidiary amounted to $2,562,737. Of this amount $710,024 represents in effect dividends from the subsidiary in England, which dividends were paid first to its parent Canadian company. Dividends received from these companies in 1950 amounted to $4,676,987.

The Company's investment in its foreign subsidiaries located in Canada and England is carried in the balance sheet at $12,000,000. The Company's equity in the surplus of these subsidiaries, which amounted to $13,331,404 at December 31, 1951, is not included in the consolidated surplus.

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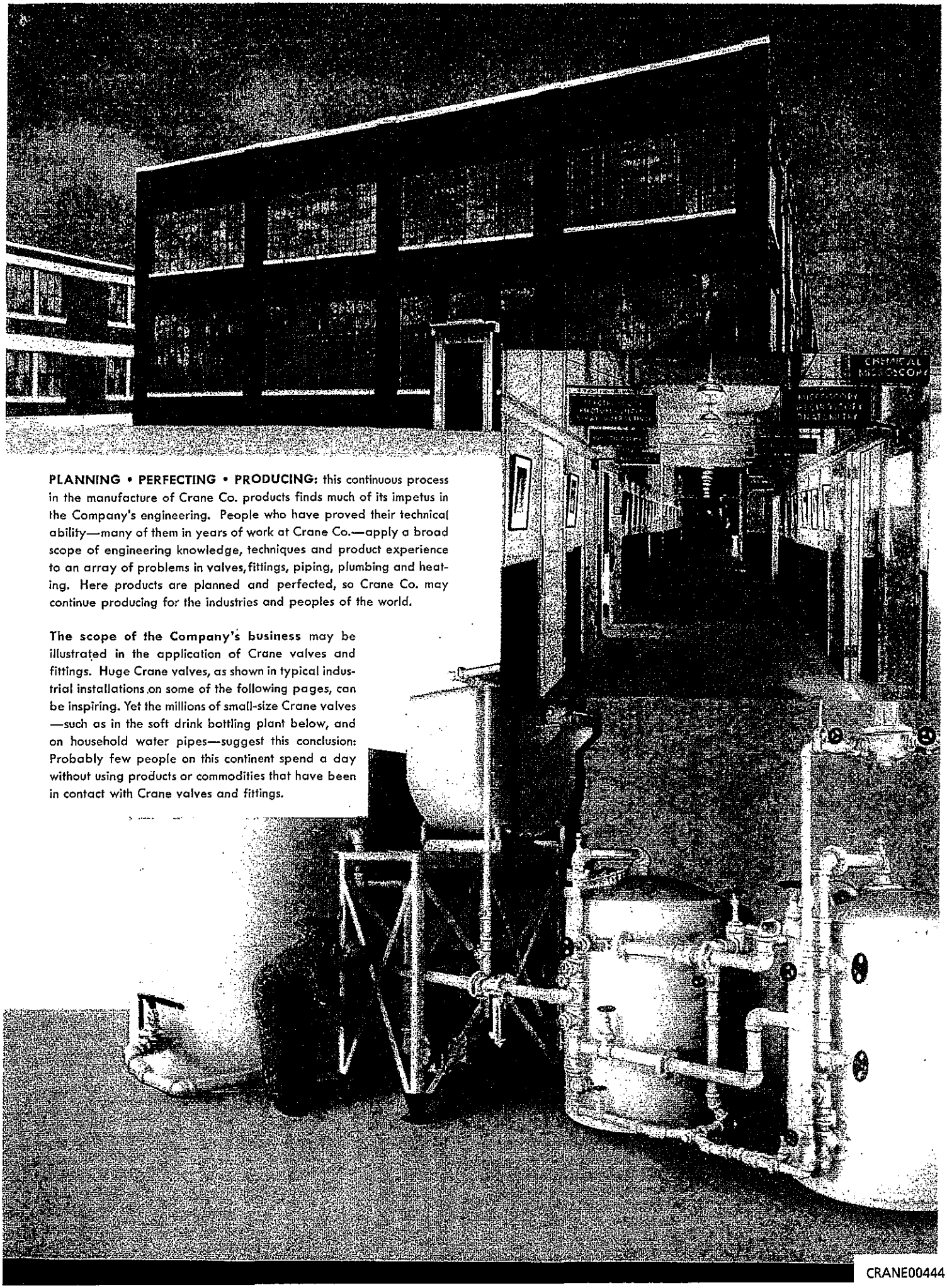
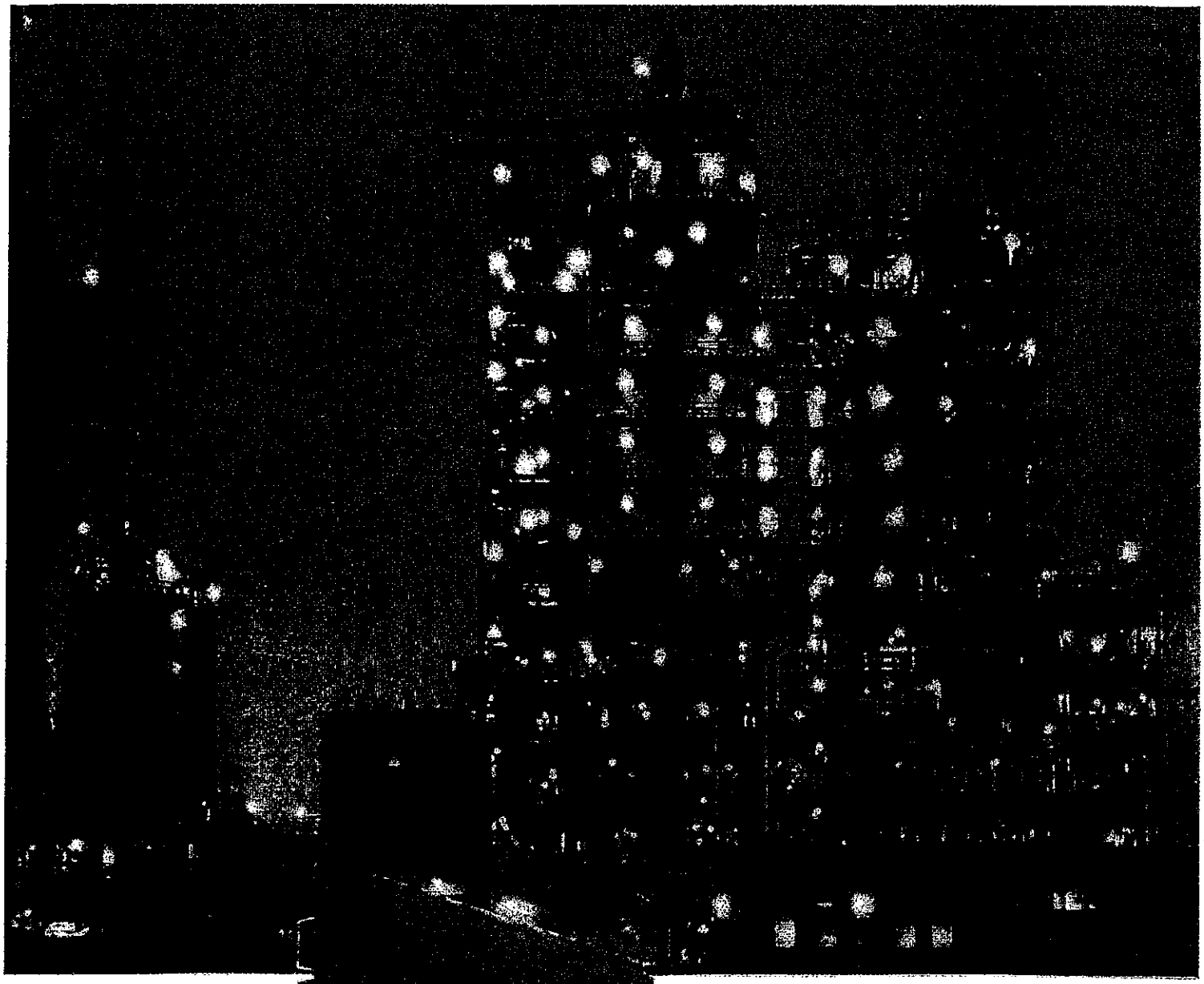


PLANNING • PERFECTING • PRODUCING: this continuous process in the manufacture of Crane Co. products finds much of its impetus in the Company's engineering. People who have proved their technical ability—many of them in years of work at Crane Co.—apply a broad scope of engineering knowledge, techniques and product experience to an array of problems in valves, fittings, piping, plumbing and heating. Here products are planned and perfected, so Crane Co. may continue producing for the industries and peoples of the world.

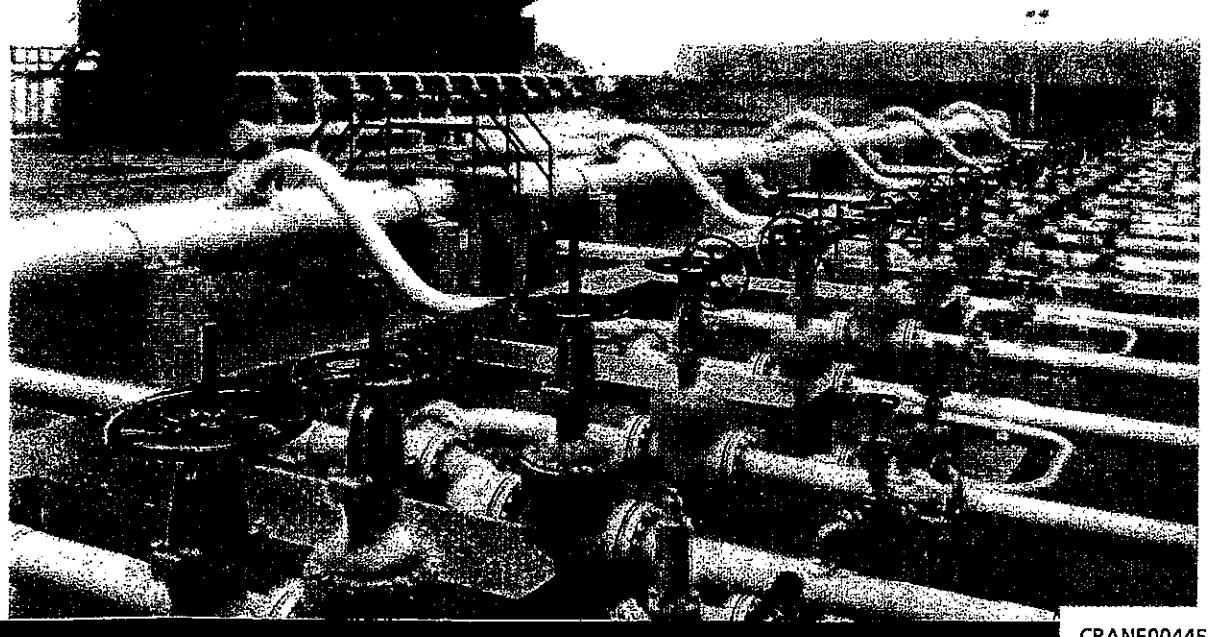
The scope of the Company's business may be illustrated in the application of Crane valves and fittings. Huge Crane valves, as shown in typical industrial installations on some of the following pages, can be inspiring. Yet the millions of small-size Crane valves —such as in the soft drink bottling plant below, and on household water pipes—suggest this conclusion: Probably few people on this continent spend a day without using products or commodities that have been in contact with Crane valves and fittings.



Typical catalytic cracking unit, using thousands of Crane products.

In the Oil Industry

CRANE is an outstanding supplier of valves and fittings in all steps of the intricate process of production, transportation, refining and delivering petroleum products to millions of users.



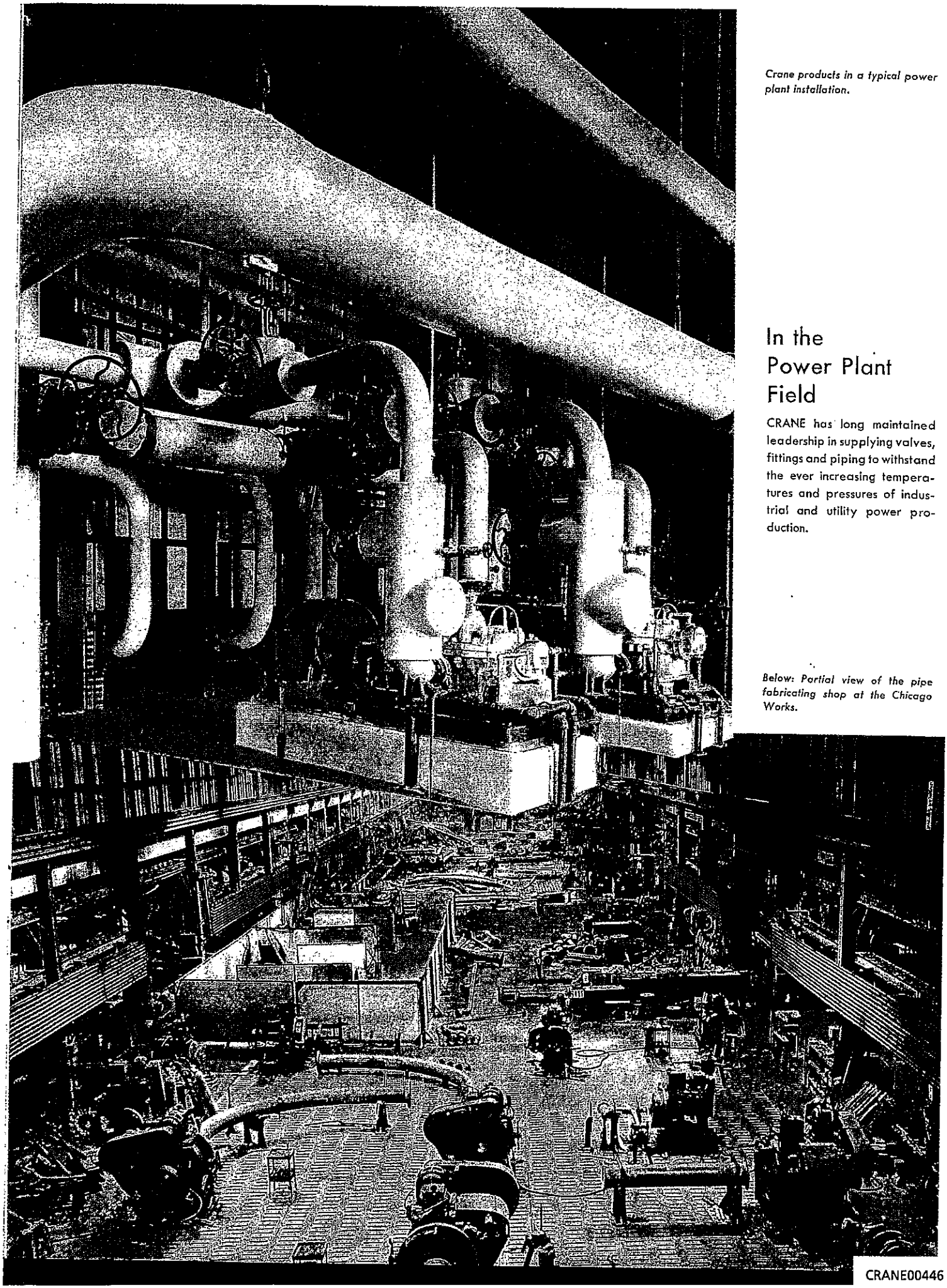
Crane products at a pumping station for a cross country pipe line.

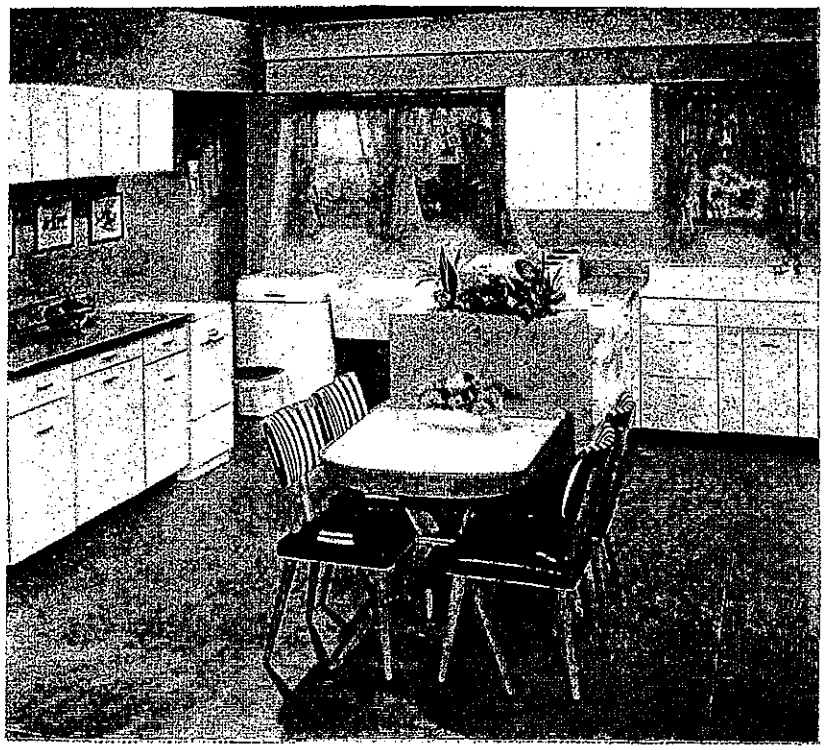
Crane products in a typical power plant installation.

In the Power Plant Field

CRANE has long maintained leadership in supplying valves, fittings and piping to withstand the ever increasing temperatures and pressures of industrial and utility power production.

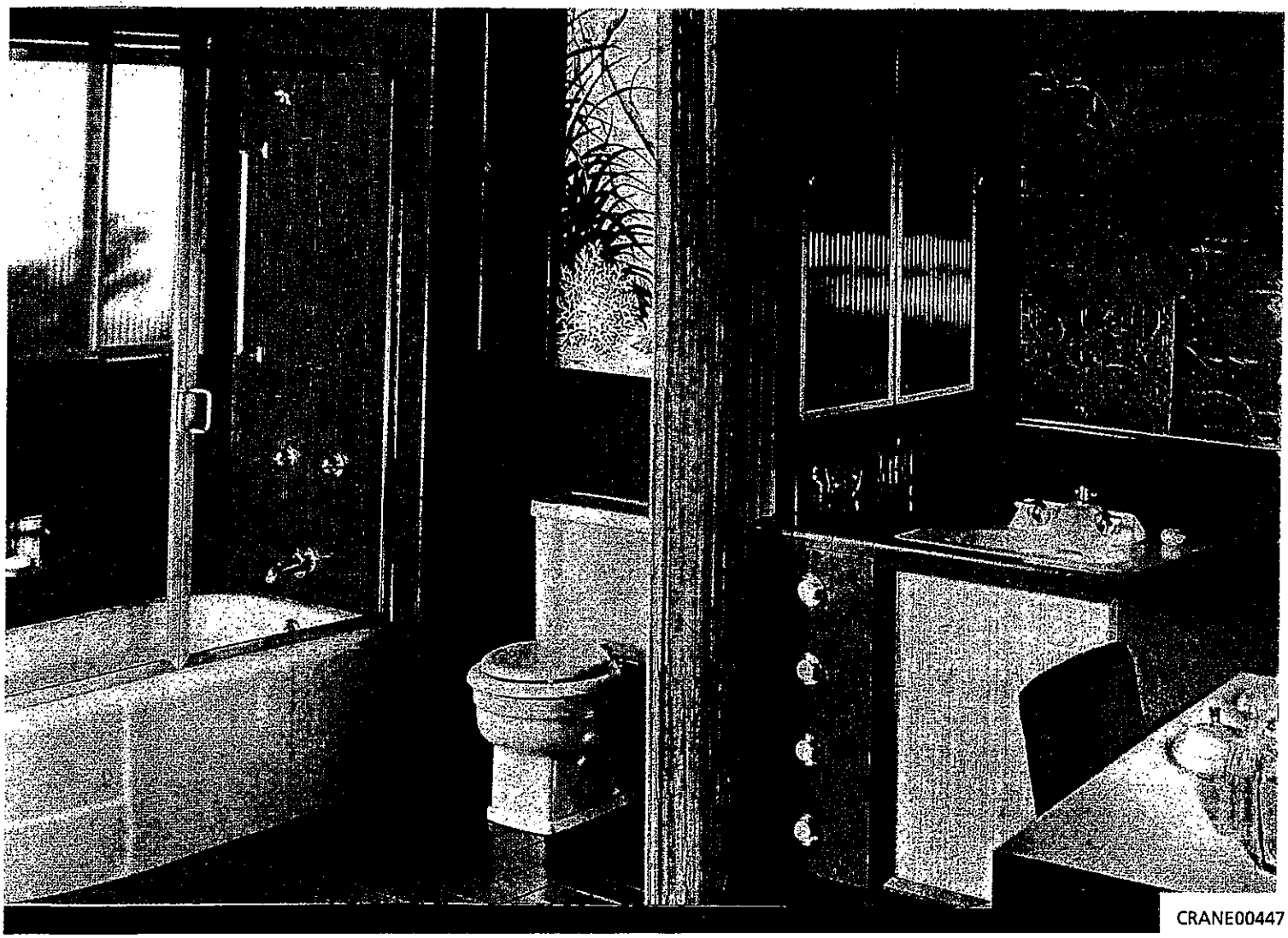
Below: Partial view of the pipe fabricating shop at the Chicago Works.





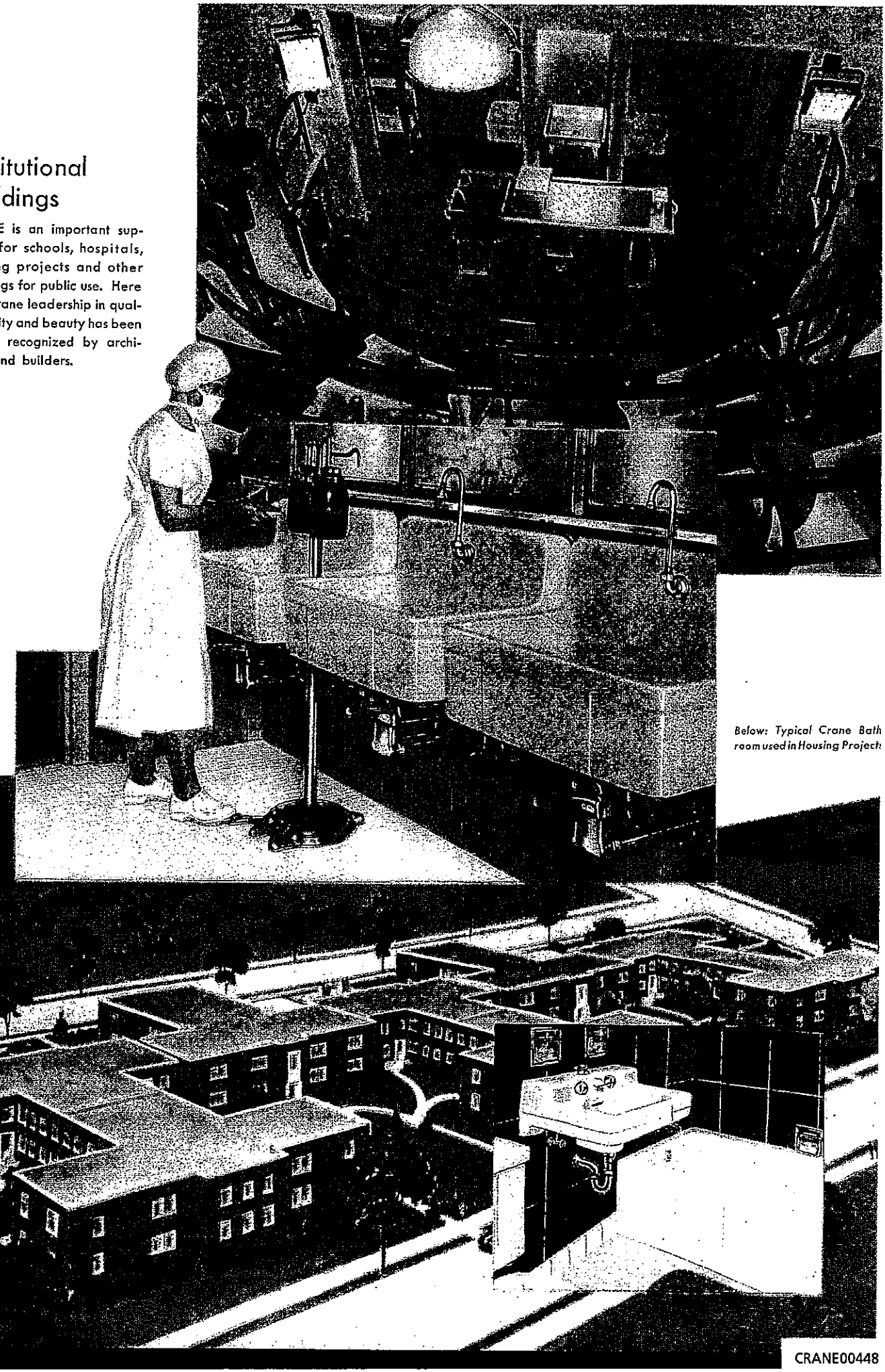
Come to Crane for Ideas

This invitation is being given to all present and prospective home owners in a completely new merchandising program initiated by Crane early in 1952. Color photography, such as the two examples on this page, is used to dramatize how Crane ideas and Crane plumbing fixtures can help create more beautiful, more useful bathrooms, kitchens and utility rooms. Results of Crane idea research are being given to architects, interior decorators and Crane dealers. Idea Centers in dealer display rooms of Crane fixtures are ready to help home owners who want a more interesting result from remodeling.



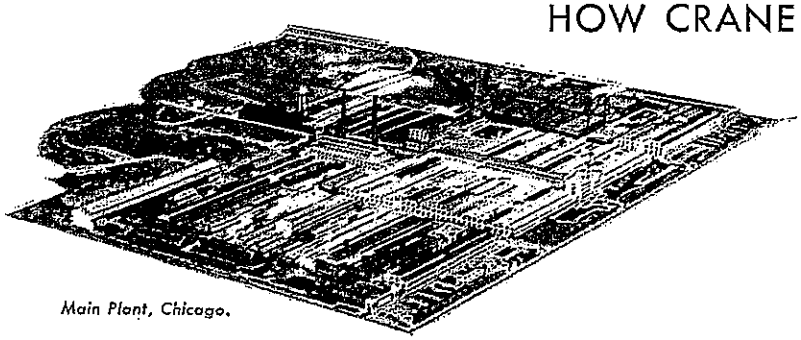
In Institutional Buildings

CRANE is an important supplier for schools, hospitals, housing projects and other buildings for public use. Here too, Crane leadership in quality, utility and beauty has been widely recognized by architects and builders.



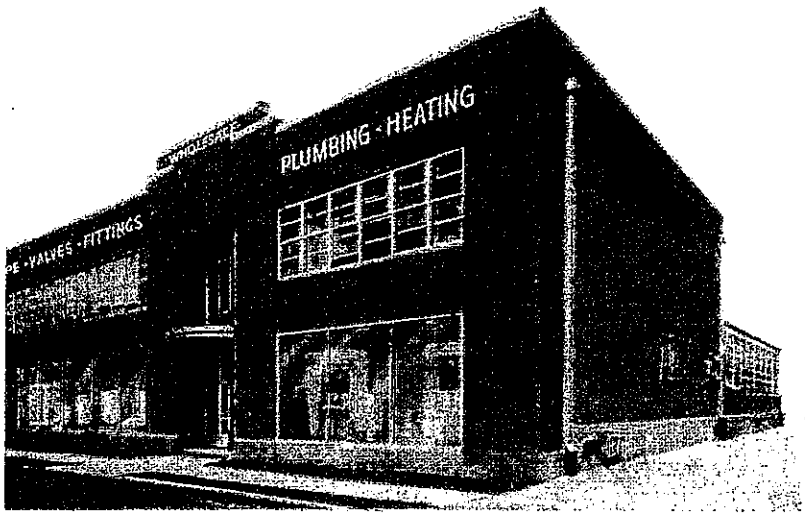
Below: Typical Crane Bath room used in Housing Projects

HOW CRANE CO. DISTRIBUTION OPERATES



Main Plant, Chicago.

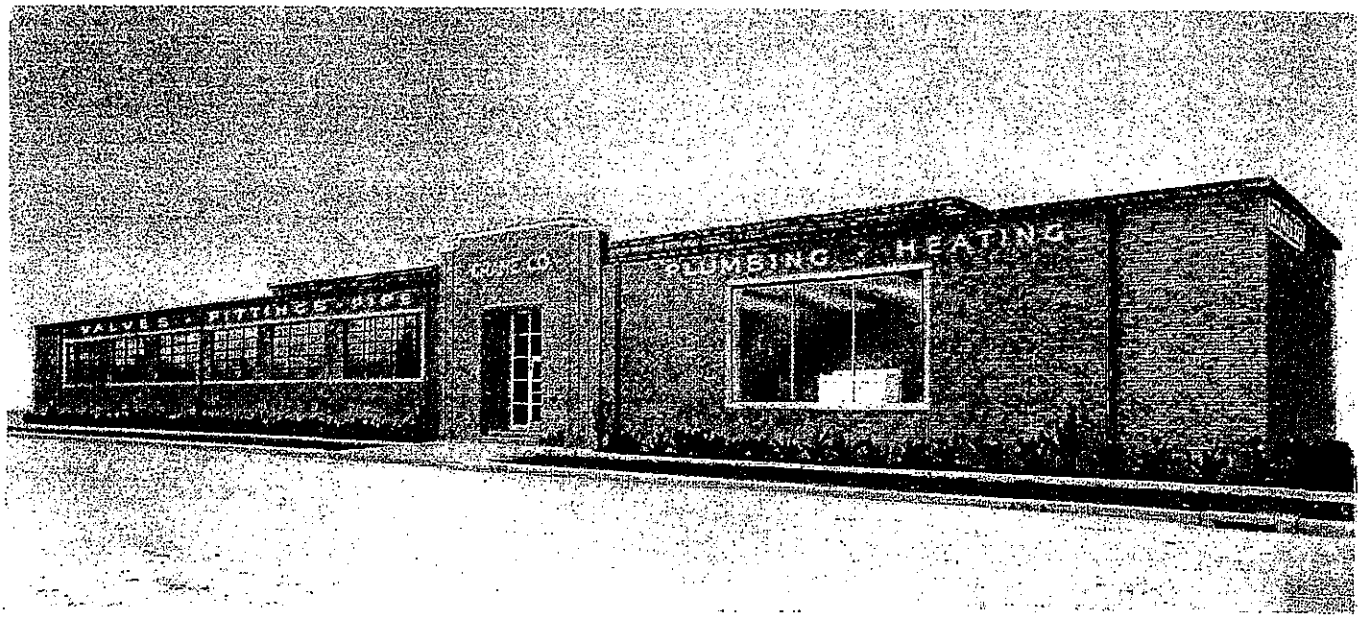
Before distribution naturally comes production. The Chicago Works is typical of Crane's manufacturing facilities where production is scheduled toward orderly delivery of merchandise to its thousands of customers. The operations of Crane's plants together with plants of our suppliers result in a constant stream of products to Crane Branches and Crane Wholesalers.



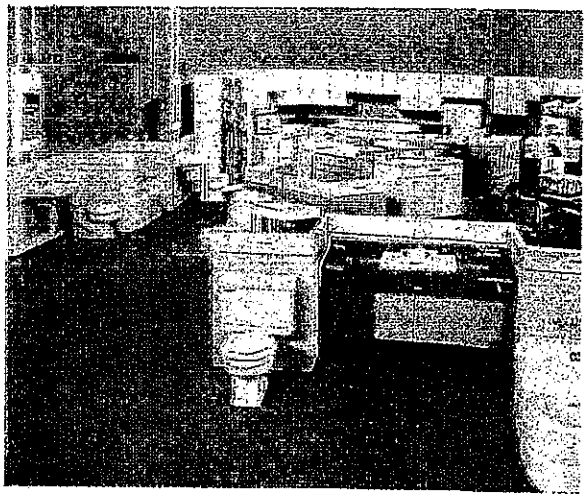
CRANE WHOLESALERS, like Crane Branches, serve the important function of supplying Crane and Crane-Line products to their customers, such as industrial plants and plumbing and heating dealers. After adding 88 new accounts in 1951, this part of Crane distribution now includes 683 wholesale establishments, which account for an important and increasing portion of Crane's sales. Working closely with Crane Branches, they are able to maintain ample, intelligently planned stocks of Crane valves, fittings, plumbing, heating and Crane-Line merchandise to provide comprehensive wholesaling service.

CRANE DEALERS perform the final step in the distribution of Crane plumbing and heating, and many types of valves and fittings. They are local business men who qualify as plumbing and heating contractors in the communities where they have worked to earn the reputations they enjoy.

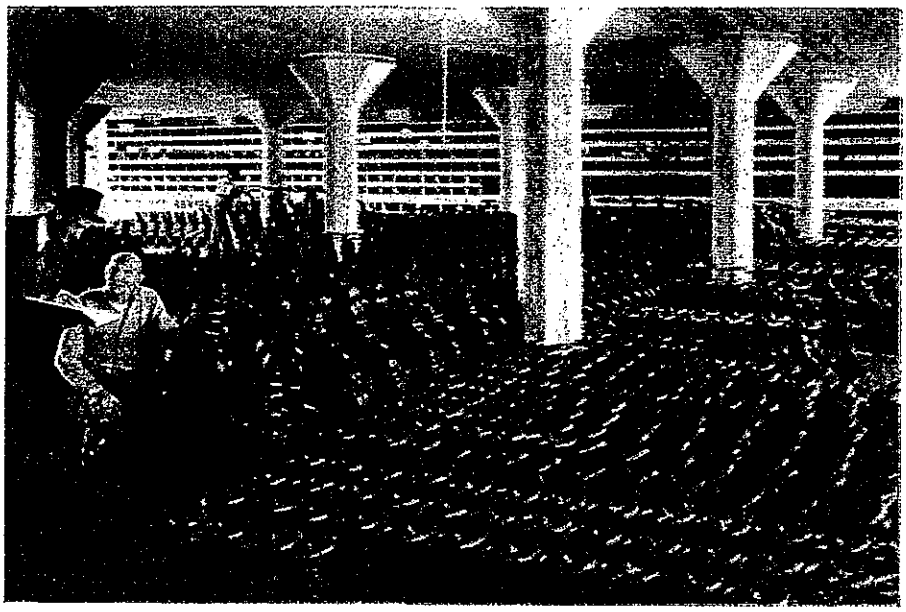
To architects, engineers and merchant builders, Crane Dealers are the contractors who handle plumbing and heating installations in a variety of new buildings for residential, institutional, industrial and public use. To home owners, they are sources for Crane fixtures and equipment, as well as for maintenance and remodeling services.



CRANE BRANCH HOUSES. 146 Crane Branch Houses and Service Stores are located in 144 cities in 46 states. Together they form a nationwide network of merchandising centers to give more complete service to Crane customers. This distribution system began with the establishment of the first Branch in 1886. While all Branches have many common problems in the field of plumbing and heating, the nature of industrial needs for valves and fittings are varied. Each location is appropriately staffed with qualified sales representatives and engineers trained to serve the particular industries in its territory.



GOOD STOCKS are a foremost aim of Crane distribution. All of the 146 Branch Houses have the responsibility of maintaining suitable stocks needed by their customers. In addition, it is the duty of Branches to serve Crane wholesalers and dealers toward maintaining balanced inventories.



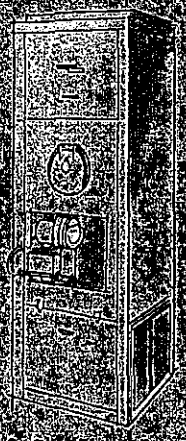
GOOD DISPLAY. Today plumbing and heating dealers in leading markets are doing a better retailing job, because of their attractive stores and good display of Crane fixtures and equipment. In helping its dealers enjoy the results of good display, Crane Co. is the pioneer. Dealers found Crane to be the first to advocate attractive, open front stores. Supplementing the dealers' activities, Crane Branches and Crane wholesalers maintain excellent display rooms. In recognition of this merchandising need, the first Branch House display room was opened in 1906.

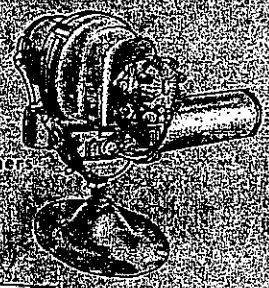
Related Products Distributed by CRANE

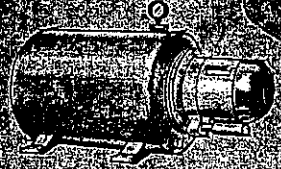
CRANE LINE PRODUCTS

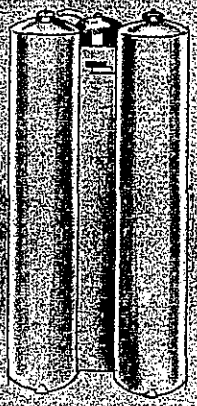
Typical products made by other companies to Crane Specifications, and sold exclusively by Crane Branches, Crane Wholesalers and Dealers

Water Heaters


Oil & Gas Fired Furnaces

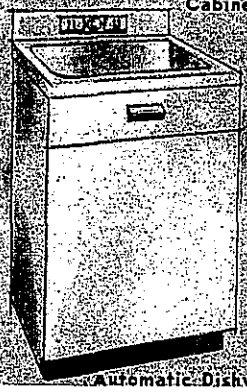

Oil Burners

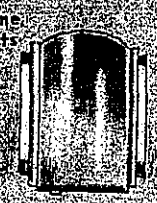

Complete Water Systems


Water Softeners

PLUMBING PRODUCTS & APPLIANCES

Items such as these are sold by Crane Branches—also by Wholesalers and Dealers to supplement Crane Products

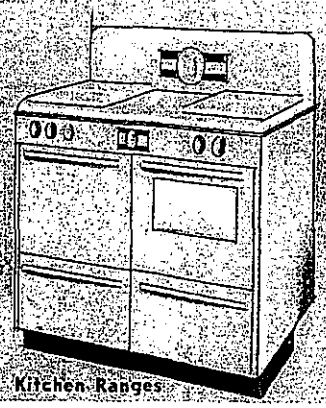

Automatic Dishwashers


Medicine Cabinets

Food Waste Disposers

Water Coolers

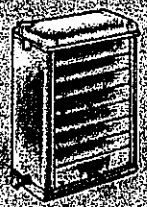
Roof Drains

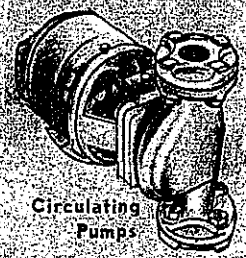

Kitchen Ranges

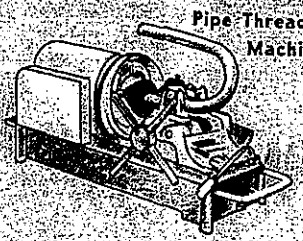
INDUSTRIAL SPECIALTIES & PLUMBERS' TOOLS

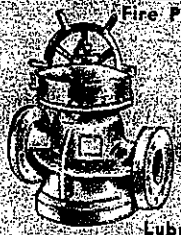
Related specialty items for industry and tools for plumbers are regularly sold by Crane Branches and Wholesalers:

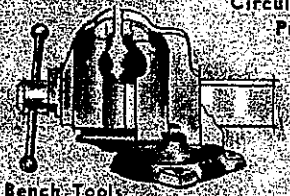
Fire Pots


Unit Heaters


Circulating Pumps


Pipe Threading Machines


Lubricated Plug Valves


Bench Tools

Pipe Hangers

Thread Lubricants

Pipe Wrenches

CRANE CO. is the World's Largest Distributor of PIPE

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED EARNINGS AND EARNED SURPLUS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1951

Net sales:		
To customers		$267,365,809
To foreign subsidiaries		2,984,774
Total		$270,350,583
Cost of sales, selling, administrative and general expenses (Notes 1 and 3)	$242,257,554	
Provision for depreciation	3,253,787	245,511,341
Net earnings from operations		$ 24,839,242
Miscellaneous other income (net)		726,173
		$ 25,565,415
Minority stockholders' interest in net income of subsidiaries		171,612
Net earnings (exclusive of dividends received from foreign subsidiary) before Federal taxes on income		$ 25,393,803
Provision for Federal taxes on income (including $269,868 for excess profits taxes)		12,632,273
		$ 12,761,530
Dividends received from Canadian subsidiary (Note 2)		2,562,737
Net earnings for the year		$ 15,324,267
Appropriation toward excess of future replacement cost of machinery and equipment over original cost		1,080,000
Amount of earnings transferred to earned surplus		$ 14,244,267
Earned surplus, at December 31, 1950		58,293,503
		$ 72,537,770
Deduct:		
Cash dividends paid—		
On 3¾% cumulative preferred shares, $3.75 per share	$ 529,237	
On common shares, $2.60 per share	6,120,432	
	$ 6,649,669	
Excess of cost over par value of 3,106 shares of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements	10,621	6,660,290
Earned surplus, at December 31, 1951 (Note 6)		$ 65,877,480

CONSOLIDATED CAPITAL SURPLUS STATEMENT
FOR THE YEAR ENDED DECEMBER 31, 1951

Balance, December 31, 1950	$ 1,509,050
Add:	
Premium on 11,666 shares of Crane Co. common shares issued during 1951	180,823
Surplus of subsidiary company at date of acquisition, November 30, 1951	18,448
Balance, December 31, 1951	$ 1,708,321

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET • DECEMBER 31, 1951

ASSETS

CURRENT ASSETS:			
Cash			$ 16,005,405
U. S. Government securities, at cost, which approximates market value			1,816,571
Accounts receivable		$ 30,128,449	
Less: Reserve for doubtful accounts		2,226,438	
			27,902,011
Inventories (Note 1)—			
Raw material and supplies		$ 10,955,062	
Work in process		16,363,432	
Finished goods		38,098,890	
			65,417,384
Due from foreign subsidiaries not consolidated			406,021
Total Current Assets			$111,547,392
INVESTMENTS:			
Investment in foreign subsidiary not consolidated, at cost (Note 2)		$ 12,000,000	
Other investments, at cost or nominal value (less reserve, $305,338)		831,380	
			12,831,380
FIXED ASSETS:			
Land and land improvements		$ 6,169,086	
Buildings	$33,917,558		
Less: Reserve for depreciation	16,227,906		
		17,689,652	
Machinery and equipment	$48,984,170		
Less: Reserve for depreciation	27,988,174		
		20,995,996	
Unfinished construction		2,153,568	
			47,008,302
DEFERRED CHARGES			671,400
			$172,058,474

CRANE00453

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES

CONSOLIDATED BALANCE SHEET · DECEMBER 31, 1951

LIABILITIES

CURRENT LIABILITIES:			
Accounts payable, accrued payrolls, etc.			$ 14,404,755
Accrued Federal taxes on income		$ 13,548,905	
Less: U. S. Treasury tax notes		10,040,783	
			3,508,122
Accrued general taxes			1,848,781
Total Current Liabilities			$ 19,761,658
RESERVES AND APPROPRIATIONS:			
Reserve for pensions (Note 3)		$ 5,524,298	
Appropriation toward excess of future replacement cost of machinery and equipment over original cost		4,920,000	
			10,444,298
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES			1,352,073
CAPITAL STOCK AND SURPLUS:			
Capital Stock—			
Cumulative preferred shares, 3¾%, par value $100—			
Authorized—160,000 shares			
Outstanding—144,113 shares (including 5,203 shares in treasury) (Note 5)		$ 14,411,300	
Common shares, par value $25—			
Authorized—3,000,000 shares			
Outstanding—2,360,294 shares		59,007,350	
		$ 73,418,650	
Surplus—			
Capital surplus	$ 1,708,321		
Earned surplus (Note 6)	65,877,480		
		67,585,801	
		$141,004,451	
Less: Cost of 5,203 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 5)		504,006	
			140,500,445
			$172,058,474

CRANE CO.

NOTES TO FINANCIAL STATEMENTS

1. INVENTORIES:

The major portion of the inventory is priced on the "last-in, first-out" (LIFO) basis of valuation which was first applied January 1, 1941, and extended as of January 1, 1947 and January 1, 1950. The remaining inventory is priced at the lower of cost or market but has been reduced (except as to special order product and inventories of newly acquired subsidiaries aggregating $7,824,319) by a reserve (not deductible for income tax purposes) which has the effect of stating such inventory on a basis substantially equivalent to the LIFO basis.

2. INVESTMENTS AND OPERATIONS IN CANADA AND ENGLAND:

Crane Co.'s investment in Crane, Limited (Canada) is carried in the consolidated balance sheet at U. S. dollar cost, $12,000,000, and dividends of $2,562,737 received from that company in 1951 are reflected in the consolidated earnings statement for the year. Such dividends are net after deducting the Canadian tax of 5% on dividends to a non-resident parent company and exchange charges, and are not subject to United States taxes on income because of foreign tax credits.

Separate financial statements of Crane, Limited (Canada) and its subsidiaries are included on pages 21 and 22.

3. PENSIONS:

Reference is made to the narrative section of this report for information regarding pensions.

Following is a summary of the changes during the year in the "Reserve for pensions":

Balance, December 31, 1950	$3,383,935
Provision charged against earnings for the year 1951	4,268,957
	$7,652,892
Contributions to Trustees	2,128,594
Balance, December 31, 1951	$5,524,298

4. STOCK OPTIONS:

Reference is made to the narrative section of this report for information regarding stock options.

5. 3¾% CUMULATIVE PREFERRED SHARES:

These shares are redeemable at the option of the Company at $107 per share if called for redemption prior to June 15, 1955 (an aggregate amount of $14,863,370) and at $104.50 per share if called for redemption on or after June 15, 1955, in each case plus accrued dividends to the date fixed for redemption. They are also redeemable through the operation of the sinking fund at any time at the sinking fund redemption price of $104.50 per share, plus unpaid accrued dividends.

Under the provisions of the Articles of Incorporation relating to the 3¾% Cumulative Preferred Shares the Company is required, on or before April 30 in each year beginning with the year 1947, to pay over to the sinking fund agent for the redemption or purchase of such shares a determinable amount of cash but not in excess of $320,000 with respect to any fiscal year. Against its obligation to make the cash sinking fund payment in any year the Company may, at its election, take credit for shares of such series purchased or redeemed by it otherwise than through the sinking fund.

During the year, the Company purchased 4,560 shares of its 3¾% Cumulative Preferred Shares at an aggregate principal cost of $436,190. On or before April 30, 1952, a sufficient number of reacquired shares will be deposited with the sinking fund agent in lieu of the $320,000 cash payment which otherwise would be required.

6. DIVIDENDS ON COMMON STOCK:

Under the provisions of the Articles of Incorporation, as amended in connection with the issuance of the 3¾% Cumulative Preferred Shares, earned surplus at December 31, 1951, in the amount of $20,765,133, is not available for the payment of dividends on the Company's common shares.

CERTIFICATE OF INDEPENDENT PUBLIC ACCOUNTANTS

ARTHUR YOUNG & COMPANY

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheets of Crane Co. and Subsidiaries in the United States and of Crane, Limited (Canada) and its subsidiaries at December 31, 1951 and the related consolidated earnings and surplus statements for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheets and consolidated earnings and surplus statements present fairly the financial position of Crane Co. and Subsidiaries in the United States and of Crane, Limited (Canada) and its subsidiaries at December 31, 1951 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY.

Chicago, Illinois,
March 11, 1952.

CRANE, LIMITED

AND ITS SUBSIDIARIES IN CANADA AND ENGLAND

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1951

ASSETS

CURRENT ASSETS:		
Cash		$ 914,963
Marketable securities at cost, which approximates market		194,600
Accounts receivable less reserve for doubtful accounts ($341,838)		6,862,047
Inventories (Note 1)		14,209,278
Total Current Assets		$22,180,888
INVESTMENTS		27,532
FIXED ASSETS:		
Land and land improvements	$ 1,221,357	
Buildings less reserve for depreciation ($3,349,320)	5,733,463	
Machinery and equipment less reserve for depreciation ($8,961,906)	5,409,525	
Unfinished construction	513,043	
		12,877,388
DEFERRED CHARGES		152,150
		$35,237,958

LIABILITIES

CURRENT LIABILITIES:		
Bank loans		$ 2,221,875
Accounts payable, accrued payrolls, etc.		3,824,080
Accrued taxes on income less tax reserve certificates ($1,932,100)		2,708,452
Accrued general taxes		159,048
Current accounts due to Crane Co. and domestic subsidiaries		406,021
Total Current Liabilities		$ 9,319,476
RESERVES FOR OBSOLESCENCE AND REPAIRS		133,212
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES		453,866
CAPITAL STOCK AND SURPLUS:		
Common shares, $100 par value, 120,000 shares	$12,000,000	
Earned surplus	13,331,404	
		25,331,404
		$35,237,958

CRANE00456

CRANE, LIMITED

AND ITS SUBSIDIARIES IN CANADA AND ENGLAND

CONSOLIDATED EARNINGS AND EARNED SURPLUS STATEMENT

FOR THE YEAR ENDED DECEMBER 31, 1951

Net sales to customers	$67,040,662
Cost of sales, selling, administrative and general expenses (including provision for depreciation of $1,000,451) (Note 1)	56,276,493
Net earnings from operations	$10,764,169
Miscellaneous other income (net)	179,668
	$10,943,837
Minority stockholders' interest in net income of subsidiaries	40,864
Net earnings before taxes on income	$10,902,973
Provision for taxes on income	6,302,754
	$ 4,600,219
Special item:	
Adjustment of conversion values of foreign net assets (Note 2)	204,077
Net earnings and special item	$ 4,804,296
Earned surplus, at December 31, 1950	11,089,845
	$15,894,141
Cash dividends paid	2,562,737
Earned surplus, at December 31, 1951	$13,331,404

NOTES TO FINANCIAL STATEMENTS

1. INVENTORIES:

The inventories of Crane, Limited and its subsidiaries are priced at the lower of cost or market and, except for inventories aggregating $4,078,216, have been reduced by a reserve (not deductible for income tax purposes) which has the effect of stating such inventories on a basis substantially equivalent to the "last-in, first-out" basis. This "Lifo equivalent" method was first adopted as of January 1, 1940.

2. BASIS OF CONVERSION OF ITEMS IN FOREIGN CURRENCIES:

Fixed assets were converted at U. S. dollar cost at dates of acquisition, less accrued depreciation. Net current assets were converted at $.9875 for the Canadian dollar and $2.78 for the English pound.

CRANE00457

CRANE CO.

VALVES, FITTINGS, FABRICATED PIPE
HEATING AND PLUMBING MATERIAL

GENERAL OFFICE
836 S. MICHIGAN AVENUE, CHICAGO CABLE ADDRESS, CRANECO—CHICAGO

PLANTS
CHICAGO * CHATTANOOGA * TRENTON * BURBANK * COLTON, CAL.

In addition to Crane branches listed below, Wholesalers in all major markets sell Crane products.

BRANCHES

ALABAMA
BIRMINGHAM (3).....2 S. Twentieth St.
MOBILE (3).....300 N. Royal St.

ARIZONA
PHOENIX.....233 S. First Ave.
TUCSON.....35 Toole Ave.

ARKANSAS
FT. SMITH.....221 S. Ninth St.
LITTLE ROCK.....120 Commerce St.

CALIFORNIA
LONG BEACH (1).....824 W. Anaheim St.
LOS ANGELES (54).....321 E. Third St.
OAKLAND (7).....346 Ninth St.
SACRAMENTO (5).....1227 Front St.
SALINAS.....239 East Alisal St.
SAN BERNARDINO.....777 W. Mill St.
SAN DIEGO (1).....1138 India St.
SAN FRANCISCO (19).....301 Brannan St.
SAN JOSE.....63 San Jose Ave.
SANTA ANA.....919 Poinsettia St.
STOCKTON.....331 N. Harrison St.

COLORADO
DENVER† (17).....1631 Fifteenth St.
GRAND JUNCTION†.....601 Pitkin Ave.
PUEBLO†.....180 Central Main

CONNECTICUT
BRIDGEPORT (3).....302 John St.
HARTFORD (5).....710 Windsor St.
NEW HAVEN (11).....365 Orchard St.

DISTRICT OF COLUMBIA
WASHINGTON (5).....1225 Eye St. N.W.

FLORIDA
JACKSONVILLE (3).....1007 W. Bay St.
MIAMI (30).....85 N. W. Tenth St.
ORLANDO.....1027 Sligh Blvd.
TAMPA (1).....1105 E. Twiggs St.
WEST PALM BEACH.....217 5th St.

GEORGIA
ATLANTA (3).....Washington St. Viaduct
AUGUSTA.....701 Reynolds St.
MACON.....500 Broadway
SAVANNAH.....14 W. Broad St.

IDAHO
BOISE.....214 S. Fifth St.
POCATELLO.....756 S. First Ave.

ILLINOIS
AURORA.....544 S. Lake St.
CHICAGO (6).....156 N. Jefferson St.
Southside branch (20).....231 W. 79th St.
ROCKFORD.....800 S. Main St.
SPRINGFIELD.....921 E. Monroe St.
WAUKEGAN.....1219 Glen Rock Ave.

INDIANA
EAST CHICAGO.....1004 E. Chicago Ave.
EVANSVILLE (6).....118 S. E. Eighth St.
INDIANAPOLIS (6).....333 W. Market St.
MUNCIE.....342 N. Pershing Dr.
SOUTH BEND (23).....1616 S. Franklin St.
TERRE HAUTE.....209 N. Ninth St.

IOWA
DAVENPORT (8).....217 E. Second St.
SIOUX CITY (3).....223 Jackson St.

KANSAS
TOPEKA.....132 N. Kansas Ave.
WICHITA (1).....624 E. First St.

KENTUCKY
KEVIL.....Main St.
LEXINGTON (1).....165 Midland Ave.
LOUISVILLE (2).....756 S. First St.

LOUISIANA
NEW ORLEANS (11).....710 S. Broad St.
P. O. Box 1700
SHREVEPORT (92).....1320 Winston St.

MAINE
PORTLAND (4).....70 St. John St.

MARYLAND
BALTIMORE (1).....626 W. Pratt St.
SALISBURY.....1911 N. Salisbury Blvd.

MASSACHUSETTS
BOSTON (27).....48 W. First St., South Boston
SPRINGFIELD (1).....60 Cypress St.

MICHIGAN
DETROIT (26).....150 Randolph St.
FLINT (1).....155 Lewis St.
GRAND RAPIDS (2).....56 Grandville Ave., S. W.
JACKSON.....409 Hupp Ave.

MINNESOTA
DULUTH* (2).....102 Lake Ave., S.
MANKATO*.....510 Pike St.
MINNEAPOLIS* (1).....400 Third Ave., N.
ST. PAUL* (1).....Broadway at 5th

MISSISSIPPI
JACKSON (5).....176 N. Gallatin St.

MISSOURI
KANSAS CITY (7).....2819 Warwick Trafficway
ST. LOUIS (3).....30 S. Sixteenth St.

MONTANA
BILLINGS*.....30th St. and First Ave., S.
GREAT FALLS*.....2 Third Ave., South

NEBRASKA
GRAND ISLAND.....115 E. Front St.
OMAHA (8).....323 S. Tenth St.
SCOTTSBLUFF†.....1617 Avenue "A"

NEVADA
RENO.....401 E. Fourth St.

NEW JERSEY
CAMDEN (4).....2994 Mt. Ephraim Ave.
NEWARK (5).....90 South St.
TRENTON (5).....50 Escher St.

NEW MEXICO
ALBUQUERQUE†.....612 N. First St.
ROSWELL†.....102 S. Virginia St.

NEW YORK
ALBANY (1).....North Broadway
BINGHAMTON (36).....21 Washington St.
BUFFALO (5).....201 Church St.
HEMPSTEAD.....209 Main St.
LONG ISLAND CITY (1).....47-30 Twenty-ninth St.
NEW YORK CITY (Display Room)..101 Park Ave.
ROCHESTER (2).....200 South Ave.
SYRACUSE (1).....760 W. Genesee St.
UTICA (2).....326 Broad St.

†(Crane-O'Fallon Division)

*(Crane Co., Minnesota)

CRANE00458

CRANE CO. BRANCHES *Continued*

NORTH CAROLINA

ASHEVILLE.....531 McDowell St.
CHARLOTTE (8).....1307 W. Morehead St.
GREENSBORO.....205 Lyndon St.
ROCKY MOUNT.....300 N. Church St.

NORTH DAKOTA

FARGO*.....1441 4th Ave., North
MINOT*.....Box 1189

OHIO

AKRON (11).....425 S. High St.
CANTON (2).....210 Piedmont Ave., S.E.
CINCINNATI (1).....824 Broadway
CLEVELAND (3).....6215 Carnegie Ave.
COLUMBUS (15).....67 N. Front St.
DAYTON (2).....901 S. Perry St.
LIMA.....207 S. Central Ave.
TOLEDO (1).....390 S. Erie St.

OKLAHOMA

MUSKOGEE.....302 Commercial St.
OKLAHOMA CITY (2).....705 W. Main St.
TULSA (2).....623 E. Third St.

OREGON

MEDFORD.....125 West 4th St.
PORTLAND (8).....710 N. W. Fourteenth Ave.

†(Crane-O'Fallon Division)

PENNSYLVANIA

ERIE.....222 E. Eighth St.
PHILADELPHIA (22).....245 Master St.
West Philadelphia Branch (43)...1600 S. 59th St.
PITTSBURGH (30).....40 Twenty-fourth St.
READING.....407 N. Front St.

RHODE ISLAND

PROVIDENCE (3).....245 W. Exchange St.

SOUTH CAROLINA

CHARLESTON.....2026 Meeting St.
GREENVILLE.....223 W. McBee Ave.

SOUTH DAKOTA

ABERDEEN*.....324 Railroad Ave., E.
SIOUX FALLS*.....326 E. Eighth St.

TENNESSEE

CHATTANOOGA (1).....1317 Chestnut St.
KNOXVILLE (1).....523 W. Jackson Ave.
MEMPHIS (1).....254 Court Ave.
NASHVILLE (2).....532 Eighth Ave., South

TEXAS

BEAUMONT.....720 Fannin St.
CORPUS CHRISTI.....1212 N. Tancahua St.
DALLAS (2).....814 Young St.
EL PASO†.....1609 Texas St.
HARLINGEN.....201 West "C" St.
HOUSTON (1).....2204 Pease Ave.
SAN ANTONIO (6).....1200 E. Houston St.

*(Crane Co., Minnesota)

UTAH

OGDEN.....2001 Wall Ave.
PROVO.....237 W. 5th North St.
SALT LAKE CITY (10).....307 W. Second, South

VIRGINIA

NEWPORT NEWS.....7706 Virginia Ave.
NORFOLK (10).....2 E. Twenty-second St.
RICHMOND (20).....1209 Admiral St.
ROANOKE (17).....404 Center Ave., N.W.

WASHINGTON

SEATTLE (14).....419 Second Ave., S.
SPOKANE (8).....126 S. Post St.
TACOMA (1).....1209 South "A" St.

WEST VIRGINIA

CHARLESTON (25).....502 Broad St.

WISCONSIN

MADISON (3).....641 Williamson St.
MILWAUKEE (3).....2123 W. Michigan St.
OSHKOSH.....37 Market St.

WYOMING

CASPER† (5).....802 East "C" St.

EXPORT

NEW YORK BRANCH * SAN ANTONIO BRANCH
SAN FRANCISCO BRANCH

CRANE, Limited (Canada)

GENERAL OFFICE • • 1170 Beaver Hall Square, Montreal, Que. • • Cable Address, Cranelit—Montreal
MANUFACTURING PLANTS • • Montreal, Que. • • Quebec, Que. • • St. John's, Que. • • Port Hope, Ont. • • Vancouver, B. C.

BRANCHES

ALBERTA

CALGARY.....602 Eleventh Ave., W.
EDMONTON.....11925 Kingsway

BRITISH COLUMBIA

VANCOUVER.....540 Beatty St.
VICTORIA.....1010 Government St.

MANITOBA

WINNIPEG.....93 Lombard St.

NEW BRUNSWICK

MONCTON.....293 Church St.

NEWFOUNDLAND

ST. JOHN'S.....Hill O'Chips

NOVA SCOTIA

HALIFAX.....7-15 Doyle St.
Warehouse.....City Market Bldg.

ONTARIO

PORT ARTHUR.....950 Memorial Ave.
HAMILTON.....40 Wellington St., North
KINGSTON.....71 Brock St.
LONDON.....304 York St.
OTTAWA.....288 Catherine St.
TORONTO.....306 Front St., W.

QUEBEC

MONTREAL.....1121 St. James St., W.
QUEBEC.....39 St. Roch St.

SASKATCHEWAN

REGINA.....1402 Broad St.
SASKATOON.....359 First Ave., N.

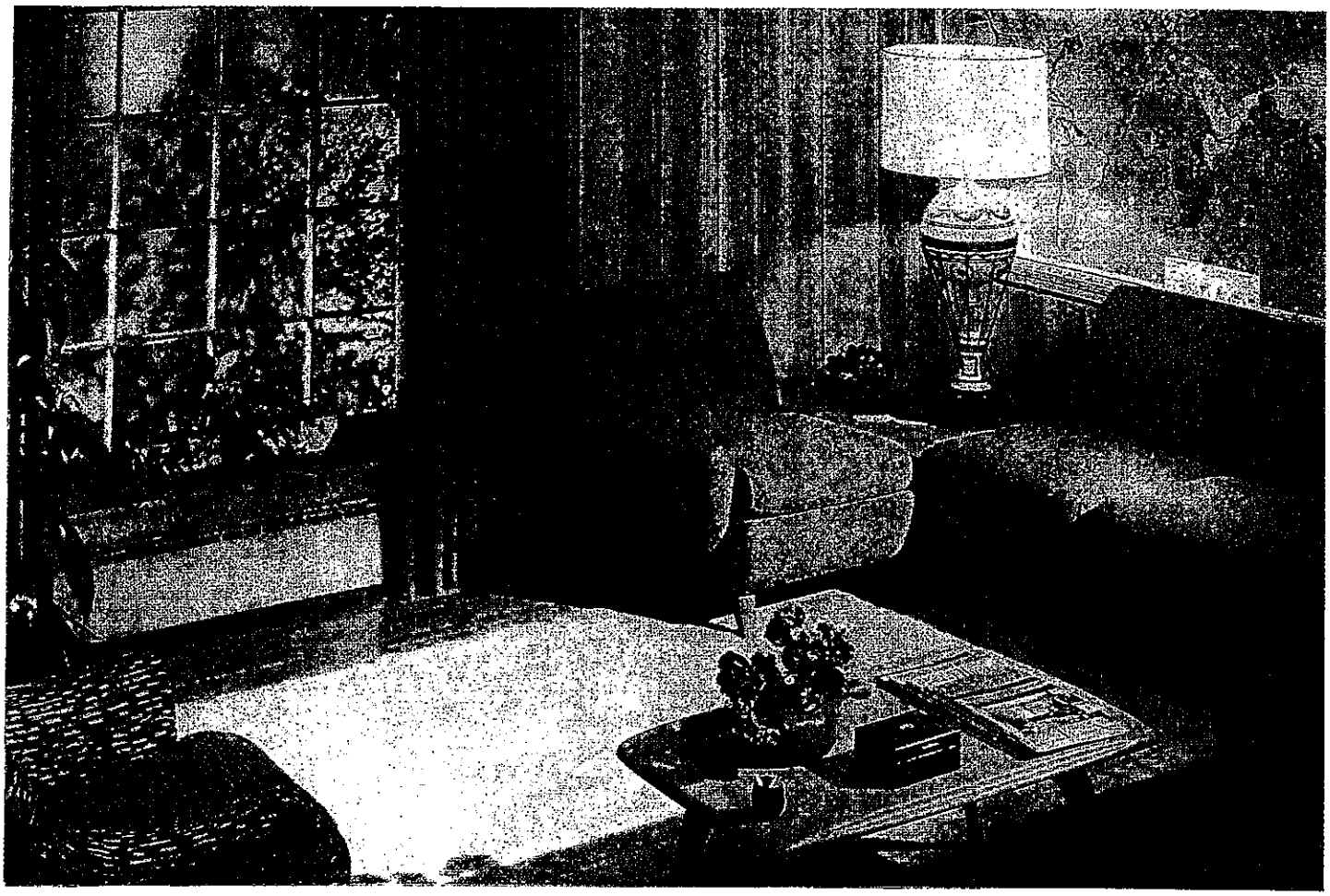
CRANE, Limited (Great Britain)

GENERAL OFFICE • • 45-51 Leman St., London E. 1 • • Cable Address, Cranelon—London
MANUFACTURING PLANT • • Nacton Road, Ipswich, Suffolk

BRANCHES

BIRMINGHAM 1277 Coventry Road, South Yardley
BRENTFORD.....Great West Road
BRISTOL.....1, 19 Colston St.
GLASGOW.....94-100 Clyde Ferry St., Anderston
LONDON.....45-51 Leman St.
MANCHESTER..Westinghouse Road, Trafford Park

CRANE00459

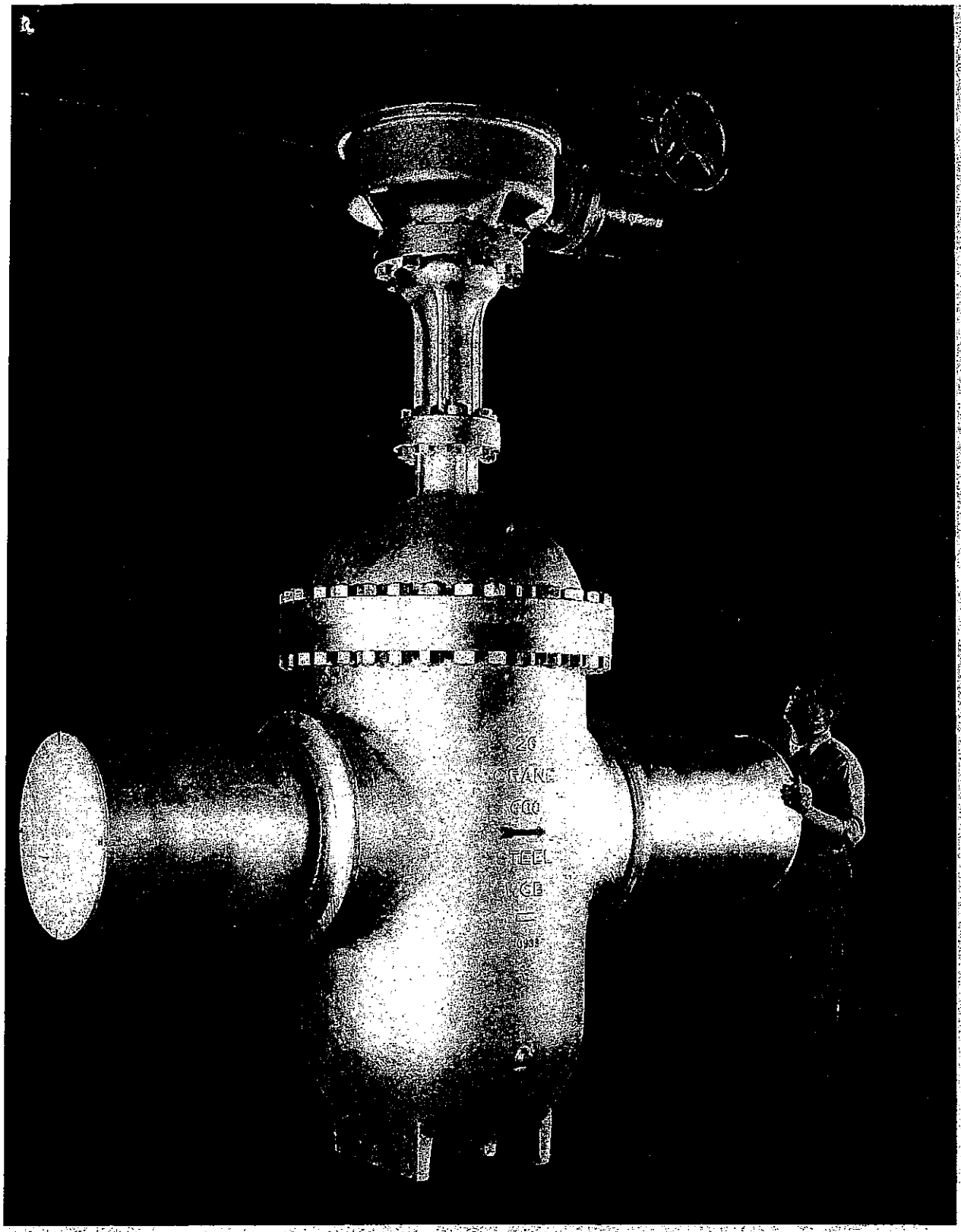


CRANE RADIANT BASEBOARD PANELS combine good engineering and pleasing design to contribute to the comfort and beauty of residences, commercial and institutional buildings. Radiant baseboard panels by Crane offer the even temperatures and accurate control possible with radiant heat. They can be installed easily in existing buildings, or in new construction. While they are installed usually in the customary baseboard position, as in the attractive living room illustrated, Crane baseboard panels provide the flexibility of ceiling level installation where floor space is not available, as in kitchens and bathrooms.

CRANE CO.

ANNUAL REPORT TO SHAREHOLDERS

1952



One of Crane Co.'s latest developments is a new line of gate valves to serve the needs of the pipe-line industry. These valves are used to control the cross country flow of such fluids as natural gas, crude oil and finished products like gasoline, kerosene and fuel oil. The valve shown here is one of five recently furnished for a crude oil pipe-line in Southern Texas. The valve illustrated has a 26-inch diameter opening, is more than 16 feet high and weighs 21,000 pounds.

1952 IN BRIEF

Crane Co. and Subsidiaries in the United States and Canada

	1952	1951
Fixed Assets less Reserves for Depreciation	$ 57,790,719	$ 56,010,768
Capital Expenditures	7,296,622	12,402,920
Depreciation charged to Operations	5,019,215	4,013,633
Net Working Capital	118,301,071	99,974,195
Ratio Current Assets to Current Liabilities	5.88-1	4.71-1
Shareholders' Equities	156,312,878	152,448,803
Shareholders' Equity per Common Share	60.42	58.70
Shareholders' Equity per Common Share if English Subsidiary were consolidated	63.17	61.17
Net Sales	$319,271,069	$322,920,334
Net Earnings—excluding Dividends from English Subsidiary	9,171,964	15,492,505
Per Dollar of Sales	2.8¢	4.7¢
Dividends received from English Subsidiary	700,859	710,024
Total Net Earnings	9,872,823	16,202,529
Per Common Share	3.96	6.64
Per Common Share if English Subsidiary were consolidated	4.24	7.01
Direct Taxes per Common Share	5.25	8.79
Dividends Paid—		
Preferred Shares	$ 517,350	$ 529,237
Common Shares	5,310,661	6,120,432
Per Common Share	2.25	2.60
Number of Employees	21,272	21,071
Payroll, Group Insurance and Pension Expense	$ 88,620,242	$ 90,375,971
Number of Shareholders—		
Preferred	1,483	1,545
Common	18,925	19,020

CRANE00463

PRESIDENT'S MESSAGE

March 11, 1953

To our Shareholders:

It is a pleasure to present herewith the Annual Report of Crane Co. for the year 1952. Statements of the Company's 1952 earnings and its financial condition at the close of the year as reported on by our auditors, Arthur Young & Company, are shown on pages 17 to 22 of the report. A comparative summary of important statistics is given on the preceding page and data pertaining to various factors of the business in the following paragraphs. I hope you will find these interesting as well as informative.

Restrictions on Canadian exchange and dividends having been eliminated we have reverted to our prewar policy of consolidating the accounts of our Canadian subsidiaries with those of the companies in this country. In view of this we also present the comparative figures on the same basis of consolidation for the year 1951.

The accounts of our subsidiary company in England have not, however, been consolidated inasmuch as its assets are subject to continuing government controls, but the financial picture of the English subsidiary is given in the footnotes to the formal statements.

Sales for the year as consolidated were off 1.1% from the peak year 1951 but represented a larger part of the total potential for us so far as we can measure it. However, net earnings are off 39.1% from 1951. Unfortunately, practically all of this decline was due to reasons beyond our control. Like many other companies we were subject to substantial wage increases and increases in freight and material costs during the year which could not be passed on under Government price controls; however, in our case, this situation was further aggravated through price cutting by competitors who seemingly were prepared to operate at little, and, in some instances, no profit in an effort to maintain previous volume in a year when the total potential was down. Currently this situation has stabilized somewhat though at lower levels on some items than obtained at this time last year.

It is, of course, impractical to predict what may happen in the ensuing months but we are optimistic to the extent of feeling that at least there should be very little more price cutting from present levels as we know that a good many were very disappointed when they received the results of their operations for 1952.

A continuous program is in effect toward increasing the efficiency and, where possible, reducing the costs of the products in our basic business of valves, fittings, plumbing and heating materials. However, in this activity we have not and do not intend to reduce our standards of quality, our reputation for which is considered one of our greatest assets. It is discouraging to have to sell quality products at the price of inferior items in order to obtain reasonable production levels, but we feel that the general public as well as the contractors and builders are becoming more and more conscious of quality and that in the long run our policy will be well rewarded.

Our subsidiary, Hydro-Aire, Inc., acquired late in 1951, which produces components for the aircraft industry, did very well during 1952 despite the stretch-out in the aircraft building program. This company has developed a number of new items in its field in the way of pumps and valves which hold considerable promise and is well along with the engineering and development of air and gas turbine units for aircraft, which business should eventually be very substantial even though the air force program is cut back further. In addition this company has been working on the development of transistors and will be in commercial production of one type of transistor within a matter of a month or so.

During 1952 we acquired the assets of Toledo Desk & Fixture Corporation, which company is engaged very largely in the production of steel kitchenware. Previously steel kitchen cabinets and the like were built for us by other organizations but we believe we will obtain better products at lower cost by producing our own cabinets and other steel products.

Last year we mentioned our pilot plant and experimental work in titanium and I am happy to say that not only has our development work progressed very favorably but that by the time you receive this report we hope to have concluded a contract with the Government for the erection of a plant for large scale production of titanium and its alloys. Unfortunately, the final contract has not yet been completed or signed and so it is impossible for me to give you any details at this time as they might well change even before you receive this message but I can say that the contemplated annual production of the plant is 6,000 tons of basic titanium per annum.

In connection with the titanium project we have done a fair amount of geological survey work over the past year or two with a view to locating and acquiring a deposit of high grade ilmenite or possibly rutile, the richest source of titanium, and have some prospects that could prove very worthwhile although much more development work must be done before that can be determined. This phase of the project has been undertaken with the object of developing a reserve which might be very valuable to the Company in years to come but with no thought of entering into a mining operation in the near future.

All in all 1953 shapes up quite favorably for the organization, but we must operate even more efficiently if possible than in the past to maintain, let alone increase, our margin on our basic products. This I feel will be done and at a volume approximating if not exceeding that of 1952.

In this connection it is well to keep in mind that we are now operating at a sales level approximately four times our average prewar level with greatly increased labor costs and a much higher break-even point so that, while the business has been much more profitable than in earlier years and has the potential to be even more so, we at the same time have a greater vulnerability to market recessions insofar as basic products are concerned. This vulnerability, however, is being tempered through our diversification program and with the growth of our operations in titanium and the operations at Hydro-Aire, together with further developments in our own laboratories, our Company will be much less vulnerable to depression or recession in any one or two industries.

We now have some 336 engineers, a number of whom have achieved national recognition, in our engineering departments and, while a great amount of effort goes toward improving present product and developing new product to do a similar job, more and more time is being spent on wholly new developments for the Company.

May I express the appreciation of the management for the cooperation of the shareholders, the employees, and the Company's customers and suppliers, without which the results of 1952 could not have been achieved.

As previously suggested, we hope you find the following portions of this report interesting. They cover a number of matters including major changes in the organization and personnel of the Company.

Sincerely

J. L. Holloway
President

CRANE00465

CRANE CO.

DIRECTORS AND OFFICERS

DIRECTORS

H. H. BUNCHMAN — J. L. HOLLOWAY — EDWARD H. McDERMOTT — S. M. ROBERTS

DAVID LEVINGER — WILLIAM L. McKNIGHT — V. P. RUMELY

C. R. CRANE, II — MARK W. LOWELL — P. V. MOULDER — R. ARTHUR WILLIAMS

OFFICERS

J. L. HOLLOWAY	*President*
V. P. RUMELY	*Senior Vice President Manufacturing*
L. N. BLUGERMAN	*Vice President*
F. F. ELLIOTT	*Senior Vice President Sales*
J. A. DWYER	*Vice President*
G. L. ERWIN, JR.	*Vice President*
C. T. POLLOCK	*Vice President*
C. R. CRANE, II	*Vice President*
H. H. BUNCHMAN	*Vice President and Treasurer*
F. H. KAISER	*Comptroller*
K. L. KARR	*Secretary*
P. L. YATES	*Assistant Comptroller*
E. E. WYATT	*Executive Assistant*
C. W. DITTMAR	*Assistant Treasurer*
J. K. O'NEILL	*Assistant Treasurer*
H. A. TACON	*Assistant Treasurer*
A. R. GLASS	*Assistant Secretary*
J. W. HEDERICK	*Assistant Secretary*
E. H. PETERSEN	*Assistant Secretary*
F. C. AKERS	*Director, Marketing Research*
R. G. CREVISTON	*Director, Public Relations*
J. P. MAGOS	*Director, Engineering*
L. W. MOORE	*Director, Purchases*
J. N. KROHNE	*Manager, Public Relations*
H. H. SIMMONS	*Manager, Advertising*

STOCK TRANSFER AGENTS

J. P. MORGAN & Co. Incorporated, New York 8, New York

A. R. GLASS, Transfer Clerk, Crane Co., Chicago 5, Illinois

REGISTRARS OF STOCK

THE CHASE NATIONAL BANK OF THE CITY OF NEW YORK, New York 15, New York

CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY, Chicago 90, Illinois

AUDITORS

ARTHUR YOUNG & COMPANY, Chicago 2, Illinois

CRANE00466

FINANCIAL AND OPERATING REVIEW

The financial and statistical information contained in this review is on the basis of consolidating the accounts of the Company and all of its subsidiaries except Crane, Limited (England), whose assets are subject to continuing government controls.

Sales and Earnings Consolidated net sales of all Crane products and jobbed goods (products manufactured by others) totaled $319,271,069 or slightly below the record total of $322,920,334 attained in 1951. Notwithstanding the nominal decline in dollar sales volume, net earnings dropped 39.1% to $9,872,823 or $3.96 per common share compared with $16,202,529 or $6.64 per common share in the previous year (in each case after provision for dividends on preferred shares). The net earnings in 1952 of our wholly-owned subsidiary in England were $1,371,930 compared with $1,598,392 for 1951. On the basis of consolidating the accounts of this subsidiary the earnings per Crane Co. common share would be increased to $4.24 in 1952 and to $7.01 in 1951.

Federal, State and local taxes amounted to $12,391,137 or 125.5% of our net earnings. These taxes represented $5.25 per common share or $582.51 for every employee.

The results for 1952 reflect the increased cost of materials and higher level of salaries, wages and other operating costs which for reasons already stated could not be recovered through higher prices.

Dividend Payments Dividend payments during 1952, totaling $5,828,011, represented 59.1% of net earnings compared with 41.1% in 1951. These payments consisted of regular quarterly dividends at the annual rate of $3.75 per share on the 3¾% cumulative preferred shares, amounting to $517,350, and regular quarterly dividends of 50¢ a share and an extra dividend at the year end of 25¢ a share on the common shares, totaling $2.25 a share or $5,310,661.

Inventories and Current Position Inventories totaled $72,652,722 at the end of the year compared with $75,580,524 at the beginning of the year. For a number of years the major portion of the inventory has been valued on a LIFO or substantially equivalent basis. During the period that this method of valuing inventories has been followed the trend of prices and costs has been generally upward in consequence of which earnings and shareholders' equities are shown as substantially less than would be the case if the Company valued such inventories at the lower of cost or market.

At the year end there were no purchase or other commitments for substantial amounts at prices in excess of market.

Net working capital at the year end amounted to $118,301,071, an increase of $18,326,876—primarily attributable to the sale of new securities during the year. The ratio of current assets to current liabilities was 5.88 to 1 compared with 4.71 to 1 a year ago.

Plant and Equipment Capital expenditures in 1952 amounted to $7,296,622 compared with $12,402,920 in 1951. Of the 1952 total, $1,840,286 was expended for land and buildings and $5,456,336 for machinery and equipment.

CRANE00467

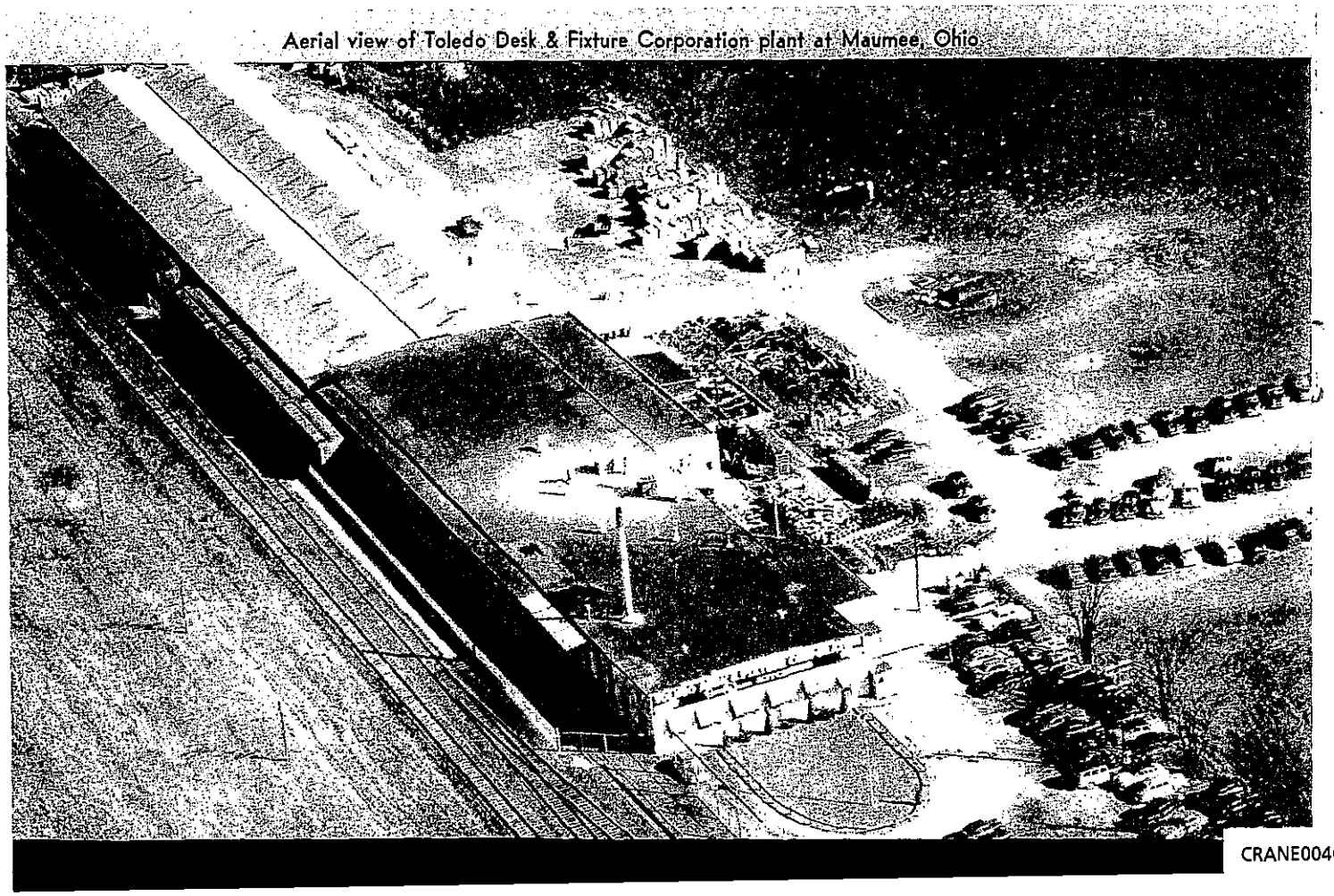
Depreciation charged to operations amounted to $5,019,215 in 1952, compared with $4,013,633 in 1951. For several years annual appropriations of income were made toward providing for excess of future replacement cost of machinery and equipment over original cost. These appropriations were made on an over-all basis and not allocated to specific assets. Fundamentally we believe this procedure sound, but as time has gone on we have purchased large amounts of machinery and equipment at or near present costs and no method for crediting reserves to such purchases has been developed which, in our opinion, is not too costly in operation to be practical. This, coupled with the at least temporary slowing down in the inflationary cycle, has prompted us to discontinue the provision towards the reserve and to transfer the reserve previously created in the amount of $4,920,000 to surplus.

The expenditures for capital assets during the year include the cost of the operating assets and manufacturing facilities of Toledo Desk & Fixture Corporation already mentioned; a new plant and office building to house the major operations of Hydro-Aire, Inc. at Burbank, California; and a substantial portion of the estimated total cost of a new valve and fitting plant at Calgary, Alberta (Canada). This latter plant, which is expected to be finished and in operation early in 1953, is located in the vicinity of the oil fields in Canada and should result in important economies in distribution.

New Financing

For a number of years expansion of the Company's production facilities and its higher level of operations were financed with funds derived from earnings retained in the business.

In the six years immediately following the end



Aerial view of Toledo Desk & Fixture Corporation plant at Maumee, Ohio

of the second World War, covering the years 1946 through 1951, the increase in net working capital on a cost basis was approximately $59,100,000. In addition, over $2,000,000 was expended for the reacquisition of preferred shares. During this same period retained earnings were approximately $47,400,000. To meet its immediate cash needs the Company early in 1952 borrowed $4,000,000 on short term notes. It was evident, however, that additional capital of a more permanent character was needed.

In view of the foregoing and its prospective future needs, the Company, in May of 1952, sold to the public through underwriters $20,000,000 principal amount of 25 Year 3⅛% Sinking Fund Debentures due May 1, 1977. This offering was well received by the investing public. Initial interest payments are at the annual rate of $625,000 and are deductible as an expense for tax purposes. Mandatory annual sinking fund payments of $950,000 starting in 1957 are designed to retire over 90% of the indebtedness at maturity.

Approximately $19,869,000 was received by the Company from the sale of debentures, after deducting underwriting commissions and other expenses. $4,000,000 was used to retire short term bank loans and the balance was added to the general funds of the Company to replenish cash resources.

Employee Relations At the close of 1952 employees in the entire Crane organization totaled 23,605 of which 17,927 were in the United States, 3,345 in Canada and 2,333 in England.

Employee relations were not seriously disturbed by strikes in 1952. However, at one of our plants in Canada a jurisdictional dispute between unions resulted in a work stoppage of nine weeks duration.

During the year a formal pension plan was established for all employees in Canada. The provisions of this plan and the pension benefits to employees are very similar to those in effect for employees in the United States under a plan adopted in 1950.

The estimated actuarial cost of the pension program for 1952 is $4,917,417 of which $2,260,640 relates to past service on the basis of amortizing past service liability over a period of approximately 24 years for employees in the United States and approximately 27 years for employees in Canada.

During 1952, $8,573,156 was deposited with the Trustees for the payment of pensions under the retirement program. The estimated unfunded actuarial liability at December 31, 1952 was approximately $44,600,000 on account of which payments aggregating $2,432,862 have been made in January and February of 1953. This represented an increase of $11,800,000 in unfunded actuarial liability over the preceding year which was due to the new plan in Canada and higher wage rates in the United States. The total of all deposits with the Trustees including the $2,432,862 is $17,187,663.

Management Changes A number of organization changes were made during the past year, principal of which in the top administrative group were the election of G. L. Erwin, Jr., H. H. Bunchman and L. N. Blugerman as Vice Presidents, the election of F. F. Elliott as Senior Vice President Sales and V. P. Rumely as Senior Vice President Manufacturing, and the appointment of F. C. Akers as Director of Marketing Research.

CRANE00469

Mr. Erwin came to Crane in 1936 from Kearney & Trecker Corporation, served as Assistant to the Vice President in charge of Sales, as a District Manager and subsequently for 9 years as Manager of the Jobbed Goods Department. He now is in charge of the Heating Sales Division, which activity has been set up as a separate division with a view to increasing our participation in that market.

Mr. Bunchman came to Crane in 1946 from the Securities and Exchange Commission, having had previous extensive experience in the public accounting field. He previously served as Analyst and Assistant Treasurer and was elected Treasurer in 1948 and a Director in April 1951, which positions he continues to hold.

Mr. Blugerman came to us as an Executive Assistant in August 1952, from The Budd Company. He was elected a Vice President in February of 1953 and has charge of the Company's plants in Chicago, Illinois, and Chattanooga, Tennessee.

Mr. Elliott has been a member of the Crane organization since 1922. Starting as a salesman he served as an Assistant Branch Manager, Branch Manager, and for eight years as District Manager until his election as a Vice President in charge of Branches in April 1951. In his position of Senior Vice President Sales, to which he was elected in July 1952, he supervises all of the sales activities of Crane Co.

Mr. Rumely came to Crane Co. from the Hudson Motor Car Co. in March of 1937 as Works Manager of the Chicago Plant. He was elected Vice President (manufacturing) in 1941 and a Director in April 1951. In his position as Senior Vice President Manufacturing, to which he was elected in February 1953, he supervises the activities of the Company's plants in Chicago, Illinois, and Chattanooga, Tennessee, through Mr. Blugerman, Vice President, and coordinates the activities of all the plants of the Company and its subsidiaries.

Mr. Akers joined the Crane sales division in 1940 and served it in various capacities finally as Assistant to the Vice President in charge of Valve and Fitting Sales. During this time he was on leave for four years with the U. S. Navy and is now a Commander in the Naval Reserve. In December 1952 he was appointed Director of a newly created Marketing Research Division which brings together under one head our previously divergent activities in that field.

At the end of the year there were 12,903 persons who owned 1 to 99 common shares, 5,835 who owned 100 to 999 shares, and 187 who owned 1,000 or more shares.

Attendance of Directors at Board Meetings averaged 87% in 1952. In addition to the regularly scheduled monthly meetings, two special meetings of the Board were held.

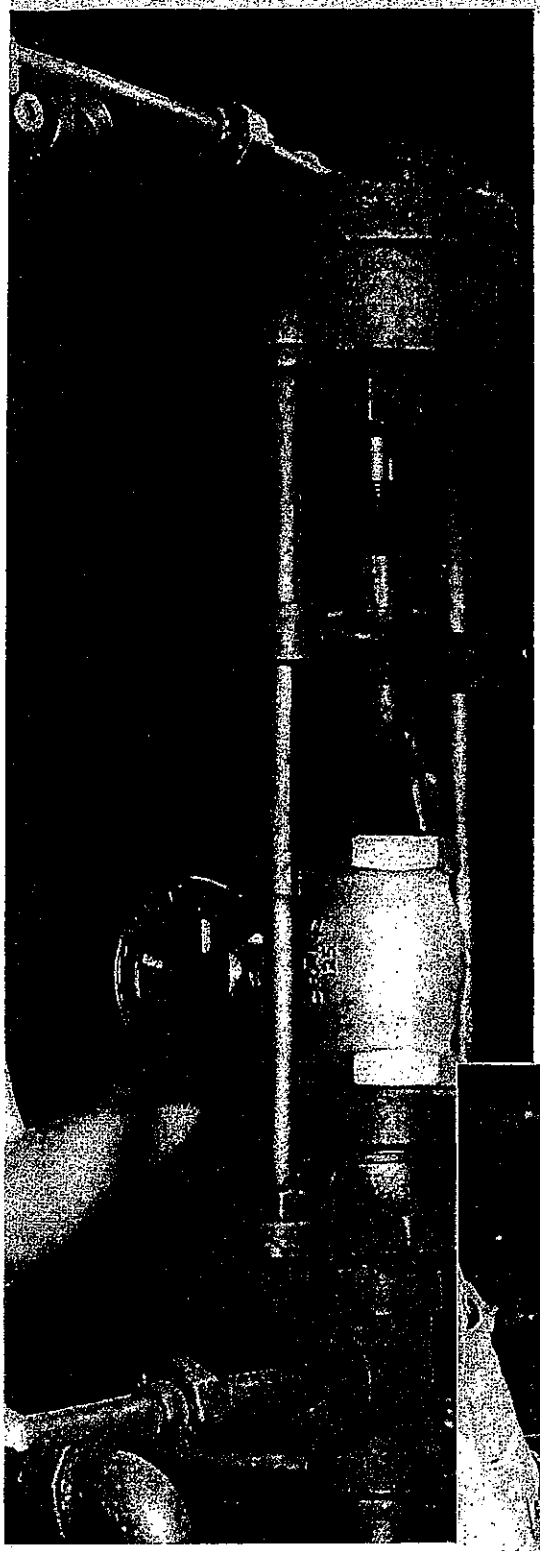
Pension payments in the amount of $927,970 were made to retired employees supplementing their Social Security benefits.

Over 4,600 employees participated in the purchase of $1,653,360 (cost value) United States Savings Bonds.

July 4, 1953 will mark the ninety-eighth anniversary of the founding of the business by Richard T. Crane. Plans are now in process for commemorating the Centennial of the business in 1955.

At the 1952 annual meeting of shareholders over 81% of the shares entitled to vote were voted in person or by proxy. This represented a substantial increase over the 74% of shares represented at the previous meeting and was most encouraging to management. All shareholders are urged to exercise their right to vote.

TESTING CRANE VALVES BEFORE DELIVERY



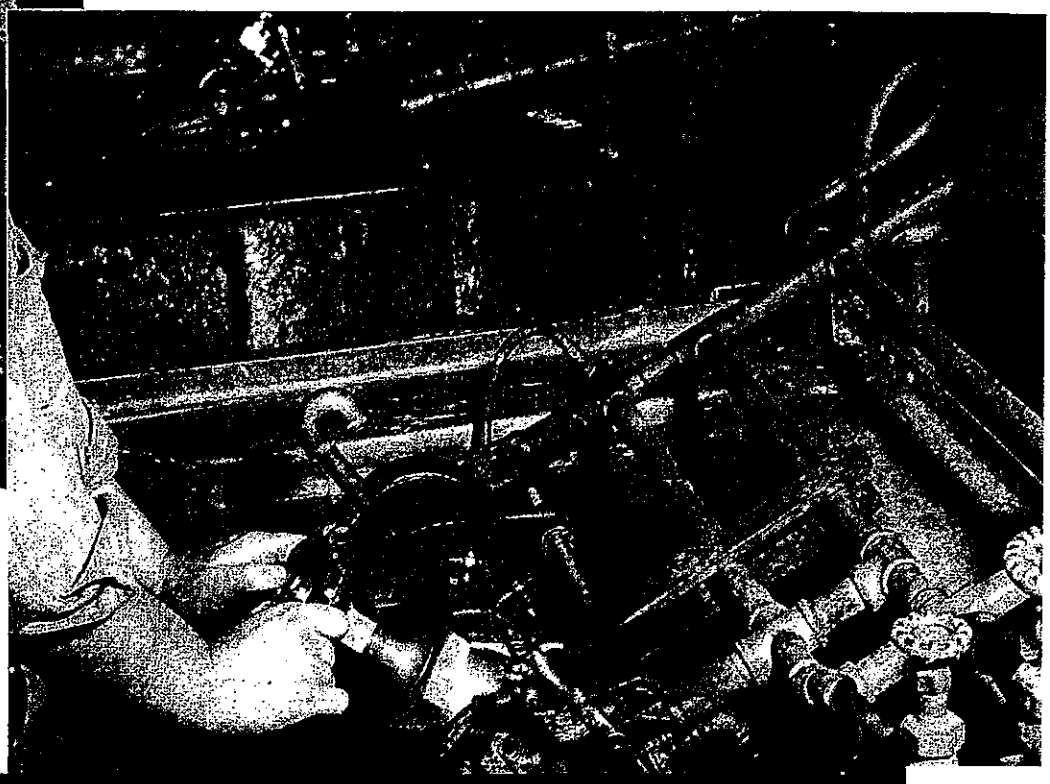
Testing valves before they are delivered serves such important purposes as: checking production processes, developing improvements in precision manufacture, and increasing uniformity of product. Most important of all, however, is the purpose of assuring *each* customer that *each* Crane valve will operate satisfactorily when it is installed.

For this reason every Crane valve is tested completely before it is shipped. Each part of each valve—discs, seats, bodies, faces, stems, bonnets, packing glands, threads, etc.—must meet carefully maintained engineering standards. Then, after assembly, each Crane valve is tested under pressure, to assure tightness on the service for which it is recommended.

This final, conclusive testing is a safeguard of quality. Thus, users of Crane valves have the advantages of the lower operating costs that come from long, continued service. This fact has helped make Crane Co. the world's largest manufacturer of valves and fittings.

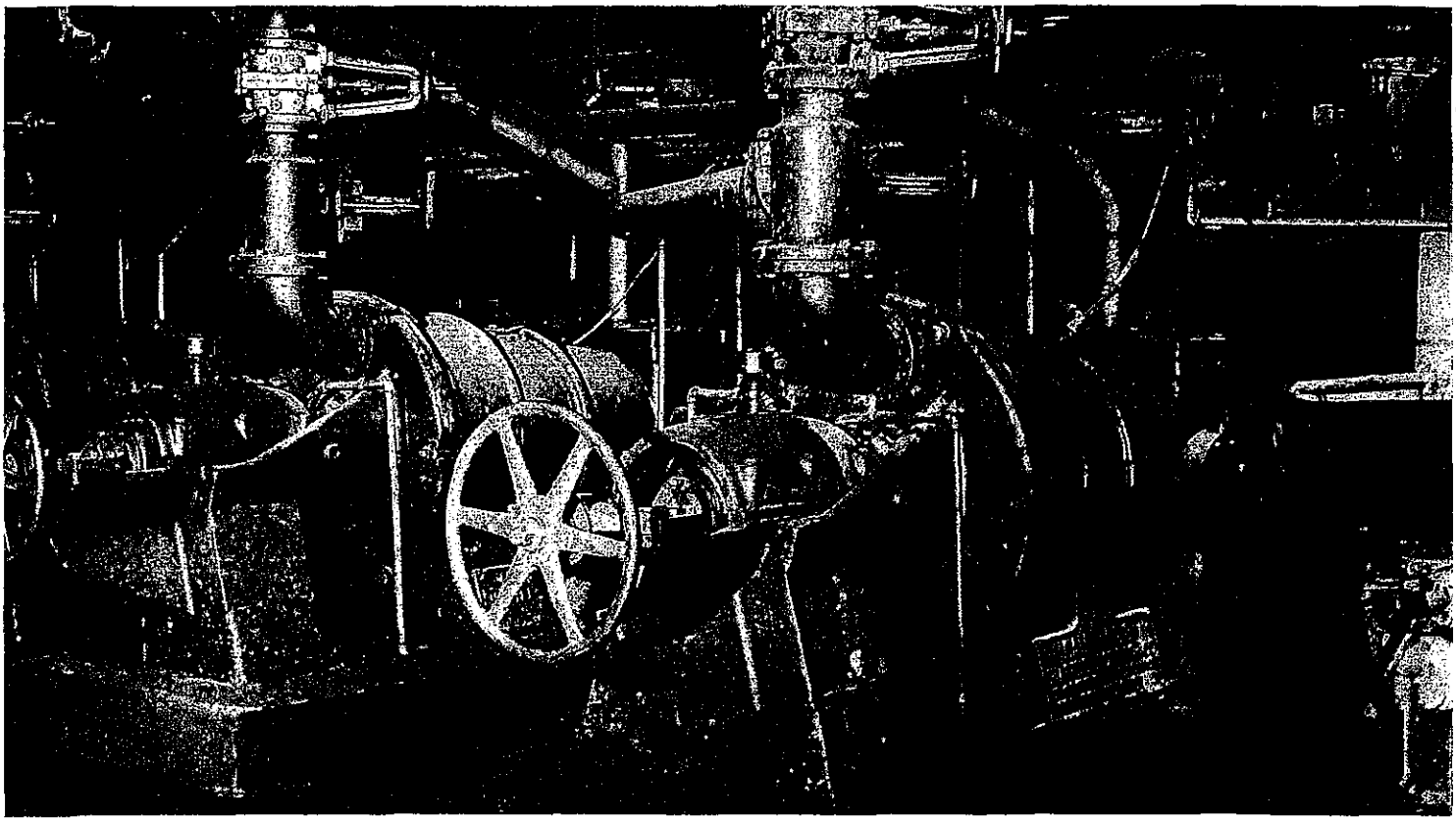
Testing with steam at the Chicago plant.

Testing under air pressure, with the valve body completely submerged in water.

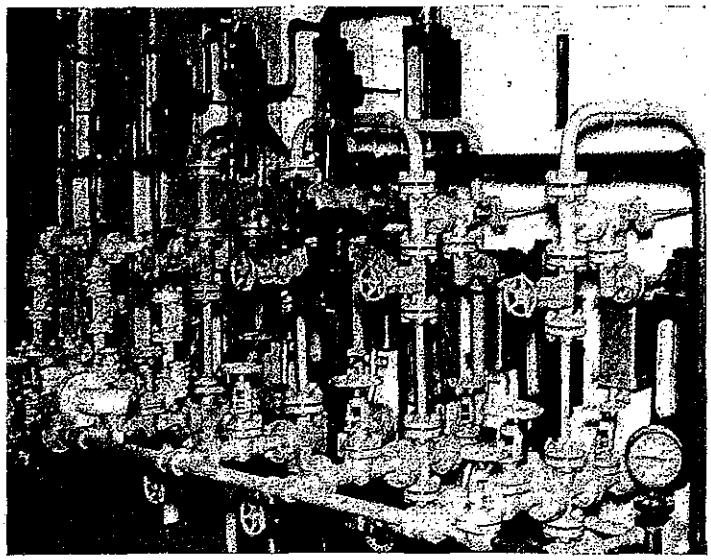


CASE HISTORIES AND PERFORMANCE OF CRANE VALVES

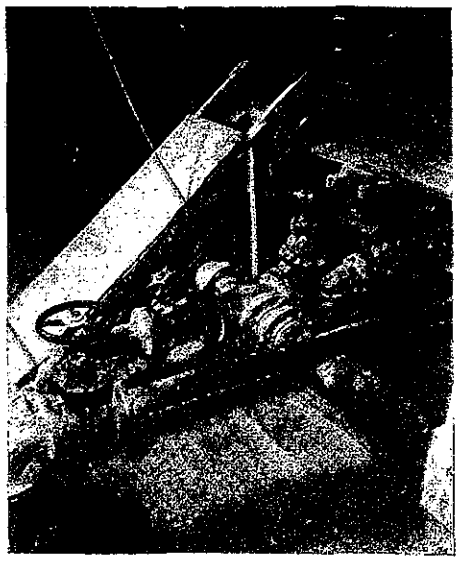
Quality in valves must serve the purpose of better performance and lower cost to the industrial user. To evaluate "quality at work," case histories in the performance of Crane valves are compiled and reported regularly. Specific identification of the kind of application, the product being conveyed, the Crane valve used, and the length of service: this valuable information is published regularly for the guidance of industrial users of valves.



Crane paper stock valves on feed lines to Jordan beaters.

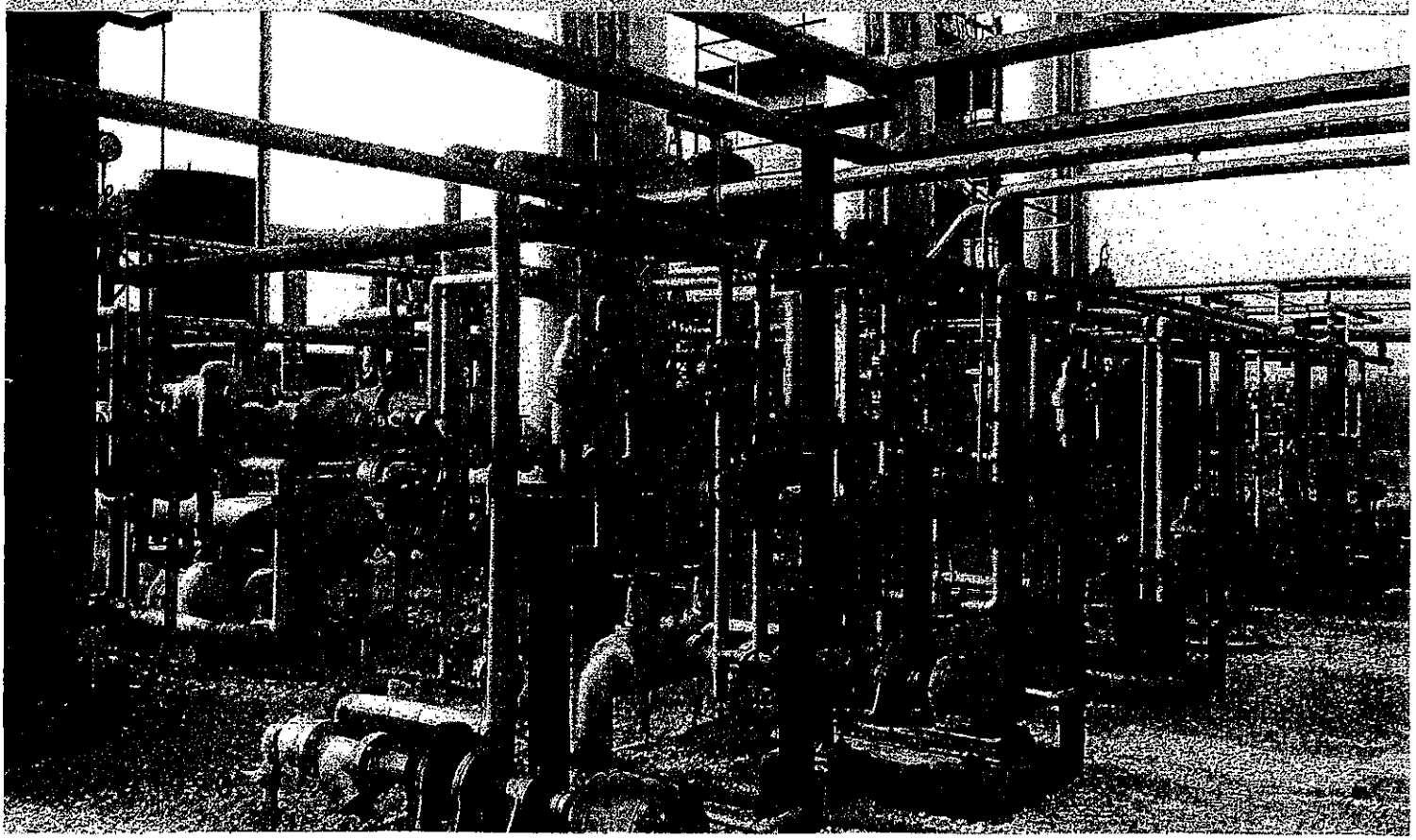


Crane ammonia valves in a paper bleaching plant.



Crane iron body valves in steep-water lines in cereal processing.

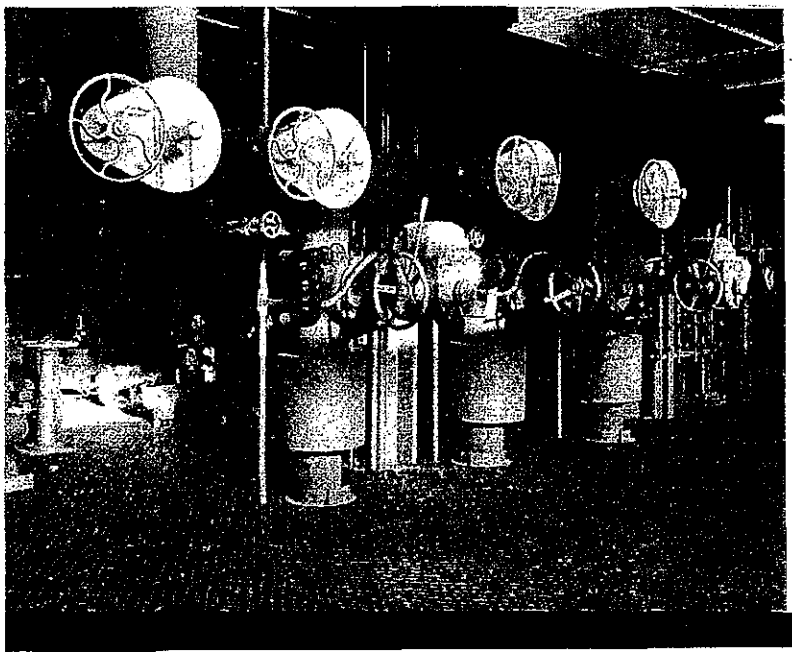
INDUSTRY . . . VALVES . . . AND **CRANE CO.**

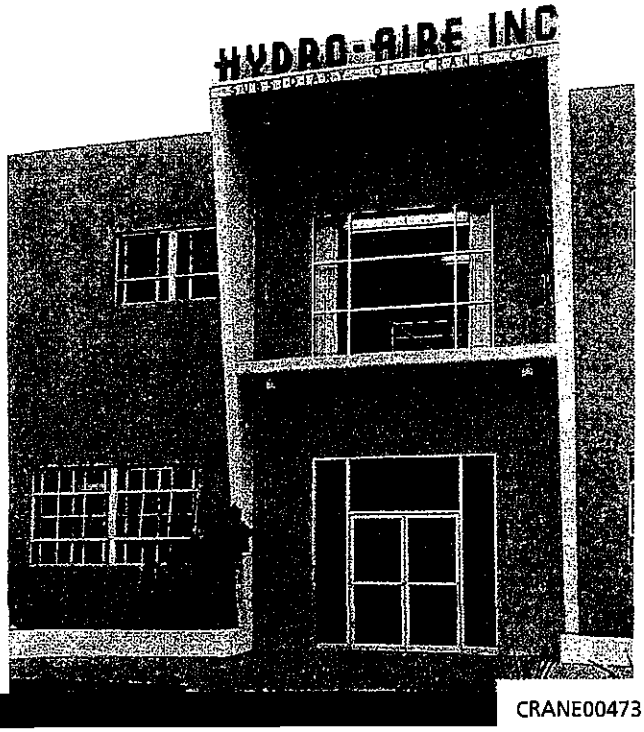


Crane steel valves in hydrogen generating unit of a fine chemicals plant.

At Hydro-Aire, Inc. a Crane Co. subsidiary in Burbank, California, valves, airplane brake controls, filters and actuators are designed and manufactured for aircraft. One of the recent developments to come from Hydro-Aire is the turbodrive, a major component of turbo jet aircraft, for the purpose of supplying the power to actuate controls and drive accessories. Efficiency and light weight of turbodrive are advantages that indicate appreciable volume in Hydro-Aire's future sales.

Crane gear-operated pressure seal valves on feed water lines of new, large power plant.

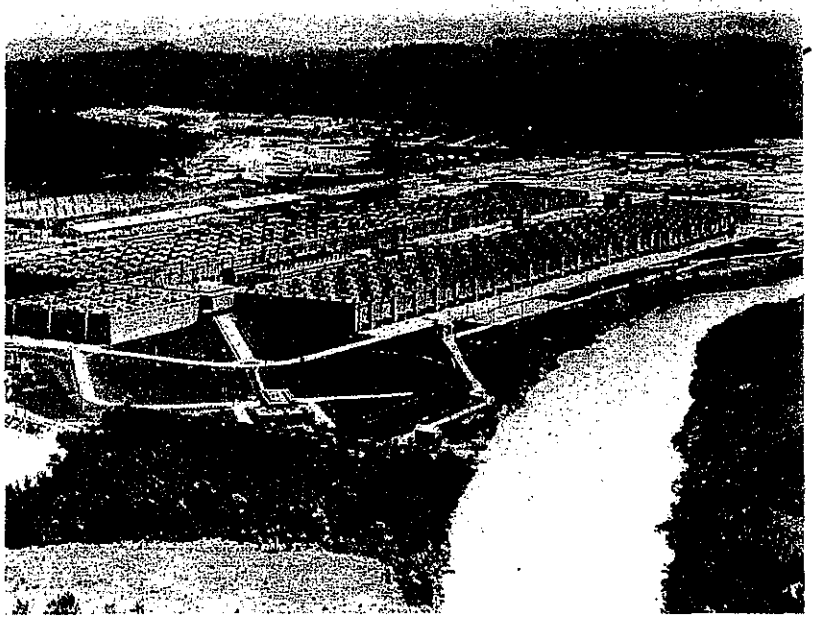


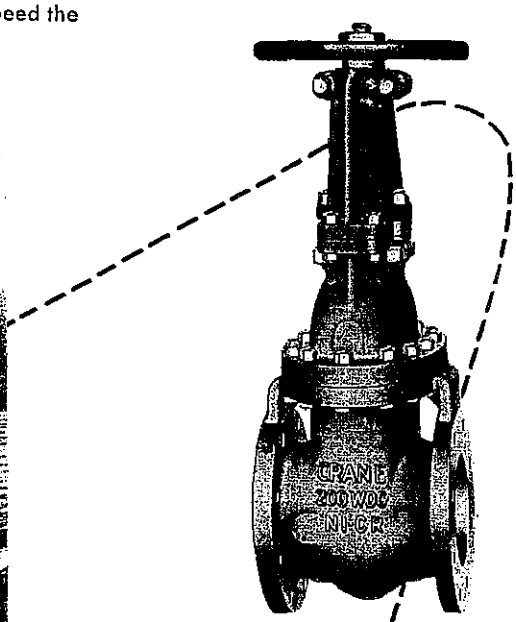


ATOMIC ENERGY AND CRANE CO.

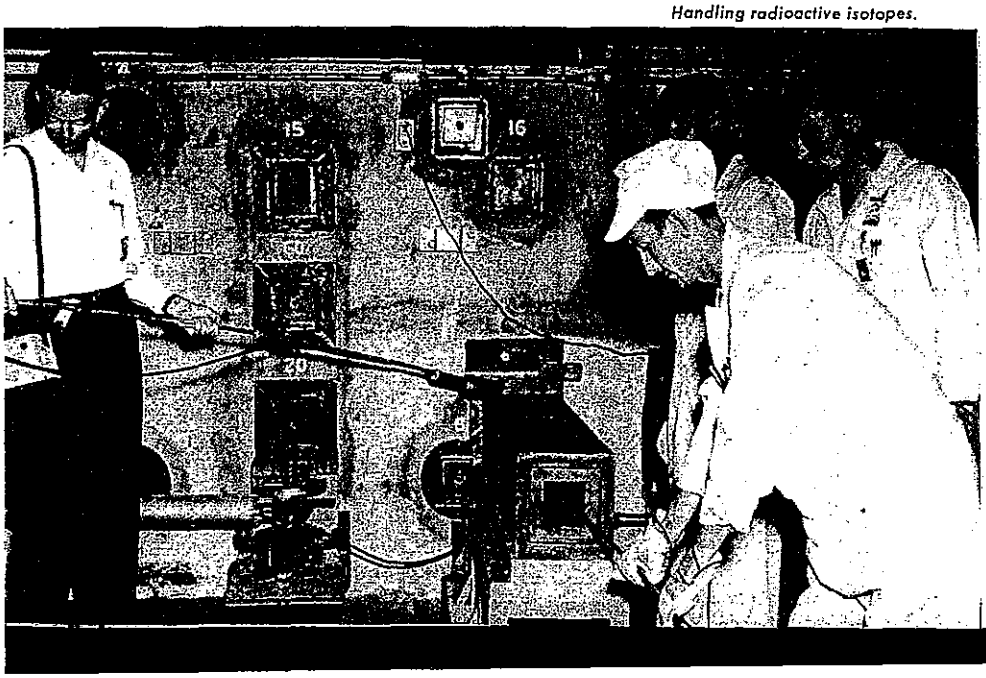
Crane valves have had a specific part in each step of America's development of atomic energy. From the very first plans for construction of the large, intricate plants of the Atomic Energy Commission, Crane Co. has been called on to supply a wide variety of valves, in large quantities, on exacting delivery schedules. The complete line of valves, represented by the well known Crane catalog, helps speed the Nation's accomplishments in atomic energy.

AEC gaseous diffusion plant at Oak Ridge.

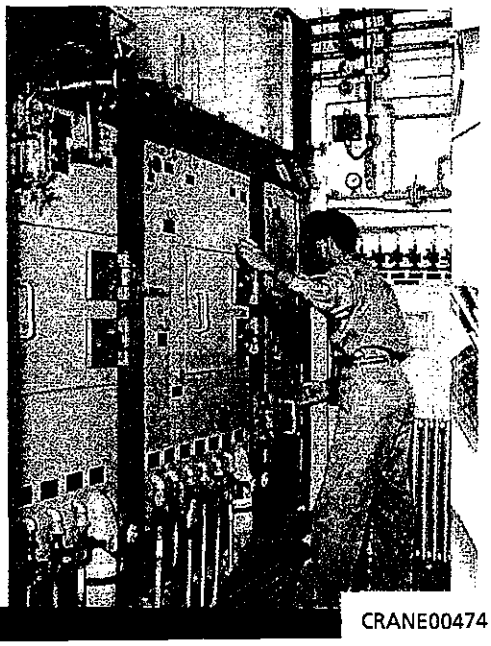




Handling radioactive isotopes.



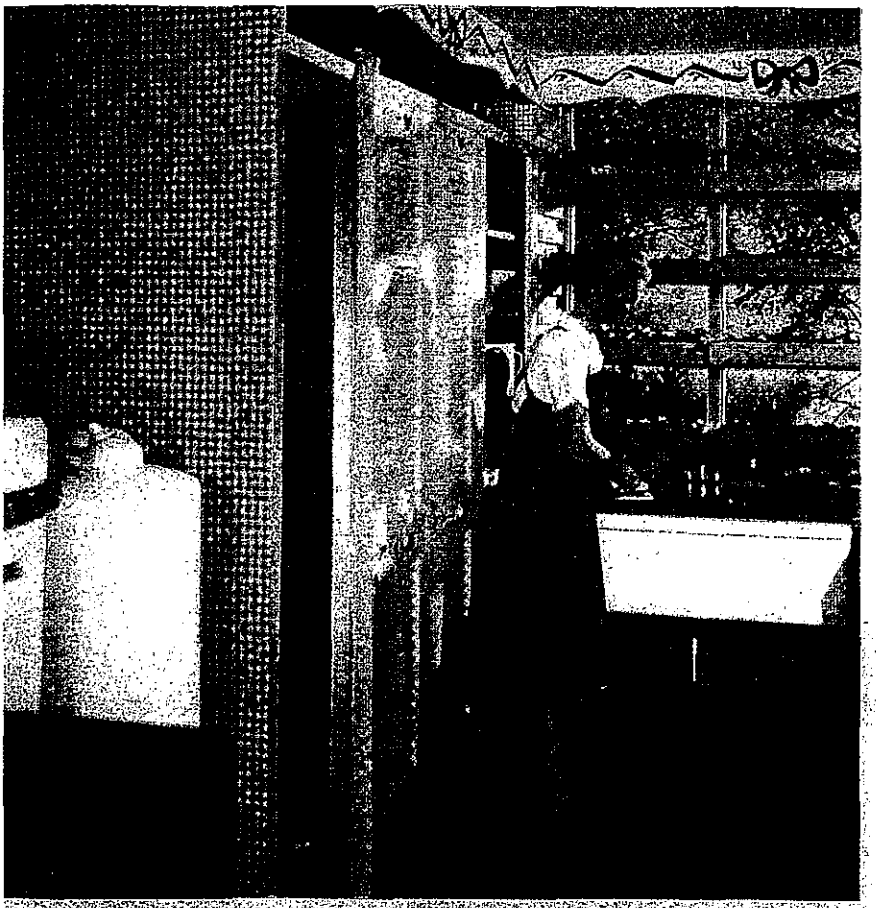
Remotely controlled "hot cell."



CRANE00474

ARCHITECTURAL COMPETITION BY CRANE

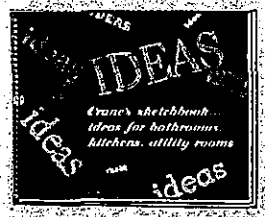
Architects, designers, draftsmen and students were invited to enter their ideas for modern bathrooms, kitchens and utility rooms in a nation-wide competition sponsored by Crane Co. From the hundreds of ideas received a distinguished jury, representing the architectural profession and the building industry, selected the 32 winning entries. Representative winning ideas are reproduced on this page.



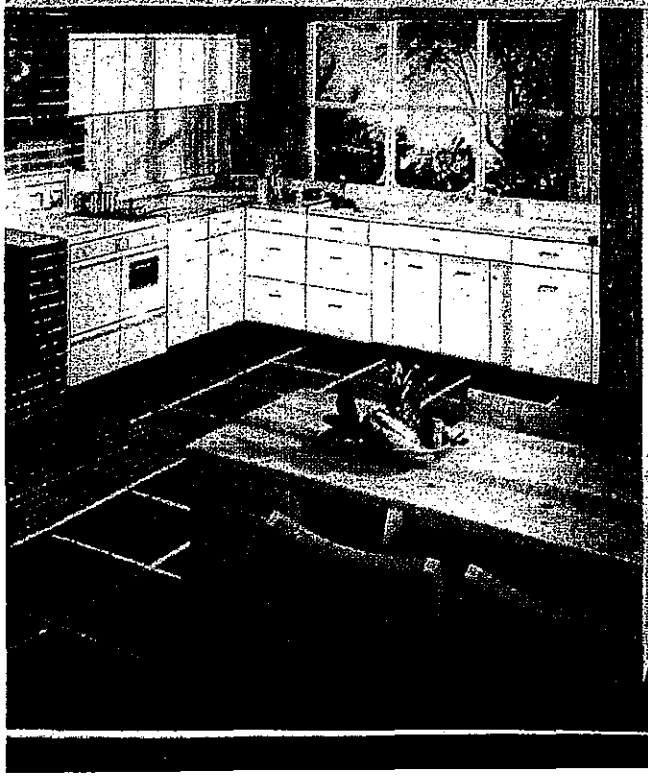
Utility room that doubles beautifully as a hot house.

In the merchandising program, Come to Crane for Ideas, a new approach to selling plumbing fixtures was introduced early in 1952. Using the Crane Sketchbook of Ideas, dealers were able to create new sales of bathrooms, powder rooms, kitchens and utility rooms. As this program continues, customers are being given more new room ideas from the Architectural Competition. Architects find the Sketchbook helpful in working with their clients, and builders find it an asset in selling houses. In addition to national advertising, a color film, "The Very Idea," tells customers how they can Come to Crane for Ideas.

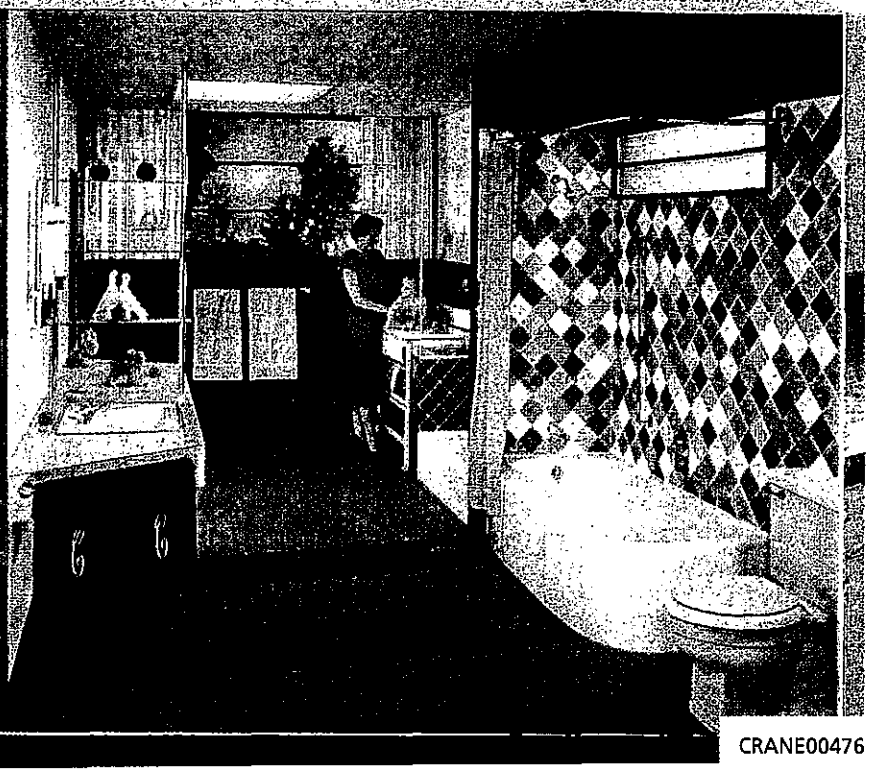
A. I. A. AWARD OF MERIT
The Crane Sketchbook of Ideas was given an Award of Merit at the 1952 meeting of the American Institute of Architects.



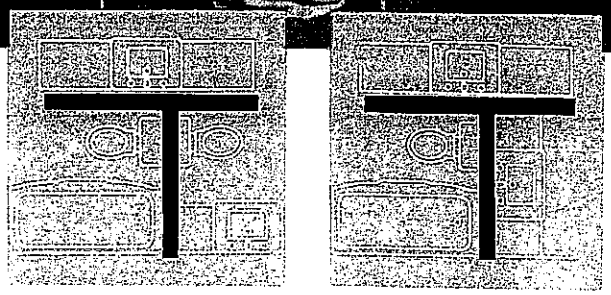
Ranch style kitchen with a view.



A bathroom that can grow with the family.

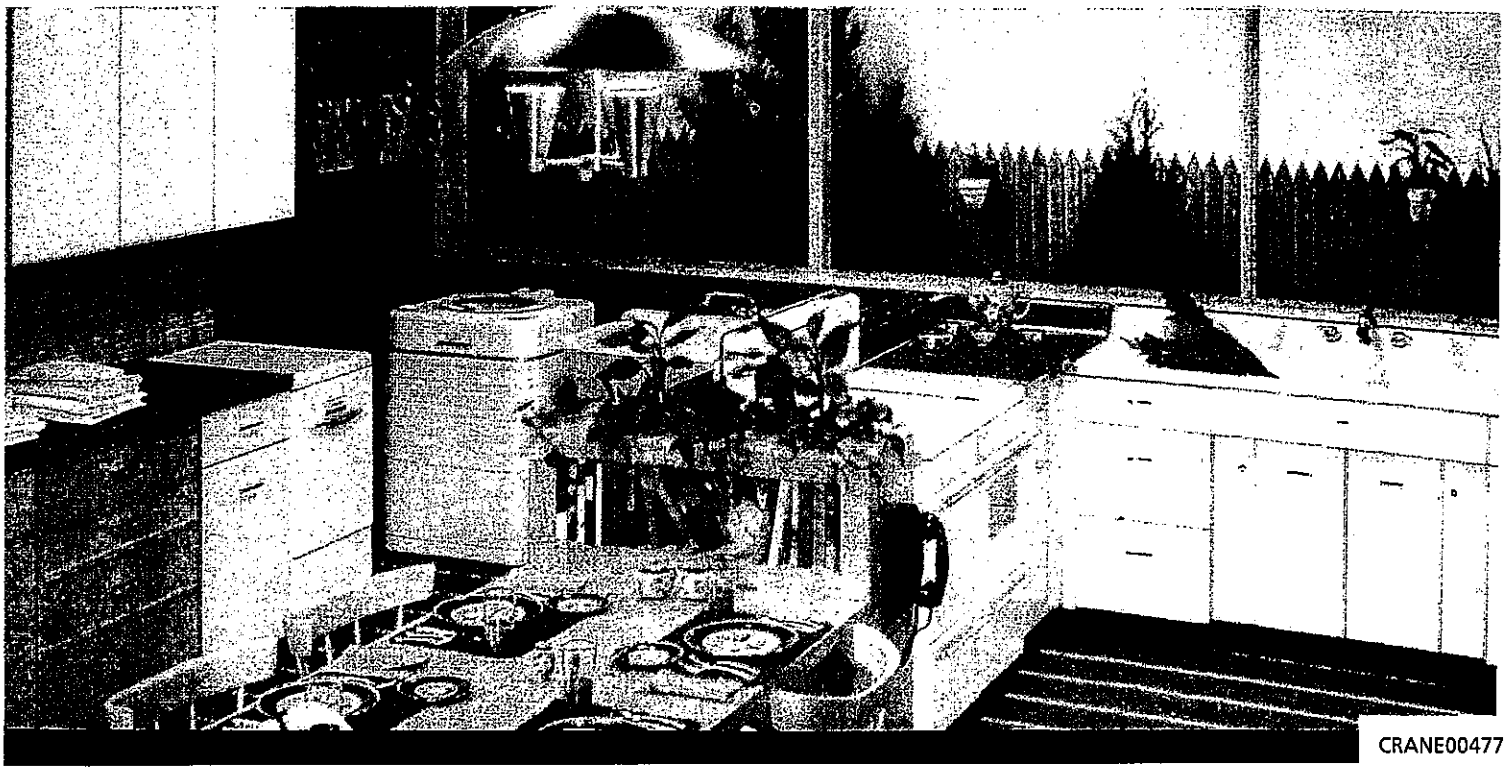


COME TO **CRANE** FOR IDEAS

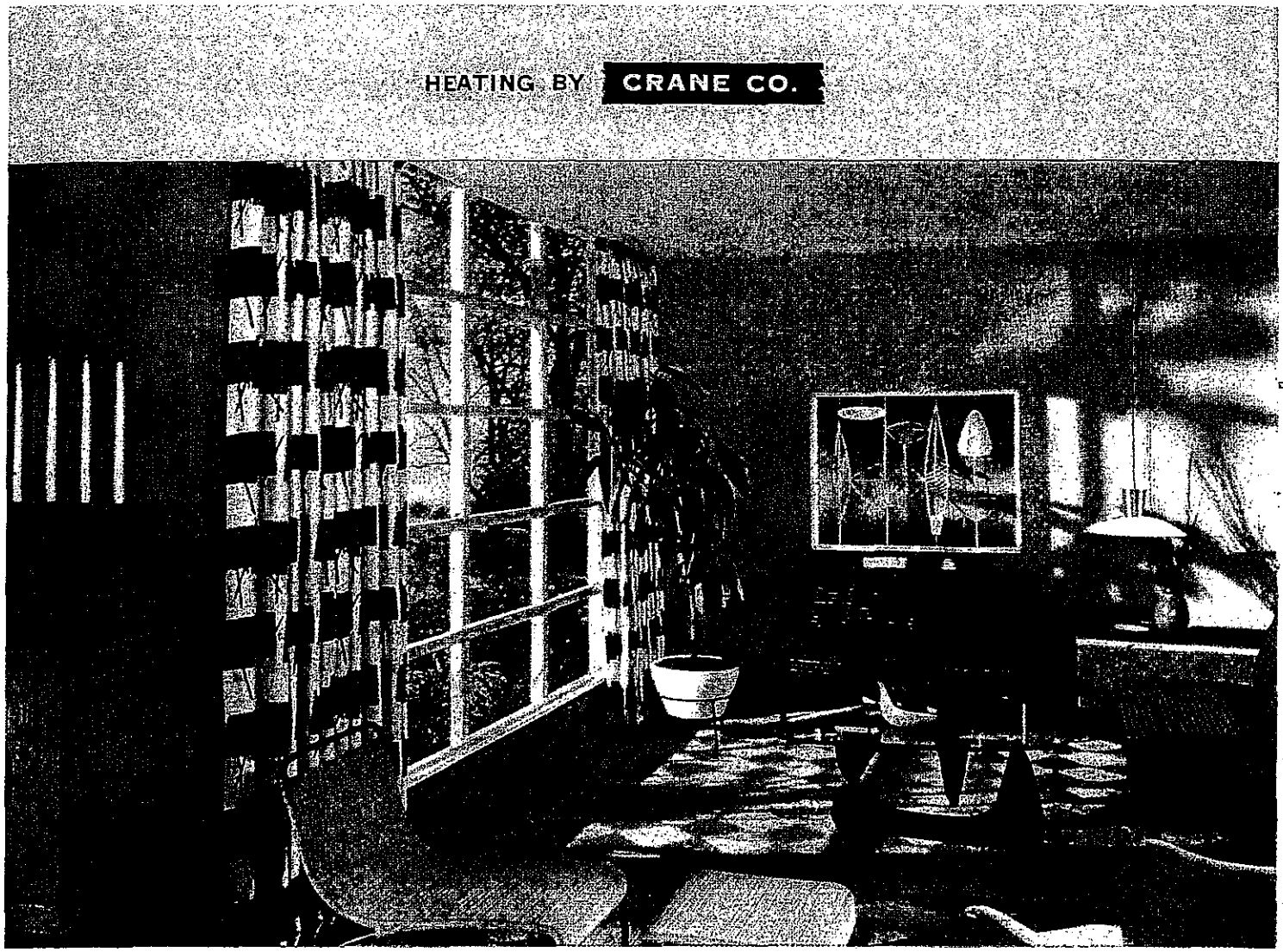


The T-Bath is one of the dramatic developments in the Come to Crane for Ideas program. The T-shaped plan offers a number of variations, all of which give privacy in allowing two or more members of the family to use the room at the same time. This idea frequently offers a more satisfactory arrangement than two separate bathrooms.

Kitchen based on a Sketchbook idea to include laundry equipment.



HEATING BY **CRANE CO.**



Crane radiant baseboard fits harmoniously into modern decoration.

The new Crane room air conditioning unit.

Crane "Sixteen" boiler, oil or gas fired, in a play room installation.

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES AND CANADA

CONSOLIDATED EARNINGS STATEMENTS

FOR THE YEARS ENDED DECEMBER 31, 1952 AND DECEMBER 31, 1951

	1952	1951
Net sales	$319,271,069	$322,920,334
Cost of sales, selling, administrative and general expenses (Notes 3 and 4)	$297,700,017	$287,492,105
Provision for depreciation	5,019,215	4,013,633
	$302,719,232	$291,505,738
Net earnings from operations	$ 16,551,837	$ 31,414,596
Other income:		
Dividends received from English subsidiary (Note 2)	700,859	710,024
Gain on foreign exchange conversion (Note 1)	366,344	241,178
Miscellaneous—net	419,425	802,451
	$ 18,038,465	$ 33,168,249
Minority stockholders' interest in net earnings of subsidiaries	171,054	212,476
Net earnings before taxes on income	$ 17,867,411	$ 32,955,773
Provision for taxes on income:		
Federal normal tax and surtax	$ 5,229,577	$ 12,018,491
Federal excess profits tax	56,111	269,868
Canadian income tax	2,708,900	4,464,885
	$ 7,994,588	$ 16,753,244
Net earnings for the year	$ 9,872,823	$ 16,202,529

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES AND CANADA

CONSOLIDATED BALANCE SHEET · DECEMBER 31, 1952

ASSETS

CURRENT ASSETS:			
Cash			$ 22,064,126
U. S. Government securities, at cost, which approximates market value			10,990,273
Accounts receivable		$ 39,351,745	
Less: Reserve for doubtful accounts		2,528,323	
			36,823,422
Inventories (Note 3)—			
Raw materials and supplies		$ 10,140,904	
Work in process		16,919,802	
Finished goods		45,592,016	
			72,652,722
Total Current Assets			$142,530,543
INVESTMENTS:			
Investment in English subsidiary not consolidated, at cost (Note 2)		$ 2,134,581	
Other investments, at cost or nominal value (less reserve, $305,338)		972,778	
			3,107,359
FIXED ASSETS:			
Land and land improvements		$ 7,492,694	
Buildings	$42,123,757		
Less: Reserve for depreciation	19,558,319		
		22,565,438	
Machinery and equipment	$63,991,144		
Less: Reserve for depreciation	37,457,679		
		26,533,465	
Unfinished construction		1,199,122	
			57,790,719
DEFERRED CHARGES			877,425
			$204,306,046

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES AND CANADA

CONSOLIDATED BALANCE SHEET • DECEMBER 31, 1952

LIABILITIES

CURRENT LIABILITIES:		
Accounts payable, accrued payrolls, etc.		$ 17,839,277
Accrued Federal and Canadian taxes on income	$ 7,566,901	
Less: U. S. Treasury tax notes	3,249,152	
		4,317,749
Accrued general taxes		2,072,446
Total Current Liabilities		$ 24,229,472
TWENTY-FIVE YEAR 3⅛% SINKING FUND DEBENTURES (Note 5)		20,000,000
RESERVE FOR PENSIONS (Note 4)		1,868,559
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES		1,895,137
CAPITAL STOCK AND SURPLUS:		
Capital stock—		
Cumulative preferred shares, 3¾%, par value $100:		
Authorized — 160,000 shares		
Outstanding— 140,868 shares (including 3,858 shares in treasury) (Note 7)	$ 14,086,800	
Common shares, par value $25:		
Authorized —3,500,000 shares		
Outstanding—2,360,294 shares	59,007,350	
	$ 73,094,150	
Surplus—		
Capital surplus	$ 1,708,321	
Earned surplus (Note 5)	81,873,943	
	83,582,264	
	$156,676,414	
Less: Cost of 3,858 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 7)	363,536	
		156,312,878
		$204,306,046

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES AND CANADA

CONSOLIDATED EARNED SURPLUS STATEMENTS

FOR THE YEARS ENDED DECEMBER 31, 1952 AND DECEMBER 31, 1951

	1952	1951
Balance as reported December 31, 1950	$	$58,293,503
Add:		
Undistributed earnings of Crane, Limited (Canada) and its Canadian subsidiaries at December 31, 1950		6,150,096
Appropriation toward excess of future replacement cost of machinery and equipment over original cost, transferred to earned surplus at December 31, 1952, $4,920,000 less $1,080,000 appropriated in 1951		3,840,000
Balance at beginning of year (1951 as adjusted)	$77,825,838	$68,283,599
Net earnings for the year	9,872,823	16,202,529
Excess of par value over cost (cost over par value) of 3¾% cumulative preferred shares canceled in connection with sinking fund requirements	3,293	(10,621)
	$87,701,954	$84,475,507
Deduct:		
Cash dividends paid:		
On 3¾% cumulative preferred shares ($3.75 per share in each year)	$ 517,350	$ 529,237
On common shares ($2.25 per share in 1952, $2.60 per share in 1951)	5,310,661	6,120,432
	$ 5,828,011	$ 6,649,669
Balance at end of year (Note 5)	$81,873,943	$77,825,838

CONSOLIDATED CAPITAL SURPLUS STATEMENTS

Balance at beginning of year	$ 1,708,321	$ 1,509,050
Premium on 11,666 shares of Crane Co. common shares issued during 1951		180,823
Surplus of subsidiary company at date of acquisition, November 30, 1951		18,448
Balance at end of year	$ 1,708,321	$ 1,708,321

NOTES TO FINANCIAL STATEMENTS

NOTE 1—COMPANIES INCLUDED IN CONSOLIDATION AND BASIS OF CONVERSION OF ITEMS CARRIED IN CANADIAN CURRENCY:

For the years 1940 to 1951, inclusive, the consolidated financial statements presented in the annual reports to shareholders have included only Crane Co. and its subsidiaries in the United States. The consolidated financial statements presented herewith include Crane Co. and its subsidiaries located in the United States and Canada (the only unconsolidated subsidiary is Crane, Limited (England)—see Note 2 below). The statements of consolidated earnings and the statements of consolidated surplus have been prepared in comparative form covering the years 1951 and 1952. The amounts shown for 1951 have been revised as compared with those previously reported to place them on the same basis as those reported for 1952.

In converting the items carried in Canadian currency, fixed assets were converted at U. S. dollar cost at dates of acquisition, less accrued depreciation. Net current assets were converted at the current rate of exchange at the year-end, and the net gain on conversion is included in the consolidated earnings statements in other income.

NOTE 2—INVESTMENT AND OPERATIONS IN ENGLAND:

The investment of Crane, Limited (Canada) in its wholly-owned subsidiary, Crane, Limited (England) is carried in the consolidated balance sheet at cost, $2,134,581, and dividends received from that company are reflected in the consolidated earnings statements.

The net assets of Crane, Limited (England), stated at equivalent U. S. dollars, are summarized as follows:

Fixed assets at U. S. dollar cost at dates of acquisition, less accrued depreciation	$3,772,478
Net current assets at $2.81 for English pound	4,861,291
	$8,633,769

The results of operations of Crane, Limited (England) for the year ended December 31, 1952, stated at equivalent U. S. dollars, are summarized below:

Net sales, including $58,901 other income, net	$12,929,403
Cost of sales including selling, administrative and general expenses and provision for depreciation	9,510,228
Net earnings from operations	$ 3,419,175
Provision for taxes on income	2,047,245
Net earnings for the year	$ 1,371,930

NOTE 3—INVENTORIES:

The major portion of the inventories are valued on a "last-in, first-out" (LIFO) or substantially equivalent basis. Other inventories aggregating $8,096,587 are priced at the lower of cost or market.

NOTE 4—PENSIONS:

Following is a summary of the changes during the year in the "Reserve for Pensions":

Balance, December 31, 1951	$ 5,524,298
Provision charged against earnings for the year 1952	4,917,417
	$10,441,715
Contributions to Trustees	8,573,156
Balance, December 31, 1952	$ 1,868,559

Reference is made to the Financial and Operating Review section of this report under the heading "Employee Relations" for further information concerning pensions.

CRANE00483

NOTE 5—25 YEAR 3⅛% SINKING FUND DEBENTURES:

Beginning with September 15, 1957 and annually thereafter through 1976, the Company is obligated to pay to the Trustee an amount sufficient to redeem, at the sinking fund redemption price in effect on the November 1 following, $950,000 principal amount of debentures. Under the provisions of the indenture relating to the Debentures, Earned Surplus at December 31, 1952 in the amount of $66,700,989 is not available for the payment of dividends on the Company's common shares.

NOTE 6—STOCK OPTION PLAN:

Pursuant to a stock option plan adopted in 1951, 200,000 of the Company's unissued common shares are reserved for issuance to officers and employees of the Company and its subsidiaries. Under the plan, the Stock Option Committee may grant 10 year options to purchase shares at a price not less than 85% of the fair market price on the date the option is granted. At December 31, 1952, options were outstanding to 103 officers and key employees for 116,550 shares at $37 per share. During the first five years after an option is granted, the optionee may not acquire the optioned shares at a rate greater than 20% annually, such percentage being cumulative. At December 31, 1952 none of the options had been exercised.

NOTE 7—3¾% CUMULATIVE PREFERRED SHARES:

These shares are redeemable at the option of the Company at $107 per share prior to June 15, 1955 (an aggregate amount of $14,660,070) and at $104.50 per share on or after June 15, 1955. They are also redeemable through the operation of the sinking fund at any time at a redemption price of $104.50 per share.

Under the sinking fund provisions the Company is required to pay over to the sinking fund agent for the redemption or purchase of such shares a determinable amount of cash, but not in excess of $320,000 with respect to any fiscal year. Against its obligation to make the cash sinking fund payment in any year the Company may, at its election, take credit for shares purchased by it otherwise than through the sinking fund.

At December 31, 1952, the Company held 3,858 reacquired shares with a cost of $363,536. A sufficient number of these reacquired shares will be deposited on or before April 30, 1953 with the sinking fund agent in satisfaction of the sinking fund requirements.

CERTIFICATE OF INDEPENDENT PUBLIC ACCOUNTANTS

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. and Subsidiaries in the United States and Canada at December 31, 1952 and the related consolidated earnings and surplus statements for the two years then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated earnings and surplus statements present fairly the financial position of Crane Co. and Subsidiaries in the United States and Canada at December 31, 1952 and the results of their operations for the two years then ended, in conformity with generally accepted accounting principles applied on a consistent basis.

ARTHUR YOUNG & COMPANY.

Chicago, Illinois,
March 11, 1953.

CRANE00484

PLANTS • PRODUCTS • PERSONNEL

IN THE UNITED STATES

CHICAGO PLANT, Chicago, Illinois

Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication

V. P. RUMELY, *Senior Vice President Manufacturing*
L. N. BLUGERMAN, *Vice President*
G. C. DETLEFSEN, *Works Manager*
G. L. LARSON, *General Superintendent*

CHATTANOOGA DIVISION, Chattanooga, Tennessee

Enameled Iron Plumbing Fixtures, Bathtubs, Sinks, Lavatories, Iron Heating Boilers and Radiation

W. M. HAMILTON, *Manager*

CRANE-PACIFIC DIVISION, Colton, California

Vitreous China Plumbing Fixtures, Water Closets, Lavatories

H. A. RYDSTROM, *General Manager*
A. E. HOGH, *Superintendent*

THE TRENTON POTTERIES COMPANY, Trenton, New Jersey

Vitreous China and Duraclay Plumbing Fixtures, Water Closets, Lavatories, Urinals, Tubs, Fountains, Hospital Fixtures

H. A. RYDSTROM, *President*
J. W. PIESLAK, *Superintendent*
J. R. BEAM, *Technical Director*

HYDRO-AIRE, INC., Burbank, California

Aircraft Valves, Filters and Actuators

H. H. RHOADS, *President*
J. H. OVERHOLSER, *Executive Vice President*
D. A. LICHTY, *Vice President*
F. R. COOPER, *Vice President*
R. C. STUNKEL, *Vice President*
G. S. MASSA, *Vice President*

TOLEDO DESK & FIXTURE CORPORATION Maumee, Ohio

Enameled Steel Kitchen Fixtures

F. M. CROOK, *President*
R. REID, *General Superintendent*

IN CANADA

CRANE, LIMITED (Canada) Montreal

L. H. T. CLEGG, *President*
G. R. GUSTIN, *Vice President*
E. J. LAIDLAW, *Vice President*
F. D. MACNAUGHTON, *Vice President*
F. H. MEYER, *Vice President*

ST. PATRICK ST. PLANT, Montreal, Quebec

Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication

J. D. WALKER, *General Superintendent*

CANADIAN POTTERIES LIMITED, St. Johns, Quebec

Vitreous China Plumbing Fixtures, Water Closets, Lavatories

A. J. BURGNER, *Manager*
GEO. TOEPFER, *Superintendent*

PORT HOPE SANITARY MANUFACTURING COMPANY, LIMITED, Port Hope, Ontario

Enameled Iron Plumbing Fixtures, Bathtubs, Sinks and Lavatories

G. M. JACOB, *Acting General Manager*
E. H. DITHRIDGE, *Superintendent*

ALLIANCEWARE LTD., Vancouver, B. C.

Enameled Steel Plumbing Fixtures

R. E. STRAIN, *General Manager*
A. T. GELZ, *Superintendent*

CRANE STEELWARE, LIMITED, Quebec, Quebec

Enameled Steel Plumbing Fixtures

R. S. COOKE, *Manager*
L. JOLICOEUR, *General Superintendent*

WARDEN KING (LIMITED), Montreal, Quebec

Iron Heating Boilers, Radiators and Soil Pipe

J. B. FLANAGAN, *Manager*
E. N. DELAHUNT, *General Superintendent*

IN GREAT BRITAIN

CRANE, LIMITED (England) London

J. E. BENNETT, *Chairman of the Board*
R. E. DUNNETT, *Managing Director*

IPSWICH WORKS, Ipswich, England

Valves, Fittings, Boilers, Radiation

J. B. WEBSTER, *Works Manager*

CRANE00485

CRANE CO.

VALVES, FITTINGS, FABRICATED PIPE
HEATING AND PLUMBING MATERIAL

GENERAL OFFICE
836 S. MICHIGAN AVENUE, CHICAGO CABLE ADDRESS, CRANECOY—CHICAGO

PLANTS
CHICAGO ★ CHATTANOOGA ★ TRENTON ★ MAUMEE, O. ★ BURBANK ★ COLTON, CAL.

In addition to Crane branches listed below, Wholesalers in all major markets sell Crane products.

BRANCHES

ALABAMA
BIRMINGHAM (3).....2 S. Twentieth St.
MOBILE .....300 N. Royal St.

ARIZONA
PHOENIX.....233 S. First Ave.
TUCSON.....35 Toole Ave.

ARKANSAS
FT. SMITH.....221 S. Ninth St.
LITTLE ROCK.....120 Commerce St.

CALIFORNIA
LONG BEACH (1).....724 W. Anaheim St.
LOS ANGELES (54).....321 E. Third St.
OAKLAND (7).....346 Ninth St.
SACRAMENTO (5)..... .....1227 Front St.
SALINAS.....239 East Alisal St.
SAN BERNARDINO.....777 W. Mill St.
SAN DIEGO (1).....1138 India St.
SAN FRANCISCO (19).....301 Brannan St.
SAN JOSE (25).....63 San Jose Ave.
SANTA ANA.....919 Poinsettia St.
STOCKTON.....331 N. Harrison St.

COLORADO
DENVER† (17).....1631 Fifteenth St.
GRAND JUNCTION†.....601 Pitkin Ave.
PUEBLO†.....180 Central Main

CONNECTICUT
BRIDGEPORT (3).....302 John St.
HARTFORD (5).....710 Windsor St.
NEW HAVEN (11).....365 Orchard St.

DISTRICT OF COLUMBIA
WASHINGTON (5).....1225 Eye St., N.W.

FLORIDA
JACKSONVILLE (3).....1007 W. Bay St.
MIAMI (30).....85 N. W. Tenth St.
ORLANDO..... .....1027 Sligh Blvd.
TALLAHASSEE.....2010 S. Monroe St.
TAMPA (1).....1105 E. Twiggs St.
WEST PALM BEACH.....217 5th St.

GEORGIA
ATLANTA (3).....Washington St. Viaduct
AUGUSTA.....701 Reynolds St.
MACON..... .....500 Broadway
SAVANNAH.....14 W. Broad St.

†(Crane-O'Fallon Division)

IDAHO
BOISE.....214 S. Fifth St.
POCATELLO.....756 S. First Ave.

ILLINOIS
AURORA.....544 S. Lake St.
CHICAGO (6).....156 N. Jefferson St.
Southside Branch (20).....231 W. 79th St.
ROCKFORD.....800 S. Main St.
SPRINGFIELD.....921 E. Monroe St.
WAUKEGAN.....1219 Glen Rock Ave.

INDIANA
EAST CHICAGO.....1004 E. Chicago Ave.
EVANSVILLE (6).....118 S. E. Eighth St.
INDIANAPOLIS (6).....333 W. Market St.
MUNCIE.....342 N. Pershing Dr.
SOUTH BEND (23).....1616 S. Franklin St.
TERRE HAUTE.....209 N. Ninth St.

IOWA
DAVENPORT (8).....217 E. Second St.
SIOUX CITY (2) .....223 Jackson St.

KANSAS
TOPEKA.....132 N. Kansas Ave.
WICHITA (1).....624 E. First St.

KENTUCKY
LEXINGTON (1).....165 Midland Ave.
LOUISVILLE (2).....756 S. First St.

LOUISIANA
NEW ORLEANS (11).....710 S. Broad St.
SHREVEPORT (92).....1320 Winston St.

MAINE
PORTLAND (4).....70 St. John St.

MARYLAND
BALTIMORE (1).....626 W. Pratt St.
SALISBURY.....1221 N. Salisbury Blvd.

MASSACHUSETTS
BOSTON (27).....48 Gillette Park, South Boston
SPRINGFIELD (1).....60 Cypress St.

MICHIGAN
DETROIT (26). .....150 Randolph St.
FLINT (1).....155 Lewis St.
GRAND RAPIDS (2).....56 Grandville Ave., S. W.
JACKSON.....409 Hupp Ave.

MINNESOTA
DULUTH* (2).....102 Lake Ave., S.
MANKATO*.....510 Pike St.
MINNEAPOLIS* (1).....400 Third Ave., N.
ST. PAUL* (1).....Broadway at 5th

MISSISSIPPI
JACKSON (5).....176 N. Gallatin St.

MISSOURI
KANSAS CITY (8).....2819 Warwick Trafficway
ST. LOUIS (3).. .....30 S. Sixteenth St.

MONTANA
BILLINGS*.....30th St. and First Ave., S.
GREAT FALLS*.....2 Third Ave., South

NEBRASKA
GRAND ISLAND.....115 E. Front St.
OMAHA (8).....323 S. Tenth St.
SCOTTSBLUFF†.....1617 Avenue "A"

NEVADA
RENO.....401 E. Fourth St.

NEW JERSEY
CAMDEN (4).....2994 Mt. Ephraim Ave.
NEWARK (5).....90 South St.
TRENTON (5).....50 Escher St.

NEW MEXICO
ALBUQUERQUE†.....612 First St., N. W.
ROSWELL†.....102 S. Virginia St.

NEW YORK
ALBANY (1)... . .....North Broadway
BINGHAMTON (36).....21 Washington St.
BUFFALO (5).....201 Church St.
HEMPSTEAD.....209 Main St.
LONG ISLAND CITY (1). ...47-30 Twenty-ninth St.
NEW YORK CITY (17) (Display Room)
101 Park Ave.
ROCHESTER (2).....200 South Ave.
SYRACUSE (1).....760 W. Genesee St.
UTICA (2).....326 Broad St.

*(Crane Co., Minnesota)

CRANE00486

CRANE CO. BRANCHES *Continued*

NORTH CAROLINA

ASHEVILLE.....531 McDowell St.
CHARLOTTE (8).....1307 W. Morehead St.
GREENSBORO.....205 S. Lyndon St.
ROCKY MOUNT.....300 N. Church St.

NORTH DAKOTA

BISMARCK*.....1401 Main Ave.
FARGO*.....1441 4th Ave., North
MINOT*.....Box 1189

OHIO

AKRON (11).....425 S. High St.
CANTON (2).....210 Piedmont Ave., S.E.
CINCINNATI (1).....824 Broadway
CLEVELAND (3).....6215 Carnegie Ave.
COLUMBUS (15).....67 N. Front St.
DAYTON (2).....901 S. Perry St.
LIMA.....207 S. Central Ave.
TOLEDO (1).....390 S. Erie St.

OKLAHOMA

MUSKOGEE.....302 Commercial St.
OKLAHOMA CITY (2).....705 W. Main St.
TULSA (1).....623 E. Third St.

OREGON

MEDFORD.....125 West 4th St.
PORTLAND (8).....710 N. W. Fourteenth Ave.
SALEM.....3030 Portland Rd.

†(Crane-O'Fallon Division)

PENNSYLVANIA

ERIE (3).....222 E. Eighth St.
PHILADELPHIA (22).....245 Master St.
West Philadelphia Branch (43)...1600 S. 59th St.
PITTSBURGH (30).....40 Twenty-fourth St.
READING.....407 N. Front St.

RHODE ISLAND

PROVIDENCE (3).....245 W. Exchange St.

SOUTH CAROLINA

CHARLESTON.....2026 Meeting St.
COLUMBIA.....716 Huger St.
GREENVILLE.....223 W. McBee Ave.

SOUTH DAKOTA

ABERDEEN*.....324 Railroad Ave.
SIOUX FALLS*.....326 E. Eighth St.

TENNESSEE

CHATTANOOGA (1).....1317 Chestnut St.
KNOXVILLE (1).....523 Jackson Ave., S. W.
MEMPHIS (1).....254 Court Ave.
NASHVILLE (2).....532 Eighth Ave., South

TEXAS

BEAUMONT.....720 Fannin St.
CORPUS CHRISTI.....1212 N. Tancahua St.
DALLAS (2).....814 Young St.
EL PASO†.....1609 Texas St.
HARLINGEN.....201 West "C" St.
HOUSTON (1).....2204 Pease Ave.
SAN ANTONIO (6).....1200 E. Houston St.

*(Crane Co., Minnesota)

UTAH

OGDEN.....2001 Wall Ave.
PROVO.....237 W. 5th North St.
SALT LAKE CITY (11).....307 W. Second, South

VIRGINIA

NEWPORT NEWS.....7706 Virginia Ave.
NORFOLK (10).....2 E. Twenty-second St.
RICHMOND (20).....1209 Admiral St.
ROANOKE (17).....404 Center Ave., N.W.

WASHINGTON

SEATTLE (14).....419 Second Ave., S.
SPOKANE (4).....126 S. Post St.
TACOMA (1).....1209 South "A" St.

WEST VIRGINIA

CHARLESTON (25).....502 Broad St.

WISCONSIN

MADISON (3).....641 Williamson St.
MILWAUKEE (3).....2123 W. Michigan St.
OSHKOSH.....37 Market St.

WYOMING

CASPER† (5).....802 East "C" St.

EXPORT

NEW YORK BRANCH ★ SAN ANTONIO BRANCH
SAN FRANCISCO BRANCH

CRANE, Limited (Canada)

GENERAL OFFICE • • 1170 Beaver Hall Square, Montreal, Que. • • Cable Address, Cranelit—Montreal
MANUFACTURING PLANTS • • Montreal, Que. • • Quebec, Que. • • St. John's, Que. • • Port Hope, Ont. • • Vancouver, B. C.

BRANCHES

ALBERTA

CALGARY.....602 Eleventh Ave., W.
EDMONTON.....11925 Kingsway

BRITISH COLUMBIA

VANCOUVER.....540 Beatty St.
VICTORIA.....1010 Government St.

MANITOBA

WINNIPEG.....93 Lombard St.

NEW BRUNSWICK

MONCTON.....293 Church St.

NEWFOUNDLAND

ST. JOHN'S.....Hill O'Chips

NOVA SCOTIA

HALIFAX.....7-15 Doyle St.

ONTARIO

HAMILTON.....40 Wellington St., North
KINGSTON.....71 Brock St.
LONDON.....304 York St.
OTTAWA.....288 Catherine St.
PORT ARTHUR.....950 Memorial Ave.
TORONTO.....306 Front St., W.

QUEBEC

MONTREAL.....1121 St. James St., W.
QUEBEC CITY.....39 St. Roch St.

SASKATCHEWAN

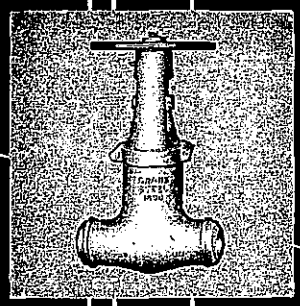
REGINA.....1408 Broad St.
SASKATOON.....359 First Ave., N.

CRANE, Limited (England)

GENERAL OFFICE • • 45-51 Leman St., London E. 1 • • Cable Address, Cranelon—London
MANUFACTURING PLANT • • Nacton Road, Ipswich, Suffolk

BRANCHES

BIRMINGHAM 26, 1277 Coventry Rd., South Yardley
BRENTFORD.....Great West Road
BRISTOL 1.....19 Colston St.
GLASGOW.....94-100 Clyde Ferry St., Anderston
LONDON, E. 1.....45-51 Leman St.
MANCHESTER 17, Westinghouse Rd., Trafford Park

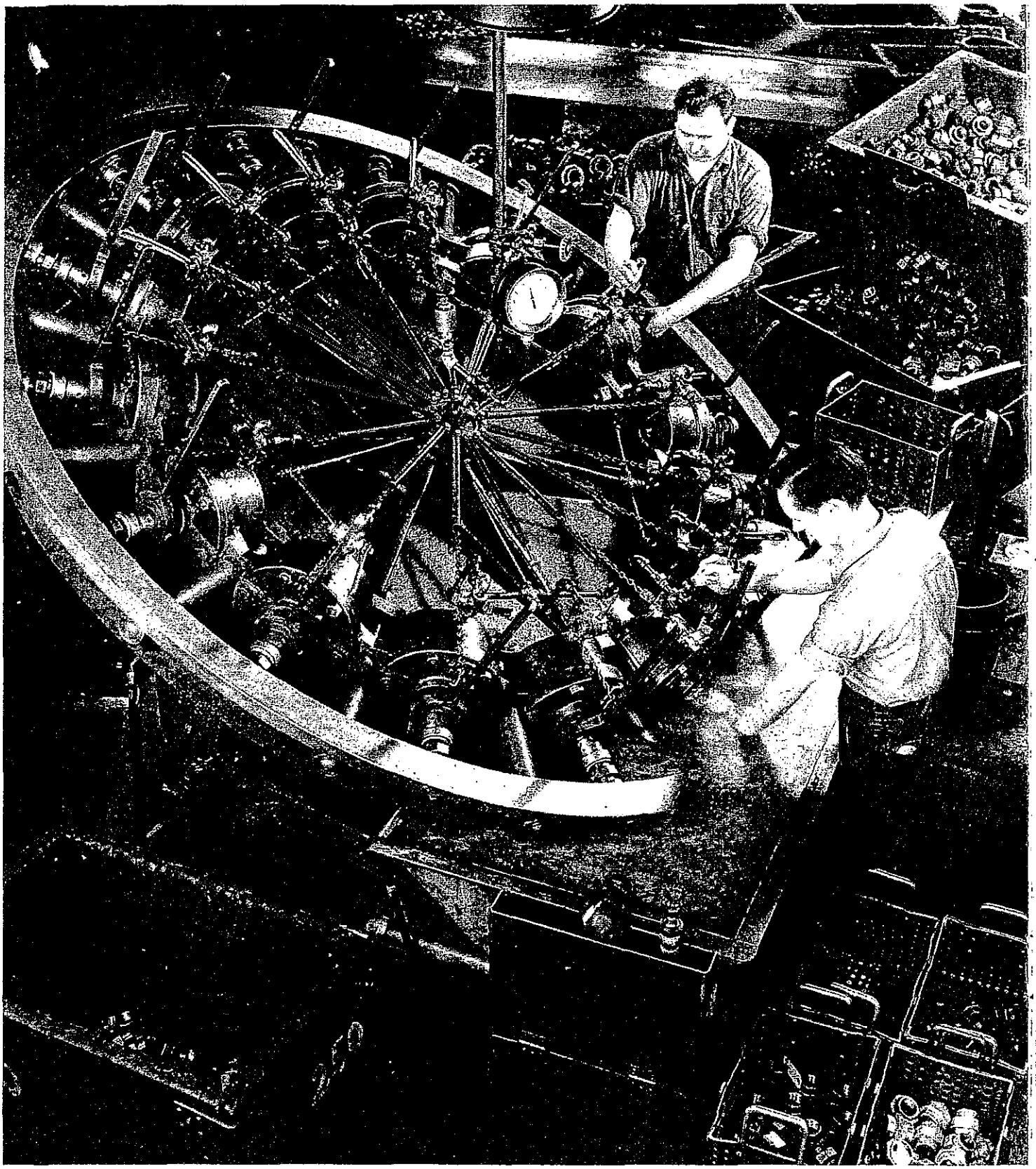


CRANE CO.

Annual Report

1953

CRANE00488



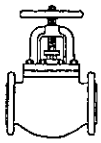
Controlling Crane Quality

After assembly, all Crane valves, as well as many types of fittings, are tested under pressures based upon specified service conditions. In the picture above, unions are being air tested while submerged in water. Soundness of parts intended for severe service is determined also by searching for non-visible flaws by radiography. Accurate gaging is another important factor in controlling Crane quality. Throughout the Chicago Works alone 67,000 gages are used to maintain the high standards of Crane performance, many of them measuring to 1/10,000 of an inch.

Annual Report

to Shareholders

For the Year Ended
December 31, 1953



CRANE CO.

836 SOUTH MICHIGAN AVE.
CHICAGO • ILLINOIS

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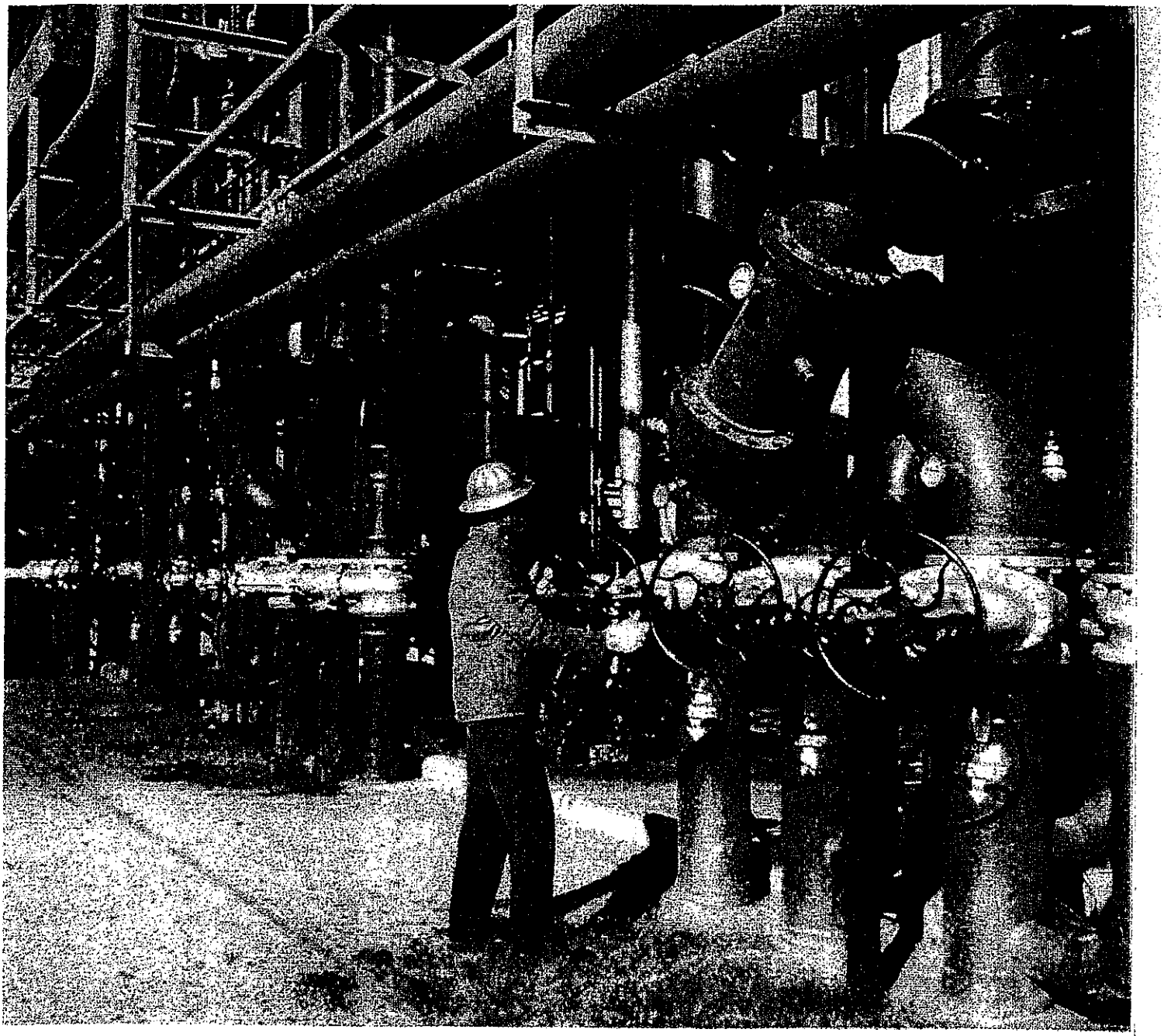


In the Chemical Industry

Rubber from oil, plastics and man made fibres from natural gas—the growth of the fabulous petro-chemical industry accelerates each year as more and more chemicals are being synthesized from petroleum and natural gas. The derivatives have many and varied uses. There are many products for the home, the automobile, the individual, and the farm. Some of them are clothing, rubber, plastics, pharmaceuticals and soil conditioners. . . . . The year 1953 capped a record for petro-chemical plant expansion and new construction. Crane Co. continued to supply an impressive volume of regular valves to this fast-growing industry. Crane engineers also worked closely with the designers of petro-chemical facilities in the development and manufacture of valves to meet the extreme pressures, temperatures and corrosive conditions encountered in these processes.

CRANE00491

1953 In Brief

CRANE CO. AND SUBSIDIARIES IN THE UNITED STATES AND CANADA

	1953	1952
Fixed Assets less Reserves for Depreciation	$ 59,995,920	$ 57,790,719
Capital Expenditures	8,249,264	7,296,622
Depreciation charged to Operations	5,406,070	5,019,215
Net Working Capital	118,747,218	118,301,071
Ratio Current Assets to Current Liabilities	7.41 to 1	5.88 to 1
Shareholders' Equities	158,907,870	156,312,878
Shareholders' Equity per Common Share	61.65	60.42
Shareholders' Equity per Common Share if English Subsidiary were consolidated	64.59	63.17
Net Sales	$315,677,790	$319,271,069
Net Earnings including Dividends from English Subsidiary	8,703,262	9,872,823
Per Common Share	3.47	3.96
Per Common Share if English Subsidiary were consolidated	3.65	4.24
Direct Taxes per Common Share	5.08	5.25
Dividends Paid—		
Preferred Shares	$ 506,663	$ 517,350
Common Shares	5,310,661	5,310,661
Per Common Share	2.25	2.25
Number of Employees	19,665	21,272
Wages, Salaries and Employee Benefits	$ 86,020,014	$ 88,620,242
Number of Shareholders—		
Preferred	1,408	1,483
Common	19,494	18,925

CRANE00492

To Our Shareholders

President's Letter

It is a pleasure to present the Annual Report of Crane Co. for the year 1953, and I hope you will read with interest the Financial and Operating Review and other sections of it.

Total net sales of the Company and its subsidiaries in the United States and Canada declined 1.1% from the preceding year, reflecting a decrease of 3.9% in sales of products of our own manufacture and an increase of 2.2% in sales of products manufactured by others. Net earnings declined 11.8%, due largely to the change in the character of products sold, increased expenses, and to changes in the Canadian exchange rate which resulted in net earnings for 1952 receiving a credit of $366,344 and those of 1953 a charge of $66,147. Our subsidiary companies are doing well, with the Canadian organization doing a particularly fine job, and the outlook for Hydro-Aire is very good.

The titanium project, commented upon in our last Annual Report and announced last August, is progressing favorably though not without the problems customarily experienced in an undertaking of its magnitude. Some of the plant buildings have been completed and work is underway on the rest. Small control production will be started within a month and we expect to be producing in substantial volume by the end of the year though it will take many months from then to bring the plant to capacity production.

We have secured rights to mineral deposits in several locations which we believe can furnish a large part of the titanium oxide requirements of the titanium plant for a number of years. These properties will also produce as by-products a number of other minerals, the refinement and sale of which should serve to provide the titanium oxide at a quite favorable price.

We continue to improve the facilities of our basic plants at a rate considerably in excess of the provision for depreciation and have budgeted expenditures in this respect for 1954 at $7,500,000, a very large part of which is being spent on improved and more efficient machinery and equipment.

CRANE00493

The program of establishing regional offices for the accounting and statistical reporting of our sales branches is practically completed, and a new plan for stocking and distributing product in these branches has been adopted and will become effective progressively through this year. This plan of operation will provide better service to our customers and permit a substantial reduction of inventories in the field.

As many already know, we maintain a large aggressive engineering division working on the development of new and refined products. As a result, we are happy to say that we have more new products recently introduced or to be introduced this year than at any previous time in the history of the Company. These include new lines of alloy steel valves, oil field valves, water works valves, plastic tubing and fittings, a new line of lavatories, closets and plumbing valves and trim, a new highly efficient automatically fired hot water boiler, as well as a new fuel booster pump for aircraft, developed by Hydro-Aire, which solves the problem of "vapor-lock" at high altitudes and at high rates of climb, and new valves and air turbines for aircraft.

Sales in the early weeks of 1954 are somewhat below the same period of 1953 and the volume for 1954 may be some lower than 1953, except as augmented by the sale of new products. However, a modest improvement in selling prices would quickly improve the profit picture. Selling prices of a large part of our basic products are below those of two years ago and the indicated results of our competitors in these lines together with our own, despite substantial gains in efficiency, fully justify some increase.

Business conditions in this country and Canada are in a state of flux and it is impractical to predict the results of operations for 1954. However, both industrial and residential construction are expected to continue at a high level and our Company should give a good account of itself. The long term outlook for the Company is very good.

The continued helpful cooperation of our shareholders, employees, customers and suppliers is greatly appreciated. It is essential to our progress and success.

Sincerely

J. L. Holloway
President

March 12, 1954

CRANE00494

Financial and Operating Review

The financial and statistical information contained in this review is on the basis of consolidating the accounts of the Company and all of its subsidiaries except Crane, Limited (England) whose assets are subject to continuing government controls.

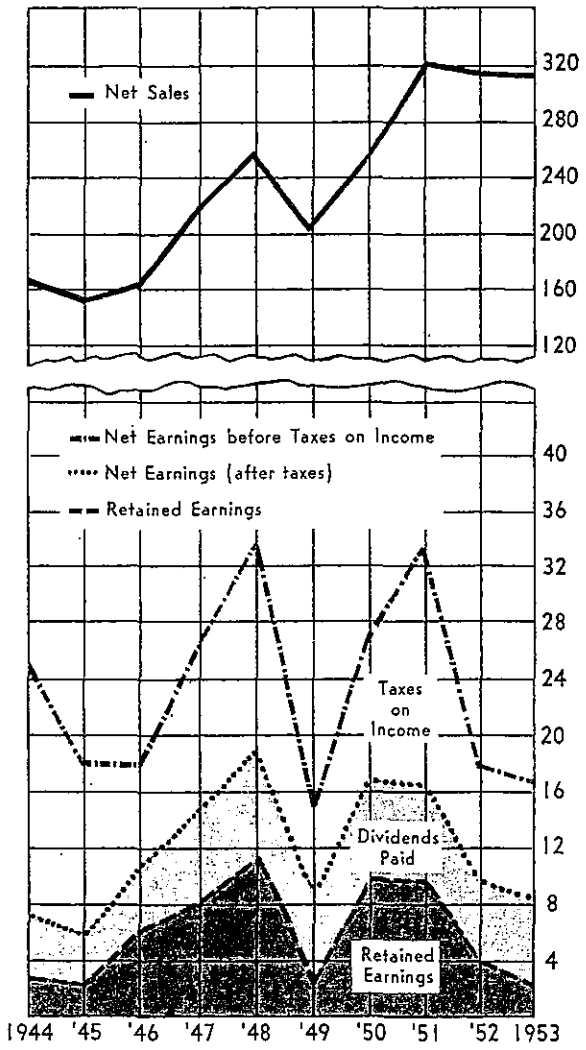
Consolidated net sales of all Crane products and jobbed goods (products manufactured by others) totaled $315,677,790, a decrease of 1.1% from the previous year. Net earnings were $8,703,262, or $3.47 per common share after provision for dividends on preferred shares, compared with $9,872,823 or $3.96 per common share in 1952. The net earnings in 1953 of our wholly-owned subsidiary in England were $1,249,850 compared with $1,371,930 for 1952. On the basis of consolidating the accounts of this subsidiary the earnings per Crane Co. common share would be increased to $3.65 in 1953 and $4.24 in 1952.

Federal, State and local taxes amounted to $12,006,452 or 137.9% of our net earnings after such taxes. These taxes represented $5.08 per common share or $610.54 per employee.

Dividend payments during 1953, totaling $5,817,324, represented 66.9% of net earnings compared with 59.1% in 1952. These payments consisted of regular quarterly dividends at the annual rate of $3.75 per share on the 3¾% cumulative preferred shares, amounting to $506,663, and regular quarterly dividends of 50¢ a share and an extra dividend at the year end of 25¢ a share on the common shares, totaling $2.25 a share or $5,310,661.

Inventories totaled $74,483,095 at the end of the year compared with $72,652,722 at the beginning of the year. Of the December 31, 1953 inventories $50,026,006 is priced on the "last-in, first-out" (LIFO) basis. The remainder of the inventory is priced at the lower

SALES and EARNINGS
(in Millions of Dollars)



CRANE00495

of cost or market reduced by a reserve provided in prior years which had the effect of stating the major portion of such remainder on a basis substantially equivalent to a LIFO basis. In view of the comparative stability of current prices the annual adjustment of such reserve seems unnecessary and would not have been significant for the year under review. The balance of the reserve as of December 31, 1952 has been maintained except for a corrective application adjustment.

At the year end there were no purchase or other commitments for substantial amounts at prices in excess of market.

Net working capital at December 31, 1953 amounted to $118,747,218, an increase of $446,147. The ratio of current assets to current liabilities was 7.41 to 1 compared with 5.88 to 1 at the end of 1952.

Capital expenditures in 1953 amounted to $8,249,264 compared with $7,296,622 in 1952. Of the 1953 total, $2,924,583 was expended for land and buildings and $5,324,681 for machinery and equipment.

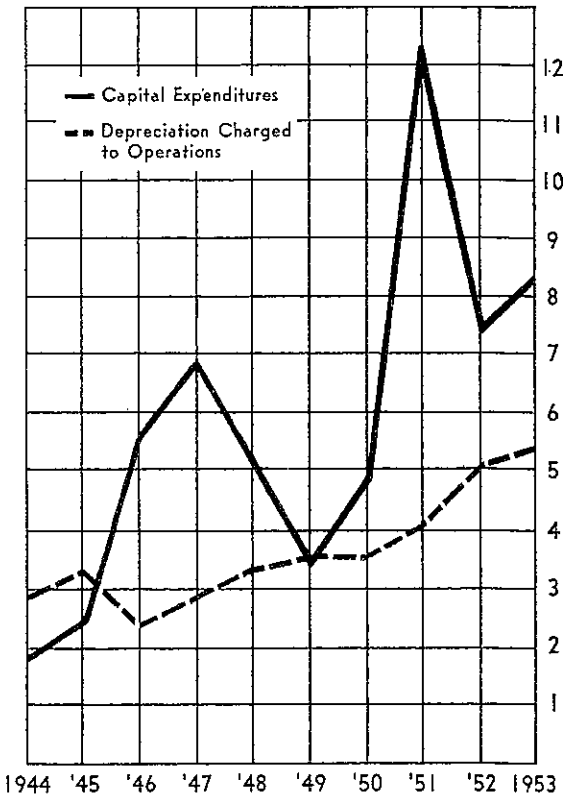
Depreciation charged to operations amounted to $5,406,070 in 1953 compared with $5,019,215 in 1952.

The expenditures for capital assets during the year include the cost of completing the new valve and fitting plant at Calgary, Alberta (Canada), which was officially opened on July 17, 1953, and the acquisition of land at Chattanooga, Tennessee and the beginning of construction of a new plant for the production of titanium by Cramet Inc. Work was started early in 1954 on a $3,000,000 modernization of our Chattanooga Division Plant which should result in much greater efficiency.

It has been our policy to keep abreast of new developments and to maintain our facilities in a modern and efficient condition. In recent years we have substantially expanded our capital assets by the acquisition of other businesses as well as by improving our own facilities.

During the ten year period 1944-1953 capital expenditures amounted to $58,413,000 (see chart on this page). This amount together with an increase of $55,862,000 in net working capital, to finance

CAPITAL EXPENDITURES and DEPRECIATION
(in Millions of Dollars)

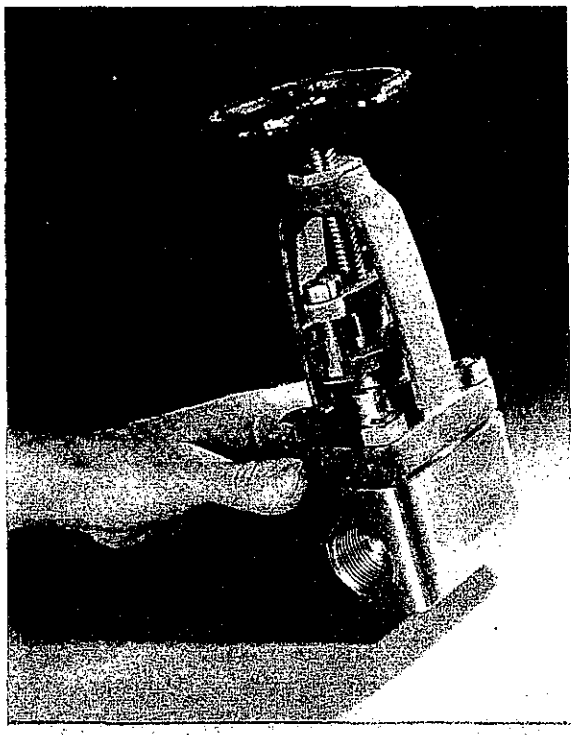


CRANE00496

operation of the added facilities, increased sales and generally higher costs, required $114,275,000 in additional funds. The principal sources of these funds were retained earnings of $59,417,000 and provision for depreciation of $36,449,000, with the balance being provided from miscellaneous other sources.

On July 31, 1953, Cramet Inc., a wholly-owned subsidiary of Crane Co., contracted with the United States of America to construct a plant for the production of titanium metal. Under such contract, the Government is to make advances up to $24,950,000 for the construction of this plant, with an annual production capacity of 6,000 tons of titanium metal sponge and facilities for conversion of part of the sponge into ingots suitable for rolling and extruding into sheet, bar, and other shapes.

Virtually all of the initial output will be channelled directly and indirectly toward military requirements, principally aircraft and engines. As soon as supplies will permit, we foresee the use of titanium in the valves and fittings we manufacture for use under highly corrosive conditions. Our engineering laboratories have already done a considerable amount of work on this application of titanium and on this page is shown a picture of an experimental titanium valve.



Here is Crane's first titanium valve, made in connection with our research program for the utilization of this metal on a production basis. It has outstanding resistance to corrosion and pitting in a number of fluids including water-saturated chlorine, chloride salts and highly oxidizing reagents which are corrosive to most other metals.

Present indications are that an important industrial future lies ahead for titanium and titanium alloys. The metal is about 40% lighter than alloy steel and exceeds its tensile strength—it is only 70% heavier than aluminum but is four times as strong.

The elimination of inherent vapor-stall characteristics has long been an objective of fuel booster pump engineering. As a result of research and testing by Crane's subsidiary Hydro-Aire, an entirely new principle was applied which resulted in vapor being forced into the fluid rather than the vapor being separated from the fluid. The result is Hydro-Aire's Fuel Booster Pump which today is delivering unequaled operating efficiency even at ultra-high altitudes.

Titanium has remarkable corrosion resistance, particularly to salt water, and is superior in this respect to practically all other metals, including aluminum and steel alloys.

At the close of 1953 employees in the entire Crane organization totaled 21,923 of which 16,202 were in the United States, 3,463 in Canada and 2,258 in England.

Employee relations continued to be harmonious and no work stoppages were experienced during the year 1953.

The estimated actuarial cost of the pension program for 1953 charged to operations was $3,942,280 of which $1,642,041 related to past service on the basis of amortizing past service liability over a period of approximately 24 years for employees in the United States and approximately 27 years for employees in Canada.

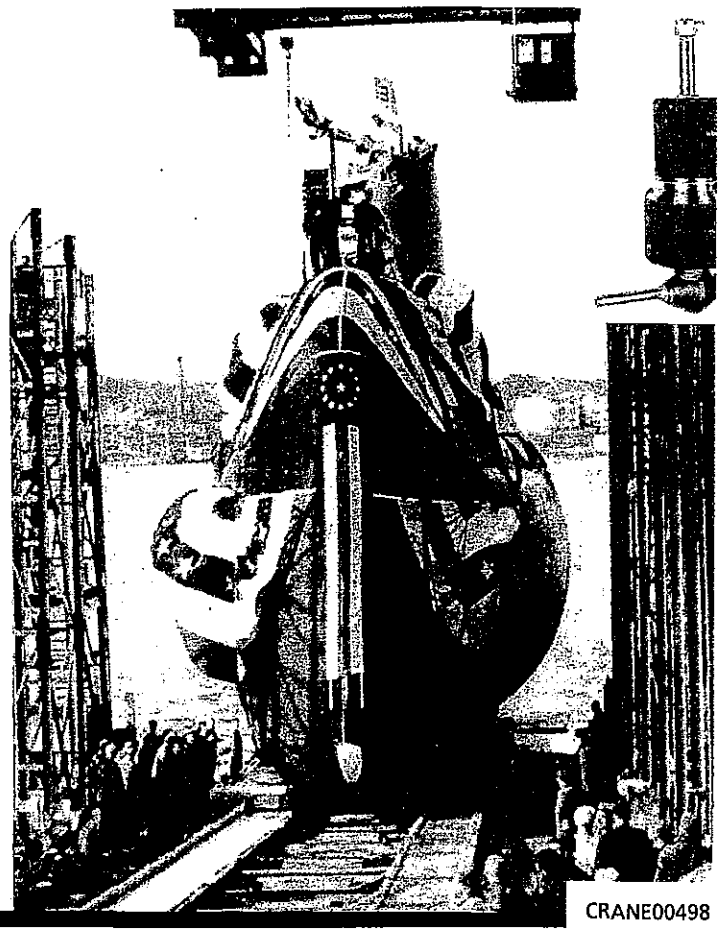
During 1953, $5,100,747 was deposited with the Trustees for the payment of pensions under the retirement program, bringing the total of all deposits with the Trustees to $19,854,423. The estimated unfunded actuarial liability at December 31, 1953 was approximately $32,800,000.

The principal management changes in the top administrative group were the election of L. W. Moore as Vice President and P. L. Yates as Comptroller.

Mr. Moore has been a member of the Crane organization since 1922 and served for 18 years in various capacities in Europe. Since returning to the United States in 1940 he has served in several executive positions and most recently as Director of Purchases. As Vice President, Mr. Moore is generally responsible for the purchasing activities of the Company.

Mr. Yates came to Crane Co. in 1936 as a Cost Accountant. He has served in various capacities including Auditor, Works Analyst, Manager of Chattanooga Division, and Secretary. He was appointed Assistant Comptroller in April 1951 and succeeded to the position of Comptroller in April 1953 upon the retirement of Mr. F. H. Kaiser after 51 years of service.

It is with deep regret that we report the death on June 25, 1953 of Mr. H. A. Rydstrom who had

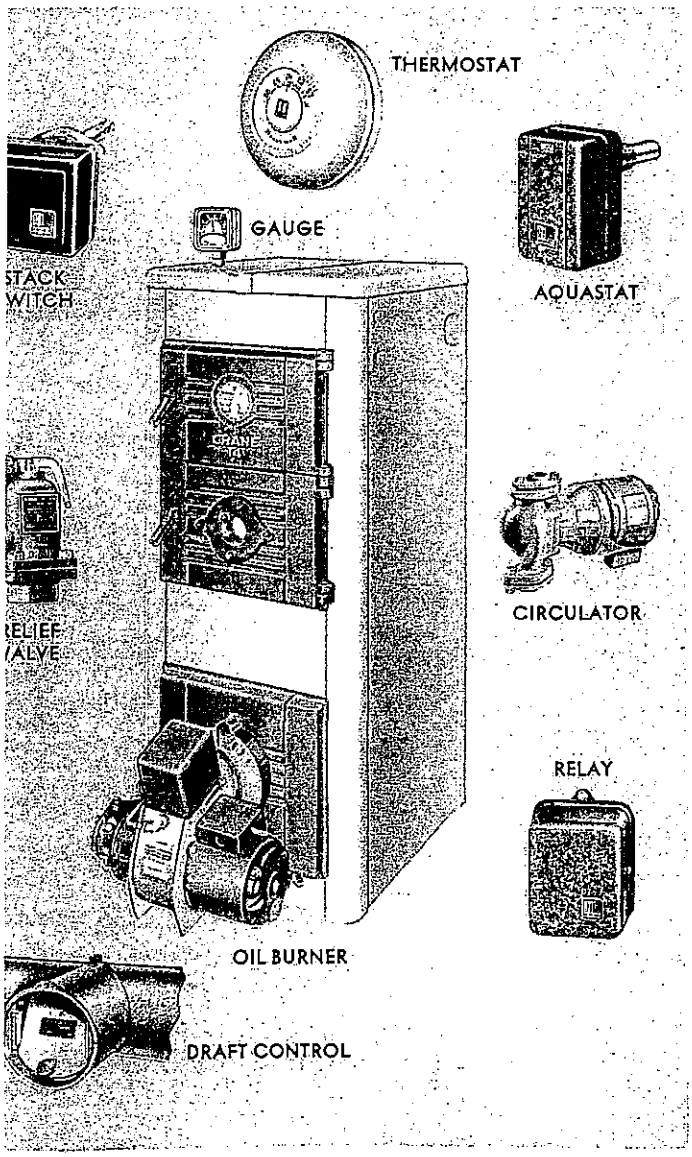


For several years Crane has had an important part in furthering America's leadership in the advancement and utilization of atomic power. In addition to supplying specialized valves for plants of the Atomic Energy Commission, Crane, with its highly skilled engineers, is participating in developing atomic power for the propulsion of ships and the generation of electricity. Some of this equipment is in use on the newly launched atomic submarine, the Nautilus. The special purpose valve shown in the insert at the right corner, designed by Crane engineers, is used in the primary circuit of a nuclear power reactor. It operates by remote control in reactor solution and handles radioactive material.

served the Company for more than 34 years, the last 4 years as President and Director of the Company's subsidiary, The Trenton Potteries Company. Mr. Rydstrom was succeeded by Mr. A. E. Bennett who started with The Trenton Potteries Company in 1924 and prior to his election as President was Executive Assistant.

The Boiler Package

; an effective sales aid, Crane oil-fired boilers are now prepacked at
: factory either with all seven accessories as shown in the picture, or
ih only the three basic accessories, the aquastat, thermostat and stack
itch, and sold as a package unit. This pre-packaged unit reduces
ndling and packing costs and permits a lower overall selling price.



At December 31, 1953, there were 13,312 persons who owned 1 to 99 common shares, 6,007 who owned 100 to 999 shares, and 175 who owned 1,000 or more shares.

Attendance of Directors at Board Meetings averaged 86% in 1953.

Over 94% of the eligible employees participate in our group insurance program.

Service emblems were distributed during 1953 to all employees having 5 years or more of continuous service. Over 8,000 of our employees in the United States and Canada have been with us at least 10 years and more than 4,500 of them have served Crane for 20 years or longer.

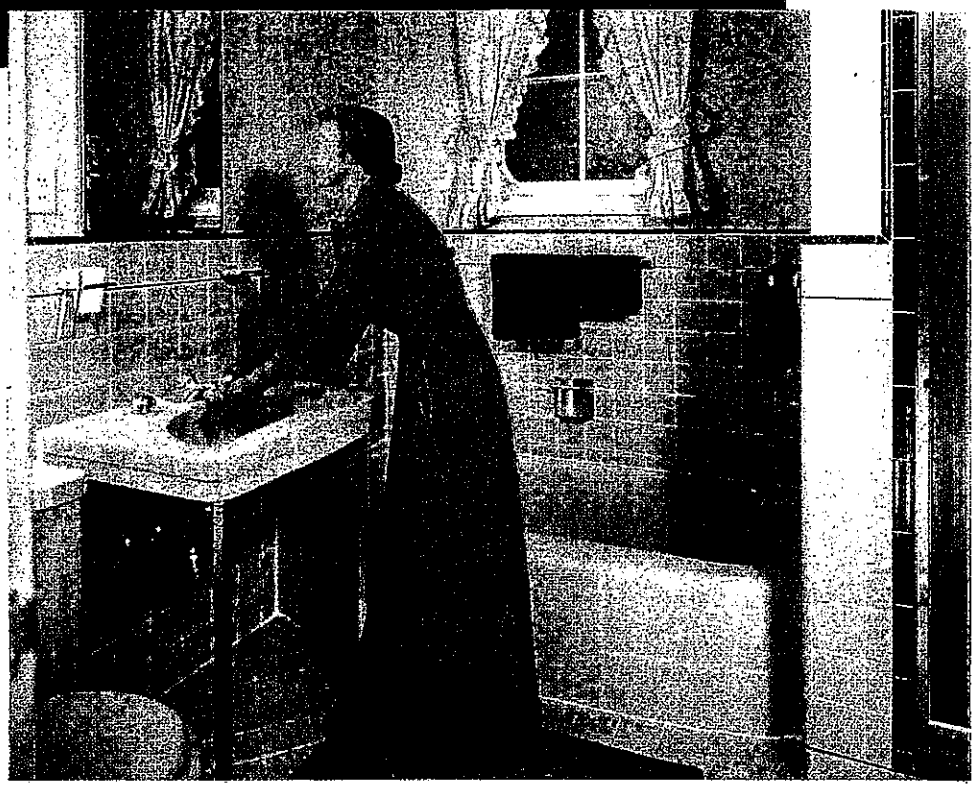
At the close of 1953 there were 987 wholesale establishments in the United States and Canada carrying stocks of Crane products.

July 4, 1955 will mark the first one hundred years of growth and progress of the business founded by Richard T. Crane. Plans have been made, and much of the preliminary work has been done, to appropriately commemorate our Centennial year.

At the 1953 annual meeting of shareholders over 77% of the shares entitled to vote were voted in person or by proxy. All shareholders are urged to exercise their right to vote.

CRANE00499

Recognition—BY BUILDERS AND ARCHITECTS



Pictured here is a typical example of a moderately priced home building project where the bathrooms feature the best—Crane! Builders have long recognized consumer preference for Crane plumbing. With the turn from a seller's to a buyer's market the Crane quality bathroom has become an increasingly important selling advantage.

COOPERATION with the architect has long been a Crane policy — providing him with complete information, accurate specifications and a variety of products that make his work broader and easier. The most recent case in point is the new catalogue of Crane products in the hospital field. It has been cited for merit in the building products literature competition sponsored by the American Institute of Architects and the Producers' Council, Inc. In making the award, the jury said, "This catalogue really performs a service to the architect. It goes far beyond talking about the product and describes where and how to use it most efficiently." The customer's and the user's viewpoint have always been uppermost in both the manufacturing and sales areas of Crane Co. We appreciate having this policy so clearly and so prominently recognized.

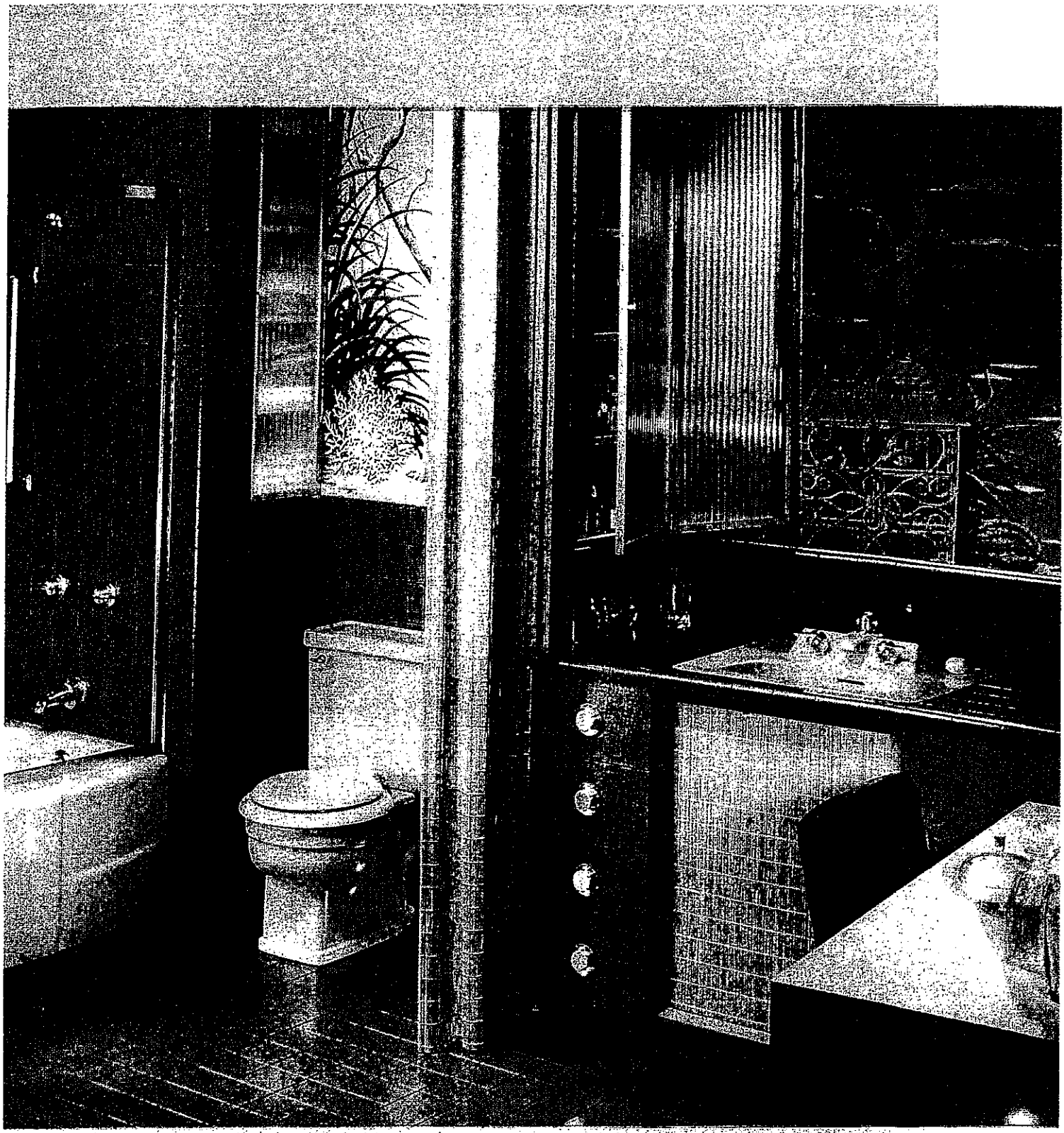
CRANE00500

Come to Crane for Ideas

Every Crane dealer is prepared to give advice on remodeling bathrooms, kitchens and heating systems. Our advertising and sales promotion department is helping Crane dealers prepare for greater efforts in the remodeling market. Here is a bathroom before and after remodeling as suggested in the Crane Sketchbook of Ideas.

IN REMODELING as well as in new home construction, Crane baseboard heating is an important aid to home improvement. Baseboard heating, pioneered by Crane in 1942 affords complete freedom in arrangement of furniture as well as plumbing fixtures. Crane Co. is in the happy position of being the leader in the cast iron baseboard heating field, hav-

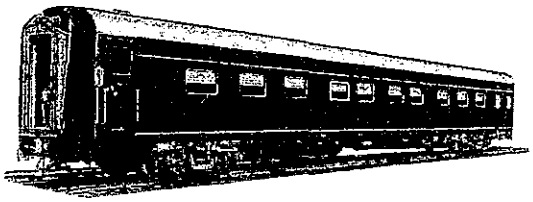
CRANE00501



ing sold more units of this type last year than any other manufacturer. Baseboard heating is more comfortable because the temperature gradient from floor to ceiling is less than with other methods. And, although referred to as "baseboard," Crane radiant type heating units can be placed at the ceiling line as well and they are unique in this respect.

CRANE00502

Home Luxury on Wheels



First class passenger train accommodations now means first class lavatories in the new sleeping cars—vitreous china lavatories and toilets by Crane and Crane fittings are standard on this equipment. Here you see a Crane installation in one of these cars.

Mobile Homes Become a Quality Market

THE HOUSE TRAILER that restless Americans looked upon, when it was introduced two decades ago, as a novelty has become the very substantial mobile home of today. More than 700,000 families are year-round residents of mobile homes. More than 76,000 mobile homes were sold last year.

As this type of residence becomes more popular each year, better quality furnishings and accessories are built into them. The demand now is for the same high standards of kitchen and bathroom equipment enjoyed in the average American house.

As a result, several mobile home manufacturers have turned to Crane for fixtures especially designed for small space. We are already selling a small size, light weight tub and our Petite lavatory, only 14 by 14 inches, is also particularly suitable for mobile homes. We have developed, and will soon be producing, a new design water closet only 22 inches from wall to front rim instead of 27½ inches in regular closets and only 17 inches wide instead of 21 to 22 inches.

CRANE00503

CRANE CO.

AND SUBSIDIARIES IN THE UNITED STATES AND CANADA

Consolidated Earnings and Earned Surplus Statement

FOR THE YEAR ENDED DECEMBER 31, 1953

Net sales		$315,677,790
Cost of sales, selling, administrative and general expenses (Notes 3 and 6)	$294,444,387	
Provision for depreciation	5,406,070	
		299,850,457
Net earnings from operations		$ 15,827,333
Other income:		
Dividends received from English subsidiary (Note 2)	$ 811,668	
Loss on foreign exchange conversion (Note 1)	(66,147)	
Miscellaneous—net	160,476	
		905,997
		$ 16,733,330
Minority stockholders' interest in net earnings of subsidiaries		162,432
Net earnings before taxes on income		$ 16,570,898
Provision for taxes on income:		
Federal normal tax and surtax	$ 5,308,134	
Canadian income tax	2,559,502	
		7,867,636
Net earnings for the year		$ 8,703,262
Earned surplus at beginning of year		81,873,943
Excess of par value over cost of 3¾% cumulative preferred shares canceled in connection with sinking fund requirements		19,660
		$ 90,596,865
Deduct:		
Cash dividends paid:		
On 3¾% cumulative preferred shares, $3.75 per share	$ 506,663	
On common shares, $2.25 per share	5,310,661	
		5,817,324
Earned surplus at end of year (Note 5)		$ 84,779,541

CRANE00504

Consolidated

DECEMBE

ASSETS

CURRENT ASSETS:		
Cash		$ 18,869,246
U. S. Government securities, at cost, which approximates market value		5,092,356
Accounts receivable	$ 41,242,071	
Less: Reserve for doubtful accounts	2,434,022	
		38,808,049
Inventories (Note 3)—		
Raw materials and supplies	$ 9,288,496	
Work in process	15,675,466	
Finished goods	49,519,133	
		74,483,095
Total current assets		$137,252,746
INVESTMENTS:		
Investment in English subsidiary, at cost (Note 2)	$ 2,134,581	
Other investments, at cost or nominal value (less reserve, $305,338)	839,784	
		2,974,365
FIXED ASSETS:		
Land and land improvements	$ 7,908,616	
Buildings	$43,727,107	
Less: Reserve for depreciation	20,392,524	
	23,334,583	
Machinery and equipment	$67,241,210	
Less: Reserve for depreciation	40,647,161	
	26,594,049	
Titanium plant under construction (Note 4)	1,091,398	
Unfinished construction	1,067,274	
		59,995,920
DEFERRED CHARGES		962,027
		$201,185,058

CRANE00505

Balance Sheet

31, 1953

LIABILITIES

CURRENT LIABILITIES:		
Accounts payable, accrued payrolls, etc.		$ 14,627,506
Accrued Federal and Canadian taxes on income	$ 7,237,236	
Less: U. S. Treasury tax notes	5,371,396	
		1,865,840
Accrued general taxes		2,012,182
Total current liabilities		$ 18,505,528
LONG-TERM DEBT:		
Note payable to U. S. Government, including accrued interest of $5,313 (Note 4)	$ 1,002,999	
Twenty-five year 3⅛% sinking fund debentures (Note 5)	20,000,000	
		21,002,999
RESERVE FOR PENSIONS (Note 6)		711,092
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES		2,057,569
CAPITAL STOCK AND SURPLUS:		
Capital stock—		
Cumulative preferred shares, 3¾%, par value $100 (Note 7):		
Authorized — 160,000 shares		
Outstanding— 137,459 shares (including 3,599 shares in treasury)	$ 13,745,900	
Common shares, par value $25 (Note 8):		
Authorized —3,500,000 shares		
Outstanding—2,360,294 shares	59,007,350	
	$ 72,753,250	
Surplus—		
Capital surplus (unchanged during year)	$ 1,708,321	
Earned surplus (Note 5)	84,779,541	
	86,487,862	
	$159,241,112	
Less: Cost of 3,599 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 7)	333,242	
		158,907,870
		$201,185,058

CRANE00506

Notes to Financial Statements

NOTE 1—CONVERSION OF ITEMS CARRIED IN CANADIAN CURRENCY:

In converting the items carried in Canadian currency, fixed assets were converted at U. S. dollar cost at dates of acquisition, less accrued depreciation. Net current assets were converted at the current rate of exchange at the year end and the net loss on conversion is included in the consolidated earnings statement in other income.

NOTE 2—INVESTMENT AND OPERATIONS IN ENGLAND:

The investment in Crane, Limited (England), a wholly-owned subsidiary, is carried in the consolidated balance sheet at cost, $2,134,581, and dividends received from that company are reflected in the consolidated earnings statement.

The net assets of Crane, Limited (England), stated at equivalent U. S. dollars, are summarized as follows:

Fixed assets at U. S. dollar cost at dates of acquisition, less accrued depreciation..	$ 3,644,235
Net current assets at $2.81 for English pound	5,427,716
	$ 9,071,951

The results of operations of Crane, Limited (England) for the year ended December 31, 1953, stated at equivalent U. S. dollars, are summarized below:

Net sales, including $1,038 other income, net	$11,714,947
Cost of sales, selling, administrative and general expenses and provision for depreciation	9,342,097
Net earnings from operations	$ 2,372,850
Provision for taxes on income	1,123,000
Net earnings for the year	$ 1,249,850

NOTE 3—INVENTORIES:

The major portion of the inventories are valued on a "last-in, first-out" (LIFO) basis. Other inventories aggregating $30,378,910 are priced at the lower of cost or market on a "first-in, first-out" basis. A major portion of these inventories were formerly priced at a basis substantially equivalent to LIFO by application of a reserve (not allowable for income tax purposes). This reserve has been kept at a constant amount for the year 1953 (except for a corrective adjustment) and has been deducted from the inventories as follows:

Raw materials and supplies	$1,896,450
Work in process	919,543
Finished goods	3,105,828
	$5,921,821

The effect of this change in method of valuation of inventories on the earnings of the year 1953 is not material.

NOTE 4—NOTE PAYABLE TO U. S. GOVERNMENT:

This note is secured by a lien on the titanium plant under construction and is payable, including interest at 5%, based on production of that plant, with a final maturity date of February 28, 1961.

NOTE 5—25 YEAR 3⅛% SINKING FUND DEBENTURES:

Beginning with September 15, 1957 and annually thereafter through 1976, the Company is obligated to pay to the Trustee an amount sufficient to redeem, at the sinking fund redemption price in effect on the November 1 following, $950,000 principal amount of debentures. Under the provisions of the indenture relating to the Debentures, Earned Surplus at December 31, 1953 in the amount of $69,271,436 is not available for the payment of dividends on the Company's common shares.

NOTE 6—PENSIONS:

Following is a summary of the changes during the year in the "Reserve for Pensions":

Balance, December 31, 1952	$1,868,559
Provision charged against earnings for the year 1953:	
For current services	2,300,239
For past services	1,642,041
Amount charged to titanium plant under construction	1,000
	$5,811,839
Contributions to Trustees	5,100,747
Balance, December 31, 1953	$ 711,092

CRANE00507

Notes to Financial Statements

Reference is made to the Financial and Operating Review section of this report under the heading "Employee Relations" for further information concerning pensions.

NOTE 7—3¾% CUMULATIVE PREFERRED SHARES:

These shares are redeemable at the option of the Company at $107 per share prior to June 15, 1955 (an aggregate amount of $14,323,020) and at $104.50 per share on or after June 15, 1955. They are also redeemable through the operation of the sinking fund at any time at a redemption price of $104.50 per share.

Under the sinking fund provisions the Company is required to pay over to the sinking fund agent for the redemption or purchase of such shares a determinable amount of cash, but not in excess of $320,000 with respect to any fiscal year. Against its obligation to make the cash sinking fund payment in any year the Company may, at its election, take credit for shares purchased by it otherwise than through the sinking fund.

At December 31, 1953, the Company held 3,599 reacquired shares with a cost of $333,242. A sufficient number of these reacquired shares will be deposited on or before April 30, 1954 with the sinking fund agent in satisfaction of the sinking fund requirements.

NOTE 8—STOCK OPTION PLAN:

Pursuant to a stock option plan adopted in 1951, 200,000 of the Company's unissued common shares are reserved for issuance to officers and employees of the Company and its subsidiaries. Under the plan, the Stock Option Committee may grant 10 year options to purchase shares at a price not less than 85% of the fair market price on the date the option is granted. At December 31, 1953, options were outstanding to 98 officers and key employees for 114,100 shares at $37 per share. During the first five years after an option is granted, the optionee may not acquire the optioned shares at a rate greater than 20% annually, such percentage being cumulative. At December 31, 1953 none of the options had been exercised.

Certificate of Independent Public Accountants

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. and Subsidiaries in the United States and Canada at December 31, 1953, and the related consolidated earnings and earned surplus statement for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

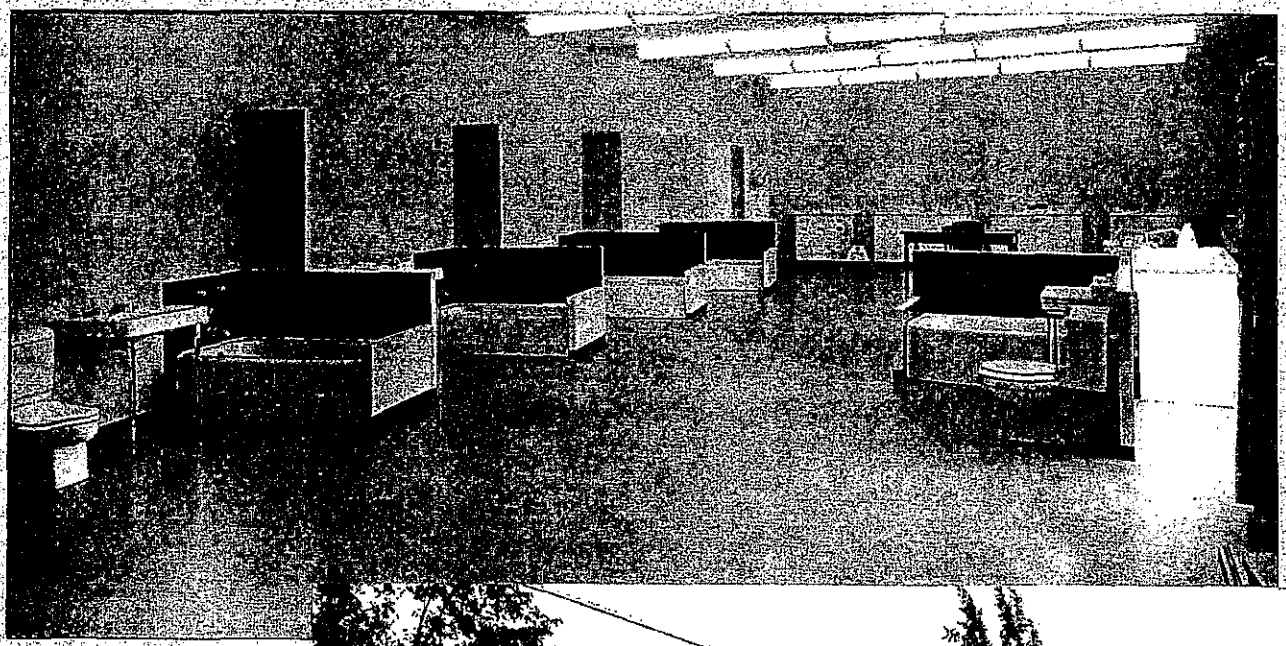
In our opinion, the accompanying consolidated balance sheet and consolidated earnings and earned surplus statement present fairly the financial position of Crane Co. and Subsidiaries in the United States and Canada at December 31, 1953 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year, except for the change in the method followed in valuing a portion of the inventories. The change is explained in Note 3 and represents an alternative accepted method of inventory valuation.

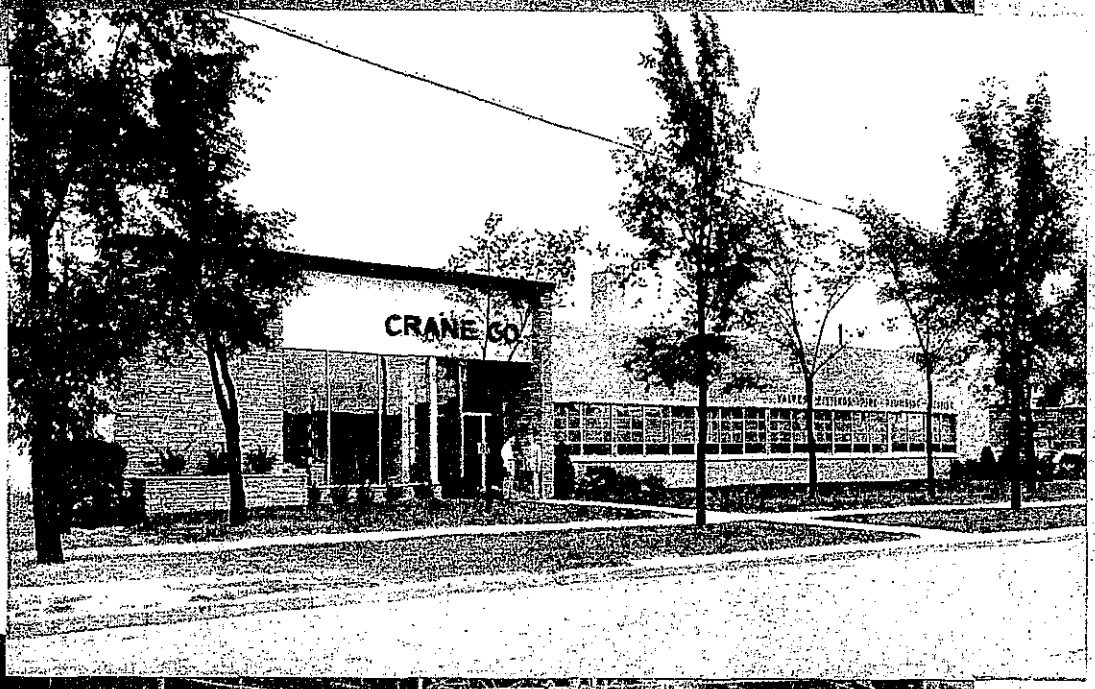
ARTHUR YOUNG & COMPANY.

Chicago, Illinois,
March 10, 1954.

CRANE00508

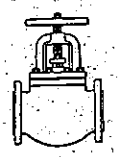
Distribution and Service





Display and warehouse facilities in 169 cities in the United States and Canada staffed by experienced personnel afford prompt and helpful service to Crane customers.

CRANE CO.



VALVES, FITTINGS, FABRICATED PIPE
HEATING AND PLUMBING MATERIAL

GENERAL OFFICE
836 S. MICHIGAN AVENUE, CHICAGO CABLE ADDRESS, CRANECOY—CHICAGO

PLANTS
CHICAGO ★ CHATTANOOGA ★ TRENTON ★ MAUMEE, O. ★ BURBANK ★ COLTON, CAL.

In addition to Crane branches listed below, Wholesalers in all major markets sell Crane products.

BRANCHES

BIRMINGHAM (3).....2 S. Twentieth St.
MOBILE .....300 N. Royal St.

PHOENIX..... .....233 S. First Ave.
TUCSON.....35 Toole Ave.

FT. SMITH.....221 S. Ninth St.
LITTLE ROCK.....120 Commerce St.

FRESNO.....2169 South Van Ness
LONG BEACH (13).....724 W. Anaheim St.
LOS ANGELES (54).....321 E. Third St.
OAKLAND (7).....346 Ninth St.
SACRAMENTO (5)..... .....1227 Front St.
SALINAS.....239 East Alisal St.
SAN BERNARDINO.....777 W. Mill St.
SAN DIEGO (1).....1138 India St.
SAN FRANCISCO (19).....301 Brannan St.
SAN JOSE (8).....63 San Jose Ave.
SANTA ANA.....919 Poinsettia St.
STOCKTON.....331 N. Harrison St.

DENVER† (17).....1631 Fifteenth St.
GRAND JUNCTION†.....601 Pitkin Ave.
PUEBLO†.....180 Central Main

BRIDGEPORT (3).....302 John St.
HARTFORD (5).....710 Windsor St.
NEW HAVEN (11).....365 Orchard St.

WASHINGTON (5).....1225 Eye St., N.W.

JACKSONVILLE (3).....1007 W. Bay St.
MIAMI (30).. .....85 N. W. Tenth St.
ORLANDO..... 1027 Sligh Blvd.
TALLAHASSEE.....2010 S. Monroe St.
TAMPA (1).....1105 E. Twiggs St.
WEST PALM BEACH.....217 Fifth St.

ATLANTA (3).....Washington St. Viaduct
AUGUSTA.....701 Reynolds St.
MACON .....500 Broadway
SAVANNAH.....14 W. Broad St.

†(Crane-O'Fallon Division)

BOISE.....214 S. Fifth St.
POCATELLO.....756 S. First Ave.

AURORA.....544 S. Lake St.
CHAMPAIGN.....1607 S. Neil St.
CHICAGO (6).....156 N. Jefferson St.
Southside Branch (20).....231 W. 79th St.
ROCKFORD.....800 S. Main St.
SPRINGFIELD.....921 E. Monroe St.
WAUKEGAN.....1219 Glen Rock Ave.

EAST CHICAGO.....1004 East Chicago Ave.
EVANSVILLE (6).....118 S. E. Eighth St.
INDIANAPOLIS (6).....333 W. Market St.
MUNCIE.....342 N. Pershing Dr.
SOUTH BEND (23).....1616 S. Franklin St.
TERRE HAUTE.....209 N. Ninth St.

DAVENPORT (8).....217 E. Second St.
SIOUX CITY (2) .....223 Jackson St.

TOPEKA.....132 N. Kansas Ave.
WICHITA (1).....624 E. First St.

LEXINGTON (1).....165 Midland Ave.
LOUISVILLE (2).....756 S. First St.

NEW ORLEANS (11).....710 S. Broad St.
SHREVEPORT (92).....1320 Winston St.

PORTLAND (4).....70 St. John St.

BALTIMORE (1).....626 W. Pratt St.
SALISBURY.....1221 N. Salisbury Blvd.

BOSTON (27).....48 Gillette Park, South Boston
SPRINGFIELD (1).....60 Cypress St.

DETROIT (28).....8880 Hubbell Ave.
FLINT (1).....155 Lewis St.
GRAND RAPIDS (2).....56 Grandville Ave., S. W.
JACKSON.....409 Hupp Ave.

DULUTH* (2).....102 Lake Ave., S.
MANKATO*.....510-516 Pike St.
MINNEAPOLIS* (1).....400 Third Ave., N.
ST. PAUL* (1).....Broadway at Fifth St.

JACKSON (5).....176 N. Gallatin St.

KANSAS CITY (8).....2819 Warwick Trafficway
ST. LOUIS (3).....30 S. Sixteenth St.

BILLINGS*.....30th St. and First Ave., S.
GREAT FALLS*.....2 Third Ave., South

GRAND ISLAND.....115 E. Front St.
OMAHA (8).....323 S. Tenth St.
SCOTTSBLUFF†.....1617 Avenue "A"

RENO.....401 E. Fourth St.

CAMDEN (4).....2994 Mt. Ephraim Ave.
NEWARK (5).....90 South St.
TRENTON (5).....50 Escher St.

ALBUQUERQUE†.....612 First St., N. W.
ROSWELL†.....102 S. Virginia St.

ALBANY (1).....North Broadway
BINGHAMTON (36).....21 Washington St.
BUFFALO (5).....201 Church St.
HEMPSTEAD.... .....209 Main St.
LONG ISLAND CITY (1). ...47-30 Twenty-ninth St.
NEW YORK CITY (17) (Display Room)
101 Park Ave.
ROCHESTER (2).....200 South Ave.
SYRACUSE (1).....760 W. Genesee St.
UTICA (2).....326 Broad St.

*(Crane Co., Minnesota)

CRANE00510

CRANE CO. BRANCHES *Continued*

NORTH CAROLINA

ASHEVILLE.....531 McDowell St.
CHARLOTTE (8).....1307 W. Morehead St.
GREENSBORO.....205 S. Lyndon St.
ROCKY MOUNT.....300 N. Church St.

NORTH DAKOTA

BISMARCK*.....1401 Main St.
FARGO*.....1441 4th Ave., North
MINOT*.....Box 1189

OHIO

AKRON (11).....425 S. High St.
CANTON (2).....210 Piedmont Ave., S.E.
CINCINNATI (1).....824 Broadway
CLEVELAND (3).....6215 Carnegie Ave.
COLUMBUS (15).....67 N. Front St.
DAYTON (2).....901 S. Perry St.
LIMA.....207 S. Central Ave.
TOLEDO (1).....390 S. Erie St.

OKLAHOMA

MUSKOGEE.....302 Commercial St.
OKLAHOMA CITY (2).....705 W. Main St.
TULSA (1).....623 E. Third St.

OREGON

MEDFORD.....125 West Fourth St.
PORTLAND (8).....710 N. W. Fourteenth Ave.
SALEM.....3030 Portland Rd.

†(Crane-O'Fallon Division)

PENNSYLVANIA

ERIE (3).....222 E. Eighth St.
PHILADELPHIA (22).....245 Master St.
West Philadelphia (43).....1600 S. 59th St.
PITTSBURGH (30).....40 Twenty-fourth St.
READING.....407 N. Front St.

RHODE ISLAND

PROVIDENCE (3).....245 W. Exchange St.

SOUTH CAROLINA

CHARLESTON.....2026 Meeting St.
COLUMBIA.....716 Huger St.
GREENVILLE.....223 W. McBee Ave.

SOUTH DAKOTA

ABERDEEN*.....324 Railroad Ave.
SIOUX FALLS*.....326 E. Eighth St.

TENNESSEE

CHATTANOOGA (1).....1317 Chestnut St.
KNOXVILLE (1).....523 Jackson Ave., S. W.
MEMPHIS (1).....254 Court Ave.
NASHVILLE (2).....532 8th Ave., South

TEXAS

BEAUMONT.....720 Fannin St.
CORPUS CHRISTI.....1212 N. Tancahua St.
DALLAS (2).....814 Young St.
EL PASO†.....1609 Texas St.
HARLINGEN.....201 West "C" St.
HOUSTON (1).....2204 Pease Ave.
SAN ANTONIO (6).....1200 E. Houston St.

*(Crane Co., Minnesota)

UTAH

OGDEN.....2001 Wall Ave.
PROVO.....237 W. Fifth North St.
SALT LAKE CITY (11).....307 W. Second, South

VIRGINIA

NEWPORT NEWS.....7706 Virginia Ave.
NORFOLK (10).....2 E. 22nd St.
RICHMOND (20).....1209 Admiral St.
ROANOKE (17).....404 Center Ave., N.W.

WASHINGTON

SEATTLE (14).....419 Second Ave., S.
SPOKANE (8).....S. 126 Post St.
TACOMA (1).....1209 South "A" St.

WEST VIRGINIA

CHARLESTON (25).....502 Broad St.

WISCONSIN

MADISON (3).....641 Williamson St.
MILWAUKEE (3).....2123 W. Michigan St.
OSHKOSH.....37 Market St.

WYOMING

CASPER† (5).....802 East "C" St.

EXPORT

NEW YORK BRANCH ★ SAN ANTONIO BRANCH
SAN FRANCISCO BRANCH

CRANE, Limited (Canada)

GENERAL OFFICE • • 1170 Beaver Hall Square, Montreal, Que. • • Cable Address, Cranelit—Montreal
MANUFACTURING PLANTS • • Montreal, Que. • • Quebec, Que. • • St. John's, Que. • • Port Hope, Ont. • • Vancouver, B. C. • • Calgary, Alta.

ALBERTA

CALGARY.....602 Eleventh Ave., W.
EDMONTON.....11925 Kingsway

BRITISH COLUMBIA

VANCOUVER.....540 Beatty St.
NORTH VANCOUVER.....1300 Marine Drive
VICTORIA.....2001 Douglas St.

MANITOBA

WINNIPEG.....93 Lombard St.

NEW BRUNSWICK

FREDERICTON.....620 King St.
MONCTON.....293 Church St.

NEWFOUNDLAND

ST. JOHN'S.....Hill O'Chips

NOVA SCOTIA

DARTMOUTH.....22 Prince Albert Rd.
HALIFAX.....7-15 Doyle St.

ONTARIO

HAMILTON.....40 Wellington St., North
KINGSTON.....71 Brock St.
LONDON.....304 York St.
OTTAWA.....288 Catherine St.
PORT ARTHUR.....950 Memorial Ave.
TORONTO.....306 Front St., W.
TORONTO.....535 Wilson Ave.

QUEBEC

MONTREAL (2).....1121 St. James St., W.
MONTREAL.....110 Cremazie Blvd., West
QUEBEC CITY (2).....39 St. Roch St.

SASKATCHEWAN

REGINA.....1408 Broad St.
SASKATOON.....359 First Ave., N.

CRANE, Limited (England)

GENERAL OFFICE • • 45-51 Leman St., London E. 1 • • Cable Address, Cranelon—London
MANUFACTURING PLANT • • Nacton Road, Ipswich, Suffolk

BIRMINGHAM 26, 1277 Coventry Rd., South Yardley
BRENTFORD.....Great West Road
BRISTOL 1.....19 Colston St.
GLASGOW.....94-100 Clyde Ferry St., Anderston
LONDON, E. 1.....45-51 Leman St.
MANCHESTER 17, Westinghouse Rd., Trafford Park

CRANE00511

Plants • Products • Personnel

IN THE UNITED STATES

CHICAGO PLANT, Chicago, Illinois

Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication

V. P. RUMELY, *Senior Vice President Manufacturing*
L. N. BLUGERMAN, *Vice President*
G. C. DETLEFSEN, *Works Manager*

CHATTANOOGA DIVISION, Chattanooga, Tennessee

Enameled Iron Plumbing Fixtures, Bathtubs, Sinks, Lavatories, Iron Heating Boilers and Radiation

W. M. HAMILTON, *Manager*

CRANE-PACIFIC DIVISION, Colton, California

Vitreous China Plumbing Fixtures, Water Closets, Lavatories

A. E. HOCH, *General Superintendent*

THE TRENTON POTTERIES COMPANY, Trenton, New Jersey

Vitreous China and Duraclay Plumbing Fixtures, Water Closets, Lavatories, Urinals, Tubs, Fountains, Hospital Fixtures

A. E. BENNETT, *President*
J. W. PIESLAK, *Superintendent*

HYDRO-AIRE, INC., Burbank, California

Aircraft Valves, Filters and Actuators

H. H. RHOADS, *President*
D. A. LICHTY, *Vice President*
F. R. COOPER, *Vice President*
R. C. STUNKEL, *Vice President*
G. S. MASSA, *Vice President*

TOLEDO DESK & FIXTURE CORPORATION, Maumee, Ohio

Enameled Steel Kitchen Fixtures

F. M. CROOK, *President*
R. REID, *General Superintendent*

CRANE, LIMITED (Canada)
Montreal

L. H. T. CLEGG, *President*

G. R. GUSTIN, *Vice President*
E. J. LAIDLAW, *Vice President*
F. D. MACNAUGHTON, *Vice President*
F. H. MEYER, *Vice President*

IN CANADA

ST. PATRICK ST. PLANT, Montreal, Quebec

Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication

J. D. WALKER, *General Superintendent*

CANADIAN POTTERIES LIMITED, St. Johns, Quebec

Vitreous China Plumbing Fixtures, Water Closets, Lavatories

A. J. BURGNER, *Manager*
GEO. TOEPFER, *Superintendent*

PORT HOPE SANITARY MANUFACTURING COMPANY, LIMITED, Port Hope, Ontario

Enameled Iron Plumbing Fixtures, Bathtubs, Sinks and Lavatories

G. M. JACOB, *Manager*
E. H. DITHRIDGE, *General Superintendent*

CALGARY PLANT, Calgary, Alberta

Valves and Fittings

G. M. YOUNG, *Manager*
GEO. ANDERSON, *Superintendent*

ALLIANCEWARE LTD., Vancouver, B. C.

Enameled Steel Plumbing Fixtures

R. E. STRAIN, *General Manager*
A. T. GELZ, *General Superintendent*

CRANE STEELWARE, LIMITED, Quebec, Quebec

Enameled Steel Plumbing Fixtures

R. S. COOKE, *Manager*
R. H. DANIEL, *General Superintendent*

WARDEN KING (LIMITED), Montreal, Quebec

Iron Heating Boilers, Radiators and Soil Pipe

J. A. LANG, *Manager*
H. LOUETTE, *General Superintendent*

IN GREAT BRITAIN

CRANE, LIMITED (England)
London

J. E. BENNETT, *Chairman of the Board*
R. E. DUNNETT, *Managing Director*

IPSWICH WORKS, Ipswich, England

Valves, Fittings, Boilers, Radiation

J. B. WEBSTER, *Works Manager*

CRANE00512

Directors

H. H. Bunchman — J. L. Holloway — Edward H. McDermott — S. M. Roberts

David Levinger — William L. McKnight — V. P. Rumely

C. R. Crane, II — Mark W. Lowell — Peter V. Moulder — R. Arthur Williams

Officers

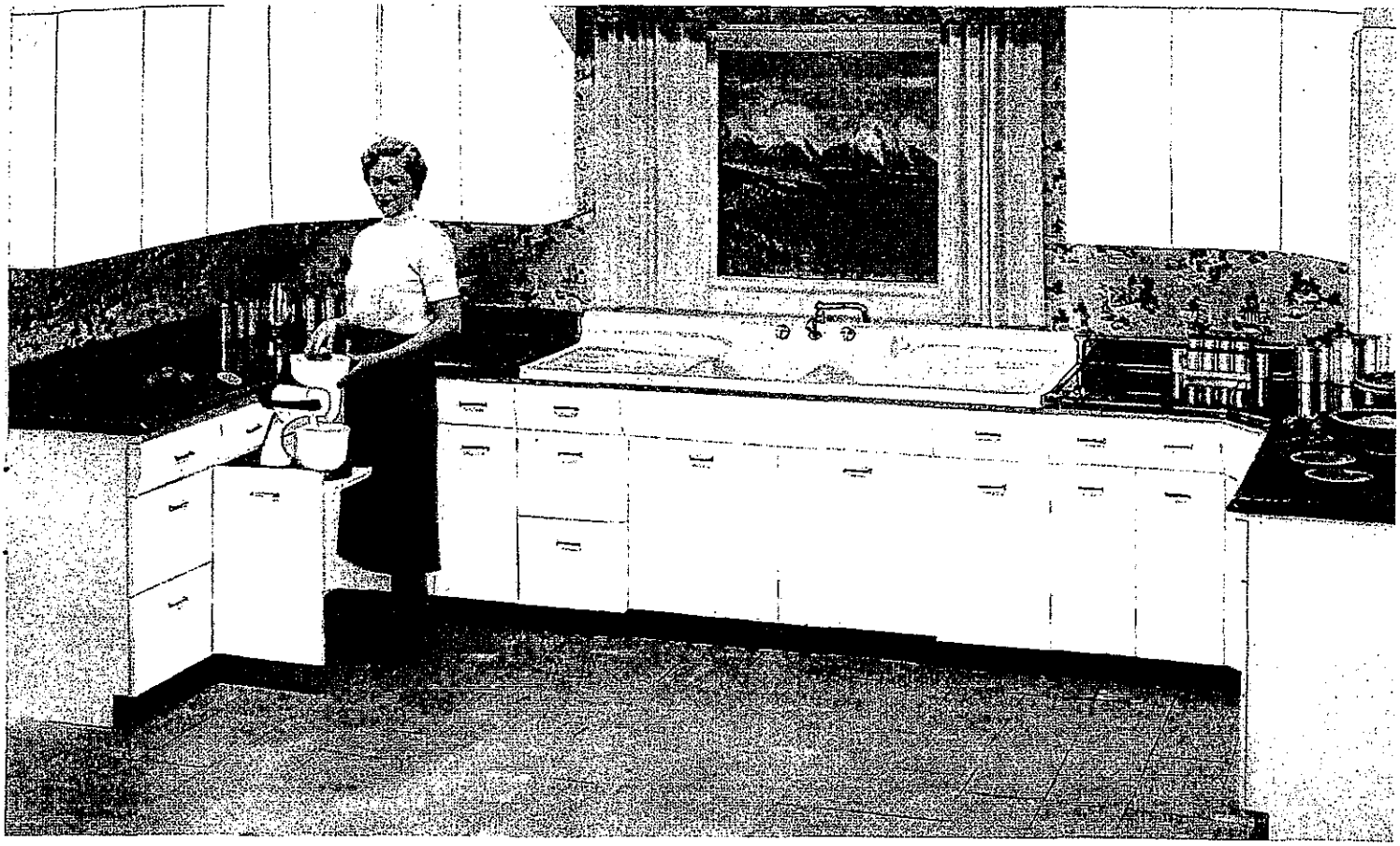
J. L. Holloway	*President*
V. P. Rumely	*Senior Vice President Manufacturing*
F. F. Elliott	*Senior Vice President Sales*
L. N. Blugerman	*Vice President*
J. A. Dwyer	*Vice President*
G. L. Erwin, Jr.	*Vice President*
C. T. Pollock	*Vice President*
C. R. Crane, II	*Vice President*
H. H. Bunchman	*Vice President and Treasurer*
L. W. Moore	*Vice President*
P. L. Yates	*Comptroller*
K. L. Karr	*Secretary*
G. L. Larson	*Executive Assistant*
E. E. Wyatt	*Executive Assistant*
C. W. Dittmar	*Assistant Treasurer*
J. K. O'Neill	*Assistant Treasurer*
E. H. Petersen	*Assistant Treasurer*
H. A. Tacon	*Assistant Treasurer*
C. C. Marks	*Assistant Comptroller*
A. R. Glass	*Assistant Secretary*
J. W. Hederick	*Assistant Secretary*
W. R. Stead	*Assistant Secretary*
F. C. Akers	*Director, Marketing Research*
R. G. Creviston	*Director, Public Relations*
J. P. Magos	*Director, Engineering*

J. P. Morgan & Co. Incorporated, New York 8, New York
A. R. Glass, Transfer Clerk, Crane Co., Chicago 5, Illinois

The Chase National Bank of the City of New York, New York 15, New York
Continental Illinois National Bank and Trust Company, Chicago 90, Illinois

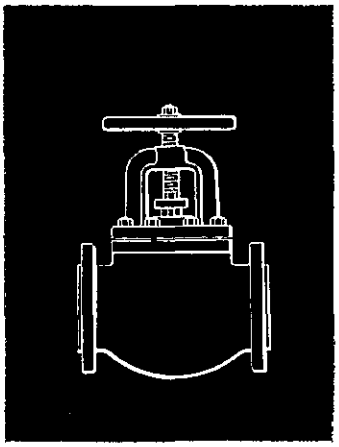
Arthur Young & Company, Chicago 2, Illinois

CRANE00513



The Preferred Kitchen

Kitchens and bathrooms are two rooms in the home for which the architect and builder write complete fixture specifications, as well as designing them. With a full line of plumbing fixtures and steel cabinets, Crane furnishes both the kitchen and the bathroom. The new line of kitchen cabinets pictured above is being produced at the factory of the Crane subsidiary, Toledo Desk & Fixture Corporation, in Maumee, Ohio, which completed its first year of production under Crane ownership last year. Having our own manufacturing facilities for kitchen cabinets, we are in a position to give better service.

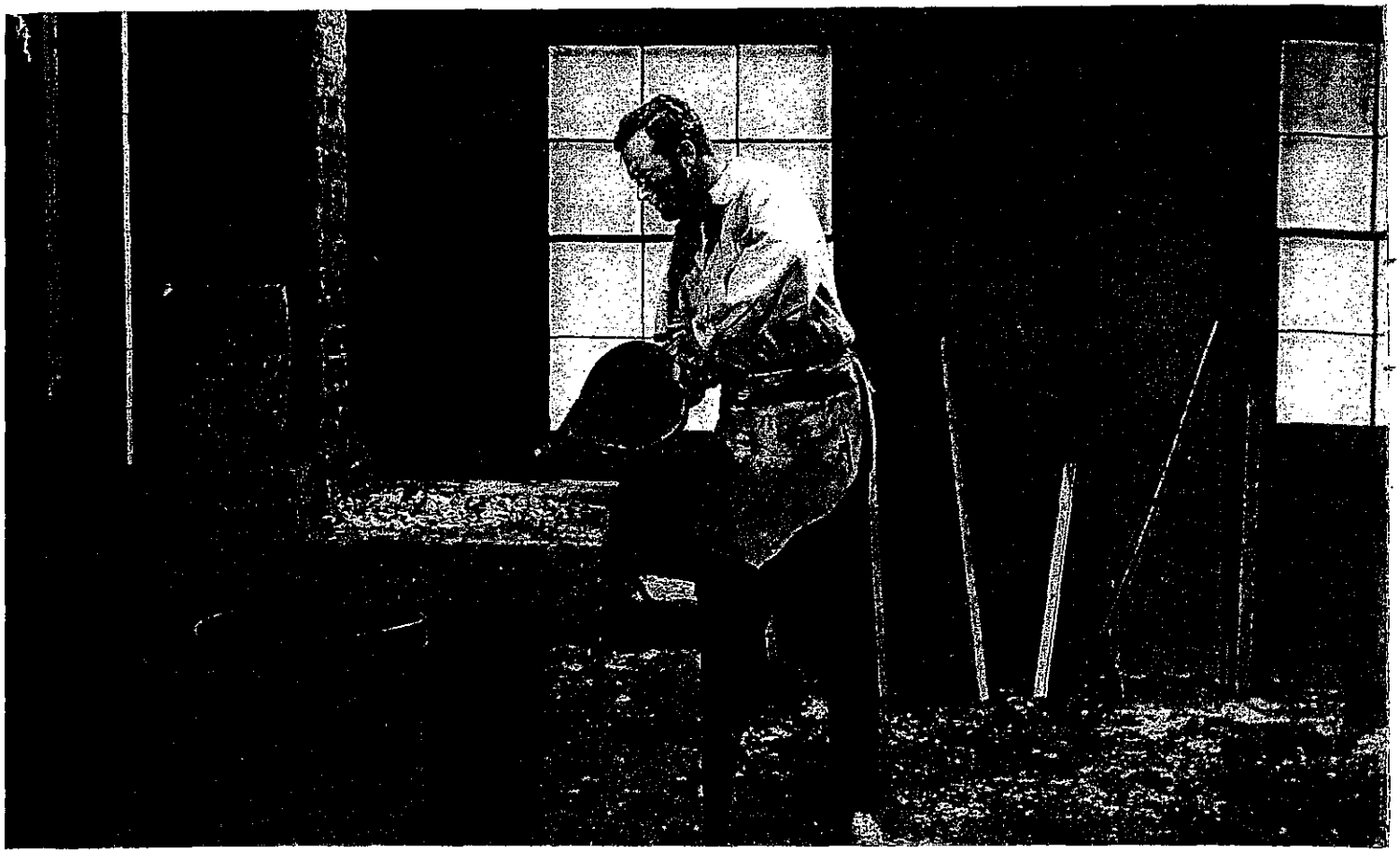


CRANE CO.

ANNUAL REPORT 1954

CRANE CO.

CRANE'S FIRST CENTURY
1855–1955



THE SECOND HUNDRED YEARS

"Ever since July 4th—way back in 1776—the atmosphere of the United States had been charged with a kind of electricity that sparked the human spirit in a way that has no earthly precedent . . .

"This is a country where people can work together—can share the clear light of liberty. People of principles and faith and great industry. People with a great opportunity to make America grow . . .

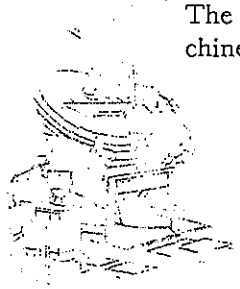
"July 4th, 1855. A young man—Richard Teller Crane—is declaring his independence. He's alone. He built this foundry with his own hands. He's made his molds from sand dug up from behind the building. He's about to pour his first castings . . .

"It was an historic interplay of necessity and invention. You see, the pioneering served itself. The machines produced parts for better machines. Valves and piping could produce more powerful steam engines. Each improvement pushed up the standards. A new technology, new standards and new controls began to grow . . .

"Yesterday we had only to control the growth of simple fluids—like water and steam. Now we must work together to master a whole new metallurgy, a new chemistry, heavy minerals. We must control the flow of electrons and isotopes.

"But work together and master them we will. For this is how we grow—a company or a nation—up from the endless yesterdays into the infinite tomorrow. The second hundred years? Why, with our heritage, our opportunities, we've just started."

From the motion picture,
"*The Second Hundred Years*"
made in commemoration of
Crane Co.'s Centennial.



ANNUAL REPORT

to shareholders *for the Year Ended December 31, 1954*

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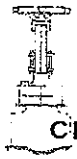


CRANE CO., *836 South Michigan Ave., Chicago, Illinois*

CRANE00518

DIRECTORS AND OFFICERS

DIRECTORS

H. H. Bunchman

J. L. Holloway

David Levinger

Mark W. Lowell

Edward H. McDermott

William L. McKnight

Peter V. Moulder

S. M. Roberts

V. P. Rumely

R. Arthur Williams

*C. R. Crane, II

**Deceased*

OFFICERS

J. L. Holloway	*President*
V. P. Rumely	*Senior Vice President Manufacturing*
L. N. Blugerman	*Vice President*
F. F. Elliott	*Senior Vice President Sales*
J. A. Dwyer	*Vice President*
G. L. Erwin, Jr.	*Vice President*
C. T. Pollock	*Vice President*
H. H. Bunchman	*Vice President and Treasurer*
L. W. Moore	*Vice President*
P. L. Yates	*Comptroller*
K. L. Karr	*Secretary*
G. L. Larson	*Executive Assistant*
R. E. Penney	*Executive Assistant*
E. E. Wyatt	*Executive Assistant*
J. K. O'Neill	*Assistant Treasurer*
E. H. Petersen	*Assistant Treasurer*
H. A. Tacon	*Assistant Treasurer*
C. C. Marks	*Assistant Comptroller*
J. W. Hederick	*Assistant Secretary*
W. R. Stead	*Assistant Secretary*
F. C. Akers	*Director, Marketing Research*
R. G. Creviston	*Director, Public Relations*
J. P. Magos	*Director, Engineering*

STOCK TRANSFER AGENTS

J. P. Morgan & Co. Incorporated, New York 8, New York
R. Remes, Transfer Clerk, Crane Co., Chicago 5, Illinois

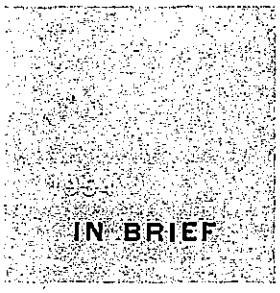
REGISTRARS OF STOCK

The Chase National Bank of the City of New York, New York 15, New York
Continental Illinois National Bank and Trust Company, Chicago 90, Illinois

AUDITORS

Arthur Young & Company, Chicago 2, Illinois

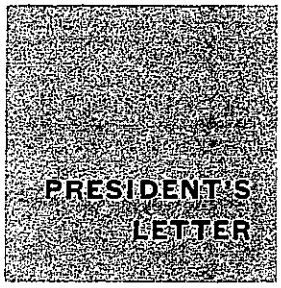
CRANE CO.



Crane Co. and Subsidiaries in the United States and Canada

	1954	1953
Fixed Assets Less Reserve for Depreciation	$ 79,013,560	$ 59,995,920
Capital Expenditures	25,091,681	8,249,264
Depreciation Charged to Operations	5,317,807	5,406,070
Net Working Capital	112,594,516	118,747,218
Ratio Current Assets to Current Liabilities	7.24 to 1	7.41 to 1
Shareholders' Equities	159,126,097	158,907,870
Shareholders' Equity per Common Share	61.90	61.65
Shareholders' Equity per Common Share if English Subsidiary were consolidated	65.01	64.59
Net Sales	$299,791,010	$315,677,790
Net Earnings including Dividends from English Subsidiary	5,807,906	8,703,262
Per Common Share	2.25	3.47
Per Common Share if English Subsidiary were consolidated	2.42	3.65
Direct Taxes per Common Share	3.14	5.08
Dividends Paid—		
Preferred Shares	$ 492,934	$ 506,663
Common Shares	4,720,588	5,310,661
Per Common Share	2.00	2.25
Number of Employees	19,559	19,665
Wages, Salaries and Employee Benefits	$ 84,528,541	$ 86,020,014
Number of Shareholders—		
Preferred	1,314	1,408
Common	19,740	19,494

CRANE00520



TO OUR SHAREHOLDERS:

It is a pleasure to present the Annual Report of Crane Co. for the year 1954, and I hope you will read with interest the Financial and Operating Review and other sections of it.

Net sales of the Company and its subsidiaries in the United States and Canada declined 5.0% from the preceding year, reflecting a decrease of 5.3% in sales of products of our own manufacture and 4.7% in sales of products manufactured by others. Net earnings amounted to $5,807,906 compared with $8,703,262 in 1953. This decrease is due primarily to a continuation of the adverse price conditions in the secondary market, the decline in volume and some deterioration in the market situation in Canada.

Labor rates increased throughout our entire operations but such increases were partially offset by reductions in other operating costs.

The changes in our procedure for stocking and distributing product through our branches discussed a year ago were completed throughout 1954 and the most substantial gains are expected to result from them during the current year.

The major modernization programs for our enamelware and boiler plant at Chattanooga and our kitchen cabinet plant at Maumee, Ohio, have been completed and both of these projects are already reflecting substantial reductions in cost. While no main production line changes were made at our Chicago plant during the year we continued our policy of replacement of semi-obsolete equipment with the best machines available, and this together with a realignment of the operational procedures at the plant is having a very beneficial effect on operating costs.

We experienced very unusual and costly clay problems at our potteries during the year 1954, and our Hydro-Aire company also suffered a setback; however, these troubles have been corrected and the prospects for 1955 are in both instances materially improved.

Our Canadian organization continued to function well during 1954 although profits were off due to a reduced market and some deterioration of prices. Our operations in England improved and the outlook there for 1955 seems very good.

Some of the new products under development a year ago, such as alloy steel valves, water works valves, plastic pipe and fittings, and a new heating boiler are now in production and should contribute additional sales volume in 1955. A number of other new products still in engineering or awaiting equipment will also be completed and in production progressively

during the year. Toward the end of 1954 we introduced a new line of kitchen cabinets and a new white for both pottery and enamelware products together with several new designs.

The construction of facilities of our subsidiary, Cramet Inc., for the production of titanium sponge was more than fifty per cent complete at the end of 1954 and is generally proceeding on schedule. The production of titanium sponge in the Control Plant, which is equipped with reduction and distillation facilities identical to those going into the main production plant, was started some six months ago and the quality of the sponge is quite good. Production of sponge in the first battery of reduction and distillation units in the main production plant started in the latter part of January, and production in this plant will be stepped up progressively throughout the year as the facilities become available to us. The Control Plant for the production of titanium tetrachloride has been operating off and on for some time and we believe that virtually all of its start-up problems have now been eliminated.

A subsidiary, Marine Minerals Inc., is going into production this month in the operation of a dredge to mine and separate heavy minerals from a large deposit the company now controls. This operation will supply approximately one-third of the rutile and ilmenite required by Cramet for full scale production of titanium, also substantial quantities of zircon and monazite. The latter two minerals will be sold to another subsidiary, Heavy Minerals Co., which will process them to the various rare earth elements and will also refine the zircon. This latter project should be in operation by the end of this year.

The Company is now in a much better competitive position than a year ago and if the present outlook for construction during 1955 is maintained operations should reflect a marked improvement in earnings for this year. In view of the progress being made with titanium and the various mining and minerals operations, together with further product development underway, the longer term outlook appears very good.

The continued helpful cooperation of our shareholders, employees, customers and suppliers is greatly appreciated. It is essential to our progress and success.

Sincerely

J. D. Holloway

PRESIDENT

March 10, 1955

CRANE00522

FINANCIAL AND OPERATING REVIEW

The financial and statistical information contained in this review is on the basis of consolidating the accounts of the Company and all of its subsidiaries except Crane, Limited (Great Britain), whose assets are subject to continuing government controls.

SALES AND EARNINGS

In 1954 net sales of Crane manufactured products and jobbed goods (products manufactured by others) totaled $299,791,010, a decrease of 5.0% from the 1953 sales level. Net earnings for the year amounted to $5,807,906. After payment of dividends on preferred stock the earnings were equal to $2.25 per common share as compared with $3.47 per common share in 1953.

Net earnings in 1954 of our wholly-owned subsidiary in England were $1,210,094 compared with $1,249,850 in 1953. On the basis of consolidating the accounts of this subsidiary, the earnings per Crane Co. common share would be increased to $2.42 in 1954 and $3.65 in 1953.

The increased cost of material and wages which could not be recovered through higher prices in the highly competitive market was the principal reason for the $2,895,356 decrease in earnings.

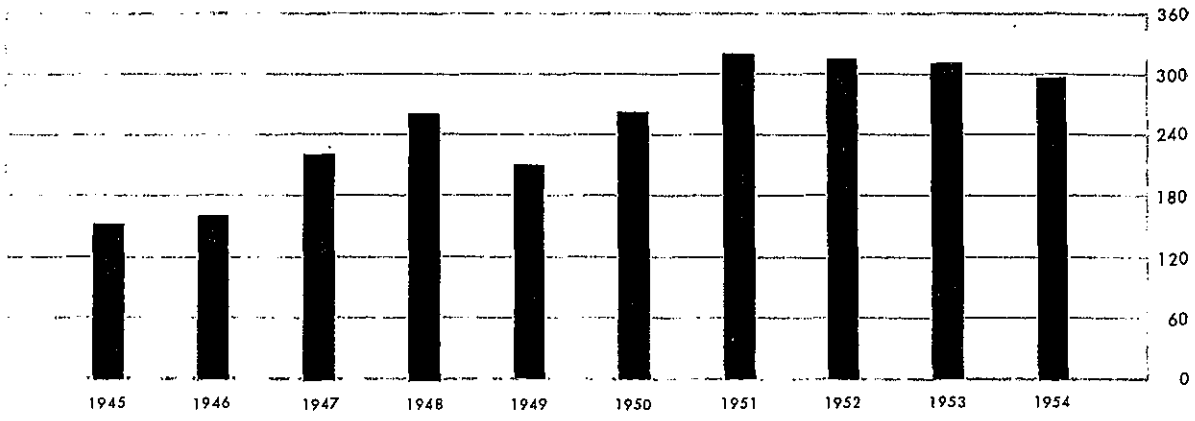
Federal, State and local taxes amounted to $7,415,896 or 127.7% of our net earnings after such taxes. These taxes represented $3.14 per common share or $379.16 per employee.

DIVIDEND PAYMENTS

Dividend payments during 1954, totaling $5,213,522, represented 89.8% of net earnings compared with 66.9% in 1953. These payments consisted of regular quarterly dividends at the annual rate of $3.75 per share on the 3¾% cumulative preferred shares, amounting to $492,934, and regular quarterly dividends of 50¢ a share on the common shares, totaling $2.00 a share or $4,720,588.

NET SALES

(in Millions of Dollars)



CRANE00523

INVENTORIES AND CURRENT POSITION

Inventories at the end of the year totaled $73,161,295 as compared with $74,483,095 at the end of 1953. Of the total December 31, 1954 inventories, $49,146,470 is priced on the "last-in, first-out" (LIFO) basis. The remainder of the inventory is priced at the lower of cost or market, reduced by a reserve provided prior to January 1, 1953 which has since been maintained except for foreign exchange fluctuations.

The new plan for stocking and distributing product in the branch system was progressively installed during 1954 and, although some difficulties were experienced at the start, the plan is beginning to show favorable results in improved customer service and better balanced inventories.

At the year end there were no purchase or other commitments for substantial amounts at prices in excess of market.

Net working capital as of December 31, 1954 amounted to $112,594,516, a decrease of $6,152,702 during the year under review. The ratio of current assets to current liabilities was 7.24 to 1 compared with 7.41 to 1 at the end of 1953.

PLANT AND EQUIPMENT

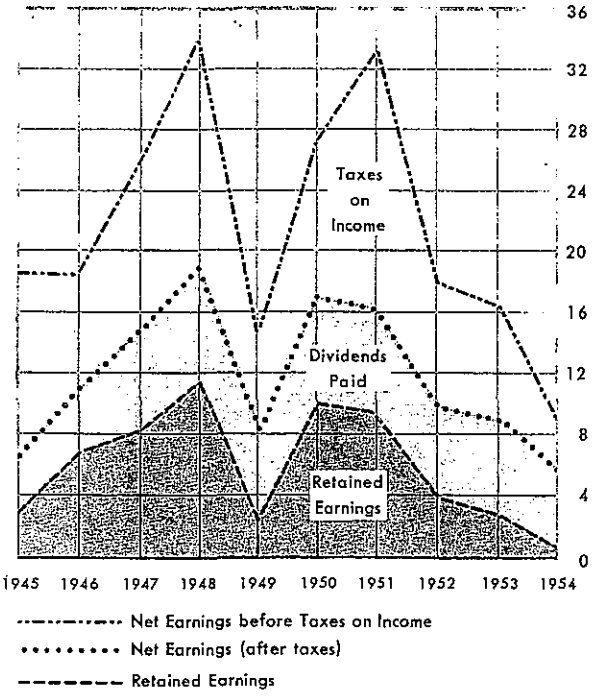
In 1954 our policy of keeping abreast of new developments and of maintaining our present facilities in a modern and efficient condition resulted in a substantial expansion of our capital assets in diversified fields as well as in improvements of our existing facilities. Total capital expenditures in 1954 amounted to $25,091,681, compared with $8,249,264 in 1953. Of the 1954 total, approximately $14,700,000 was expended on construction of our titanium plant at Chattanooga, Tennessee, and $3,000,000 on the modernization of the boiler and enamelware foundries at our Chattanooga Division Plant.

Depreciation charged to operations amounted to $5,317,807 in 1954 compared with $5,406,070 in 1953.

The Company's manufacturing facilities at Chattanooga were extensively modernized during the year. The facilities for producing both bathtubs and boilers were redesigned to improve their efficiency, thereby lowering production cost while improving quality. This modern equipment will produce castings of more uniform size and weight resulting in a reduction of finish grinding.

EARNINGS

(in Millions of Dollars)



CRANE00524

FINANCIAL AND OPERATING REVIEW *continued*

EMPLOYEE RELATIONS

At the close of 1954 employees in the entire Crane organization totaled 22,174 of whom 16,306 were in the United States, 3,253 in Canada and 2,615 in England. Employee relations continued to be harmonious.

Many of the employee benefits provided by the group insurance and pension plans were substantially increased during the year without any increase in cost to the individual employee. When unions were involved the changes were subject to collective bargaining.

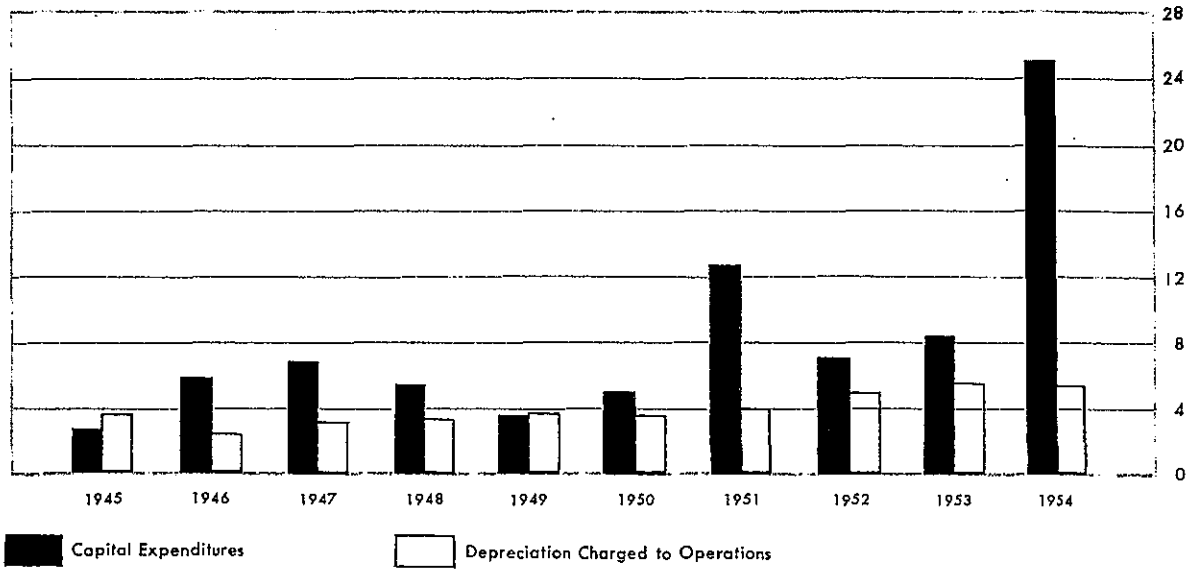
The program of establishing regional offices for the accounting and statistical reporting of our sales branches was completed during the year. Coincident with this change, a considerable amount of progress was made in 1954 on a cost reduction program designed to bring the number of office and warehouse employees at each sales branch in line with accepted standards of operation. It is expected that during 1955 the full effect of the program which got under way in 1954 will be realized.

The cost of the pension program for 1954 charged to operations, based upon actuarial estimates, was $3,693,617 of which $1,410,967 related to past service on the basis of amortizing past service liability over a period of approximately 24 years for employees in the United States and approximately 27 years for employees in Canada.

Deposits with the Trustees for the payment of pensions under the retirement program amounted to $4,348,845 in 1954. The total of

CAPITAL EXPENDITURES AND DEPRECIATION

(in Millions of Dollars)



CRANE00525

all such deposits with the Trustees is now $24,213,347. The estimated unfunded actuarial liability at December 31, 1954 was approximately $34,800,000, including $6,800,000 for increased benefits to employees retiring on or after January 1, 1955.

MANAGEMENT CHANGES

It is with deep regret that we report the death on May 8, 1954 of Charles R. Crane, II, Vice President and Director of Crane Co.

At the time of Mr. Crane's death he was responsible for executive policy of the Company's subsidiary in England and handled special customer relation assignments in this country. He also was a director of Crane, Limited (Canada).

Mr. Crane was a grandson of the founder and started as an apprentice molder at the Company's Chicago factory in 1908. He worked in various departments and became assistant general superintendent of all manufacturing departments late in 1916. Mr. Crane then became successively: assistant to the vice president in charge of manufacturing; assistant vice president of sales; vice president, sales division; and vice president in charge of European operations.

In his forty-five years of service, Mr. Crane displayed a keen enthusiasm for Crane Co.'s part in the plumbing market. It was partly due to this enthusiasm that Crane Co. became a leader among manufacturers in this field.

SIDE LIGHTS

At December 31, 1954, 21,054 individuals were shareholders in your Company. Of the 19,740 holders of common shares, 13,646 owned 1 to 99 shares, 5,913 owned 100 to 999 shares, and 181 owned 1,000 or more shares.

Attendance of Directors at Board Meetings averaged 85.5% in 1954.

At the close of 1954 there were 976 wholesale establishments in the United States and Canada carrying stocks of Crane products.

In 1955 we will celebrate our Centennial year by telling and retelling people about Crane Co. The Centennial program is planned so that there will be a gradual build-up of interest until the Centennial day, July 4, and then a gradual tapering off of activities until the end of the year.

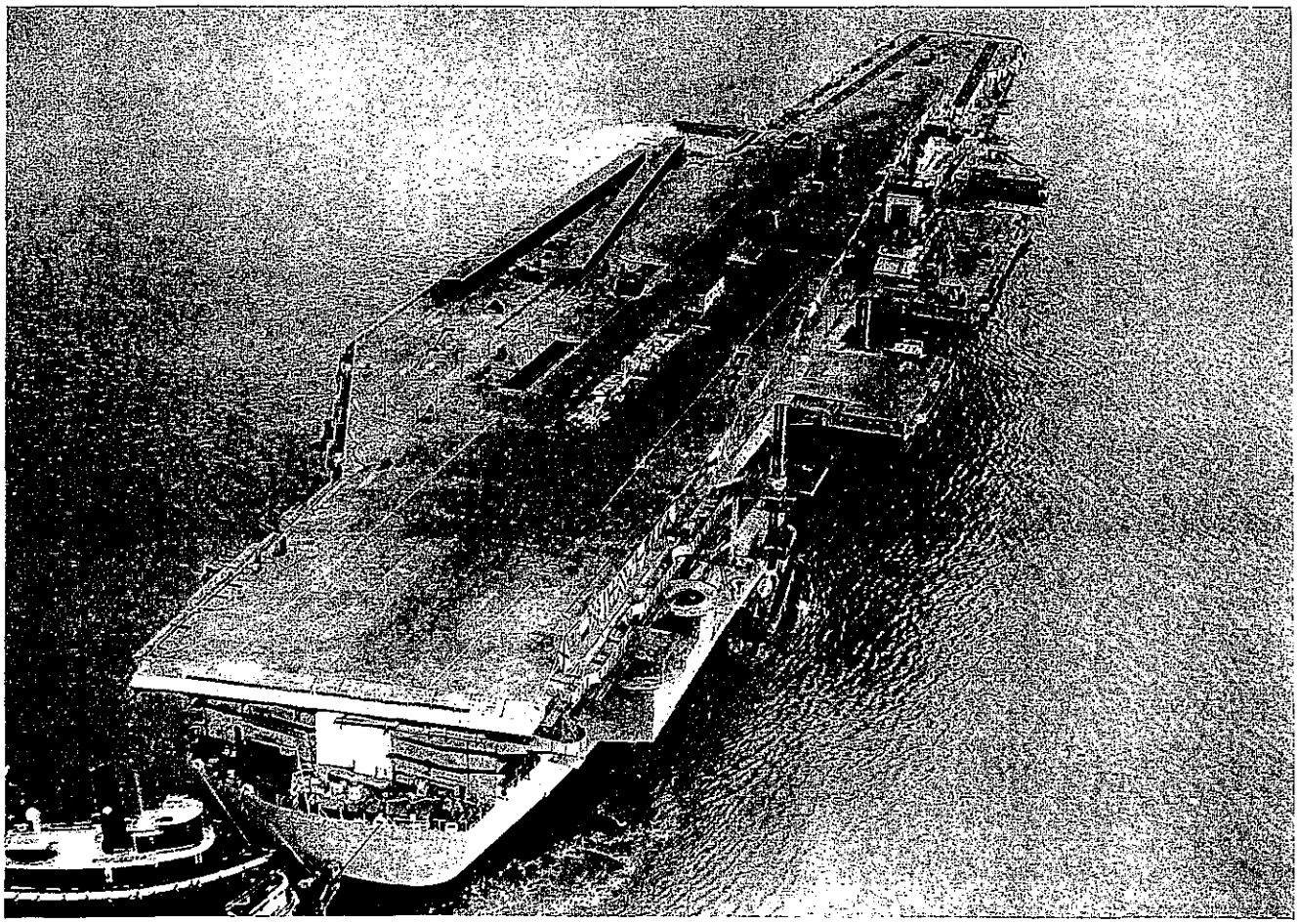
The Centennial year will be a year of increased publicity to bring Crane Co. to the attention of more people than ever before. The program will emphasize the integrity of Crane Co. and the high quality of its products. Tribute also will be paid to the architects, home builders and plumbing and heating contractors. We hope our shareholders will feel that they are an important part of this celebration.

At the 1954 annual meeting of shareholders over 76% of the shares entitled to vote were voted in person or by proxy. All shareholders are urged to exercise their right to vote.

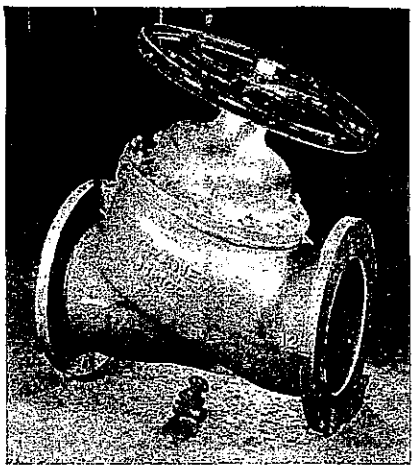
CRANE00526

VALVES AND FITTINGS

From navy ships to simple water systems for farm and home uses, Crane valve and fitting experience and new research and engineering applications insure continued wide markets regardless of changing needs.

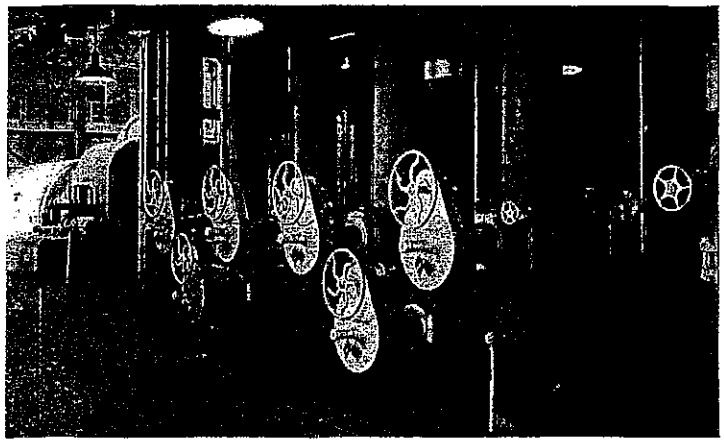


Many of the valves for use on high pressure main, auxiliary steam, fuel oil and boiler feed services on the largest ship afloat, the U.S.S. *Forrestal*, were made by Crane. Even the air-motor operated high pressure steam valves to the catapults that launch the jet fighter planes are Crane.



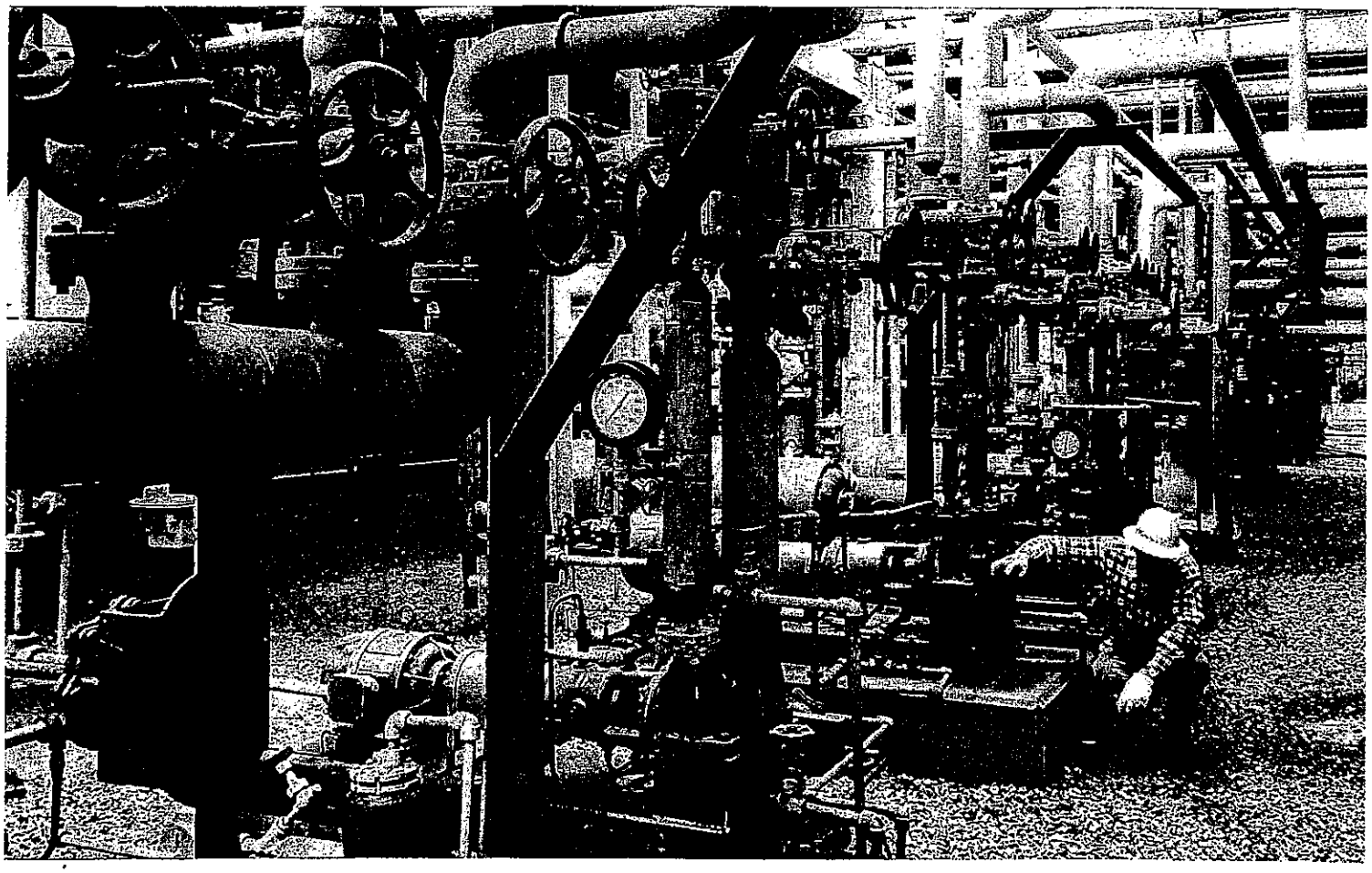
Crane diaphragm valves resist corrosion well and are noted for their long life. The Crane line is large and varied, and the corrosive liquors of the pulp and paper industry, the high vacuum pressures of the chemical processing industry and the abrasive liquid clay slurries of cement, mining and pottery industries present no problem.

CRANE00527



The most modern steam-electric generating station in New England uses many Crane valves. Shown at the left are Crane 8-inch gear operated pressure-seal bonnet gate valves, with by-pass, installed in boiler feed water heater lines, operating at 2300 pounds per square inch and 500 degrees F. temperature.

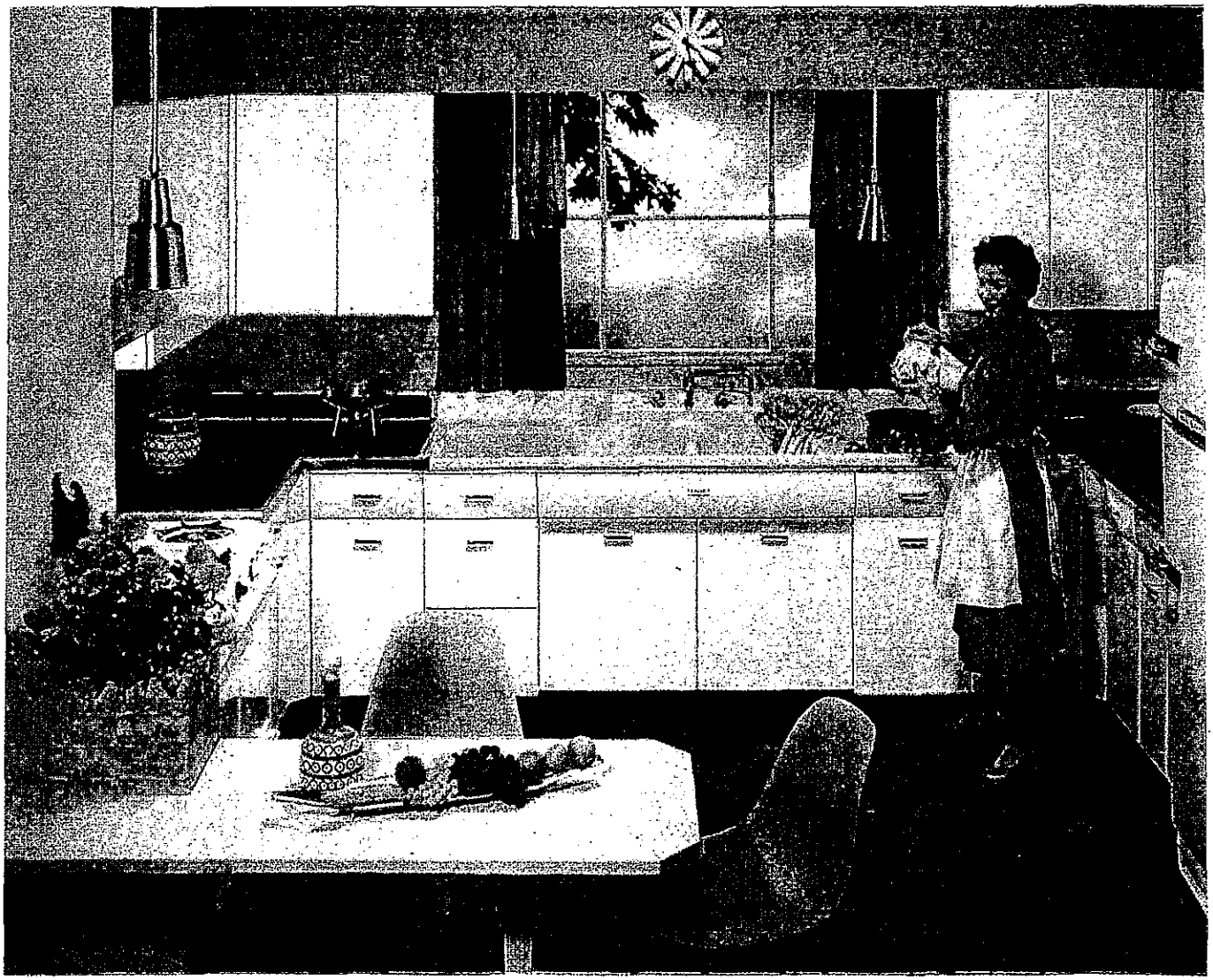
The pipe lines shown below lead to crude oil pumps of a 15,000 barrel per day oil refinery in Canada. Like so many other oil refineries, a large part of the pipe, valves and fittings bear the stamp of Crane Co.



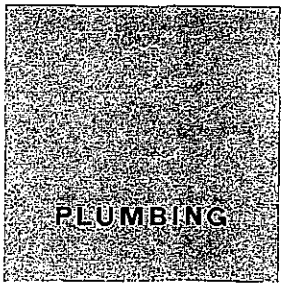
Plastic pipe and plastic fittings, made available by Crane Co. in 1954, open up new markets. They are light weight, flexible, corrosion resistant and easy to install, adding uses for pipe that metal pipe does not serve because of difficulty in use or high cost. A farmer might not want to buy metal pipe and fittings to serve a field watering trough, but with Crane plastic piping and a few plastic fittings an easier installation can be made at smaller cost. This six year old boy is holding a 400 foot coil of ½ inch Crane polyethylene pipe, weighing forty pounds. The same length of wrought steel pipe would weigh 340 pounds. Plastic pipe is not expected to replace metal pipe—each will be used where it performs better.

CRANE00528

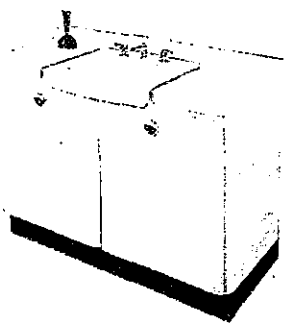
The attractive kitchen shown below illustrates the beauty and efficiency possible in kitchen layout by the use of Crane sinks and cabinets. The sink has both a double basin and a double drainboard. The cabinets are from a large variety recently introduced.



Crane Co., which glamorized the bathroom, now is making the kitchen just as modern. Fixtures and accessory equipment are offered by Crane Co. in matched ensembles so the home owner can shop in one place and furnish both of these much used rooms completely. A new white glaze has been developed for china, Duraclay and enameled iron. The purpose is to achieve a better blend with the white appearing on steel tubs, steel sinks, cabinets and appliances so often used with Crane products. Our factory at Maumee, Ohio, which manu-

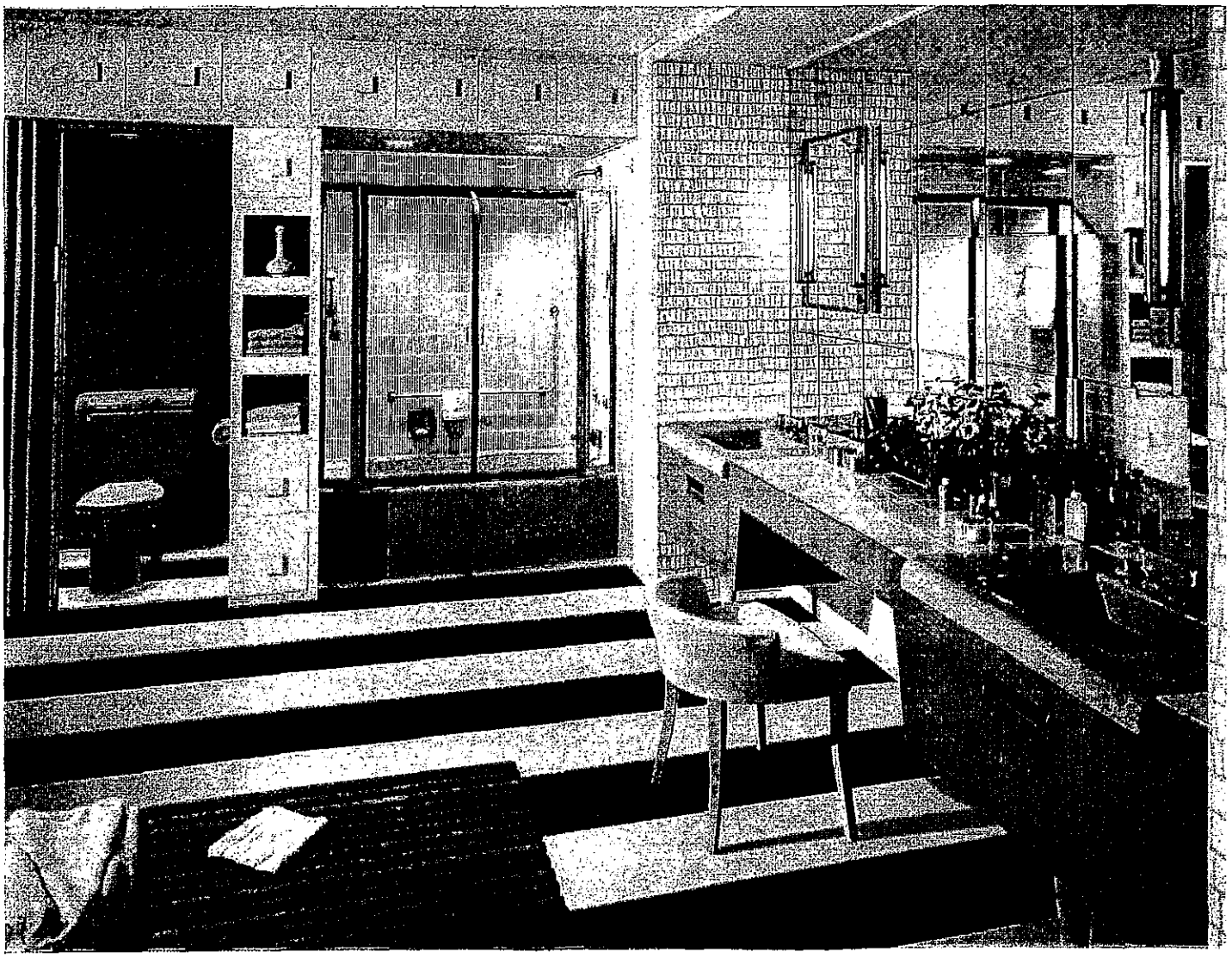


Crane plumbing fixture lines are always kept up to the minute in style and convenience. Latest addition is this cabinet-lavatory combination. The Countess lavatory is combined with attractively designed cabinets so that both can be purchased and installed as a unit. Besides providing storage facilities near the lavatory, these cabinets offer greater countertop surface to accommodate toilet articles.



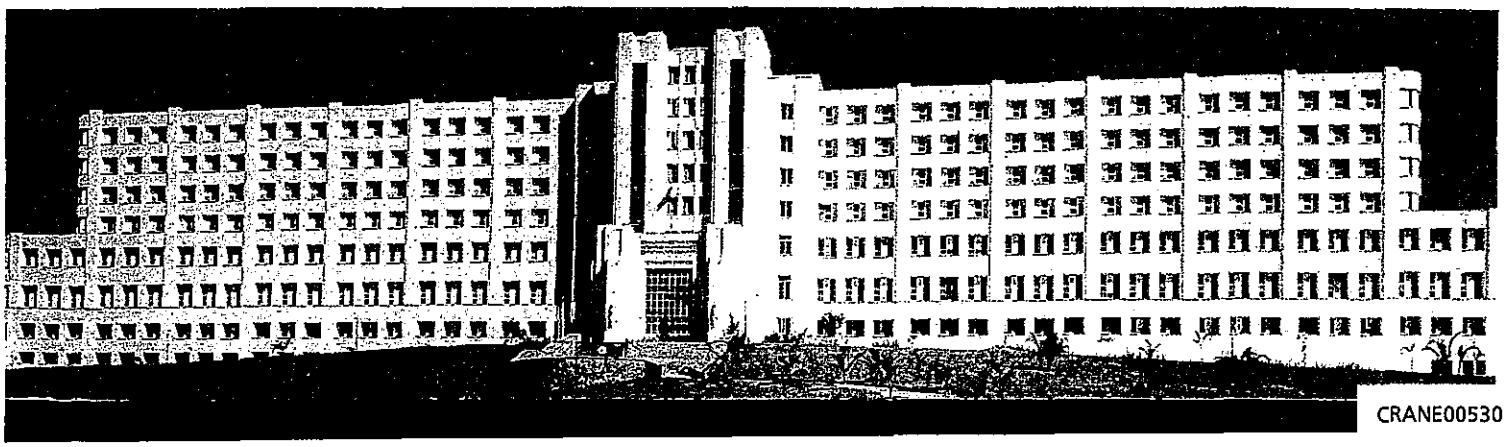
CRANE00529

The bathroom below shows some of the most popular, yet deluxe, fixtures, including the Criterion lavatory. It can be installed in a countertop as shown or free standing on attractive metal legs. Like all other Crane fixtures, it was designed by Henry Dreyfuss.

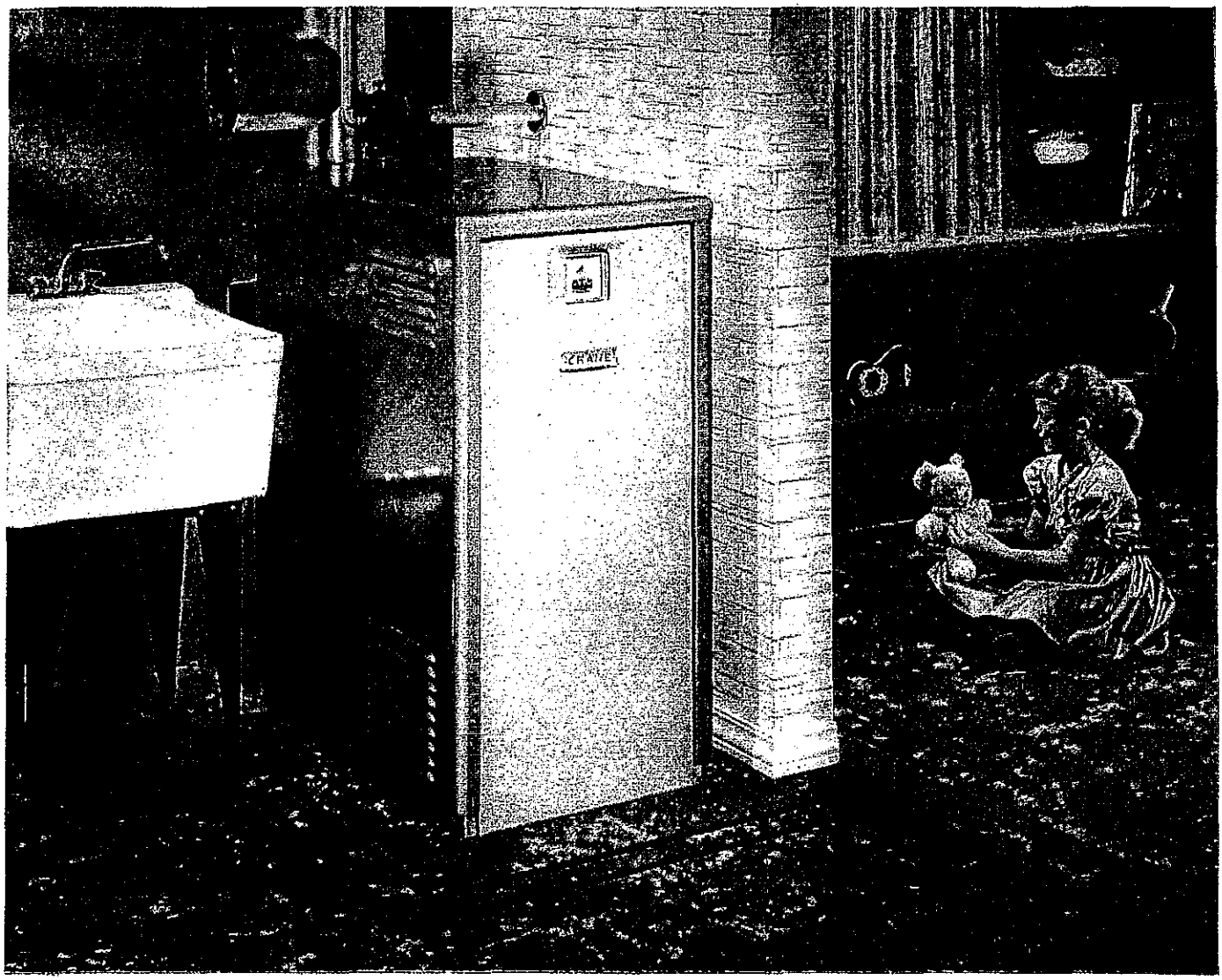


factures steel kitchen cabinets, has been expanded so that greater and more efficient production will be possible. The new plant uses the newest methods of rust proofing and enameling. It will have enough additional capacity to accommodate the increased volume expected from intensified sales promotion.

This 1000 bed tuberculosis hospital, the General Batista, at Las Villas, Cuba, is the largest in Latin America and is equipped with the most modern facilities in every detail—which means Crane plumbing fixtures and Crane central heating.



CRANE00530



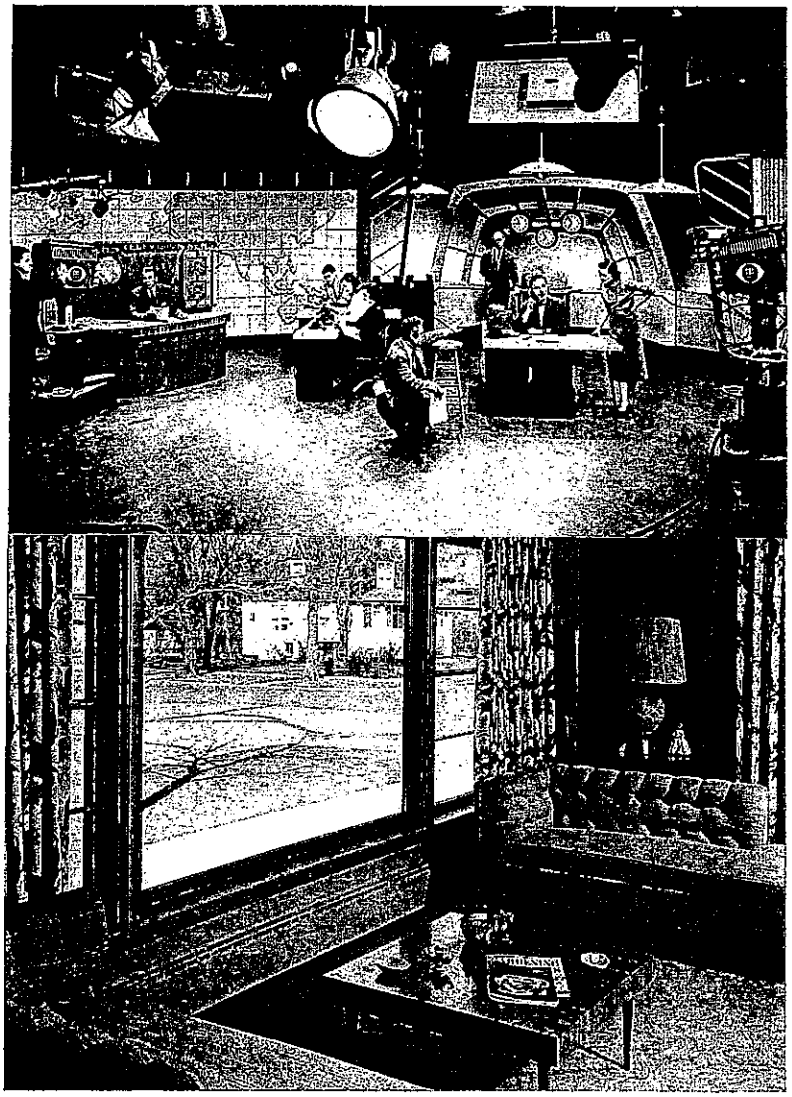
The new "Sunnyday" boiler represents the very latest developments in research, design and manufacturing techniques. Although small and compact, it heats quicker and it has far more heating surface than conventional boilers while requiring up to 15 per cent less fuel.

Last year was an important one in the heating division, with boiler and furnace sales up more than 50 per cent over the year before. Important product news of the year was the introduction of a completely new residential heating boiler called the Crane "Sunnyday." It has more revolutionary features than any other cast iron boiler developed during the past twenty years, incorporating the very latest in research, design and manufacturing techniques.

It has nine firetubes—more than any other similar boiler, the average having three. This permits a far greater heating space and yet the "Sunnyday" is the smallest of its type. Designed by Henry Dreyfuss, it has a sealed front, eliminating the usual fire door with its handles and hinges. This increases the effective heating surface as well as contributing to streamlined styling. Pushing a button slides a cast iron shutter aside, revealing a Pyrex glass port through which the flame can be observed without affecting the draft.

Everything about this boiler is new. It was shown for the first time at the convention of the National Association of Plumbing Contractors last year. Response was most favorable.

CRANE00531



Crane's network television debut was made last August on 59 stations of the CBS network to advertise heating. A vast audience of potential customers is reached through the Jack Paar Morning Show which now carries advertising of the new "Sunnyday" boiler as well as Crane radiant baseboard heating.

Baseboard heating has a big place in the Company's plans for sales promotion because it is truly modern. It not only provides completely draftless comfort but presents no problem in arrangement of furniture or interior decoration—no interference with picture windows or full length draperies.

Radiant baseboard heating is another field in which the Company excels. Crane pioneered the development of these inconspicuous panels that provide hot water heating comfort without taking up space. The slowly rising warmth insulates walls and windows, so that from floor to ceiling the temperature variation is negligible. With baseboard heating, there is no interference with furniture arrangement, draperies, or other interior decoration.

In homes now being built, baseboard has already become the most popular method of hot water heating.

Our sales of residential year 'round heating and cooling air conditioners, which are made for us, have shown substantial gains. The Crane-Line air conditioners have two separate compressors instead of the usual one. This results not only in cool air, but also in lower humidity which makes the home more comfortable.

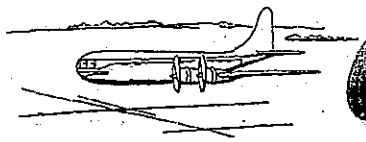
This twin compressor feature, first introduced last year, will be extended to nine new models to be announced in 1955. This will make the Crane line one of the most complete in the industry.

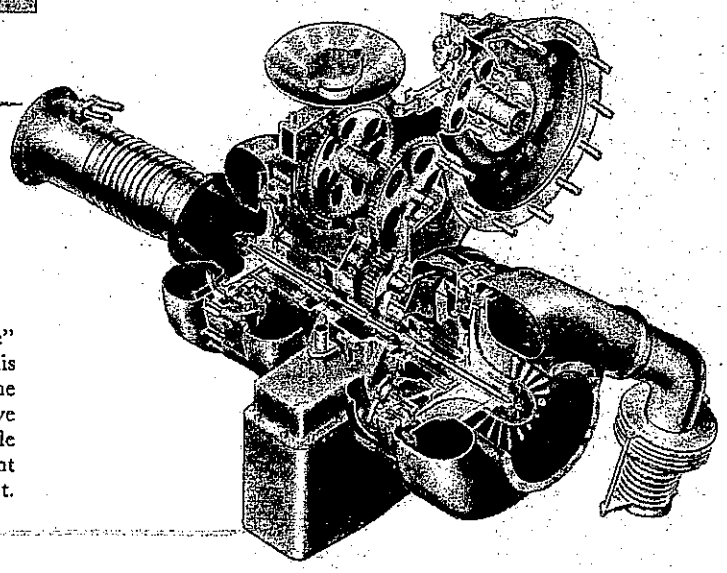
Heat is radiated from the entire front surface of each panel so that, in kitchen and bathroom where cabinets or fixtures take up wall space at the floor, Crane baseboard is frequently installed at ceiling level. No other manufacturer produces a baseboard so well adapted to use at ceiling level.

CRANE00532

AVIATION

Crane valves and airplane accessory equipment, manufactured by our subsidiary, Hydro-Aire, Inc., are receiving increasing acceptance. More and more, aircraft designers are relying on Hydro-Aire vision, research and experience to perfect components for tomorrow's aircraft.





Last year a prototype of the first "Frijadrive" was turned over to a customer for test. This apparatus serves two purposes: air conditioning the ane and supplying a steady source of power to drive e accessories. By combining two functions in a single unit, it offers weight savings of 20 to 40 per cent over conventional equipment.

Crane's anti-skid braking device for airplanes called "Hytrol" has been installed on twenty-five different types of aircraft including the Navy's latest jet bomber, the Skywarrior. Hytrol reduces stopping distance 33 to 50 per cent and allows minimum length stops during emergency landings on short runways.

Every jet, bomber, fighter and transport is Hydro-Aire equipped and every major airline uses fuel valves engineered and manufactured by Hydro-Aire. Here is a view of the main turret line in the Hydro-Aire factory at Burbank, California.

CRANE00533

CONSOLIDATED EARNINGS AND EARNED SURPLUS STATEMENT

for the Year Ended December 31, 1954

Net sales		$299,791,010
Cost of sales, selling, administrative and general expenses (Notes 3 and 6)	$285,818,576	
Provision for depreciation	5,317,807	291,136,383
Net earnings from operations		$ 8,654,627
Other income and (deductions):		
Dividends received from English subsidiary (Note 2)	$ 807,381	
Gain on foreign exchange conversion (Note 1)	78,428	
Interest on debentures	(625,000)	
Miscellaneous—net	285,296	546,105
		$ 9,200,732
Minority stockholders' interest in net earnings of subsidiaries		210,840
Net earnings before taxes on income		$ 8,989,892
Provision for taxes on income:		
Federal normal tax and surtax	$ 2,466,180	
Canadian income tax (Note 9)	715,806	3,181,986
Net earnings for the year		$ 5,807,906
Earned surplus at beginning of year		84,779,541
Excess of par value over cost of 3¾% cumulative preferred shares canceled in connection with sinking fund requirements		25,630
		$ 90,613,077
Deduct:		
Cash dividends paid:		
On 3¾% cumulative preferred shares, $3.75 per share	$ 492,934	
On common shares, $2.00 per share	4,720,588	5,213,522
Earned surplus at end of year (Note 5)		$ 85,399,555

CRANE00534

CONSOLIDATED BALANCE SHEET

Assets

CURRENT ASSETS:		
Cash		$ 15,761,463
U. S. Government securities, at cost, which approximates market value		3,859,298
Accounts receivable	$ 40,253,430	
Less: Reserve for doubtful accounts	2,409,503	37,843,927
Inventories (Note 3)—		
Raw materials and supplies	$ 9,327,610	
Work in process	15,703,335	
Finished goods	48,130,350	73,161,295
Total current assets		$130,625,983
INVESTMENTS:		
Investment in English subsidiary, at cost (Note 2)	$ 2,134,581	
Other investments, at cost or nominal value (less reserve, $117,288)	1,058,617	3,193,198
FIXED ASSETS:		
Land	$ 8,232,464	
Buildings	$45,108,458	
Less: Reserve for depreciation	21,316,626	23,791,832
Machinery and equipment	$71,599,774	
Less: Reserve for depreciation	42,235,869	29,363,905
Titanium plant under construction (Note 4)		15,777,258
Unfinished construction		1,848,101	79,013,560
DEFERRED CHARGES		1,337,194
		$214,169,935

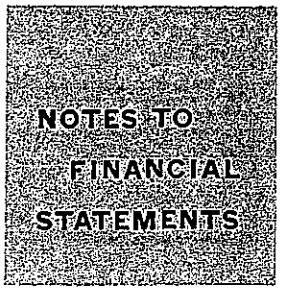
CRANE00535

December 31, 1954

Liabilities

CURRENT LIABILITIES:		
Accounts payable, accrued payrolls, etc.		$ 15,287,063
Accrued Federal and Canadian taxes on income	$ 3,926,517	
Less: U. S. Treasury tax notes	3,264,354	662,163
Accrued general taxes		2,082,241
Total current liabilities		$ 18,031,467
LONG-TERM DEBT:		
Mortgage note payable, including accrued interest of $322,175 (Note 4)	$ 14,709,829	
Twenty-five year 3⅛% sinking fund debentures (Note 5)	20,000,000	34,709,829
RESERVE FOR PENSIONS (Note 6)		80,564
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES		2,221,978
CAPITAL STOCK AND SURPLUS:		
Capital stock—		
Cumulative preferred shares, 3¾%, par value $100 (Note 7):		
Authorized — 160,000 shares		
Outstanding— 133,990 shares (including 3,977 shares in treasury)	$ 13,399,000	
Common shares, par value $25 (Note 8):		
Authorized —3,500,000 shares		
Outstanding—2,360,294 shares	59,007,350	
	$ 72,406,350	
Surplus—		
Capital surplus (unchanged during year) $ 1,708,321		
Earned surplus (Note 5) 85,399,555	87,107,876	
	$159,514,226	
Less: Cost of 3,977 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 7)	388,129	159,126,097
		$214,169,935

CRANE00536



Note 1—Conversion of Items Carried in Canadian Currency:

In converting the items carried in Canadian currency, fixed assets were converted at U.S. dollar cost at dates of acquisition, less accrued depreciation. Net current assets were converted at the current rate of exchange at the year end and the net gain on conversion is included in the consolidated earnings statement under other income.

Note 2—Investment and Operations in England:

The investment in Crane, Limited (Great Britain), a wholly-owned subsidiary, is carried in the consolidated balance sheet at cost, $2,134,581, and dividends received from that company are reflected in the consolidated earnings statement.

The net assets of Crane, Limited (Great Britain) stated at equivalent U.S. dollars, are summarized as follows:

Fixed assets at U.S. dollar cost at dates of acquisition, less accrued depreciation	$4,022,047
Net current assets at current rate of exchange	5,452,618
	$9,474,665

The results of operations of Crane, Limited (Great Britain) for the year ended December 31, 1954, stated at equivalent U.S. dollars, are summarized below:

Net sales	$12,082,033
Cost of sales, selling, administrative and general expenses and provision for depreciation	9,776,143
Earnings from operations	$ 2,305,890
Provision for taxes on income	1,095,796
Net earnings for the year	$ 1,210,094

Note 3—Inventories:

The major portion of the inventories is valued on a "last-in, first-out" (LIFO) basis. Other inventories aggregating $29,963,621 are priced at the lower of cost or market on a "first-in, first-out" basis.

A reserve (which has been kept at a constant amount for 1954 except for foreign exchange fluctuations) has been deducted from inventories as follows:

Raw materials and supplies	$1,900,758
Work in process	917,043
Finished goods	3,130,995
	$5,948,796

Note 4—Contract with U.S. Government:

One of the Company's wholly-owned subsidiaries is engaged in constructing a plant for the production of titanium, and has entered into a contract with the U.S. Government in connection therewith. The Government has agreed to advance a maximum amount of $24,950,000, which is to be repaid including interest before February 28, 1961 by payments based on the quantity of titanium sponge produced. The amounts advanced bear interest at the rate of five per cent per annum and are secured by a first mortgage on the plant under construction.

A Certificate of Necessity covering ninety per cent of the plant under construction has been obtained.

Note 5—25 Year 3⅛% Sinking Fund Debentures:

Beginning with September 15, 1957 and annually thereafter through 1976, the Company is obligated to pay to the Trustee an amount sufficient to redeem, at the sinking fund redemption price in effect on the November 1 following, $950,000 principal amount of debentures. Under the provisions of the indenture relating to the debentures, Earned Surplus at December 31, 1954 in the amount of $71,997,438 is not available for the payment of dividends on the Company's common shares.

Note 6—Reserve for Pensions:

Following is a summary of the changes during the year in the "Reserve for Pensions":

Balance, December 31, 1953	$ 711,092
Provision charged against earnings for the year 1954:	
For current services	2,282,650
For past services	1,410,967
Amount charged to titanium plant under construction and deferred charges	24,700
	$4,429,409
Contributions to Trustees	4,348,845
Balance, December 31, 1954	$ 80,564

CRANE00537

Reference is made to the Financial and Operating Review section of this report under the heading "Employee Relations" for further information concerning pensions.

Note 7—3¾% Cumulative Preferred Shares:

These shares are redeemable at the option of the Company at $107 per share prior to June 15, 1955 (an aggregate amount of $13,911,391) and at $104.50 per share on or after June 15, 1955.

Under the sinking fund provisions the Company is required to pay over to the sinking fund agent for the redemption or purchase of such shares a determinable amount of cash, but not in excess of $320,000 with respect to any fiscal year. Against its obligation to make the cash sinking fund payment in any year the Company may, at its election, take credit for shares purchased by it otherwise than through the sinking fund.

At December 31, 1954 the Company held 3,977 reacquired shares with a cost of $388,129. A sufficient number of these reacquired shares will be deposited on or before April 30, 1955 with the sinking fund agent in satisfaction of the sinking fund requirements.

Note 8—Stock Option Plan:

Pursuant to a stock option plan adopted in 1951, 200,000 of the Company's unissued common shares are reserved for issuance to officers and employees of the Company and its subsidiaries. Under the plan, the Stock Option Committee may grant ten year options to purchase shares at a price not less than 85% of the fair market price on the date the option is granted. At December 31, 1954 options were outstanding to 114 officers and key employees for 141,600 shares at $37 per share. During the first five years after an option is granted, the optionee may not acquire the optioned shares at a rate greater than 20% annually, such percentage being cumulative. At December 31, 1954 none of the options had been exercised.

Note 9—Depreciation for Tax Purposes:

The profit for the year has been increased because the Canadian Income Tax Regulations permit certain of the Canadian subsidiaries to claim for tax purposes a larger amount of depreciation than is charged in the accounts. As a result, the provision for Canadian taxes on income has been reduced by $567,000, and the profit for the year increased by the same amount.

CERTIFICATE OF INDEPENDENT PUBLIC ACCOUNTANTS

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. and Subsidiaries in the United States and Canada at December 31, 1954, and the related consolidated earnings and earned surplus statement for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated earnings and earned surplus statement present fairly the financial position of Crane Co. and Subsidiaries in the United States and Canada at December 31, 1954 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

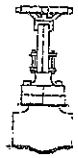
ARTHUR YOUNG & COMPANY

Chicago, Illinois
March 8, 1955

CRANE00538

CRANE CO.

valves, fittings, fabricated pipe, heating and plumbing material



GENERAL OFFICE

836 S. MICHIGAN AVENUE, CHICAGO—CABLE ADDRESS, CRANECOY—CHICAGO

PLANTS

CHICAGO ★ CHATTANOOGA ★ TRENTON ★ MAUMEE, O. ★ BURBANK ★ COLTON, CAL. ★ AIKEN, S. C.

In addition to Crane branches listed below, Wholesalers in all major markets sell Crane products.

BRANCHES

ALABAMA
BIRMINGHAM (3).....2 S. Twentieth St.
MOBILE.....300 N. Royal St.

ARIZONA
PHOENIX .....233 S. First Ave.
TUCSON.....35 Toole Ave.

ARKANSAS
FT. SMITH.....221 S. Ninth St.
LITTLE ROCK.....120 Commerce St.

CALIFORNIA
FRESNO .....2169 South Van Ness
LONG BEACH (1).....724 W. Anaheim St.
LOS ANGELES (54).....321 E. Third St.
OAKLAND (7).....346 Ninth St.
SACRAMENTO (5).....1227 Front St.
SALINAS.....239 East Alisal St.
SAN BERNARDINO.....777 W. Mill St.
SAN DIEGO (1).....1138 India St.
SAN FRANCISCO (19).....301 Brannan St.
SAN JOSE (8).....63 San Jose Ave.
SANTA ANA.....919 Poinsettia St.
STOCKTON.....331 N. Harrison St.

COLORADO
DENVER (17).....1631 Fifteenth St.
GRAND JUNCTION.....601 Pitkin Ave.
PUEBLO.....180 Central Main

CONNECTICUT
BRIDGEPORT (3).....302 John St.
HARTFORD (5).....710 Windsor St.
NEW HAVEN (11).....365 Orchard St.

DISTRICT OF COLUMBIA
BELTSVILLE, MD.....10700 Hanna St.

FLORIDA
JACKSONVILLE (3).....1007 W. Bay St.
MIAMI (30).....85 N. W. Tenth St.
ORLANDO.....1027 Sligh Blvd.
TALLAHASSEE.....2010 S. Monroe St.
TAMPA (2).....1105 E. Twiggs St.
WEST PALM BEACH.....217 Fifth St.

GEORGIA
ATLANTA (3).....Washington St. Viaduct
AUGUSTA.....701 Reynolds St.
MACON.....500 Broadway
SAVANNAH.....14 W. Broad St.

IDAHO
BOISE.....214 S. Fifth St.
POCATELLO.....756 S. First Ave.

*(Crane Co., Minnesota)

ILLINOIS
AURORA.....544 S. Lake St.
CHAMPAIGN.....1609 S. Neil St.
CHICAGO (6).....156 N. Jefferson St.
Southside Branch (20).....231 W. 79th St.
ROCKFORD.....800 S. Main St.
SPRINGFIELD.....921 E. Monroe St.
WAUKEGAN.....1219 Glen Rock Ave.

INDIANA
EAST CHICAGO.....1004 East Chicago Ave.
EVANSVILLE (6).....118 S. E. Eighth St.
INDIANAPOLIS (6).....333 W. Market St.
MUNCIE.....342 N. Pershing Dr.
SOUTH BEND (23).....1616 S. Franklin St.
TERRE HAUTE.....209 N. Ninth St.

IOWA
DAVENPORT (8).....217 E. Second St.
SIOUX CITY (2).....223 Jackson St.

KANSAS
TOPEKA.....132 N. Kansas Ave.
WICHITA (1).....624 E. First St.

KENTUCKY
LEXINGTON.....165 Midland Ave.
LOUISVILLE (2).....756 S. First St.

LOUISIANA
NEW ORLEANS (11).....710 S. Broad St.
SHREVEPORT (92).....1320 Winston St.

MAINE
PORTLAND (4).....70 St. John St.

MARYLAND
BALTIMORE (1).....626 W. Pratt St.
SALISBURY.....1221 N. Salisbury Blvd.

MASSACHUSETTS
BOSTON (27)..48 Gillette Park, South Boston
SPRINGFIELD (1).....60 Cypress St.

MICHIGAN
DETROIT (28).....8880 Hubbell Ave.
FLINT (1).....155 Lewis St.
GRAND RAPIDS (2).56 Grandville Ave., S.W.
JACKSON.....409 Hupp Ave.

MINNESOTA
DULUTH* (2).....102 Lake Ave., S.
MANKATO*.....510–516 Pike St.
MINNEAPOLIS* (1).....400 Third Ave., N.
ST. PAUL* (1).....Broadway at Fifth St.

MISSISSIPPI
JACKSON (5).....176 N. Gallatin St.

MISSOURI
KANSAS CITY (8) 2819 Warwick Trafficway
ST. LOUIS (3) .....30 S. Sixteenth St.

MONTANA
BILLINGS*.....30th St. and First Ave., S.
GREAT FALLS* .....2 Third Ave., South

NEBRASKA
GRAND ISLAND.....115 E. Front St.
OMAHA (8) .....323 S. Tenth St.
SCOTTSBLUFF.....1617 Avenue "A"

NEVADA
RENO.....401 E. Fourth St.

NEW JERSEY
CAMDEN (4).....2994 Mt. Ephraim Ave.
TRENTON (5).....50 Escher St.

NEW MEXICO
ALBUQUERQUE.....612 First St., N. W.
ROSWELL.....102 S. Virginia St.

NEW YORK
ALBANY (1).....North Broadway
BUFFALO (5).....201 Church St.
HEMPSTEAD.....209 Main St.
LONG ISLAND CITY (1)
47–30 Twenty-ninth St.
NEW YORK CITY (17) (Display Room)
101 Park Ave.
ROCHESTER (2).....200 South Ave.
SYRACUSE (1).....760 W. Genesee St.

NORTH CAROLINA
ASHEVILLE.....531 McDowell St.
CHARLOTTE (8).....1307 W. Morehead St.
GREENSBORO.....205 S. Lyndon St.
ROCKY MOUNT.....300 N. Church St.

NORTH DAKOTA
BISMARCK*.....1401 E. Main St.
FARGO*.....1441 4th Ave., North
MINOT*.....Box 1189

OHIO
AKRON (11).....425 S. High St.
CANTON (2).....210 Piedmont Ave., S. E.
CINCINNATI (1).....824 Broadway
CLEVELAND (3).....6215 Carnegie Ave.
COLUMBUS (15).....67 N. Front St.
DAYTON (2).....901 S. Perry St.
LIMA.....207 S. Central Ave.
TOLEDO (1).....390 S. Erie St.

CRANE00539

OKLAHOMA

MUSKOGEE.....302 Commercial St.
OKLAHOMA CITY (2)....705 W. Main St.
TULSA (2).....623 E. Third St.

OREGON

MEDFORD.....125 West Fourth St.
PORTLAND (8) . .710 N. W. Fourteenth Ave.

PENNSYLVANIA

ERIE (3).....222 E. Eighth St.
PHILADELPHIA (22).....245 Master St.
West Philadelphia (43).....1600 S. 59th St.
PITTSBURGH (30).....40 Twenty-fourth St.
READING.....407 N. Front St.

RHODE ISLAND

PROVIDENCE (3).....245 W. Exchange St.

SOUTH CAROLINA

CHARLESTON.....2026 Meeting St.
COLUMBIA.....716 Huger St.
GREENVILLE.....223 W. McBee Ave.

*(*Crane Co., *Minnesota)*

SOUTH DAKOTA

ABERDEEN*.....324 Railroad Ave., E.
SIOUX FALLS*.....326 E. Eighth St.

TENNESSEE

CHATTANOOGA (1).....1317 Chestnut St.
KNOXVILLE (1)....523 Jackson Ave., S. W.
MEMPHIS (1).....254 Court Ave.
NASHVILLE (2).....532 8th Ave., South

TEXAS

BEAUMONT.....720 Fannin St.
CORPUS CHRISTI....1212 N. Tancahua St.
DALLAS (22).. .....814 Young St.
EL PASO.....1609 Texas St.
HARLINGEN .....201 West "C" St.
HOUSTON (1).....2204 Pease Ave.
SAN ANTONIO (6).....1200 E. Houston St.

UTAH

OGDEN.....2001 Wall Ave.
PROVO.....237 W. Fifth North St.
SALT LAKE CITY (10)
307 W. Second, South St.

VIRGINIA

FALLS CHURCH.....212 North West St.
NEWPORT NEWS.....7706 Virginia Ave.
NORFOLK (10).....2 E. 22nd St.
RICHMOND (20).....1209 Admiral St.
ROANOKE (17).....404 Center Ave., N. W.

WASHINGTON

SEATTLE (14).....419 Second Ave., S.
SPOKANE (24).....North 207 Crestline Ave.
TACOMA (1).....1209 "A" St.

WEST VIRGINIA

CHARLESTON (25).....502 Broad St.

WISCONSIN

MADISON (3).....641 Williamson St.
MILWAUKEE (3).....2123 W. Michigan St.
OSHKOSH.....37 Market St.

WYOMING

CASPER (5).....802 East "C" St.

EXPORT

NEW YORK BRANCH
SAN ANTONIO BRANCH
SAN FRANCISCO BRANCH

CRANE, *Limited (Canada)*

GENERAL OFFICE—1170 Beaver Hall Square, Montreal, Que.—Cable Address, Cranelit-Montreal

MANUFACTURING PLANTS—Montreal, Que.—Quebec, Que.—St. Johns, Que.—Port Hope, Ont.—Vancouver, B. C.—Calgary, Alta.

BRANCHES

ALBERTA

CALGARY.....602 Eleventh Ave., W.
EDMONTON.....11925 Kingsway
LETHBRIDGE.....2815 2nd Ave. A. South

BRITISH COLUMBIA

VANCOUVER.....540 Beatty St.
NORTH VANCOUVER...1300 Marine Drive
VICTORIA.....2001 Douglas St.

MANITOBA

WINNIPEG.....93 Lombard St.

NEW BRUNSWICK

FREDERICTON.....620 King St.
MONCTON.....293 Church St.

NEWFOUNDLAND

ST. JOHN'S.....Hill O'Chips

NOVA SCOTIA

DARTMOUTH.....22 Prince Albert Rd.
HALIFAX.....7-15 Doyle St.

ONTARIO

HAMILTON.....40 Wellington St., North
KINGSTON.....1111 Princess St.
LONDON.....304 York St.
OTTAWA.....288 Catherine St.
PORT ARTHUR.....950 Memorial Ave.
TORONTO.....306 Front St., W.
TORONTO.....535 Wilson Ave.

QUEBEC

MONTREAL.....1121 St. James St., W.
MONTREAL.....110 Cremazie Blvd., West
QUEBEC CITY. .....39 St. Roch St.

SASKATCHEWAN

REGINA.....1408 Broad St.
SASKATOON.....359 First Ave., N.

CRANE, *Limited (Great Britain)*

GENERAL OFFICE—45-51 Leman St., London, E. 1.—Cable Address, Cranelon-London

MANUFACTURING PLANT—Nacton Road, Ipswich, Suffolk

BRANCHES

BIRMINGHAM 26
1277 Coventry Rd., South Yardley
BRENTFORD.....Great West Road
BRISTOL 1.....19 Colston St.
GLASGOW, SCOTLAND
94-100 Clyde Ferry St., Anderston
LONDON, E. 1.....45-51 Leman St.
MANCHESTER 17
Westinghouse Rd., Trafford Park

CRANE00540

PLANTS PRODUCTS PERSONNEL

in the United States . . .

CHICAGO PLANT, Chicago, Illinois

Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication

V. P. RUMELY, *Senior Vice President Manufacturing*
L. N. BLUGERMAN, *Vice President*
G. C. DETLEFSEN, *Works Manager*

CHATTANOOGA DIVISION, Chattanooga, Tennessee

Enameled Iron Plumbing Fixtures, Bathtubs, Sinks, Lavatories, Iron Heating Boilers and Radiation

W. M. HAMILTON, *Manager*

CRANE-PACIFIC DIVISION, Colton, California

Vitreous China Plumbing Fixtures, Water Closets, Lavatories

A. E. HOCH, *General Superintendent*

THE TRENTON POTTERIES COMPANY, Trenton, New Jersey

Vitreous China and Duraclay Plumbing Fixtures, Water Closets, Lavatories, Urinals, Tubs, Fountains, Hospital Fixtures

A. E. BENNETT, *President*
J. W. PIESLAK, *Superintendent*

HYDRO-AIRE, INC., Burbank, California

Aircraft Valves, Filters and Actuators

H. H. RHOADS, *President*
D. A. LICHTY, *Senior Vice President*
F. R. COOPER, *Vice President*
R. C. STUNKEL, *Vice President*

TOLEDO DESK & FIXTURE CORPORATION, Maumee, Ohio

Enameled Steel Kitchen Fixtures

F. M. CROOK, *President*

CRAMET INC., Chattanooga, Tennessee

Titanium Sponge

P. W. BAKARIAN, *General Manager*
J. GLASSER, *Technical Director*

HEAVY MINERALS CO., Chattanooga, Tennessee

Rare Earths

E. E. WYATT, *Director*

MARINE MINERALS INC., Aiken, South Carolina

Heavy Minerals

O. H. PERRY, *Vice President*
R. GRIFFITH, *Superintendent*

CRANE, LIMITED (Canada) Montreal

L. H. T. CLEGG, *President*
G. R. GUSTIN, *Vice President*
F. D. MACNAUGHTON, *Vice President*
F. H. MEYER, *Vice President*

in Canada . . .

ST. PATRICK ST. PLANT, Montreal, Quebec

Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication

J. D. WALKER, *General Superintendent*
R. E. BROOK, *Asst. General Superintendent*

CANADIAN POTTERIES LIMITED, St. Johns, Quebec

Vitreous China Plumbing Fixtures, Water Closets, Lavatories

A. J. BURGNER, *Manager*
GEO. TOEPFER, *Superintendent*

PORT HOPE SANITARY MANUFACTURING COMPANY, LIMITED, Port Hope, Ontario

Enameled Iron Plumbing Fixtures, Bathtubs, Sinks and Lavatories

G. M. JACOB, *Manager*
E. H. DITHRIDGE, *Vice President and General Superintendent*

CALGARY PLANT, Calgary, Alberta

Valves and Fittings

G. M. YOUNG, *Manager*
GEO. ANDERSON, *Superintendent*

ALLIANCEWARE LTD., Vancouver, B. C.

Enameled Steel Plumbing Fixtures

R. E. STRAIN, *Vice President and General Manager*
A. T. GELZ, *General Superintendent*

CRANE STEELWARE, LIMITED, Quebec, Quebec

Enameled Steel Plumbing Fixtures

R. S. COOKE, *Manager*
R. H. DANIEL, *General Superintendent*

WARDEN KING (LIMITED), Montreal, Quebec

Iron Heating Boilers, Radiators and Soil Pipe

J. A. LANG, *Manager*
H. LOUETTE, *General Superintendent*

---

in Great Britain . . .

CRANE, LIMITED (Great Britain)

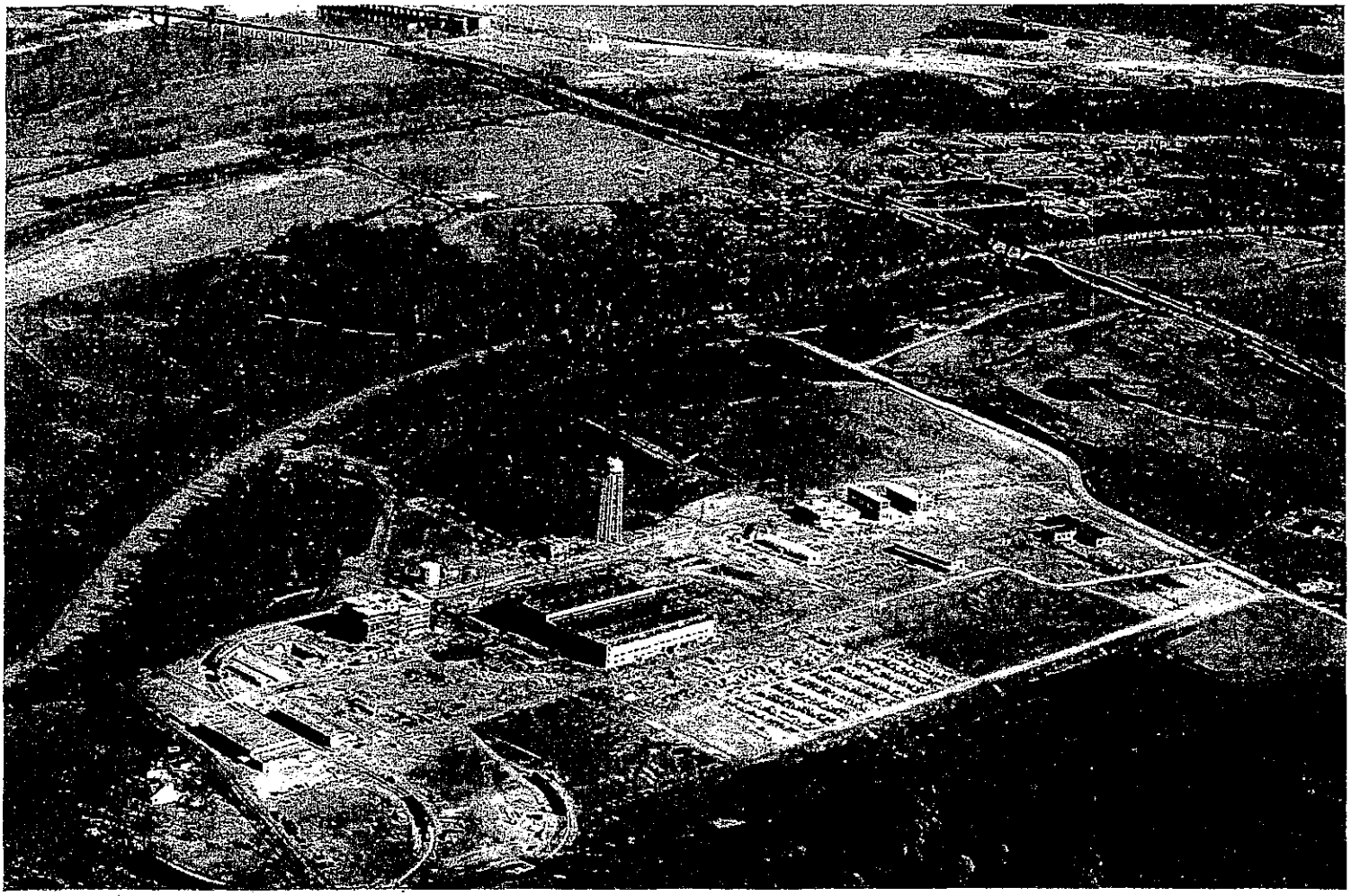
J. E. BENNETT, *Chairman of the Board*
R. E. DUNNETT, *Managing Director*

IPSWICH WORKS, Ipswich, Suffolk, England

Valves, Fittings, Boilers, Radiation

J. B. WEBSTER, *Works Manager*

Printed in U.S.A.



TITANIUM PILOT PLANT UNDER CONSTRUCTION AT CHATTANOOGA, TENNESSEE

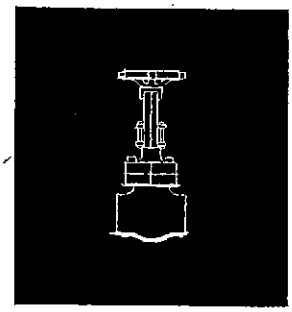
Control plant construction was completed and operation initiated in 1954 on the Cramet titanium plant at Chattanooga. The quality of the titanium sponge produced in the control plant is better than that previously produced in the Chicago pilot plant and compares favorably with that being produced commercially in the industry. Significantly, the user demand trend is for purer metal.

The aircraft industry continues to be the primary user of titanium and its alloys. The favorable strength-weight ratio, retention of strength at moderately elevated temperatures, and corrosion resistance are the properties which make titanium particularly suitable for application to aircraft airframes, engines and accessories along with guided missiles and rockets.

Titanium is the fourth most common metal in the earth's crust. There is actually more of it in existence in the earth's crust than all the lead, zinc, tin, antimony, nickel, copper, gold and silver combined. However, deposits sufficiently concentrated to warrant mining operations are scarce.

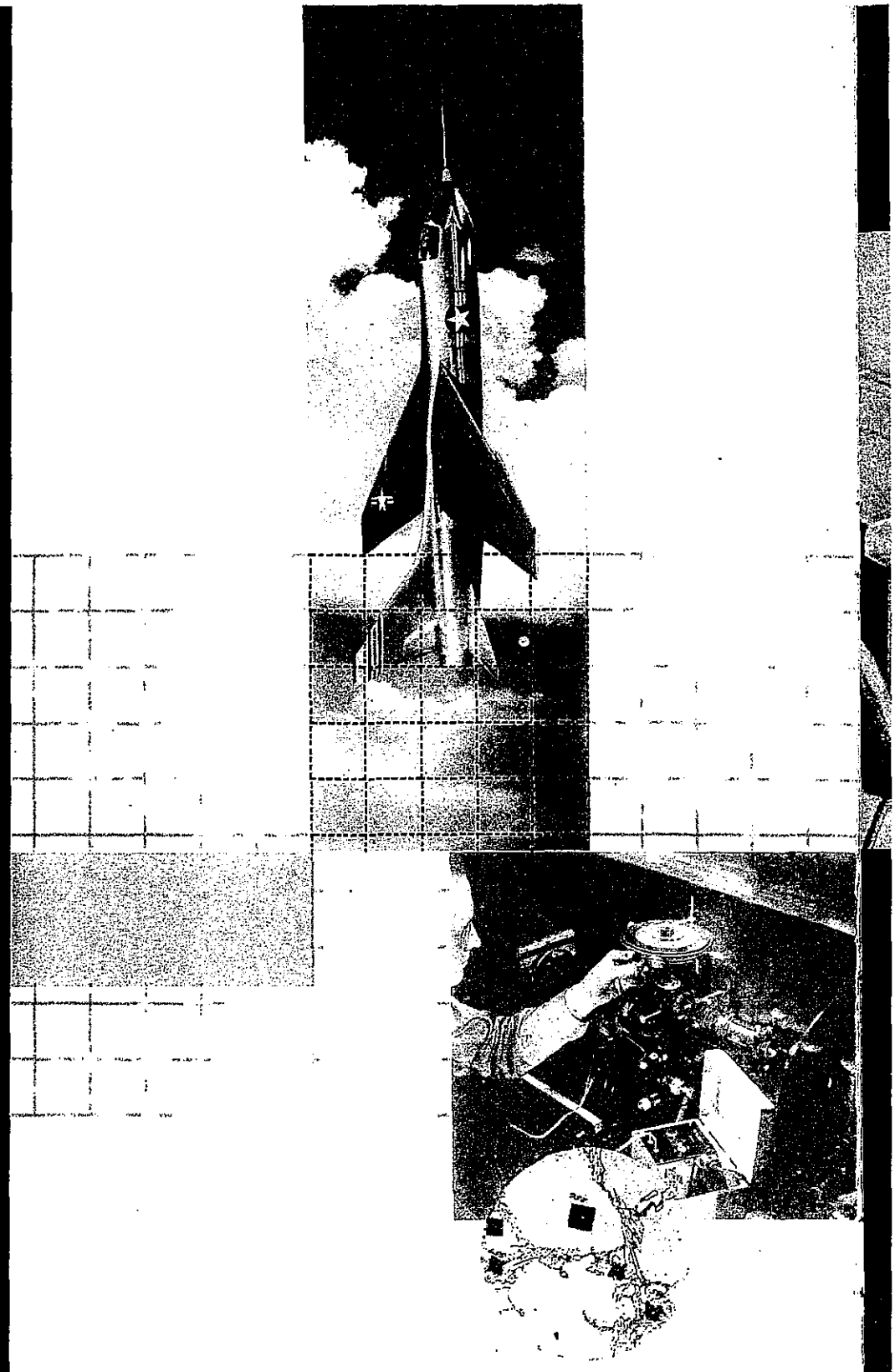
It is as strong as steel but only 57% of its weight. It keeps its strength at temperatures much above those where aluminum weakens.

The quality which may prove to be most far reaching is its remarkable resistance to corrosion. Its most immediate value, however, is in the aircraft field. In jet engines, it is used chiefly for compressor discs and blades. Tests are going forward to use it also for sheet metal parts like combustion chamber linings.



CRANE CO.

ANNUAL REPORT



Annual Report, 1955

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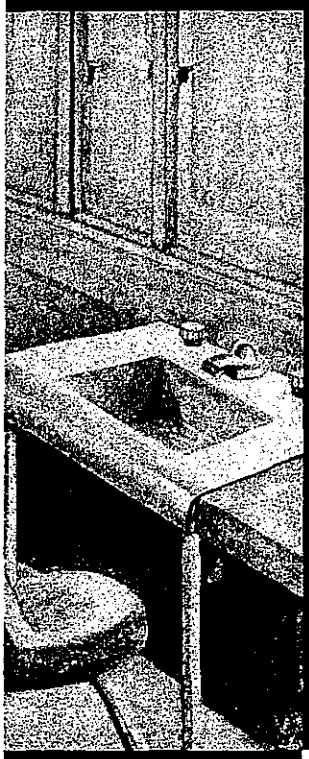
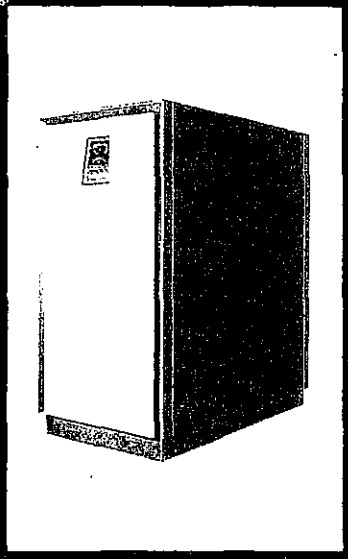
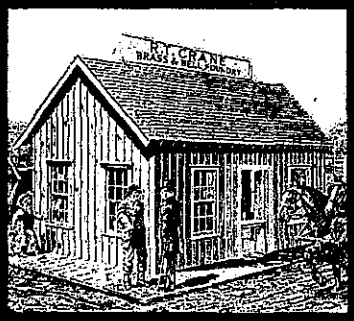




CRANE CO. 1955

ANNUAL REPORT TO THE



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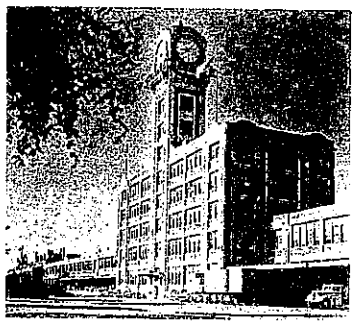
SHAREHOLDERS

1955



for the year ended December 31, 1955

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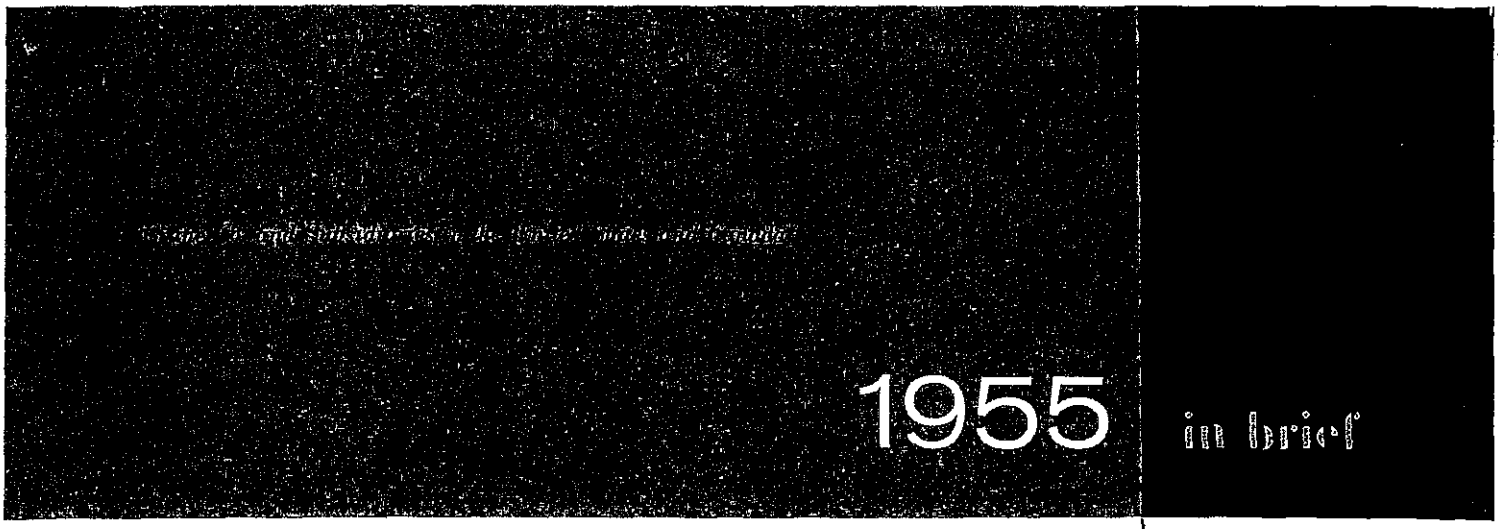


	1955	1954
Fixed Assets Less Reserve for Depreciation	$ 62,265,037	$ 62,233,276
Capital Expenditures	7,117,557	9,480,713
Depreciation Charged to Operations	5,546,384	5,317,807
Net Working Capital	115,602,124	112,553,115
Ratio Current Assets to Current Liabilities	5.09 *to* 1	7.75 *to* 1
Shareholders' Equities	168,976,171	159,126,097
Shareholders' Equity per Common Share	65.91	61.90
Net Sales	$331,421,289	$300,378,545
Net Earnings including Dividends from English Subsidiary	9,030,206	5,807,906
Per Common Share	3.60	2.25
Per Common Share if English Subsidiary were consolidated	3.98	2.42
Direct Taxes per Common Share	4.52	3.14
Dividends Paid—		
Preferred Shares	$ 483,246	$ 492,934
Common Shares	4,736,088	4,720,588
Per Common Share	2.00	2.00
Number of Employees	19,781	19,363
Wages, Salaries and Employee Benefits	$ 89,470,058	$ 84,528,541
Number of Shareholders—		
Preferred	1,242	1,314
Common	20,528	19,740

**Financial and statistical information set out above and in subsequent sections of this report is on the basis of consolidating the accounts of the company and all of its subsidiaries with the exception of Crane, Limited (Great Britain), Cramet Inc. and three other subsidiaries (see Note 1 to Financial Statements).*

CRANE00549

The President's Letter

The year covered by this report was the one-hundredth in Crane Co.'s existence and it was appropriately celebrated. Yet there is no single moment of success; a company has to earn success every day, every week, every month, every year. There probably is enough appeal in round numbers to make the public wish a company well on its hundredth anniversary—or even its seventy-fifth or fiftieth—but that public benevolence is delicate and quickly withers if the company doesn't deserve well of the public in its odd numbered years like the one-hundred first, or any other.

A company's progress, it seems to me, depends not so much upon physical plant and procedures and the choice of product as upon the personnel of the organization. Just as our company was the work of one man for many years—Richard Teller Crane, the founder—now it is the work of many people. However, the composite of all those people make up a single corporate personality with character, experience, skill, integrity and enthusiasm.

Other pages of this report speak about investments, income, and earnings; new plants, new processes, new products and new procedures. I speak of one of the most important things on both the debit and the credit side, and that is the human element—the worker—the Crane Co. personality.

The most vital element in *all of industry* is people. The factories must be built well, the machines must be modern and efficient but these are still only the physical parts of a company. They are the arms and legs, hands and feet of the company and should be strong and skilled. But to carry the analogy further, it is a man's mind—his attitude, his enthusiasm and his integrity—that controls his performance. And it is the mind and attitude and character and integrity of a company that shape its progress.

This all depends upon the personnel of the organization. You can buy machines with money but you hire people not just with salaries and wages but with encouragement, appreciation and other intangible facets of human relations. So I say again, people are more important than machines.

This is why a company which has survived one hundred years is rich in human assets. Its traditions are a constant challenge; its experience is a potent balance wheel; its prestige is an incentive; its reputation assures its morality; its very age lends character and dignity.

As new people come to Crane Co. they are guided by these factors, yet they contribute not only new blood but new thinking to the organization. And the influx of new people is as important as the long training of those who have preceded them. It is another reason for the paradox that in such a highly technological and mechanical age, people are still more important than machines. But it is the very fast pace of modern technology that requires quick and clear thinking people to keep up with the trends. That is why

CRANE00550

we need the new thinking along with the old. And that is why our one hundred years of experience is such a tremendous asset—the personnel of today are superimposing their talents and abilities upon the experience of several preceding generations.

Today, the problem of a well established business is to take advantage of all that has been learned and yet remain alert. To solve it, the overall philosophy of Crane Co. is to maintain the enthusiasm of youth tempered by the strength and wisdom of experience.

Here at Crane we are truly reliant upon every employee in every type of position for assistance. We appreciate everybody's help—everybody's thinking. From the many years of experience we have created a team of loyal and capable people in every department and phase of the business whose specific assignment is to contribute something toward rendering better service to our customers. This makes everyone alert to the changing needs and desires of our customers and the advances of our competitors.

Now it becomes more apparent that a Centennial is truly a significant achievement. The fact that a company has survived one hundred years is at least a tribute to its ability to adapt itself to changing times. As Crane closes its first century, it is an important factor in aviation, atomic energy, and titanium production, as well as valves, fittings, pipe, kitchens, plumbing and heating. During the past decade the company has entered several fields of diversification, each closely related to the valve and fitting field and helpful in furthering its position in that industry.

Always a growth company, Crane in its Centennial year, is still pioneering in its second century. Its further success is assured with the continuing support of all the people concerned—the shareholders, employees, suppliers, customers and general public—people to whom this company will be eternally indebted.

Frank Ricciotti

PRESIDENT

CRANE00551

The company obtained the largest dollar volume of sales in its history in 1955 and all major product lines made substantial contributions to this record. Net sales of Crane manufactured products and jobbed goods totaled $331,421,289. This was an increase of 10.3% over 1954.

This larger sales volume, cost reductions and increased margins in the primary and secondary market resulted in greater earnings than the year before. Net earnings for the year amounted to $9,030,206, an increase of 55.4% over the 1954 level of earnings in the amount of $5,807,906. After provision for preferred dividend requirements, the earnings were equal to $3.60 per common share compared with $2.25 the previous year.

The regular quarterly dividends, both preferred and common, were paid last year. The annual rate was $3.75 per share on the preferred shares, amounting to $483,246 and $2.00 on the common shares, amounting to $4,736,088. All dividends paid during 1955 totaled $5,219,334, and represented 57.7% of net earnings. Retained earnings and bank loans of $3,000,000 helped to finance the increase in accounts receivable and inventories required to service our additional sales volume.

PROGRESS IN TITANIUM

Among the significant developments in 1955 was our decision to shorten the experimental period and hasten the profitable stage of operation for our titanium project. To this end, we entered into an agreement with Republic Steel Corporation which provides for joint ownership and operation of Cramet Inc. This agreement is subject to clearance by appropriate federal agencies.

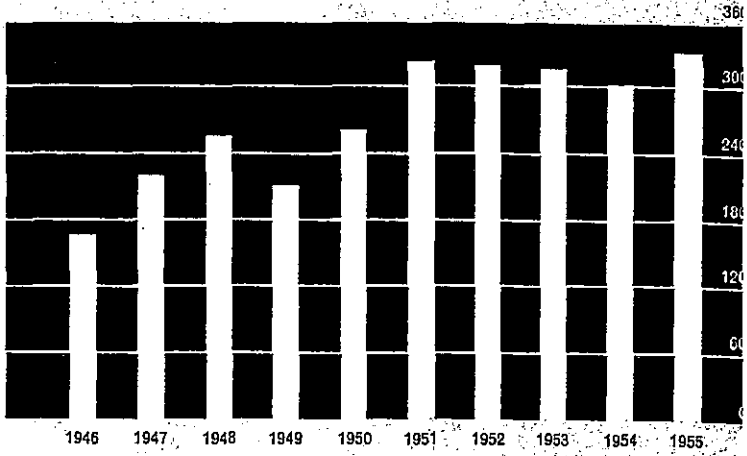
Among several advantages Republic brings to Cramet are its experience in alloying and fabricating metal and its marketing know-how and distribution facilities in the metals field. Republic was a pioneer in the development of stainless steel and is the third largest steel producer in the United States.

This agreement, when consummated, will hasten the availability and utilization of titanium and cut down the development and promotional period. Republic already is producing titanium ingots and processing titanium into mill shapes, but does not manufacture titanium sponge. Although Cramet sponge will become available to Republic, as well as Crane Co., for further processing, part of the output of Cramet sponge and ingot will also be available to other users. All three corporations remain free to conduct their own separate operations.

Cramet's main sponge plant facility has been in operation for some time and has already turned out sponge of a quality equal to that produced by those who have been in the business for from four to five years. The quality of the material is unusually good.

Prospects for profits from Crane Co.'s titanium operations are excellent on a long term basis. How-

Net Sales (*in Millions of Dollars*)



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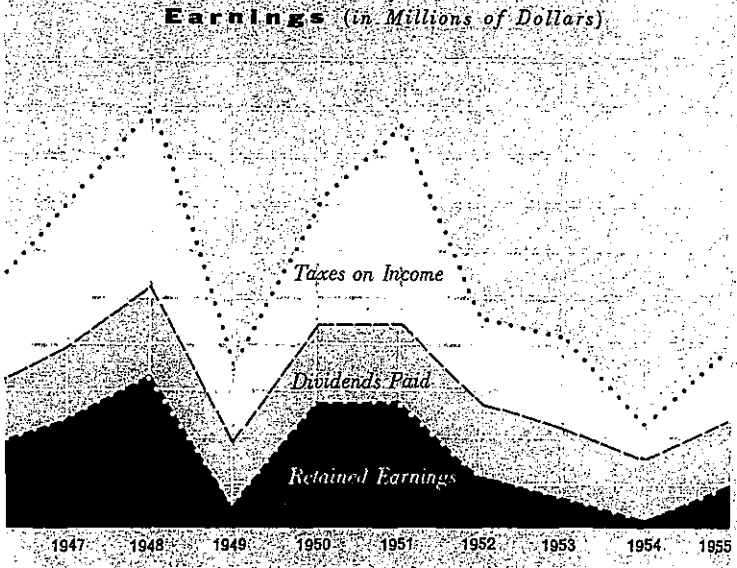
ever it is not expected that Cramet's operation will contribute substantially to Crane Co.'s profits in the near future.

DEVELOPMENTS IN HEAVY MINERALS

In order to bring Crane Co.'s rare earths and heavy minerals project into accelerated development, an agreement was consummated on February 27, 1956 with Vitro Corporation of America under which the two companies assumed equal ownership of Heavy Minerals Co., its mining subsidiary Marine Minerals Inc. and associated operations.



Heavy Minerals Co. was organized by Crane Co. in 1953 for the purpose of processing rare earths. Marine Minerals Inc., located near Aiken, S. C., is now mining rutile for sale as a raw material in the production of titanium metal; ilmenite for sale as a raw material in the production of titanium pigments; zircon for sale and for processing by Heavy Minerals Co.; and monazite, which is also to be processed by Heavy Minerals Co.

Heavy Minerals Co. will build a processing plant on ground already purchased near Chattanooga. By the end of 1956, the combined investment in the entire operation will approximate $6,000,000.

Vitro Corporation of America is a diversified industrial organization heavily engaged in the atomic energy program, operating across-the-board in that field, from research and mining through engineering and design of production facilities. Vitro's extensive background in uranium, rare metals and nuclear processing have given the corporation highly qualified experience for the new rare earths operations.

Under the new joint operation, Mr. Frank F. Elliott becomes chairman of the board of directors of Heavy Minerals Co. with J. Carlton Ward, Jr., as president. Other directors, in addition to Mr. Elliott and Mr. Ward, are William H. Denne, Jr., K. L. Karr, John P. Magos, E. E. Wyatt, and P. F. C. Gregory.

MORE IMPROVEMENTS

The new relationships with Republic Steel in our titanium operations and with Vitro Corporation in heavy minerals and rare earths are expected to develop these operations more quickly. At the same time this will enable Crane Co. to direct more capital and emphasis to the further development of its existing manufacturing enterprises. With business in general expanding, the management believes that additional improvements and plant facilities are necessary, not only to retain our present position in the industry but to obtain a higher percentage of the current available business.

To this end, capital expenditures for 1956 are estimated at $12,000,000, a portion of which is for an additional pottery to be located in the Middle West. Present facilities for producing bathroom fixtures have proven inadequate and our research has indicated that the market will continue to expand. The additional pottery will increase our capacity from 25% to 30% over what we are able to produce with present facilities.

The company has also adopted a program for relocating or rehabilitating the older of our branch buildings. It is expected that in most cases of reloca-

To the right is the titanium tetrachloride production facility at the Cramet plant just outside Chattanooga, Tenn.

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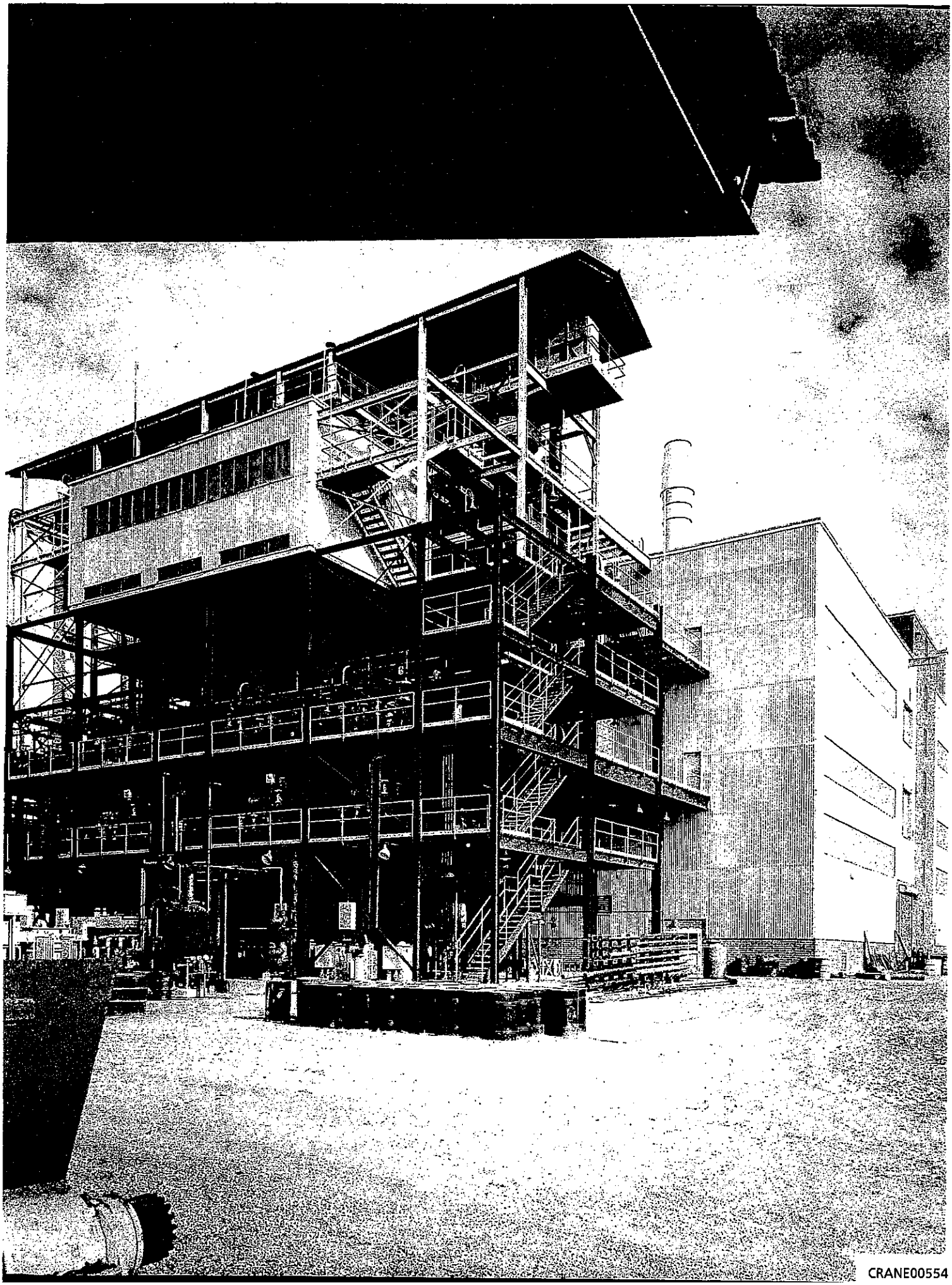

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tion present buildings will be sold and replaced with new buildings on a leaseback arrangement.

To meet the cost of present proposed capital expenditures, it appears that some additional financing may be necessary.

MANAGEMENT CHANGES

In May 1955, Mr. Frank F. Elliott was elected President of the company to succeed Mr. J. L. Holloway who resigned. Mr. Elliott joined Crane Co. in 1922 as sales engineer at our Los Angeles branch. In 1925 he became sales manager at that location and from 1930 to 1943 served as assistant manager and then manager of our San Francisco branch. In 1943 he was appointed district manager of our Pacific Coast branches, a position which he held until 1951 when he was elected vice-president of branches. Mr. Elliott became senior vice-president of sales in 1953, a position he held at the time of his election as President.

It is with deep regret that we report the deaths, on July 27, 1955 of Mr. John H. Collier, who retired as Chairman of the company in 1951; and of Mr. Leo L. Daugherty, assistant treasurer, who died February 11, 1956.

SIDELIGHTS

At December 31, 1955, 21,770 individuals were shareholders in Crane Co. Of this number, 15,223 owned 1 to 99 shares, 6,355 owned 100 to 999 shares, and 192 owned 1,000 or more shares.

At the close of 1955, employees in the entire Crane organization (excluding Cramet Inc. and Heavy Minerals Co.) totaled 22,633 of whom 15,834 were in the United States, 3,947 in Canada and 2,852 in England.

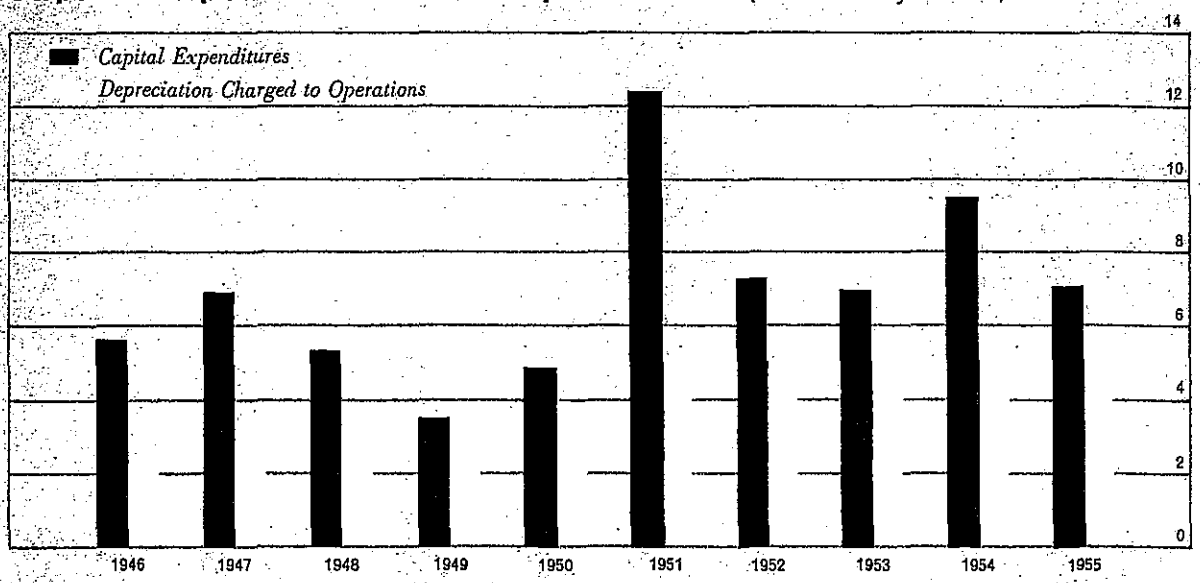
Also at the year's end, there were 1,100 wholesale establishments in the United States and Canada carrying stocks of Crane products.

Federal, state and local taxes amounted to $10,734,618, or 118.8% of our net earnings after such taxes. These taxes represented $4.52 per common share or $542.67 per employee.

Pension plans and group insurance plans covering life insurance, hospitalization and surgical benefits for employees cost the company $6,483,529, an average of $327.76 per employee in 1955.

At the 1955 annual meeting of shareholders more than 76% of the shares entitled to vote were voted in person or by proxy. All shareholders are urged by the management to exercise their right to vote.

Capital Expenditures and Depreciation (*in Millions of Dollars*)



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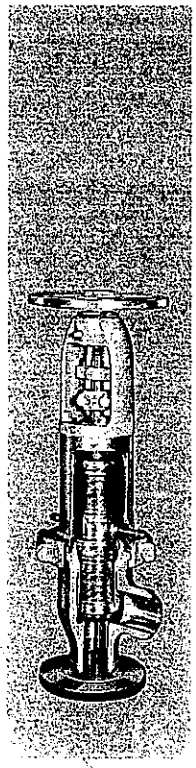
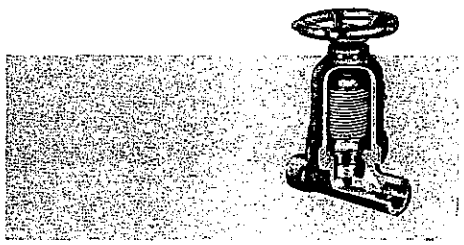
These Crane valves control the flow of radioactive materials, the one just below in high-temperature liquid metal service. It has double bellows seal in tandem.



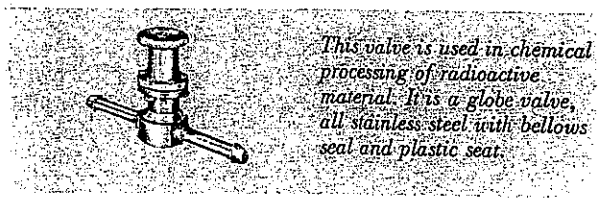
Pioneering in the atomic age

Use of atomic energy to produce power has gone far beyond military requirements and has already reached the stage of practical commercial use. Since the beginning of the Atomic Energy Commission program, Crane has successfully pitted its knowledge, resources and skill against problems in flow control that never before challenged man's ingenuity.

The control of radioactive materials requires valves of utmost dependability and efficiency. Ever since Crane Co. was called in to assist on the Manhattan project at Oak Ridge in 1942, the name Crane has been most prominent in this field so that today Crane leads in the development of valves and controls for harnessing nuclear power.



This valve has monel body and bellows seal for use in high-vacuum, radioactive service. Seat is metal-to-metal for high-temperature, plastic for low-temperature use.



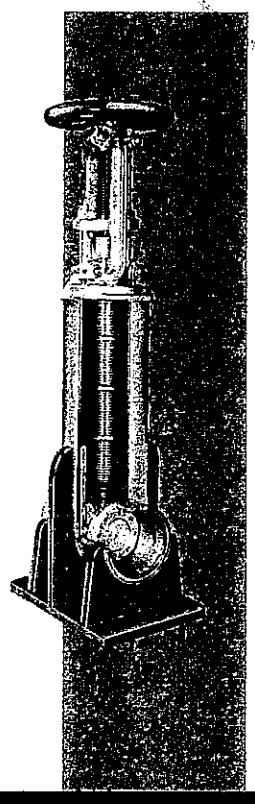
This valve is used in chemical processing of radioactive material. It is a globe valve, all stainless steel with bellows seal and plastic seat.

Aboard the atomic submarine Nautilus and in every nuclear reactor plant in this country, Crane equipment is being specified. One project alone which makes fuel for atomic plants required several million dollars worth of our materials. At the Atomic Exposition in Cleveland late last year as in every other important Atomic Energy Exposition held throughout the world, Crane—and Crane alone—exhibited tried and proven valves that were especially suitable to control of radioactive materials.

The time is not far away when atomic energy will be widely used to produce power and to do hundreds of other important peacetime jobs. The space between laboratory theory, experiment and commercial use of radioactive materials is growing less as each day passes.

This new but tremendously important and potentially widespread industry provides an ever expanding future field for products produced by Crane skill and experience.

This angle valve is of all stainless steel construction and is used for high-temperature liquid metal service. It has double bellows seal in tandem.



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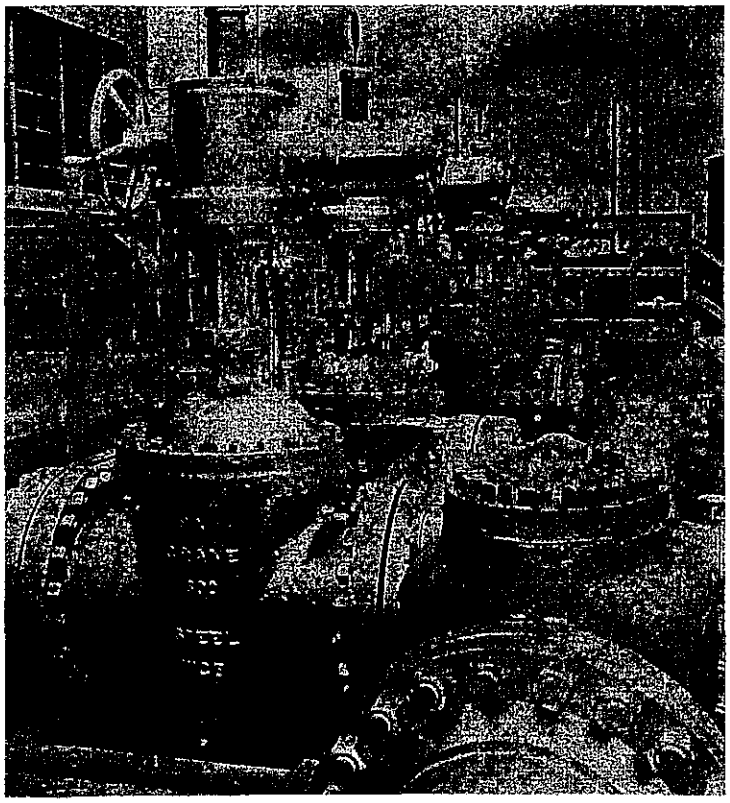
Foremost in the valve and fitting field



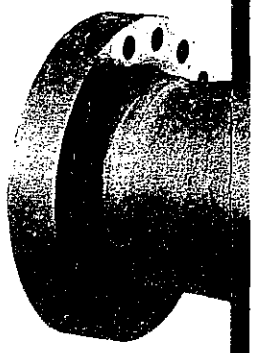
bove are Crane new, solid one-piece sc conduit pipeline gate valves on cross-country petroleum transmission ıe. Increasing growth of pipeline ınsmission presents a good field r Crane industrial sales.

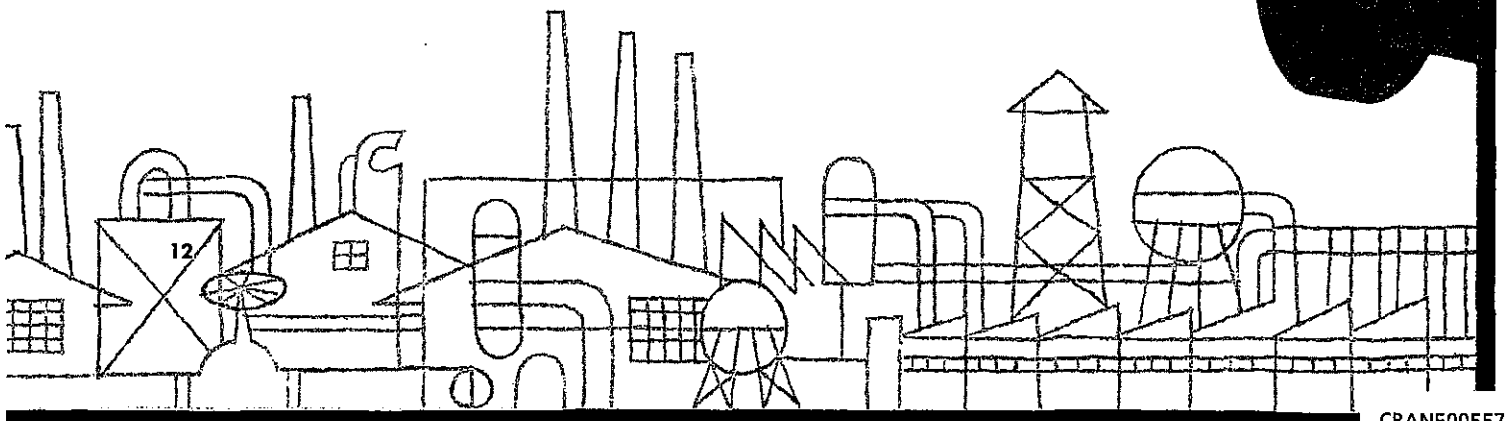
CRANE VALVES, FITTINGS AND PIPING control the flow of gases, liquids and semi-solids in every industry from the large diameter pipe-lines of gas and oil transmission to the precise and minute chemical and physical processes required in the pharmaceutical industry. The broad scope of Crane skill includes providing resistance to corrosion in the chemical industry, to high temperature and pressure in the electric power industry and prevention of clogging of pulp by the manufacturers of paper. For many generations Crane Co. has been foremost in metallurgy, engineering, quality manufacture, and service to customers in the valve and fitting field.

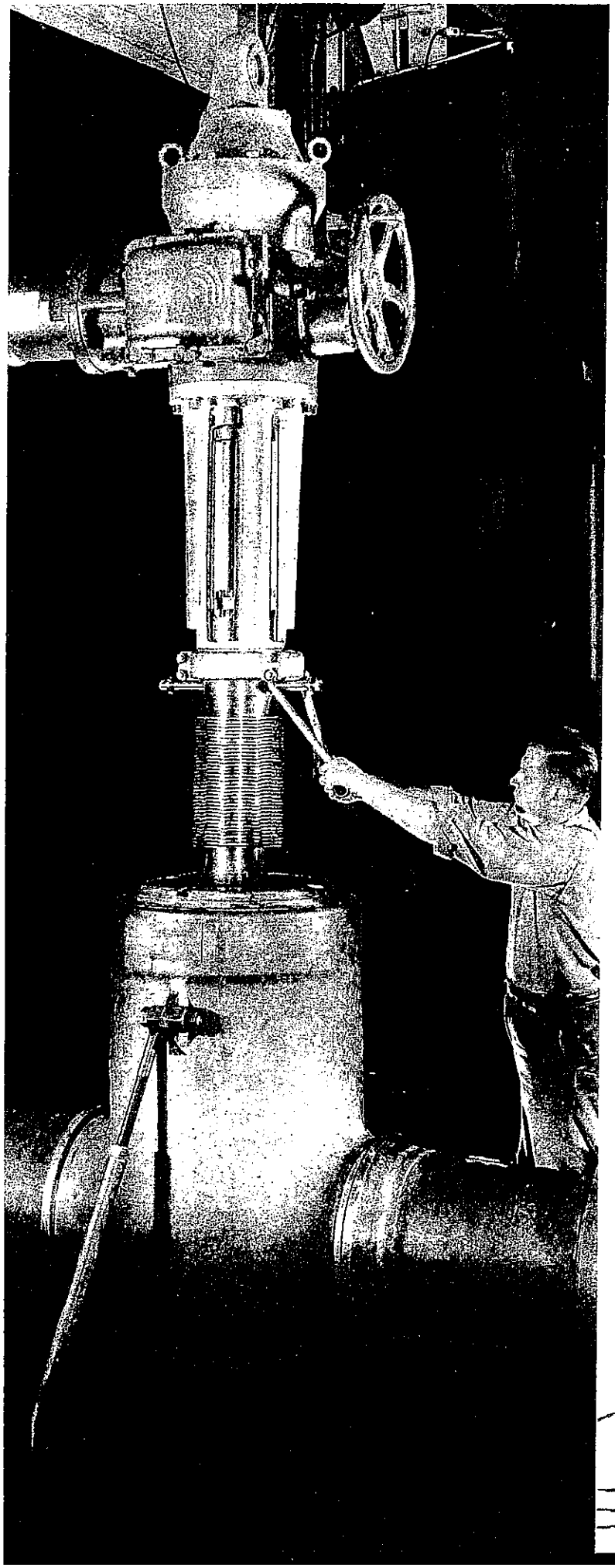
The latest basic development in increasing the versatility in Crane valves is the use of a new metal, titanium. Crane Co. is a pioneer in finding industrial uses for this metal through the valve, piping and fitting field just as it was the first to make steel castings for valves and to introduce new alloys as they became available.

Two firms have already started a new commercial process that would not have been possible without the use of titanium valves. The hot acid bath used in the process is so corrosive that no valve could stand it until titanium valves were tried. In the chemical process of another industry, valves of common materials last ten days—those of special materials, two months. Now Crane valves with titanium discs and seats last eighteen months. Titanium samples introduced into the pipe-lines of many industries operating with corrosive fluids are showing up remarkably well and are resulting in requests for special valves of titanium for further experiment.

Although offering more valves of varied types than any other manufacturer, Crane Co. continues to improve its line and introduce new valves. Last year a new conduit valve for use in the oil and gas industry was marketed. A new line of double disc iron body gate valves for water works use also was brought into service last year. The disc assembly of this new valve consists of only four parts compared to thirteen on the







old style. By a new method of rotating the discs, a new Crane gate valve introduced in 1955 prevents friction wear to a degree never before possible.

Crane ingenuity is also well illustrated in a new and improved sanitary frost-proof water hydrant suitable for use in railroad yards, on farms, in commercial plants and wherever hydrant freezing is a problem. This self de-icing hydrant not only operates efficiently in the coldest weather but is the only completely sanitary hydrant of this type. The entire unit below and above the ground is completely sealed off against possible water contamination.

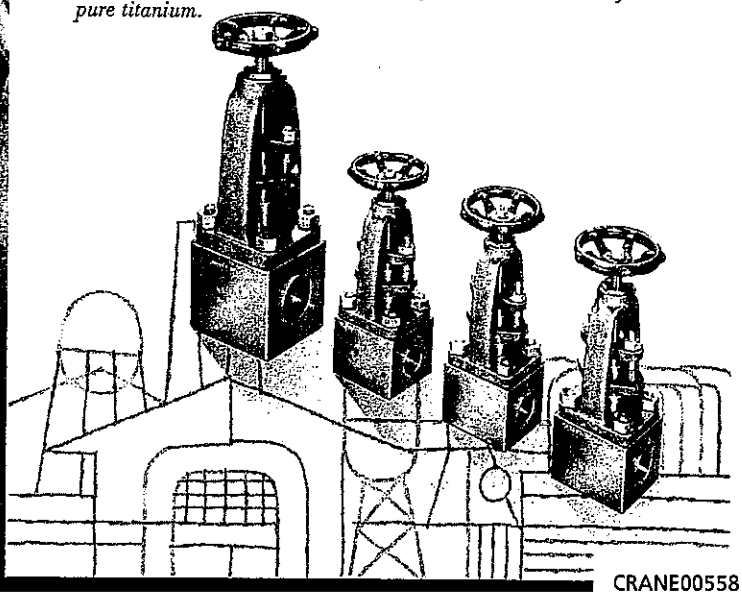
Pioneering in the manufacture of plastic pipe and fittings is another way Crane Co. maintains product leadership. Only one year after we first announced our production of polyethylene plastic pipe, the facilities for its manufacture are being expanded. Early in 1956, 75 to 100 pound pressure rated plastic pipe was added to the line.

By far the largest use for this new product is in water supply and distribution lines for farms, ranches and homes. It can be used to connect an extra faucet in the rear of the lawn or for lawn sprinkling systems.

In the industrial market plastic pipe is gaining acceptance in such installations as mine drainage, chemical transmission, sewage and food processing lines, and it is ideal for temporary water or air lines on construction or evacuation projects because of its rapid installation and easy recovery.

In plastic pipe, in titanium valves, in constantly improved design, Crane engineering and improved manufacturing techniques each year make new flow control processes possible, improve the efficiency of old ones and reduce operating and maintenance costs for industry.

At the left is the main coolant valve designed for the first land based atomic energy power plant to be built in this country. It was shipped from the Chicago Works on the 100th anniversary of the company's founding. Below are four titanium valves to be used in a pilot plant of a new industry where all equipment for the process liquor, including piping, will be commercially pure titanium.



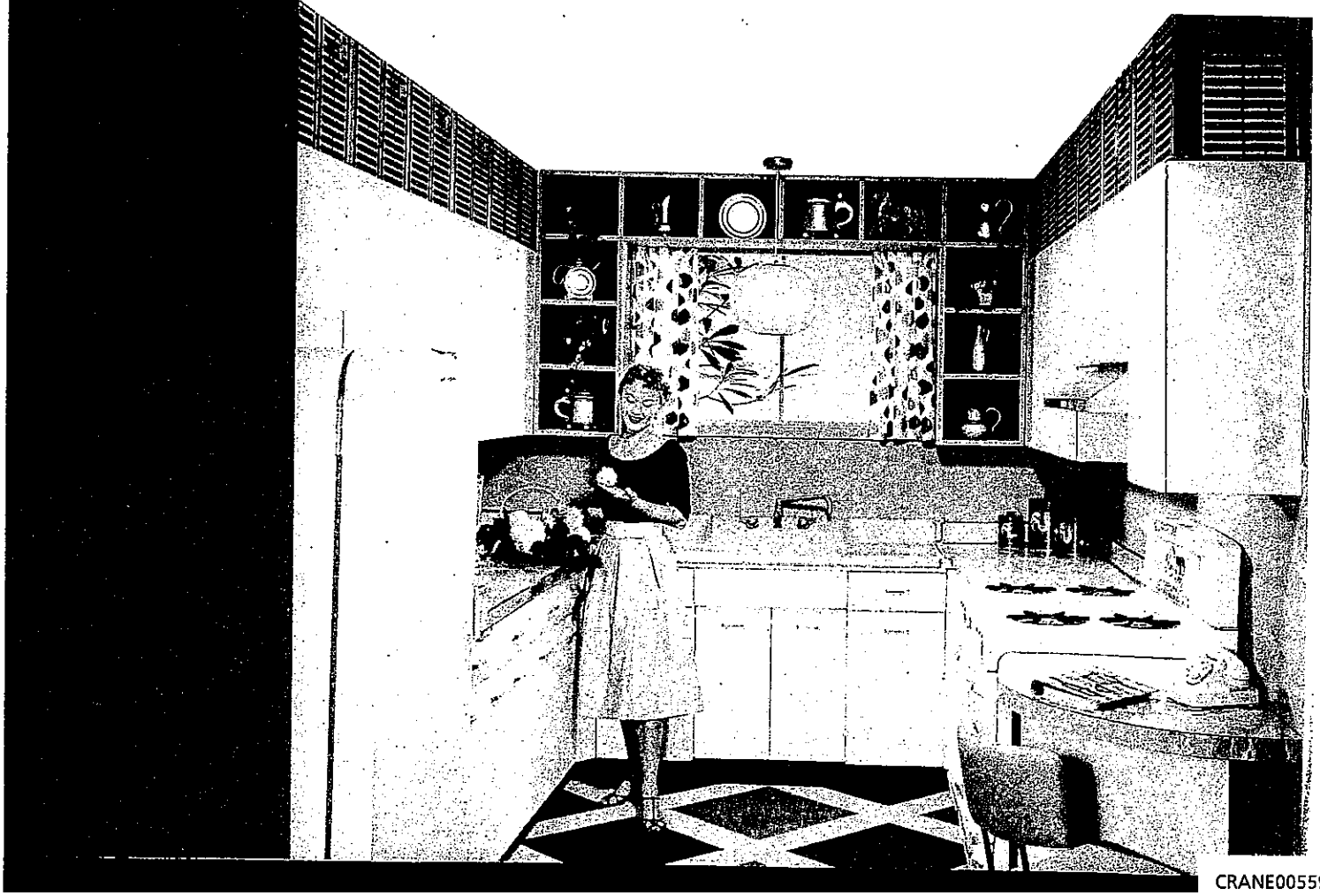
The National Association of Home Builders composed of designers, builders, financial organizations, manufacturers—everyone interested in providing better homes—completed this building late last year in Washington, D. C., to exhibit the most modern, efficient building materials and equipment. This showcase of home building is itself equipped entirely with Crane products.

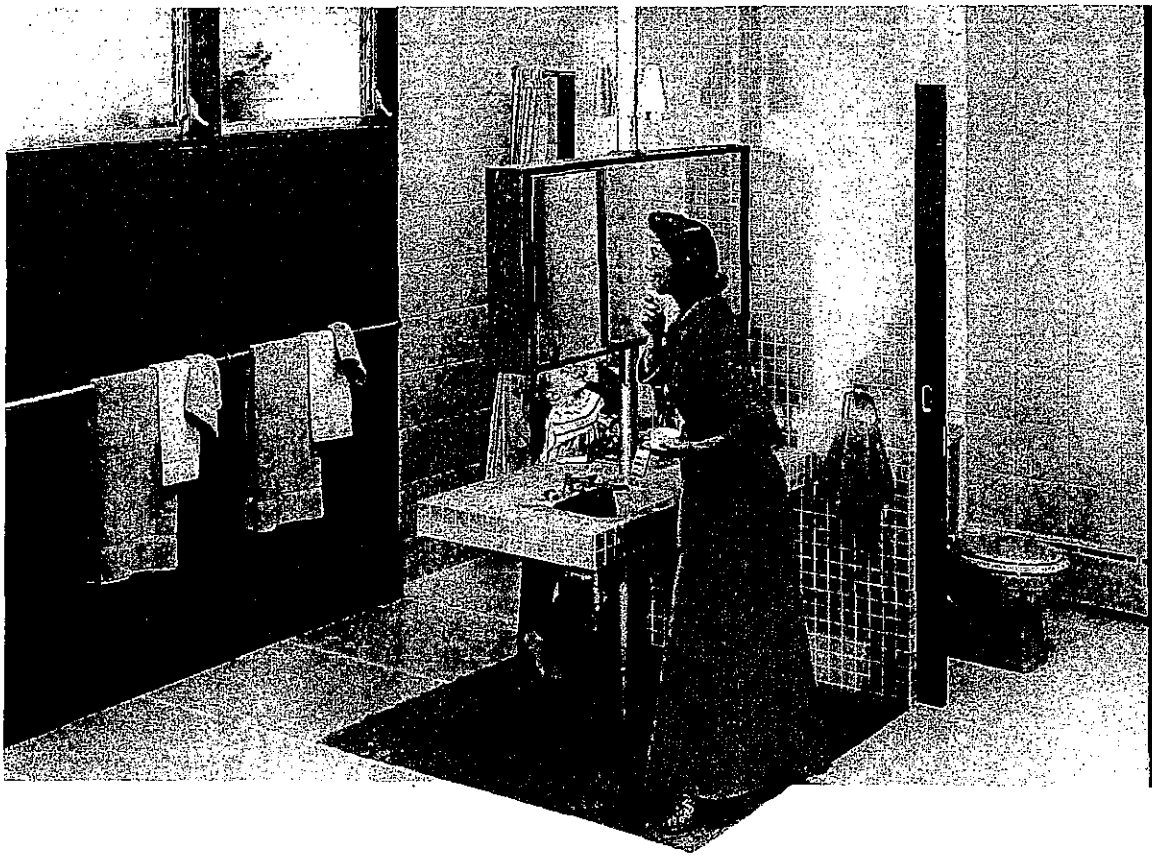
By the twenties, led by Crane Co., the plumbing industry boldly suggested that the bathroom should become not only as pleasant a place as any other in the house but every bit as glamorous. By 1940, one bath for every house was a minimum, regardless of how small or low priced the house. Today a bath and a half is a must in almost every new home being built, including even the most modest. The coming trend is toward one bath for every bedroom plus a powder room, plus basement facilities. With utility room and increased kitchen facilities, this means much more plumbing in a home than ten years or more ago.

Even if home building were to level off, the potential market for Crane plumbing would still be large. With the need for home modernization, backed by a national promotional campaign, the potential market for Crane plumbing is obvious.

The trend toward better homes not only increases the amount but upgrades the type of plumbing—all a boon to Crane. We have the greatest selection of product. There is vitreous china, enameled iron,

The trends **are in our favor**





These are examples of Crane quality in the modern home; to the left, a Crane equipped kitchen, on this page, the "peninsular" type bathroom designed by Crane.

enameled steel and Duraclay. Our products range from the deluxe, distinctive Criterion line to the regular competitive types in the least expensive categories, but still well designed and quality made.

For commercial and industrial buildings the Norwich lavatory has been the leader. In furtherance of Crane policy to keep not abreast but ahead of the times, this line has again been restyled to keep it modern for years to come. The trend toward commercial fixtures being as modern and attractive as home equipment finds the Norwich line especially desirable.

Almost every name train in the country has Crane plumbing. The trend there is to the same first-class chinaware as in the home. Two of the most modern trains designed last year, which were mildly sensational for their forward look, will have all Crane plumbing fixtures. Many large ocean going and lake liners are all Crane equipped. Crane has recently developed shock mounted fixtures that are ideally suited to Navy combat vessels. They will withstand shock caused by gunfire—near hits and near misses.

More different kinds of plumbing fixtures go into modern schools and hospitals than are used in any other type of building. Nowhere else are plumbing fixtures subject to more wearing use. And nowhere else is possible breakdown a matter of more importance. Crane makes a complete line of both hospital and school plumbing fixtures, specifically designed to stand up under the most severe service.

All tendencies in the home building field and the recent awakening to the need for more and better schools and hospitals will continue to provide an excellent market for Crane plumbing.

Crane's position as manufacturer of "The Preferred Plumbing" is reacting to our advantage even for large volume distribution. Those who build homes on a speculative basis are specifying Crane plumbing because of the selling point of the Crane name.

Crane kitchens are becoming as famous and desirable as Crane bathrooms. By continuing to accent quality in this field as well as in plumbing, Crane has anticipated the trend toward upgrading in home building. The period of quick, cheap construction that followed the war, when the motive was to provide as much small housing as possible as quickly as possible, has ended. We are now entering a period of discrimination where the Crane name means as much in the kitchen as it does in the bathroom.

CRANE00560

Sunnyday

. . . a prestige name in heating

The trend toward better homes with modern interior design, makes Crane radiant baseboard heating equipment a favored product. Crane Co. is a leader in the manufacture and sale of baseboard which is not only in good demand in new homes but provides a wide latitude in home modernization planning.

CRANE CO.'S OUTSTANDING PRODUCT in the residential field is the Sunnyday line of boilers. They were introduced with good success in 1954 and their leadership position was enhanced in 1955..

With modern basements being used for recreation, hobbies and general utility, the Sunnyday boiler was planned to be attractive, compact, clean, quiet and a good looking piece of furniture, designed by Henry Dreyfuss. In addition it is economical, versatile and priced competitively. Last year installation costs were cut considerably by shipping the boiler to dealers with all wiring and piping attached ready to install.

The outstanding feature of the Sunnyday boilers for 1956 is a twenty year guarantee. Nothing like it to emphasize high quality and long life has ever been made by a manufacturer of a cast iron boiler. It is another first for Crane in the heating field.

In a further bid to expand heating sales, a number of new Crane heating products were announced in 1955. One was the Series 60 gas fired boiler—a large capacity boiler for schools, institutions and other commercial uses. Another is Sunnywall—a new radiant heating baseboard designed for schools, churches and commercial and industrial buildings. Sunnywall is equal in appearance to the residential type of baseboard which is noted for being adaptable to any kind of interior decoration.

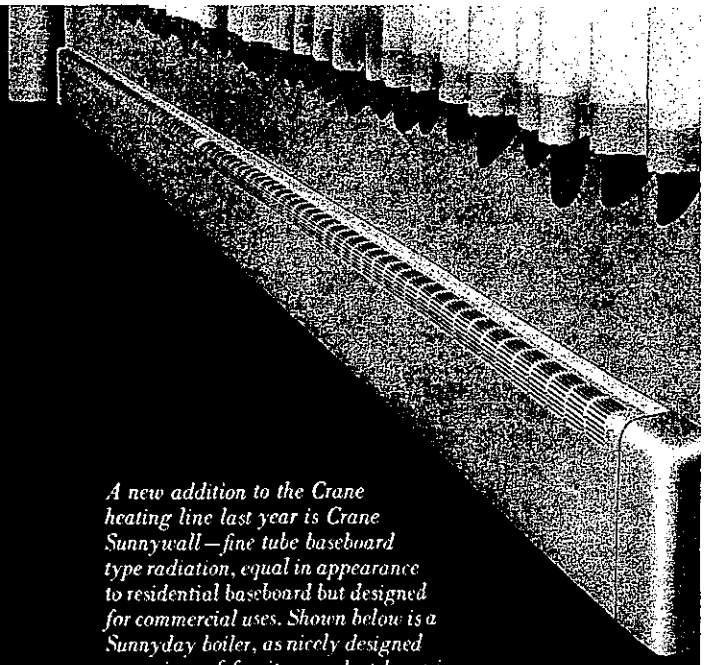
Another was an addition to the warm-air furnace line—a new line of gas fired horizontal furnaces which can be suspended from the ceiling or placed in the attic when space in a home is at a premium. New two and three ton air-cooled year 'round air-conditioners and a new five ton water-cooled year 'round air-conditioner were added to the line last year. Year 'round air-conditioning and baseboard radiation are the two outstanding modern trends in residential heating. The window type room air-conditioner which became so popular in recent years created a desire for air-conditioning. As a result, builders of new homes in practically every part of the country are now installing central year 'round heating and cooling systems. In a good number of homes already built, cooling systems are being installed.

CRANE00561

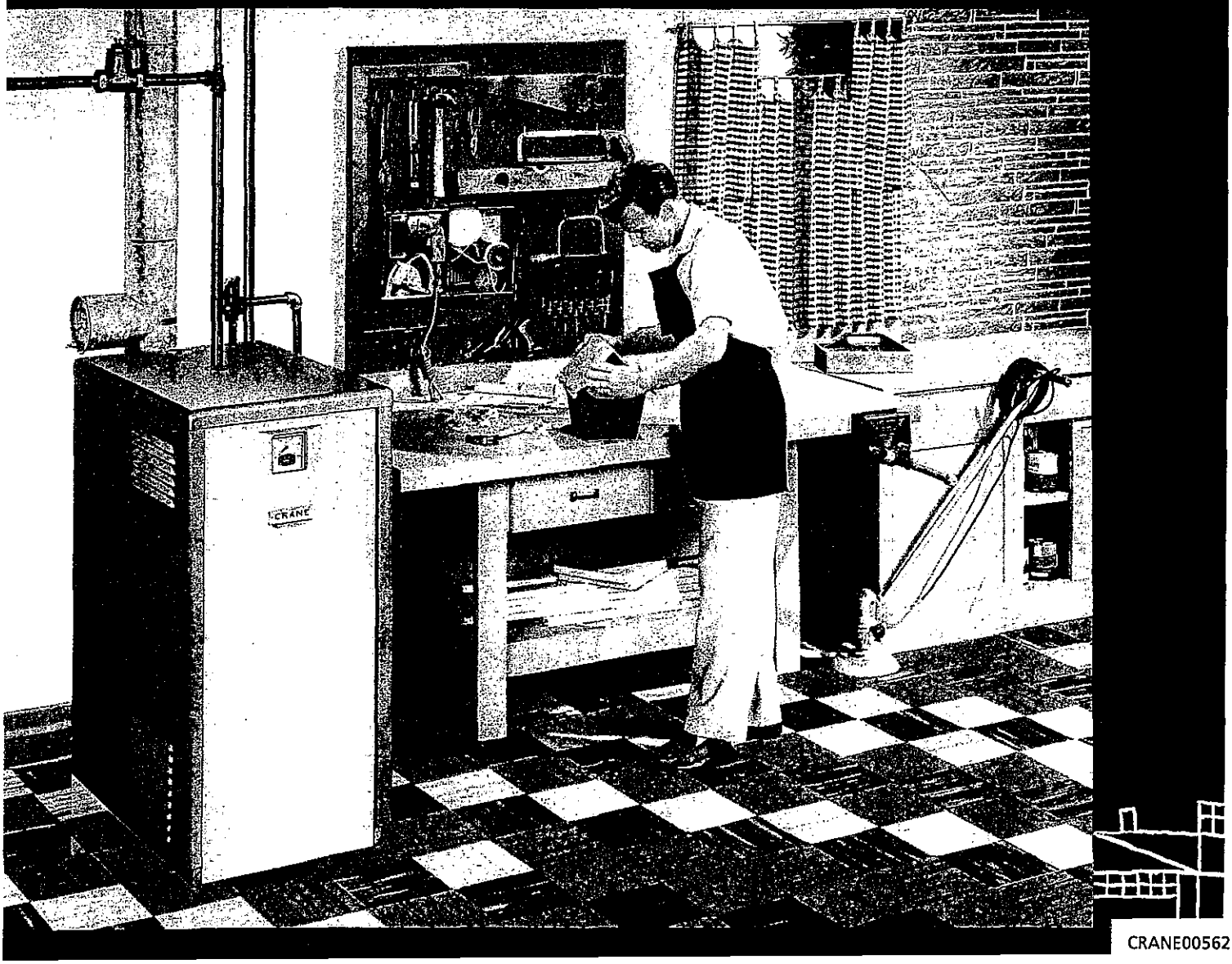
The trend toward radiant baseboard in place of radiators has also helped Crane's heating business. Our company was a pioneer in the development of this modern way of distributing heat. Radiant baseboard heating is used efficiently not only in homes, but in schools, churches, hospitals, offices, hotels and many other commercial buildings where space is at a premium and the use of radiators and vents is objectionable.

With products well suited to obtaining a larger percentage of the heating business, both advertising and sales promotion are being stepped up during 1956. Full color pages of heating advertising will appear for the first time in Life magazine and half pages in color in Better Homes & Gardens.

Potentially the market for heating equipment is as great as it is for plumbing and efforts to expand the company's activities in heating are already showing good results.

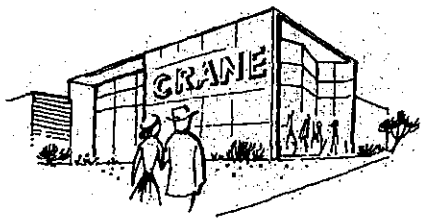


A new addition to the Crane heating line last year is Crane Sunnywall—fine tube baseboard type radiation, equal in appearance to residential baseboard but designed for commercial uses. Shown below is a Sunnyday boiler, as nicely designed as a piece of furniture and at home in basements that are lived in.

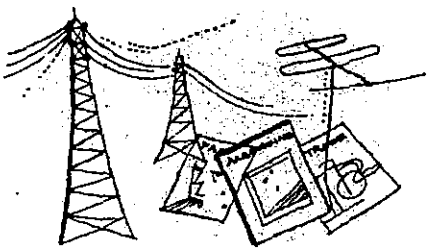


Crane and the public

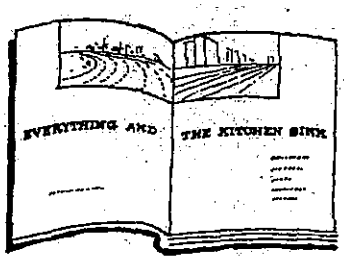
THE PRESTIGE of the Crane name, built by a century of quality and manufacture and unfailing attention to the needs and desires of its customers and the public, is being preserved and enhanced by every means available to management. Crane Co. has long recognized that a sense of responsibility to its several publics is a basic element of success.



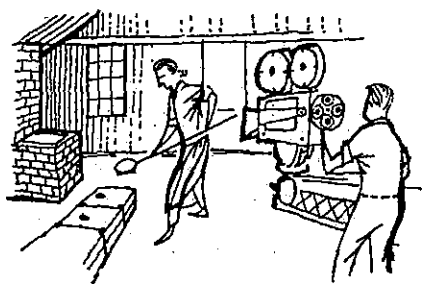
Dedication to that important principle has resulted not only in making the Crane name synonymous with quality of product, but with integrity in business and with corporate good citizenship.



During 1955 — Crane's one hundredth year — our communications with the public were considerably broadened. Our Centennial inspired an integrated program that placed more information about Crane Co. in the minds of more people than in any other single year in its history. All divisions of the company and hundreds of people in the organization participated in the planning and development of the Centennial observance.



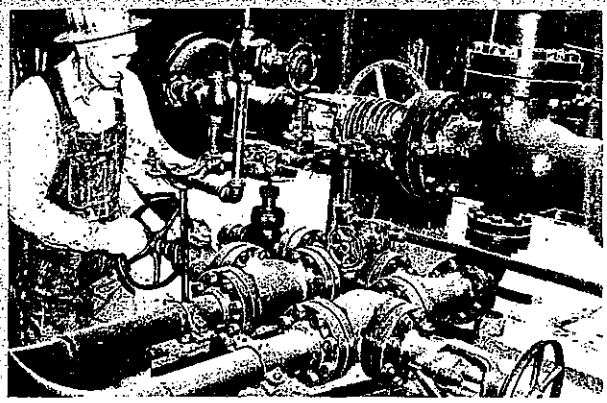
The Centennial book, "Everything *and* the Kitchen Sink" has been praised by business associates, government officials, publishers and the general public as an outstanding contribution to the literature of industry and an excellent means of enhancing Crane Co. goodwill. Crane's sound and color film, "The Second Hundred Years" has received enthusiastic response not only from industrial organizations allied with Crane Co. but from heads of women's and service clubs, educators, publishers, the clergy and other opinion leaders who viewed it.



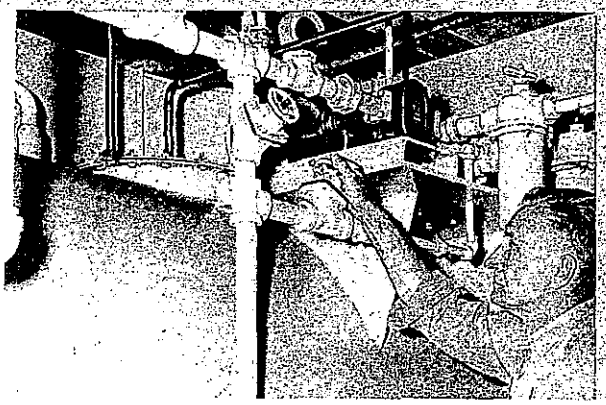
The avenues of contact and communication opened up through the picture, the book and trade paper and other publicity during the Centennial celebration are valuable additions to our company's assets. Sustaining the impact created by the Centennial through a continuing expansion of our program of public communications will be a prime objective in 1956 and the years ahead.

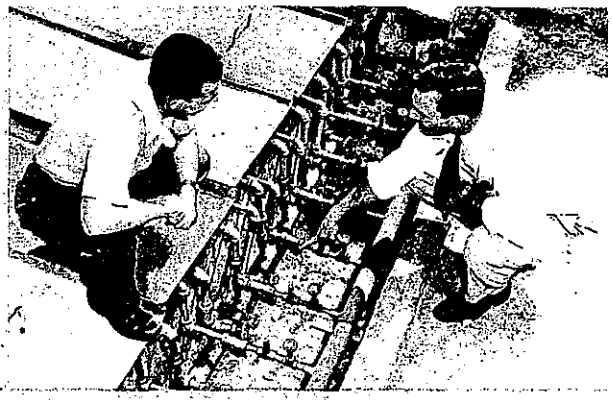
CRANE00563

The 3-inch, 600 pound cast steel valves shown below were installed in 1954 on draw-off lines from the reaction chamber of an oil refinery. They handle oil at 850 degrees Fahrenheit. In nine years' continuous service, they have shown no leakage, have given no trouble of any kind and are still as dependable as new.

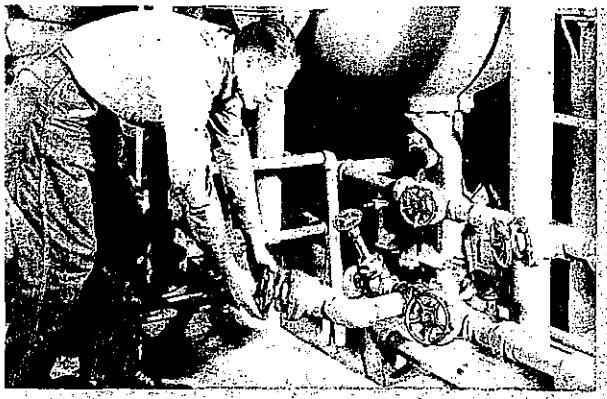


The valves used by a pharmaceutical house on a very light baby oil line were almost impossible to keep tight at the stuffing box even after repacking every four to eight weeks. Crane valves were installed in 1951 and they have removed the cause of leakage and stopped all the trouble and costs.





Valves that leaked beyond repair after as little as six months' service were hindering operations in a chemical plant until the Crane valves shown above were installed in January of 1953. Eighteen months later they were repacked and put back in the lines—that was all the maintenance they needed in this severe service.



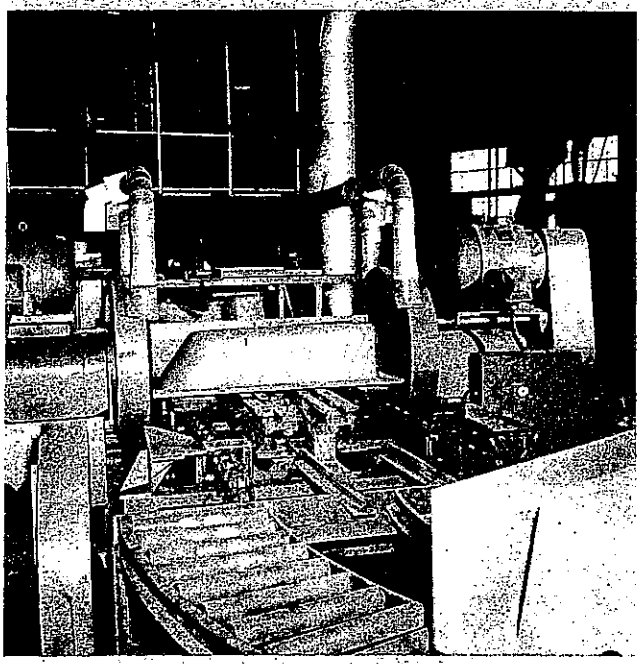
A firm had a costly problem in piping heavy enamels for paper coating—the heavy liquid would build up on seating surfaces, in stem threads and working parts. Replacing with Crane valves stopped the trouble completely. After more than four years, all valves are still seating tightly with no maintenance whatever.

Cashing in on experience

LONG LIFE with minimum maintenance is a deeply rooted characteristic of Crane valves. The company's wide successful experience over many years and its reputation in the field of metallurgy and engineering place it in an excellent position to fill even the most exacting needs of industry for every type of valves and fittings.

Only a company with as diversified and experienced an engineering staff as Crane Co.'s would be capable of solving so many of industry's valve problems as illustrated with only a few typical examples on this page.

CRANE00564



This new machine grinds bath tub castings to exact dimensions at both edges simultaneously. It is one of many new pieces of equipment installed at Crane factories last year.

IMPROVEMENT of manufacturing efficiency through better equipment and advanced procedures is a constant project. The continuing modernization program of the foundry operations in the Chattanooga Division included revamping foundry and cleaning room operations last year and the addition of high speed molding equipment. In the boiler foundry the installation of a high speed rotary conveyor has already resulted in increased production, better quality and greater control of the product with improved working conditions. Two new molding units were installed in the enamel foundry and have been producing at a steadily improved rate.

At the Chicago Works there were not only considerable physical improvements but procedures were revamped as well. All major activities there that pertained to customer service were consolidated into one factory sales service division which included all departments having to do with orders, shipping, claims, traffic and storage of finished products. The purpose was to give better customer service by putting under one head the over-all responsibility for serving customers. At the General Office a new systems and procedures department was created to expedite operations that relate to customer service.

Other improvements at the Chicago Works ranged from complete revamping of the nipple manufacturing shop, through better warehousing and more efficient use of accumulation areas for shipping, to the addition of more modern office machinery and the placement of many more records on keypunch machines. Even the method of packaging small items in cartons is receiving special study. They are shipped from the factory boxed in lots that contain the usual number and kind of items dealers order at one time rather than shipping only items of one kind in each package.

Important to operating efficiency and economy is the stress placed upon employee safety and comfort. Through constant improvement of procedures and processes and engineering revision, many hazards have been entirely eliminated or materially lessened. The disabling accident frequency rate (number of disabling injuries per one million man hours) has been brought down to the almost irreducible minimum.

Efficient production and economical profit making operation is dependent also upon up-to-date market information. Increased emphasis has been given to the use of scientific marketing practices in the selection and distribution of the products the company sells. A division of the company specializing in this sort of activity presents factual information that enables department managers to appraise our present and proposed product lines, as well as our distribution policies.

CRANE00565

CRANE CO. CONSOLIDATED EARNINGS *and earned surplus statement*

For the year ended December 31, 1955

Net sales		$331,421,289
Cost of sales, selling, administrative and general expenses (Notes 4 and 6)	$311,129,400	
Provision for depreciation	5,546,384	316,675,784
Earnings from operations		$ 14,745,505
Other income and (deductions):		
Dividends received from English subsidiary (Note 3)	$ 932,371	
Loss on foreign exchange conversion (Note 2)	(646,787)	
Interest on debentures	(625,000)	
Profit on sale of securities and fixed assets	988,706	
Miscellaneous—net	186,342	835,632
		$ 15,581,137
Minority stockholders' interest in net earnings of subsidiaries		232,548
Earnings before taxes on income		$ 15,348,589
Provision for taxes on income:		
Federal normal tax and surtax (Note 9)	$ 4,230,506	
Canadian income tax	2,087,877	6,318,383
Net earnings for the year		$ 9,030,206
Earned surplus, at beginning of the year		85,399,555
Reserves deducted from inventories at December 31, 1954, restored to earned surplus		5,948,796
Excess of par value over cost of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements		7,856
		$100,386,413
Deduct:		
Cash dividends paid:		
On 3¾% cumulative preferred shares, $3.75 per share	$ 483,246	
On common shares, $2.00 per share	4,736,088	5,219,334
Earned surplus, at end of the year		$ 95,167,079

Consolidated Capital Surplus Statement
For the year ended December 31, 1955

Capital surplus, at beginning of the year	$ 1,708,321
Excess of cash received over par value of common shares sold under Stock Option Plan (Note 8)	133,920
Capital surplus, at end of the year	$ 1,842,241

See accompanying notes

CRANE00566

CRANE CO. CONSOLIDATED BALANCE SHEET *December 31, 1955*

Assets

CURRENT ASSETS:		
Cash		$ 14,476,859
U. S. Government securities, at cost, which approximates market value		1,602,970
Accounts receivable	$ 45,235,484	
Less: Reserve for doubtful accounts	2,502,284	42,733,200
Inventories (Note 4)—		
Raw materials and supplies	$ 12,852,468	
Work in process	15,596,830	
Finished goods	56,565,619	85,014,917
Total current assets		$143,827,946
INVESTMENTS:		
Investment in English subsidiary, at cost (Note 3)	$ 2,134,581	
Investments in and advances to associated companies (Note 1)	8,591,000	
Other investments at cost or nominal value (less reserve, $117,288)	389,853	11,115,434
FIXED ASSETS:		
Land	$ 8,167,275	
Buildings	$ 44,495,842	
Less: Reserve for depreciation	21,648,874	22,846,968
Machinery and equipment	$ 74,413,580	
Less: Reserve for depreciation	44,206,135	30,207,445
Unfinished construction	1,043,349	62,265,037
DEFERRED CHARGES:		
Prepaid expenses and other deferred charges	$ 911,883	
Deferred pension expense	1,291,625	2,203,508
		$219,411,925

See accompanying notes

CRANE00567

Liabilities

CURRENT LIABILITIES:		
Notes payable to banks		$ 3,000,000
Accounts payable, accrued payrolls, etc.		17,563,529
Accrued Federal and Canadian taxes on income	$ 5,713,503	
Less: U. S. Treasury tax notes	211,762	5,501,741
Accrued general taxes		2,160,552
Total current liabilities		$ 28,225,822
TWENTY-FIVE YEAR 3⅛% SINKING FUND DEBENTURES, DUE MAY 1, 1977 (Note 5)		20,000,000
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES		2,209,932
CAPITAL STOCK AND SURPLUS:		
Capital Stock—		
Cumulative preferred shares, 3¾%, par value $100 (Note 7):		
Authorized —160,000 shares		
Outstanding—130,696 shares (including 4,003 shares in treasury)	$ 13,069,600	
Common shares, par value $25 (Note 8):		
Authorized —3,500,000 shares		
Outstanding—2,371,454 shares	59,286,350	
	$ 72,355,950	
Surplus—		
Capital surplus (Note 8)	$ 1,842,241	
Earned surplus (Note 5)	95,167,079	97,009,320
	$169,365,270	
Less: Cost of 4,003 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 7)	389,099	168,976,171
		$219,411,925

See accompanying notes

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NOTES TO FINANCIAL STATEMENTS

NOTE 1. Principles of Consolidation and Investments in and Advances to Associated Companies:

Four subsidiaries, which were in the development stage at December 31, 1954, were included in the consolidated balance sheet at that date. Because of the imminent sale of a substantial portion of Crane Co.'s interest therein, these companies have been removed from consolidation at December 31, 1955 and are carried as investments at cost.

Crane Co. has agreed to sell, at its cost on the closing date, a one-half interest in Cramet Inc. (a 100% owned subsidiary) to Republic Steel Corporation. At December 31, 1955 Crane Co.'s total investment amounted to $6,280,000. The consummation of this transaction is subject to approval by appropriate Federal agencies. A condensed balance sheet at December 31, 1955 of Cramet Inc. is as follows:

Assets	
Total current assets	$ 4,908,006
Plant (subject to mortgage) (depreciation and amortization under 90% necessity certificate to start in 1956)	27,918,684
Deferred operating expenses (to be written off over production)	591,960
	$33,418,650
Liabilities	
Total current liabilities	$ 960,163
Long-term mortgage and accrued interest payable to U. S. Government based on poundage produced	26,398,127
Non-interest bearing demand notes payable to Crane Co.	4,780,000
Capital stock	1,500,000
Deficit	(219,640)
	$33,418,650

At December 31, 1955, Crane Co.'s total investment in the other three companies amounted to $2,311,000. On February 27, 1956, Crane Co. sold to Vitro Corporation of America one-half of its interest for $1,576,785 at which time its total investment amounted to $2,621,570.

The appended financial statements contain Crane Co. and all subsidiaries except the above and Crane, Limited (Great Britain).

NOTE 2. Conversion of Items Carried in Canadian Currency:

In converting the items carried in Canadian currency, fixed assets were converted at U. S. dollar cost at dates of acquisition, less accrued depreciation. Net current assets were converted at the current rate of exchange at the year end and the net loss on conversion is included in the consolidated earnings statement under other deductions.

NOTE 3. Investment and Operations in England:

The investment in Crane, Limited (Great Britain), a wholly-owned subsidiary, is carried in the consolidated balance sheet at cost, $2,134,581, and dividends received from that company are reflected in the consolidated earnings statement.

The net assets of Crane, Limited (Great Britain) stated at equivalent U. S. dollars, are summarized as follows:

Fixed assets at U. S. dollar cost at dates of acquisition, less accrued depreciation	$ 4,335,002
Net current assets at current rate of exchange	6,032,137
	$10,367,139

The results of operations of Crane, Limited (Great Britain) for the year ended December 31, 1955, stated at equivalent U. S. dollars, are summarized below:

Net sales	$15,288,238
Cost of sales, selling, administrative and general expenses and provision for depreciation	12,100,770
Earnings from operations	$ 3,187,468
Provision for taxes on income	1,362,623
Net earnings for the year	$ 1,824,845

NOTE 4. Inventories:

The major portion of the inventories is valued on a "last-in, first-out" (LIFO) basis. Other inventories aggregating $32,693,204 are priced at the lower of cost or market on a "first-in, first-out" basis.

NOTE 5. 25 Year 3⅛% Sinking Fund Debentures, Due May 1, 1977:

Beginning with September 15, 1957 and annually thereafter through 1976, the Company is obligated to pay to the Trustee an amount sufficient to redeem, at the sinking fund redemption price in effect on the November 1 following, $950,000 principal amount of debentures. Under the provisions of the indenture relating to the debentures, Earned Surplus at December 31, 1955 in the amount of $79,517,358 is not available for the payment of dividends on the Company's common shares.

NOTE 6. Pensions:

The cost of the pension plans for 1955 charged to operations, based upon actuarial estimates, was $4,598,242

CRANE00569

of which $1,718,267 related to past service on the basis of amortizing past service liability over a period of approximately twenty-four years for employees in the United States and approximately twenty-seven years for employees in Canada. The estimated actuarial cost not provided for at December 31, 1955 was approximately $30,700,000.

NOTE 7. 3¾% Cumulative Preferred Shares:

These shares are redeemable at the option of the Company at $104.50 per share, an aggregate amount of $13,239,418.

Under the sinking fund provisions the Company is required to pay over to the sinking fund agent for the redemption or purchase of such shares a determinable amount of cash, but not in excess of $320,000 with respect to any fiscal year. Against its obligation to make the cash sinking fund payment in any year the Company may, at its election, take credit for shares purchased by it otherwise than through the sinking fund.

At December 31, 1955 the Company held 4,003 reacquired shares with a cost of $389,099. A sufficient number of these reacquired shares will be deposited on or before April 30, 1956 with the sinking fund agent in satisfaction of the sinking fund requirements.

NOTE 8. Stock Option Plan:

Pursuant to a stock option plan adopted in 1951, 188,840 of the Company's unissued common shares are reserved for issuance to officers and employees of the Company and its subsidiaries. Under the plan, the Stock Option Committee may grant ten-year options to purchase shares at a price not less than 85% of the fair market price on the date the option is granted. At December 31, 1955 options were outstanding to 107 officers and key employees for 124,400 shares at $37 per share. During the first five years after an option is granted, the optionee may not acquire the optioned shares at a rate greater than 20% annually, such percentage being cumulative.

Options to purchase 11,160 unissued common shares were exercised during the year 1955 and the excess of the cash received over the par value of the common stock issued was credited to capital surplus.

NOTE 9. Federal Taxes on Income:

The provision for Federal taxes on income has been reduced in the amount of $665,000 as a result of the liquidation on March 31, 1955, of a wholly-owned subsidiary which business is now operated as a Division of Crane Co.

CERTIFICATE OF CERTIFIED PUBLIC ACCOUNTANTS

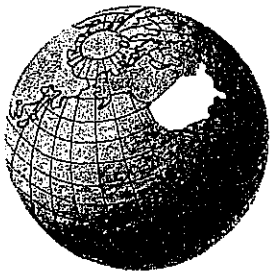
To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. at December 31, 1955, and the related consolidated earnings and surplus statements for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated earnings and surplus statements present fairly the financial position of Crane Co. at December 31, 1955 and the results of its operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY

Chicago, Illinois, March 8, 1956.



in the United States...

CHICAGO PLANT, *Chicago, Illinois*
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
L. N. Blugerman, *Vice President*
G. C. Detlefsen, *Works Manager*

CHATTANOOGA DIVISION, *Chattanooga, Tennessee*
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks, Lavatories, Iron Heating Boilers and Radiation
W. M. Hamilton, *Manager*

CRANE-PACIFIC DIVISION, *Colton, California*
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
A. E. Hoch, *General Superintendent*

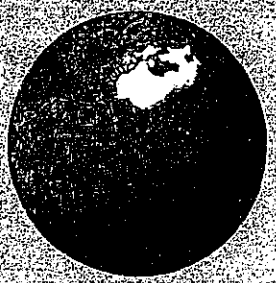
THE TRENTON POTTERIES COMPANY, *Trenton, New Jersey*
Vitreous China and Duraclay Plumbing Fixtures, Water Closets, Lavatories, Urinals, Tubs, Fountains, Hospital Fixtures
A. E. Bennett, *President*
C. W. Schlieckert, *Secretary and Treasurer*
S. A. Peer, *General Superintendent*

HYDRO-AIRE, INC., *Burbank, California*
Aircraft Valves, Filters and Actuators
H. H. Rhoads, *President*
D. A. Lichty, *Senior Vice President*
F. R. Cooper, *Vice President*
L. C. Craigle, *Vice President*

TOLEDO DESK & FIXTURE CORPORATION, *Maumee, Ohio*
Enameled Steel Kitchen Fixtures
F. M. Crook, *President*

CRAMET INC., *Chattanooga, Tennessee*
Titanium Sponge
P. W. Bakarian, *General Manager*
J. Glasser, *Technical Director*

HEAVY MINERALS CO., *Chattanooga, Tennessee*
Rare Earths
E. E. Wyatt, *Director*



In Canada...

CRANE, LIMITED (Canada) Montreal
L. H. T. Clegg, *President*
G. R. Gustin, *Vice President*
F. D. MacNaughton, *Vice President*
F. H. Meyer, *Vice President*

ST. PATRICK ST. PLANT, *Montreal, Quebec*
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
J. D. Walker, *Works Manager*
R. E. Brook, *General Superintendent*

CANADIAN POTTERIES LIMITED, *St. Johns, Quebec*
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
A. G. Lennon, *Manager*
Geo. Toepfer, *Superintendent*

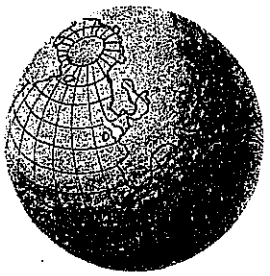
PORT HOPE SANITARY MANUFACTURING COMPANY, LIMITED, *Port Hope, Ontario*
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks and Lavatories
G. M. Jacob, *Manager*
E. H. Dithridge, *General Superintendent*

CALGARY PLANT, *Calgary, Alberta*
Valves and Fittings
G. M. Young, *Manager*
Geo. Anderson, *Superintendent*

ALLIANCEWARE LTD., *Vancouver, B. C.*
Enameled Steel Plumbing Fixtures
R. E. Strain, *Vice President*
A. T. Getz, *General Superintendent*

CRANE STEELWARE, LIMITED, *Quebec, Quebec*
Enameled Steel Plumbing Fixtures
R. S. Cooke, *Manager*
R. H. Daniel, *General Superintendent*

WARDEN KING (LIMITED), *Montreal, Quebec*
Iron Heating Boilers, Radiators and Soil Pipe
J. A. Lang, *Manager*
H. Louette, *General Superintendent*

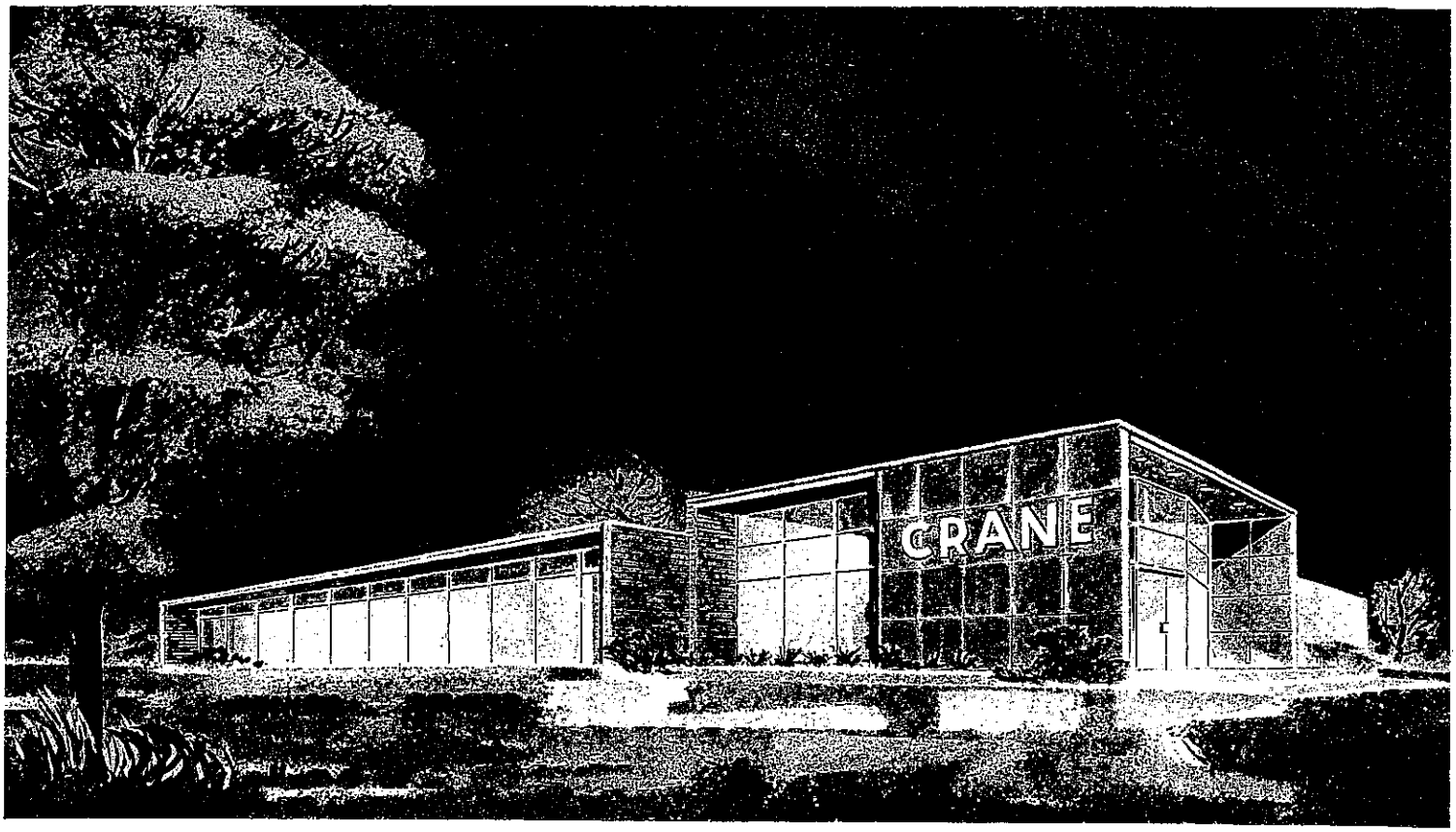


In Great Britain...

CRANE, LIMITED (Great Britain)
J. E. Bennett, *Chairman of the Board*
R. E. Dunnett, *Managing Director*

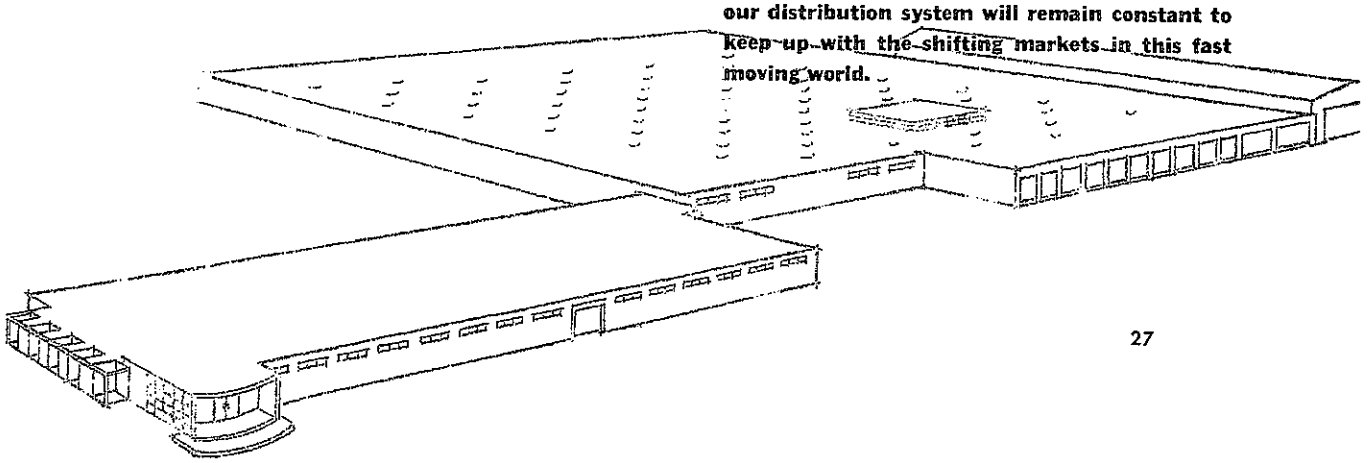
IPSWICH WORKS, *Ipswich, Suffolk, England*
Valves, Fittings, Boilers, Radiation
J. B. Webster, *Works Manager*

Plants, products and personnel



Improving our marketing pipelines

Plans were made last year and construction is just being started on this Chicago area branch and warehouse to be located at Franklin Park, Illinois. It replaces similar facilities occupied in the same building in Chicago since 1865. The new building will provide 36,000 square feet of office and display space and 117,000 square feet of warehousing, including covered loading dock facilities. This project is part of a five year plan for modernizing, relocating and generally strengthening our branch house distribution system. Several branches have been relocated during the past year and others will be in the year to come. We have enlarged several others and modernized still more. And for the future, plans are already made to build new branch and warehouse facilities at locations which have become strategic during the past few years. In addition, we have increased materially the number of our wholesalers. The strengthening of our distribution system will remain constant to keep up with the shifting markets in this fast moving world.



CRANE00572

DIRECTORS AND OFFICERS

Directors

L. N. Blugerman
David Levinger
Mark W. Lowell
Edward H. McDermott
William L. McKnight
Peter V. Moulder
R. E. Penney
S. M. Roberts
R. Arthur Williams

EXECUTIVE COMMITTEE

Mark W. Lowell, *Chairman*
Peter V. Moulder
R. Arthur Williams

Officers

F. F. Elliott ..... *President*
L. N. Blugerman ..... *Vice President*
J. A. Dwyer ..... *Vice President*
G. L. Erwin, Jr. ..... *Vice President*
C. T. Pollock ..... *Vice President*
L. W. Moore ..... *Vice President*
P. L. Yates ..... *Comptroller*
K. L. Karr ..... *Secretary*
E. H. Petersen ..... *Treasurer*
G. L. Larson ..... *Executive Assistant*
R. E. Penney ..... *Executive Assistant*
E. E. Wyatt ..... *Executive Assistant*
R. F. McDonald ..... *Assistant Treasurer*
N. I. Pickles ..... *Assistant Treasurer*
H. A. Tacon ..... *Assistant Treasurer*
C. C. Marks ..... *Assistant Comptroller*
J. W. Hederick ..... *Assistant Secretary*
W. R. Stead ..... *Assistant Secretary*

F. C. Akers ..... *Director, Marketing Research*
R. G. Creviston ..... *Director, Public Relations*
T. E. Killeen ..... *Director, Employee Relations*
J. A. McMurry ..... *Director, Branches*
J. P. Magos ..... *Director, Engineering*

NOTE: Directors and officers listed above were incumbent at the time of issuance of this report.

Stock Transfer Agents

J. P. Morgan & Co. Incorporated, New York 8, New York
R. Remes, Transfer Clerk, Crane Co., Chicago 5, Illinois

Registrars of Stock

The Chase Manhattan Bank, New York 15, New York
Continental Illinois National Bank and Trust Company, Chicago 90, Illinois

Auditors

Arthur Young & Company, Chicago 2, Illinois

CRANE00573

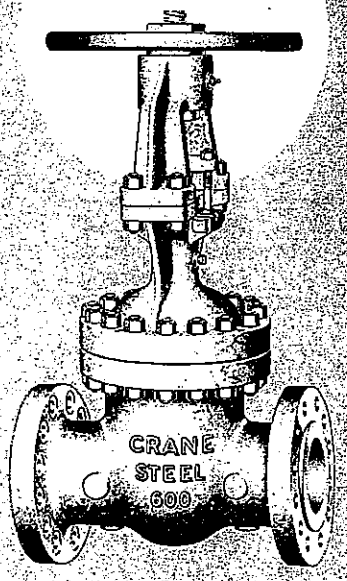
RANE CO.

ANNUAL REPORT

1956

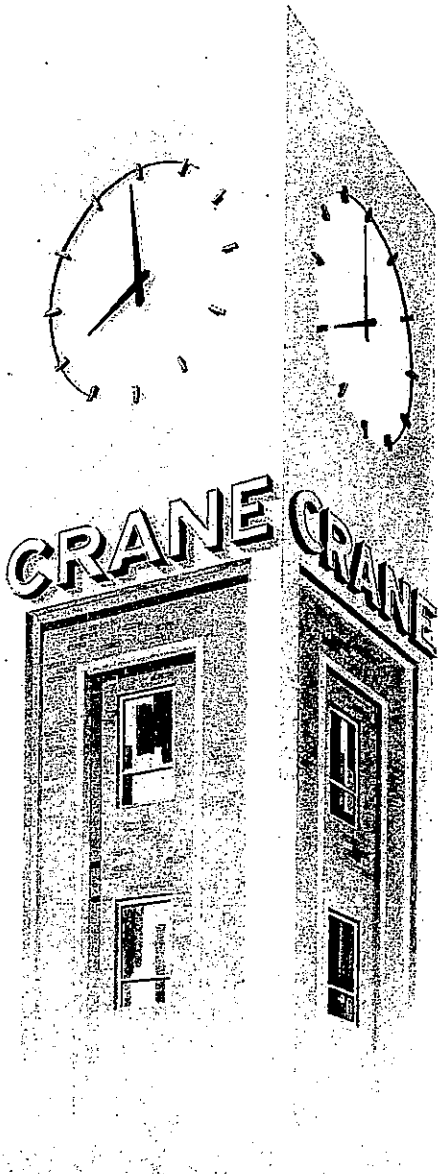
CRANE CO.

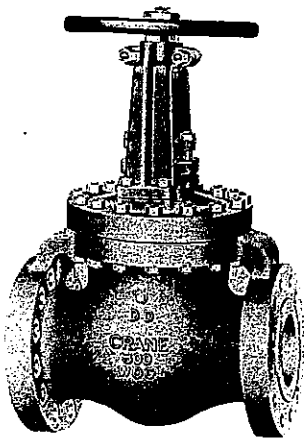
CONFIDENTIAL



CRANE CO. 1956

From the face lifting of the Chicago Works clock tower, just completed, to the improvement of product design, Crane Co. is maintaining its prestige position in the valve and fitting and plumbing and heating fields.





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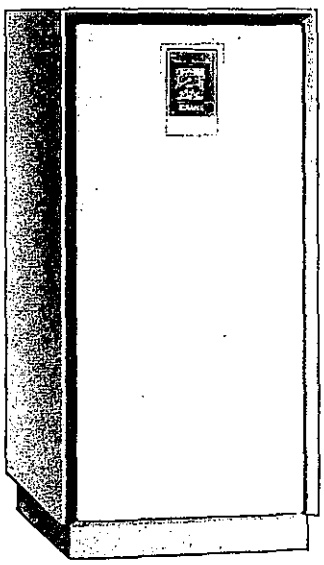
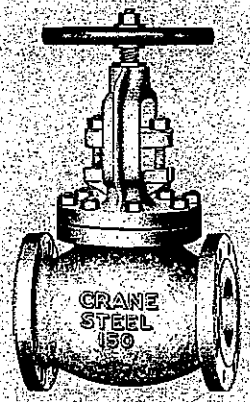


CRANE CO., *836 South Michigan Avenue, Chicago 5, Illinois*

Crane Co. and Subsidiaries in the United States and Canada*

CONFIDENTIAL
FOR RELEASE AFTER 12:00 O'CLOCK NOON, EASTERN TIME, THURSDAY, MARCH 21, 1957.
CRANE CO.



3 YEARS IN BRIEF

	1956	1955	1954
Net Sales	$375,220,848	$331,421,289	$300,378,545
Net Earnings including Dividends from English Subsidiary	10,899,070	9,030,206	5,807,906
Per Share of Common Stock	4.39	3.60	2.25
Percent of Net Sales	2.9%	2.7%	1.9%
Dividends Paid—			
Preferred Shares	$ 466,848	$ 483,246	$ 492,934
Common Shares	4,744,413	4,736,088	4,720,588
Per Common Share	2.00	2.00	2.00
Direct Taxes per Common Share	5.77	4.52	3.14
Wages, Salaries and Employee Benefits	103,031,494	89,470,058	84,528,541
Fixed Assets Less Accumulated Depreciation	$ 64,222,418	$ 62,265,037	$ 62,233,276
Capital Expenditures	9,166,160	7,117,557	9,480,713
Depreciation Charged to Operations	5,758,029	5,546,384	5,317,807
Net Working Capital	121,271,357	115,602,124	112,553,115
Ratio Current Assets to Current Liabilities	4.34 to 1	5.09 to 1	7.75 to 1
Shareholders' Equities	174,331,034	168,976,171	159,126,097
Shareholders' Equity per Common Share	68.30	65.91	61.90
Number of Employees	20,921	19,781	19,363
Number of Shareholders—			
Preferred	1,169	1,242	1,314
Common	21,079	20,528	19,740
Number of Shares Outstanding—			
Preferred (net of treasury shares)	122,643	126,693	130,013
Common	2,372,624	2,371,454	2,360,294

**Financial and statistical information set out above and in subsequent sections of this report is on the basis of consolidating the accounts of the Company and all of its subsidiaries with the exception of Crane, Limited (Great Britain).*

CRANE00578

1956 Results

The sales of your Company reached a record high of $375,220,848 in the year 1956, exceeding the previous peak of $331,421,289 established in 1955. Sharply increased sales in the past two years represent a reversal of the downward trend experienced in the period 1952 through 1954.

Earnings also improved in 1956, reaching $10,899,070, or $4.39 per common share compared with $3.60 in 1955 and $2.25 in 1954. However, earnings for 1956 were unfavorably influenced, particularly in the third and fourth quarters, by increased materials prices, wages, and fringe benefits and by reductions in the selling prices made on some products to meet competitive circumstances.

Our most pressing current problem is not one of sales but of earnings. Sales increases in industry generally have not been accompanied by corresponding increases in earnings. As with others, our manufacturing costs have risen sharply, but because of competitive factors it has not been possible to recover all such cost increases.

In 1956, we devoted major and searching attention to manufacturing cost studies, with further mechanization of our operations and greater productivity as prime objectives to offset as far as possible the cost and expense increases we experienced. Progress was made during the year, and this program will be pursued with continued vigor in 1957.

Short Range Outlook

Crane Co. is the world's largest and most diversified maker of valves, fittings and fabricated piping. These vital industrial products account for the major part of the Company's sales of products of its own manufacture.

Crane valves and fittings have important applications in a wide range of industries, among them pipeline, petroleum, public utility, food processing, pulp mill, chemical, rubber, and many others. Most of these industries have enjoyed spectacular growth in recent years and give promise of continued expansion during 1957. Nearly all of them also require a large volume of our industrial products in their regular maintenance programs.

President Neele E. Stearns, left, and Chairman of the Board Frank F. Elliott.

The nuclear power field, both in military and civilian uses, also is expected to grow in greater proportion than industry generally. We are currently producing valves for five nuclear powered submarines and for atomic naval frigates and carriers, as well as for merchant ships. Crane valves are also being installed in the nation's first commercial atomic power project at Pittsburgh. Similar projects are in advanced stages of planning and design in several other areas of the United States. Your Company is in an excellent short range position to participate in this business because of its pioneering experience in nuclear power developments.

CRANE00579

Provided capital expenditures in industry remain at approximately the same level that prevailed in 1956, as presently seems likely, there should be a slight increase in our total sales of valves and fittings during 1957.

In the case of plumbing and heating, the situation is different. Residential construction declined in 1956, and this decline seems likely to continue as a trend in 1957. An encouraging factor, however, is the continued extensive construction of schools, hospitals, and other public and institutional buildings, which gives every indication of continuing at a high level during 1957. We also expect that residential remodeling activities will grow at an accelerated pace, and this may offset to some extent the decline in new residential construction. However, a decline in plumbing and heating sales in 1957 seems more than likely if the continuing dip in new housing starts is not reversed.

Long Range Outlook

The technical strengths of your Company in sales, engineering and production, together with the diversity of its products, equip it well to meet the challenge of a dynamic, changing economy which constantly obsoletes existing production methods and brings revolutionary products to the American market. An age that is producing supersonic aircraft and guided missiles that exceed the most optimistic estimates of a few years ago, and promises many more startling developments, stimulates all of industry to place greater emphasis on long range planning. This activity should have a stabilizing effect not only on the entire economy but specifically on our business. A realization that in the years immediately ahead both population growth and general industrial expansion will necessitate huge capital investments in new plant and equipment will create a continuing demand for valves, fittings and fabricated piping.

Further, our marketing studies indicate that in the next decade there will be nearly six million families added to our population. We expect that the number of dwelling units in the United States will grow by approximately nine million, an increase of almost twenty percent over the present number. This sizable growth will benefit materially the plumbing and heating phase of your Company's business.

You will be interested to know that your Company is placing increased emphasis on its own long range planning activities. We are establishing carefully selected task groups from within the Company's management personnel to effect long range evaluations of our merchandising and distribution practices, as well as our research, engineering and manufacturing activities. We shall continue, but at an accelerated pace, to improve our production machinery and equipment and our distribution facilities in order to capitalize fully on the opportunities generated by the nation's expanding economy.

We acknowledge with deep appreciation the contribution made during 1956 by each Crane employee, the cooperation and understanding extended us by all of our customers and suppliers, and the interest shown by our shareholders in the affairs of the Company.

Frank F. Elliott

FRANK F. ELLIOTT, *Chairman*

Neele E. Stearns

NEELE E. STEARNS, *President*

CRANE00580

Operating Results

The results of operations for the year 1956 were generally favorable. Crane Co. shareholders received dividends totaling $5,211,261 while all employees of the Company were paid wages and salaries amounting to $94,980,527. Federal, state and local taxes amounted to $13,695,295, or 125.6% of our net earnings after such taxes.

Consolidated net sales totaled $375,220,848 in 1956, an increase of $43,799,559, or 13.2%, over 1955 sales of $331,421,289. Our industrial line of products of valves, fittings and piping were principally responsible for this substantial increase in sales volume. The plumbing and heating lines, although contributing slightly to the increase in sales volume, were somewhat restricted due to the lag in home building throughout the year.

This largest sales volume in the history of the Company resulted in net earnings for the year of $10,899,070, an increase of 20.6% from the 1955 level of earnings in the amount of $9,030,206. Earnings per common share after provision for dividends on preferred shares were $4.39 in 1956 compared with $3.60 in 1955. Adjustments for conversion of Canadian net assets to reflect changes in the exchange value of the Canadian dollar in 1956 increased earnings by $807,932, or $0.34 per share, whereas in 1955 such adjustments decreased earnings by $646,787, or $0.27 per share.

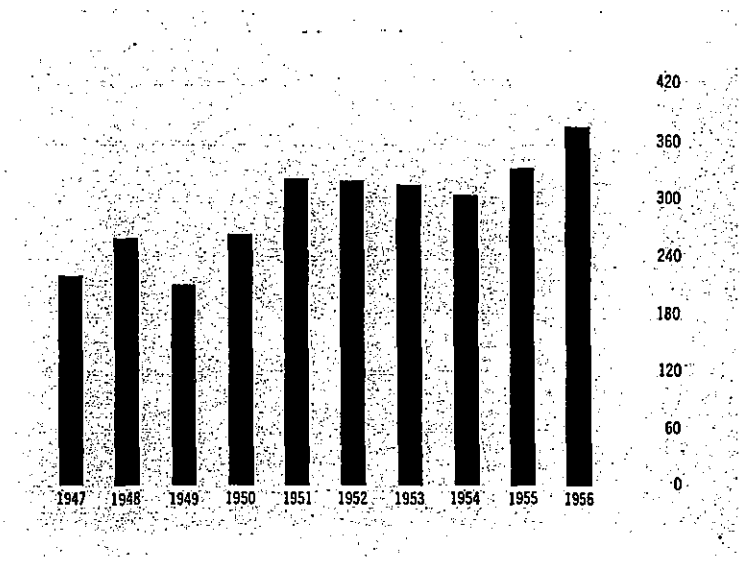
The net earnings of our wholly-owned subsidiary in England were $2,382,831 compared with $1,824,845 in 1955.

The regular quarterly dividends, both preferred and common, were paid last year. The annual rate was $3.75 per share on the preferred shares, amounting to $466,848, and $2.00 on the common shares, amounting to $4,744,413. Total dividends paid during 1956 represented 47.8% of net earnings.

Financial Position

Net working capital at December 31, 1956 amounted to $121,271,357, an increase of $5,669,233 for the year. The ratio of current assets to current liabilities was 4.34 to 1 as compared with 5.09 to 1 at the end of 1955.

Net Sales *(in Millions of Dollars)*



Short-term borrowing from banks reached a high of $16,000,000 in mid-year. This borrowing was necessitated by substantial increases in inventories and receivables to service the higher level of sales. At the year-end outstanding bank loans had been reduced to $8,500,000 and at January 31, 1957 to $4,500,000.

Capital Expenditures

Expenditures for capital assets in 1956 totaled $9,166,160 as compared with $7,117,557 in 1955. Depreciation charged to operations amounted to $5,758,029, an increase of $211,645 over 1955.

Capital asset expenditures at our Chicago Works totaled approximately $3,680,000 in 1956, principally for new machinery and equipment. Modernization and improvement of the manufacturing facilities to increase capacity and bring about reductions in manufacturing costs is a continuing project

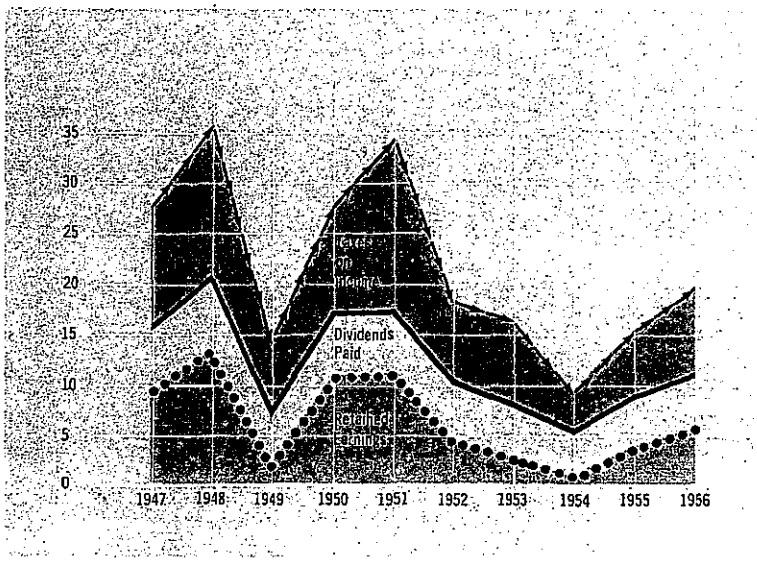
CRANE00581

Earnings *(in Millions of Dollars)*

→ *Earnings before Taxes on Income*

— *Net Earnings (after taxes)*

••• *Retained Earnings*



at this location which is the largest plant in the world for the production of valves and fittings.

Highlighting the year's progress at this plant was a new high speed molding and core making unit for our 150 and 300 pound line of steel valves which was placed in operation along with a new line of semi-automatic machines for the machining of the valve bodies. Additional cost reductions were realized through the modernization of the facilities for manufacturing seamless steel welding fittings. Construction was started on equipment for a new galvanizing process which will not only improve the quality of our galvanized fittings but will also provide better working conditions for employees engaged in this work. Extensive remodeling of the administration building for this plant is also under way.

The plan for modernizing, relocating and generally strengthening our branch house distribution system has proceeded on schedule. Total expenditures in our branch operation amounted to approximately $2,500,000 and the Company also acquired the use of an estimated $2,100,000 of additional new branch facilities through long-term leases.

At our Canadian operation where capital expenditures totaled $1,940,500, construction was started on a new pottery which will substantially increase productive capacity for this line of products.

In keeping with its program for improving and expanding plant facilities, the Company at December 31, 1956 had already authorized $7,000,000 for the future expansion of capital assets. Capital expenditures for the year 1957 are estimated at $11,000,000.

Associated Companies

Our associated companies made favorable progress during 1956. Operations at Cramet Inc. should approach full capacity during 1957. The Heavy Minerals Co. plant at Chattanooga commenced operations in January 1957 and is expected to be operating profitably by the end of the year. We do not, however, expect that either of these new ventures will contribute dividends to the parent companies for some time. Profits will have to be used to assure the further development of these operations.

Employee Relations

At the close of 1956 employees totaled 20,921, of which 17,035 were in the United States and 3,886 in Canada. In addition, our subsidiary in England had 3,093 employees.

Pension and group insurance plans covering life insurance, hospitalization and surgical benefits for employees cost the Company $7,969,939, an average of $380.95 per employee in 1956. Many of the employee benefits provided by these plans were substantially increased during the year. Where unions were involved the changes were subject to collective bargaining.

CRANE00582

Management Changes

The Company suffered a major loss on May 15, 1956 when six of its sales executives and two Company pilots were killed in an airplane accident. The six sales executives were James A. Dwyer, vice president of industrial sales; George L. Erwin, Jr., vice president of heating sales; George L. Lindholm, manager of valve and fitting sales; Jesse A. McMurry, director of branches; Charles A. Towner, assistant to Mr. Erwin; and Fred J. Wilkey, special representative, industrial sales.

Within a few weeks men with capable qualifications and long experience with the Company were appointed to succeed them. Robert E. Penney, a 31 year veteran of Crane Co.'s branch and general office staff, was named director of branches. He was executive assistant at the time of his appointment.

Joseph W. Greene was named director of industrial sales and Wilfred A. Burbine, director of heating sales. Both men were promoted from posts as district managers.

Mr. Greene has been associated with the Company since 1936 and at one time was assistant manager of the valve and fitting sales department. Mr. Burbine has been with the Company since 1930 and had been midwest district manager since 1948.

Charles A. Lovelace was made manager of the valve and fitting department. He was formerly manager of the Crane branch at Detroit, Michigan, and has been with the Company since 1938.

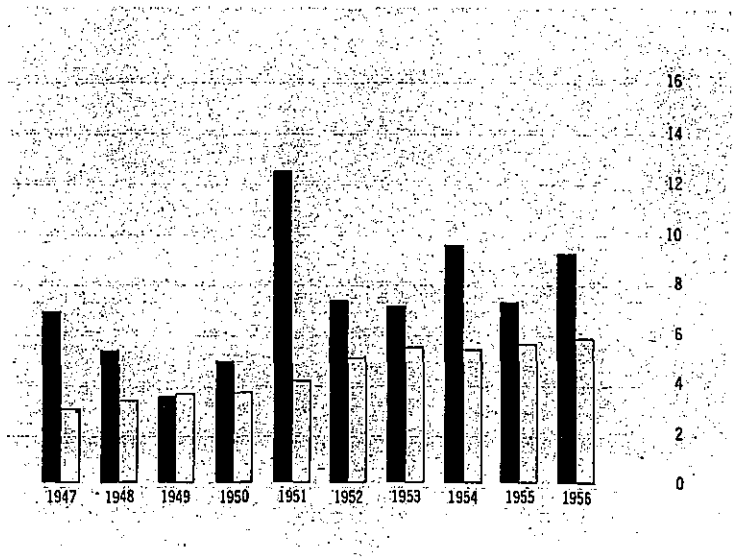
Effective January 1, 1957, Neele E. Stearns, formerly vice president of planning and development of the Inland Steel Company, was elected president of Crane Co. and Frank F. Elliott was elected chairman of the board of directors.

Mr. Stearns had been with Inland Steel since 1940, and served successively as manager of the department of business procedures, and assistant general manager of sales. For three years he was with a subsidiary, Inland Steel Products Company, first as executive vice president and then president, rejoining the parent company in 1953.

Capital Expenditures and Depreciation

(in Millions of Dollars)

■ *Capital Expenditures*
□ *Depreciation Charged to Operations*



It is with deep regret that we also report the death of David Levinger on December 9, 1956. Mr. Levinger had served as a director of the Company since 1948 and through his guidance contributed substantially to the success of the Company during that period.

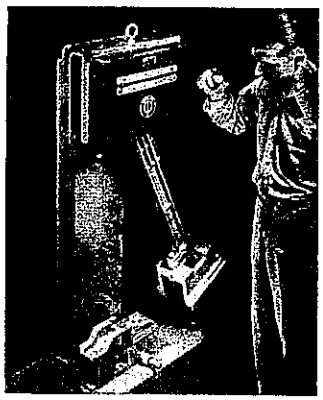
Side Lights

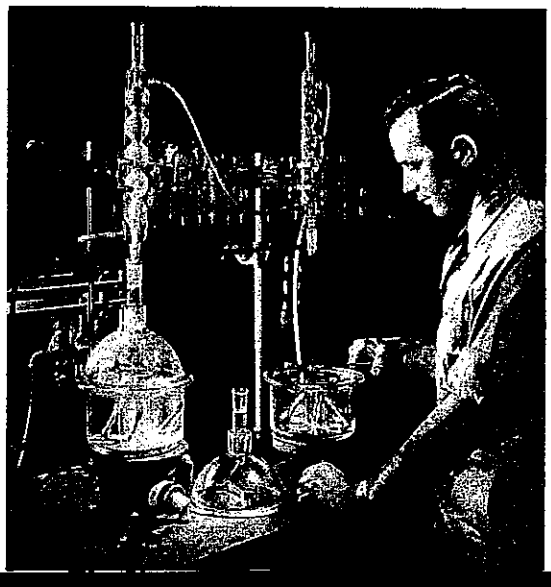
At December 31, 1956, there were 22,248 persons who were shareholders in Crane Co. Of this number, 15,491 owned 1 to 99 shares, 6,567 owned 100 to 999 shares, and 190 owned 1,000 or more shares.

At the close of 1956 there were 1,264 wholesale establishments in the United States and Canada carrying stocks of Crane products.

At the 1956 annual meeting of shareholders over 80% of shares entitled to vote were voted in person or by proxy. All shareholders are urged to exercise their right to vote.

CRANE00583





Formal engineering research has been carried on by this company for over half a century. Current activities in this field have resulted in extremely useful adaptations of titanium for use in the valve and fitting industry. Use of titanium, by itself and in alloys, is increasing Crane Co.'s ability to provide a valve for every known industrial purpose, especially in the production of sulphur and salt, in the meat packing industry where slurries of mixed acids are used, and in the petroleum industry where corrosive hydrocarbons are encountered at extremely high pressure. A large number of valves 1½ inches and smaller are required for two new plants for the chemical extraction of metal from ores. The Crane titanium plug gate valve has been adopted as a standard in these sizes.

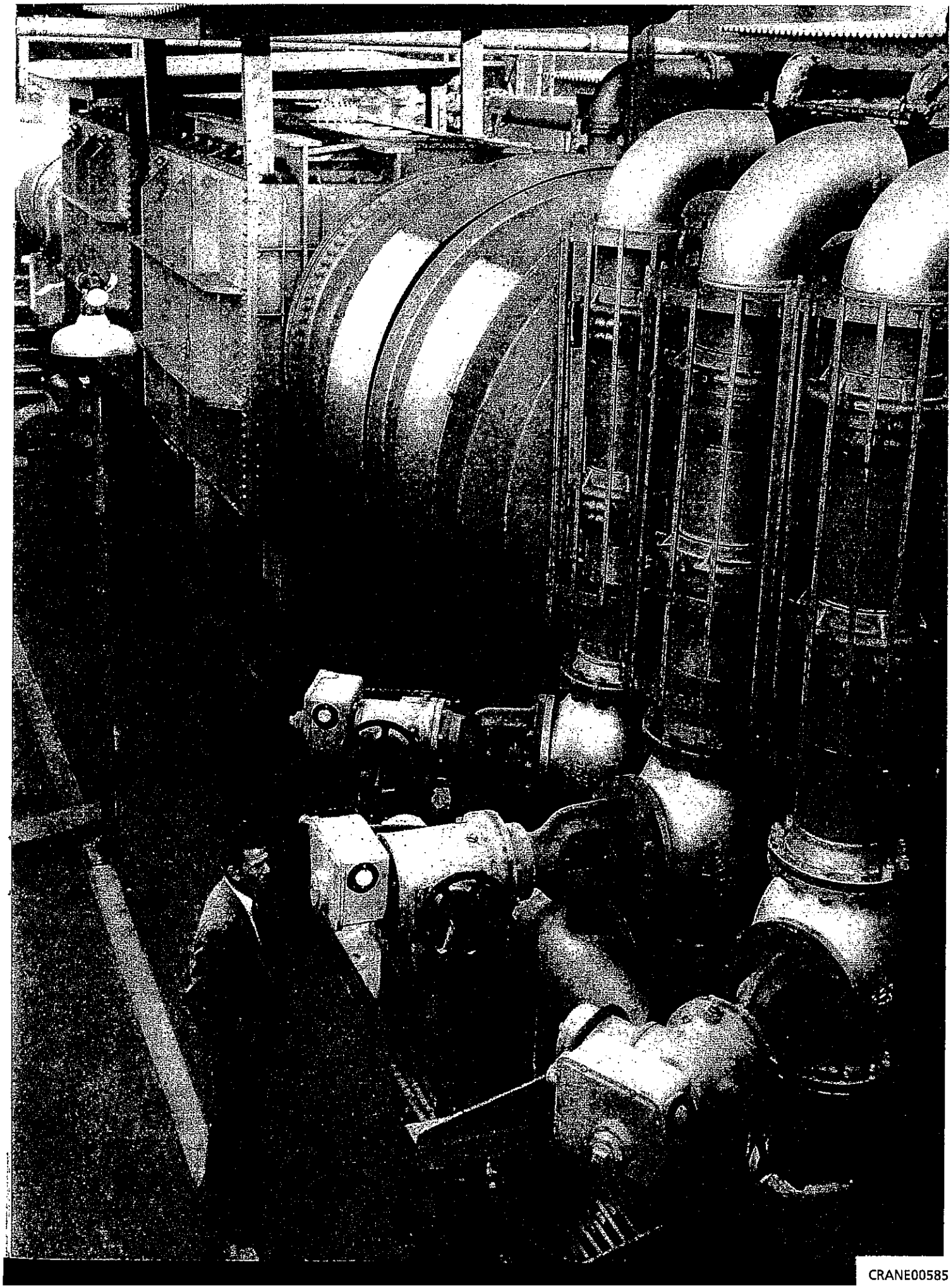
Considerable corrosion testing is being conducted in our laboratories to determine the serviceability of titanium in various media such as hydrochloric acid, various chlorides, sea water and nitric acid. Our research and experimental activities have enabled us to develop successful welding techniques for commercially pure titanium and forging techniques that have been applied successfully in fabricating titanium valve components.

The valve industry has been asked by the chemical and nuclear industries to develop nickel conserving types of stainless steel now used in their products. Crane Co. has taken the initiative through its experimental foundry in working out casting problems with these nickel conserving types of stainless steels.

Liquid oxygen and hydrogen peroxide are two of the fluids prominently used in the government's ballistics missile program. High pressure valves have been developed for the liquid oxygen service and aluminum body diaphragm valves with teflon diaphragms and disc inserts have proven to be satisfactory for certain phases of hydrogen peroxide systems.

The three Crane globe valves shown at the right release 20,900 gallons per minute of cooling water into scorching 3000 degrees Fahrenheit exhaust gas at the Arnold Engineering Development Center of the Air Force Research and Development Command, cooling the hot gases from ram and turbo jet engines before they are exhausted into the air.

CRANE00584



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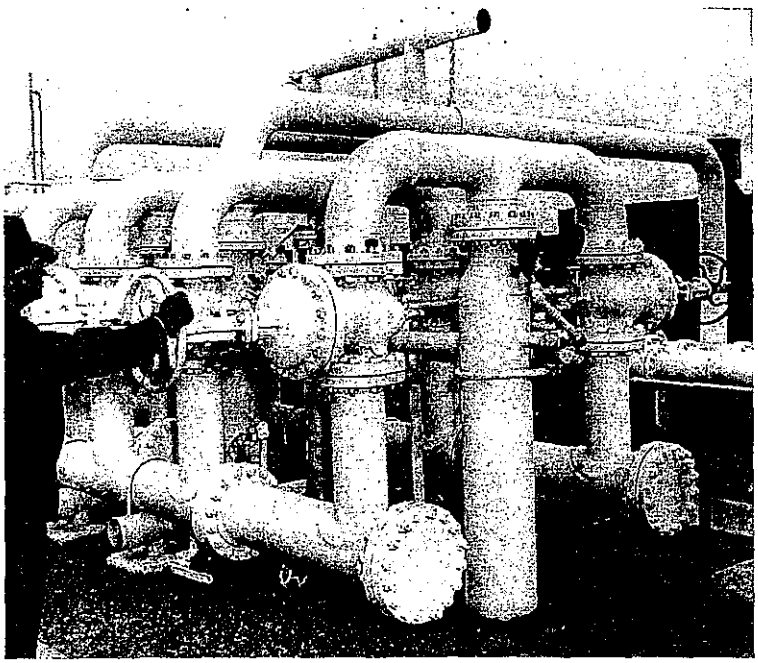


These valves at the main pump station of a petroleum pipeline permit transmission in either direction. Depending on the product being handled, inlet pressure on the upstream side of a closed valve may be from 20 to 200 pounds per square inch and downstream pressure may go as high as 1100 pounds per square inch. Yet with the bleed valve open, there is no leakage.

Prospects for our valve and fitting business remain good. Industrial expansion and construction in this country continue at high levels. Many of the industries in which piping plays a vital and predominant part are especially active, such as water and sewage works, chemical, petro-chemical, petroleum, and synthetic rubber plants, public utility stations, pulp and paper mills, shipbuilding, and others. Thus a continued high demand for piping materials seems assured, and we should continue to maintain a good proportion of sales in these markets.

For the synthetic rubber industry, for example, we have and are currently building the largest special steel valves ever constructed for such unusual and rigorous services. At temperatures over 1100 degrees Fahrenheit, the valves are required to open and close hydraulically several times an hour, and are designed to provide maximum tightness, minimum wear, and long periods of uninterrupted operation. It is a rare tribute to the engineering skills and manufacturing know-how of your company that Crane, of all valve manufacturers, is the exclusive producer of this type of valve.

Our new line of iron valves for the nation's extensive water and sewage works programs has been supplemented with additional items to cover the needs of greater segments of the market. This includes valves with a special type stuffing box and valves with all-bronze internal working parts for use in those areas having problems with corrosive water. Plans for expanding the lines even further are well under way.

A flexible wedge disc steel gate valve, which we have been producing for the past several years on special order only, will this year become a regular stock item. Regardless of pressure differential, the Crane flexible disc provides a positive, leak-free seat at both upstream and downstream sides. This combination of features has given outstanding performance on certain services in the petroleum industry, often eliminating the need for double valving in refinery, dehydrator, pipeline, and other operations. Made as a regular product, the merits of the design will now find application in many other services and industries.

Crane continues to be identified as the largest, most important, and best equipped supplier of valves for atomic energy and nuclear power, fields which are expanding at an accelerated pace. Cur-

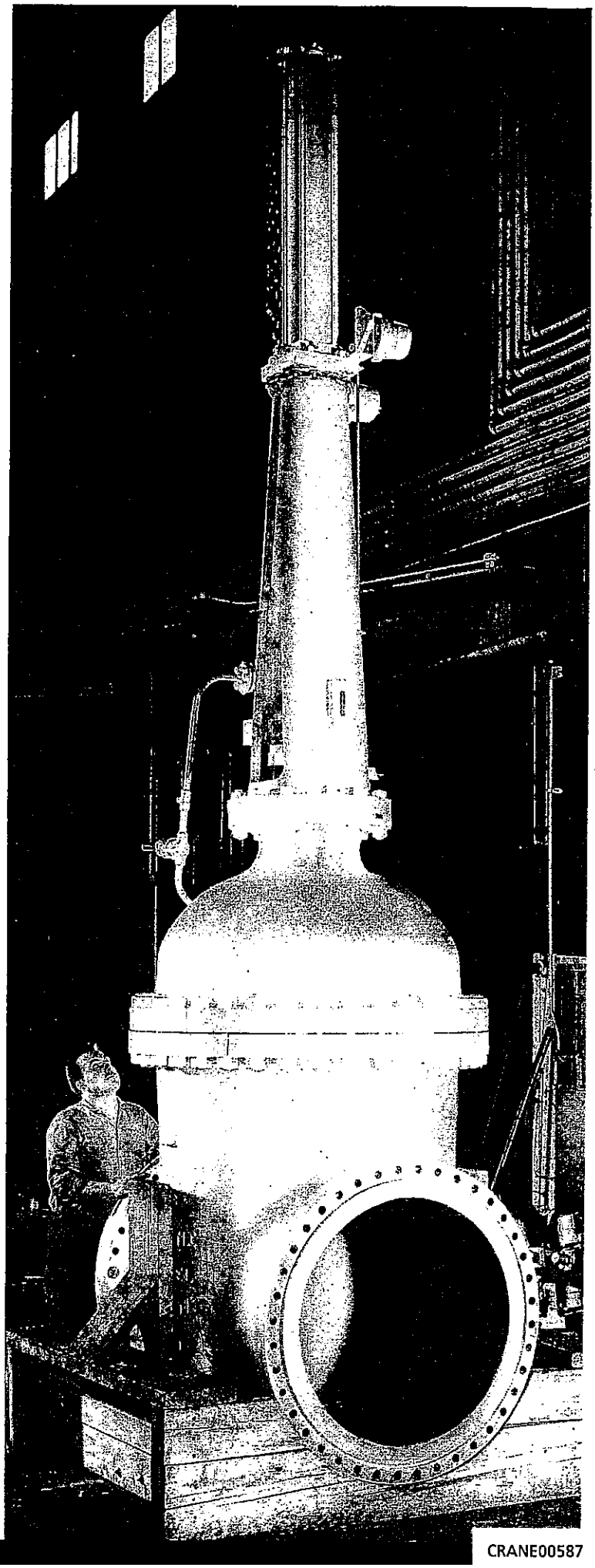
CRANE00586

rently, civilian requirements are just about exceeding the military in the use of atomic energy and many millions of dollars worth of valves will be required over the next few years for use with just the nuclear reactors already under contract.

In keeping with our position of leadership in these fields, a separate sales staff and a separate engineering staff have been organized to devote their time exclusively to inquiries and orders for our type of equipment in the atomic energy field. The inspection division at the Chicago Works has just completed the installation of a $150,000 loop which will enable us to test valves and other equipment with the extremely high pressure-temperature water used in nuclear reactor systems. In addition, so exacting are the requirements that a large, separate shop with new equipment has been established, devoted exclusively to the machining, finishing, and assembly of valves for atomic energy services.

For the pulp and paper industry, new lines of valves have recently been introduced, including rubber-lined and alloy cast iron pulp stock valves as well as a line of all stainless steel valves with more compact dimensions. Our lines of pressure-seal and lip-seal bonnet valves are being augmented with additional types and valves for higher pressure services that are required in the electrical generating stations now being built.

Many other changes and additions are being made in our valve and fitting lines. Crane's progressive adaptability to the requirements of industry keeps its products in demand where the progress of industry itself is greatest.



This 36-inch hydraulically operated gate valve is ready for shipment to a producer of butadiene, used to make synthetic rubber. It is one of several similar valves. They open and close several times an hour under temperatures above 1100 degrees Fahrenheit, and have a high degree of tightness with a relatively slight amount of wear.

Keeping up with the trends of the trade and the ever-increasing changes in buying procedures and habits of those who own and those who build homes, apartment buildings, hospitals, and other residential and commercial facilities, requires constant change in the company's promotional policies as well as products, especially in the plumbing field.

Approximately five of every six houses built today are planned by builders rather than the eventual owners; therefore the selection of material is not controlled entirely by the consumer nor even the subcontractor. Last year a new builder's section was formed by Crane Co. to develop and maintain a closer relationship between the company and the builder.

We have always had close and favorable relations with the architect-engineer group who specify construction materials, but even this program was further intensified last year by the establishment of an architect-engineer service to back up the efforts of our branches in this field. It is the responsibility of this section to plan and carry out training courses for our salesmen and to furnish them with product specifications and technical data of special assistance to architects and engineers.

Early in 1957 the new Crestmont line of steel plumbing fixtures was introduced. These bathtubs, lavatories and kitchen sinks are made of porcelain-on-steel in six colors plus white. This new steel line puts us in the advantageous position of being the only manufacturer who can offer enameled steel

A growing desire for more comfort and convenience in the average American home is upgrading the market for bathroom fixtures, making the Crane name even more desirable than ever.

The counter-top lavatory shown at the right is growing in popularity and so are the new lucite lever-type Criterion handles that were introduced by Crane last year.

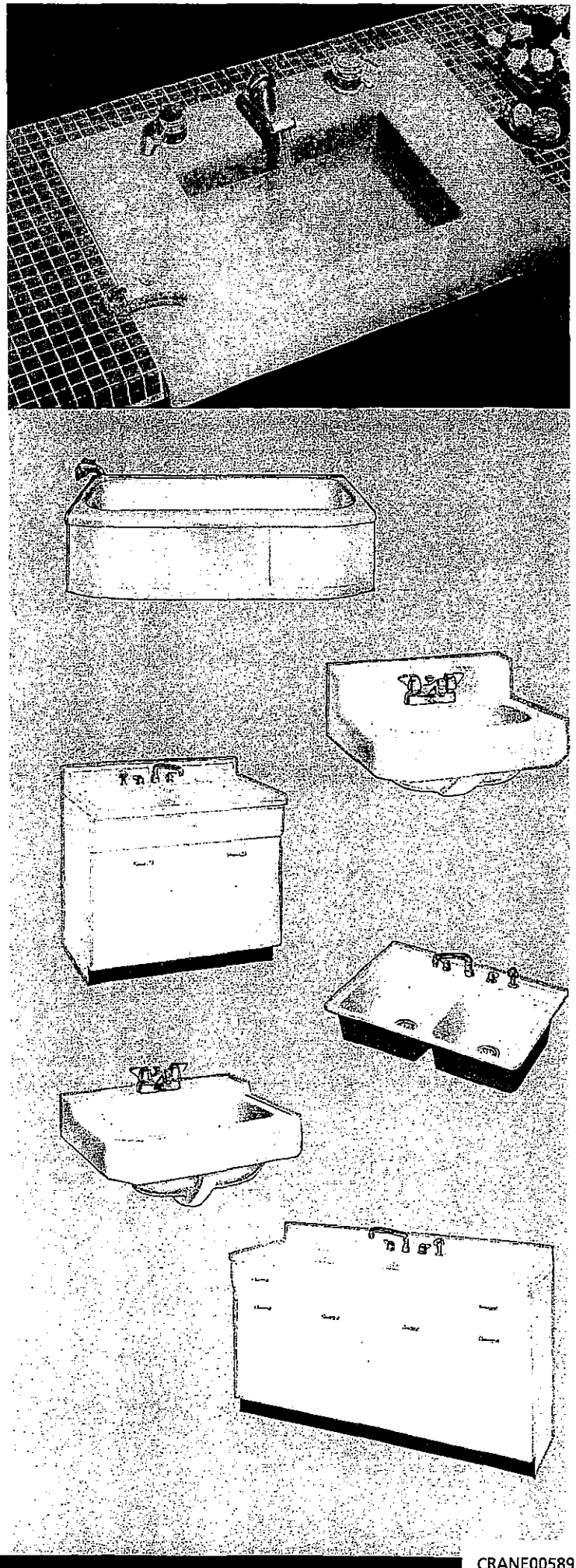
ware as well as enameled iron ware, vitreous china and Duraclay. The new Crestmont steel line offers our customers the option of additional types and price classes of plumbing fixtures.

The school building program continues to expand and the amount of plumbing fixtures per school is expanding also. Not only are more plumbing facilities made available but they are being placed on each floor so they will be more accessible, in some cases even in the classrooms. To keep abreast of this building program we have developed a drinking fountain and sink combination. The sink includes a gooseneck faucet and a drinking fountain bubbler. The trend today in elementary school planning is to include one of these combinations in each primary classroom.

The counter-top lavatory has become so popular that there is now a demand for it in low cost and project housing. To meet this demand, we have developed the Charlotte, a flat rim, porcelain enameled iron lavatory. Here, as in other products, we have maintained high quality and modern styling at moderate cost.

A new design feature in closet tanks, which has just been included in the Oxford, Neu-era and Neuday closets, eliminates the troublesome flush ball. In its place is a Crane flapper valve which is as trouble proof as this kind of device can be. Our manufacturing procedures are improved with this new design since the closet tank can now be made with an integral china overflow and an integral ground china seat upon which the flapper valve sets.

These design features as well as the company's improved organization set-up are expected to keep Crane Co. well ahead as the manufacturer of "the preferred plumbing." The simplified manufacturing procedures of many of these new features will also tend to make future sales more profitable.



A few items from the Crestmont line—a complete line of porcelain-on-steel bathtubs, lavatories, and sinks in six beautiful Crane colors and white—which were introduced recently.

CRANE00589

Expansion of our product line and announcement of a twenty-year guarantee on Sunnyday boilers were the key features of our 1956 heating and air conditioning program. This unique twenty-year guarantee is a convincing assurance of quality that has had good acceptance by contractors and home owners.

New products were added last year to establish Crane as a leader in the residential and commercial heating field. The entire Crane line is so well rounded that we now have five trademark names similar to "Sunnyday," the trademark for hot water and steam boilers.

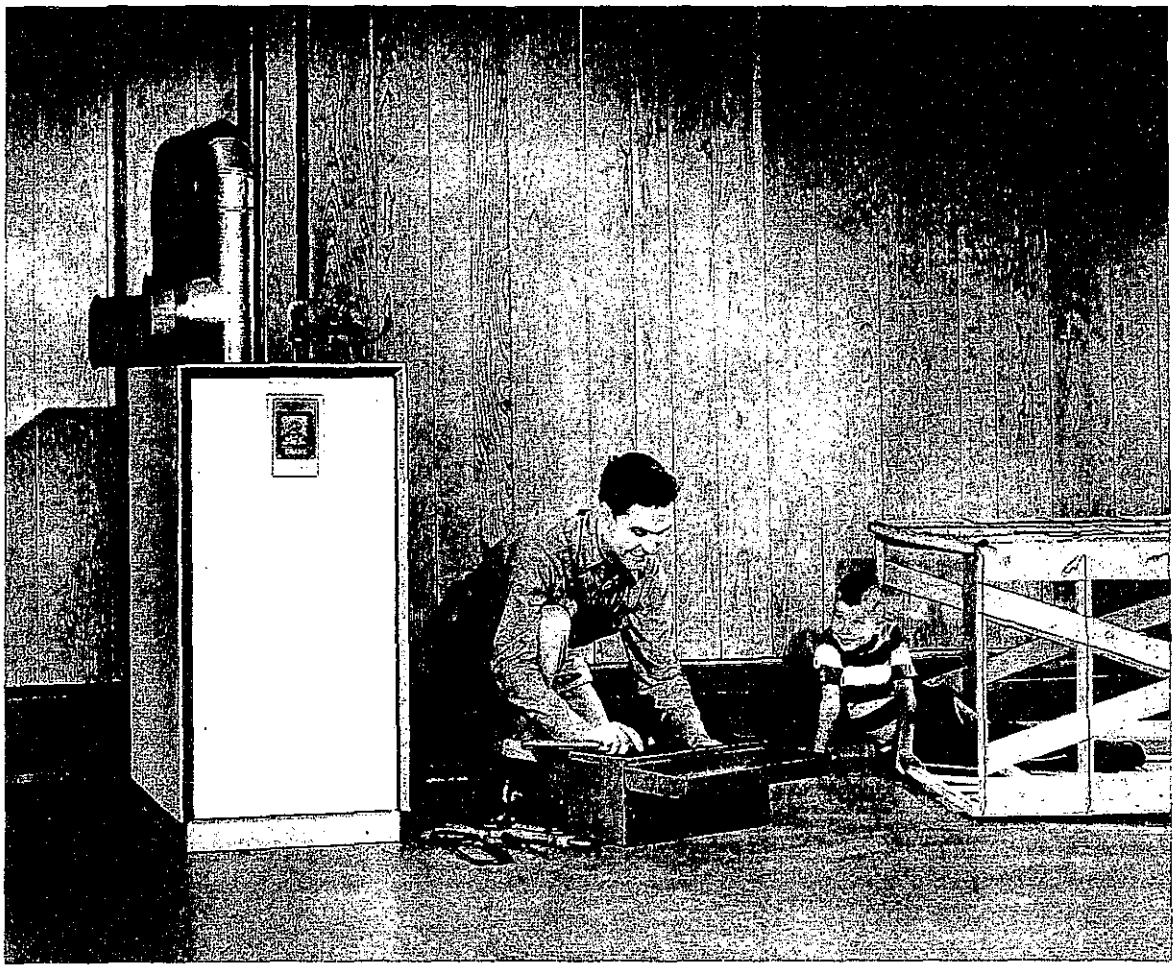
"Sunnyland" is the name applied to residential warm air heating and air conditioning equipment. We have four basic models. One is the basement type, another a utility room or high-boy type, a third is the counter flow type for perimeter heating systems where the air is discharged at the bottom, and the fourth is the horizontal type for attic or crawl space.

In areas in the southwest and west where natural gas is prevalent we have added exclusively gas fired furnaces to our line of oil and gas burning furnaces. In this same warm air and air conditioning field three important sources of supply have been strategically located across the United States to provide better service. This also permits us to keep more competitive in price because of the short haul which results in lower transportation costs.

"Sunnywall" is the name applied to our commercial radiation. Last year we added a steel fin-pipe baseboard which can be manufactured and sold more competitively. While the trend in orders for the copper tube "Sunnywall" is definitely upward,

Crane baseboard radiation fits an increasingly large number of heating requirements and is adaptable to almost any interior decorating problem. The line was broadened considerably in 1956.

CRANE00590



The guarantee on this new Crane boiler will still be in effect when this youngster reaches the age of the man who is making the installation. Crane's twenty-year guarantee, introduced more than a year ago, remains unequalled and unchallenged.

the steel fin radiation "Sunnywall" provides us with a wider range of sizes and capacities at a correspondingly wider range of price so that now we can meet any specifications on the basis of either copper or steel.

A line of gas fired unit heaters, called "Sunny-aire", for factories, stores and commercial buildings, was expanded last year to include a hot water and steam unit so that, once again, the Crane line will be able to fulfill a wide range of specifications.

The fifth "Sunny-" name is "Sunnybase", the name used to designate our baseboard radiation for residential use. Crane was a pioneer in this type of heating and our sales of several types of baseboard are increasing rapidly each year.

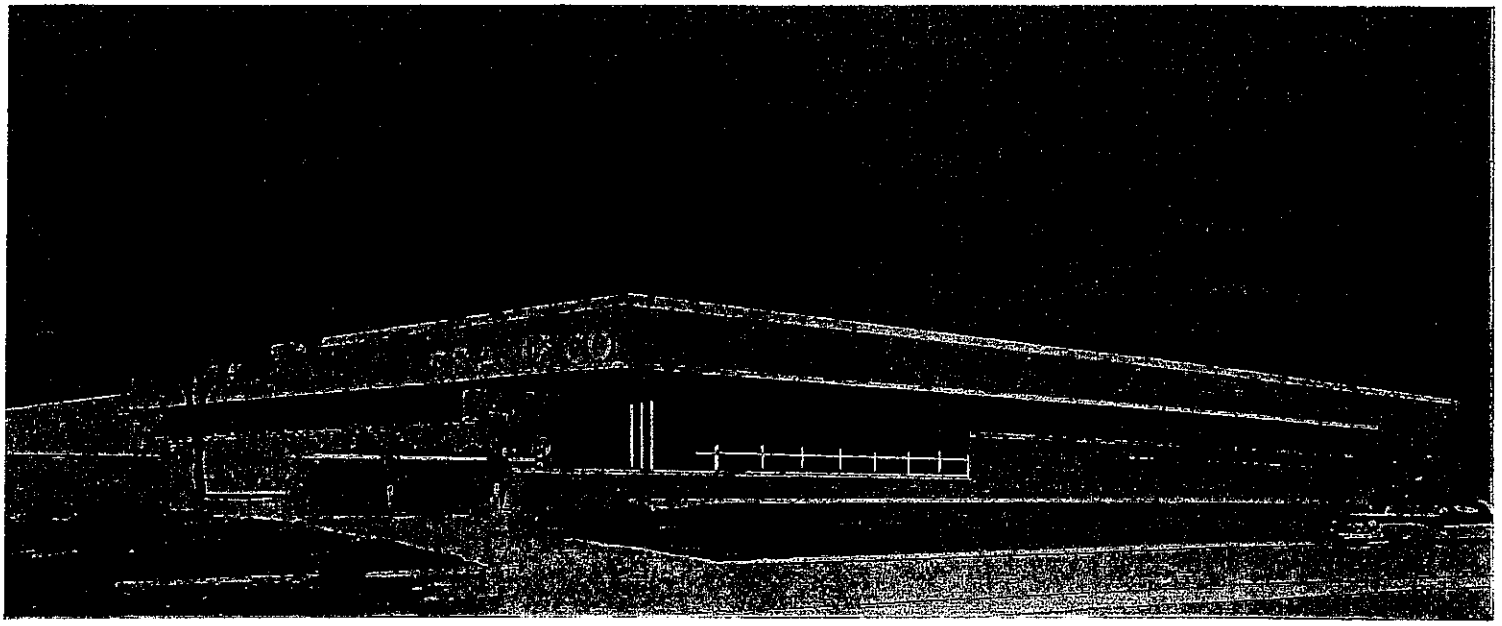
Crane's promotional plan in the heating and air conditioning field is to tie in the trade-names of our varied heating lines with the same basic word "Sunny-" with the hope that it will become as well known and preferred in the heating field as the name Crane is in the plumbing field.

This is especially true of the name "Sunnyland" which refers to air conditioning as well as our furnaces. The air conditioning field is growing rapidly. It now costs little more for the home builder to have a year 'round heating and air conditioning system than to have the heating system alone. The air conditioning unit can be added to the heating system later at little further cost if the proper "Sunnyland" warm air system is installed originally.

CRANE00591

Modernizing the Branch Houses

The new branch at Columbus, Ohio, to be completed later this year, is typical of the modernization program the company is undertaking.



Modernization and general improvement for greater efficiency of our branch warehouse and office facilities, which began in 1955, was accelerated in 1956. Improved physical facilities were set up last year at: Corpus Christi, Texas; Little Rock, Arkansas; Harrisburg, Pennsylvania; Newark, New Jersey; Roswell, New Mexico.

Construction was begun last year on new locations for the following branches, which will be opened early this year: Chicago, Illinois; Columbia, South Carolina; Columbus, Ohio. In addition, major alterations were made at our Buffalo, New York branch and numerous other locations were remodeled to a lesser degree.

A new branch will be opened at LaCrosse, Wisconsin in a leased building and a new branch is contemplated for Westchester County, New York.

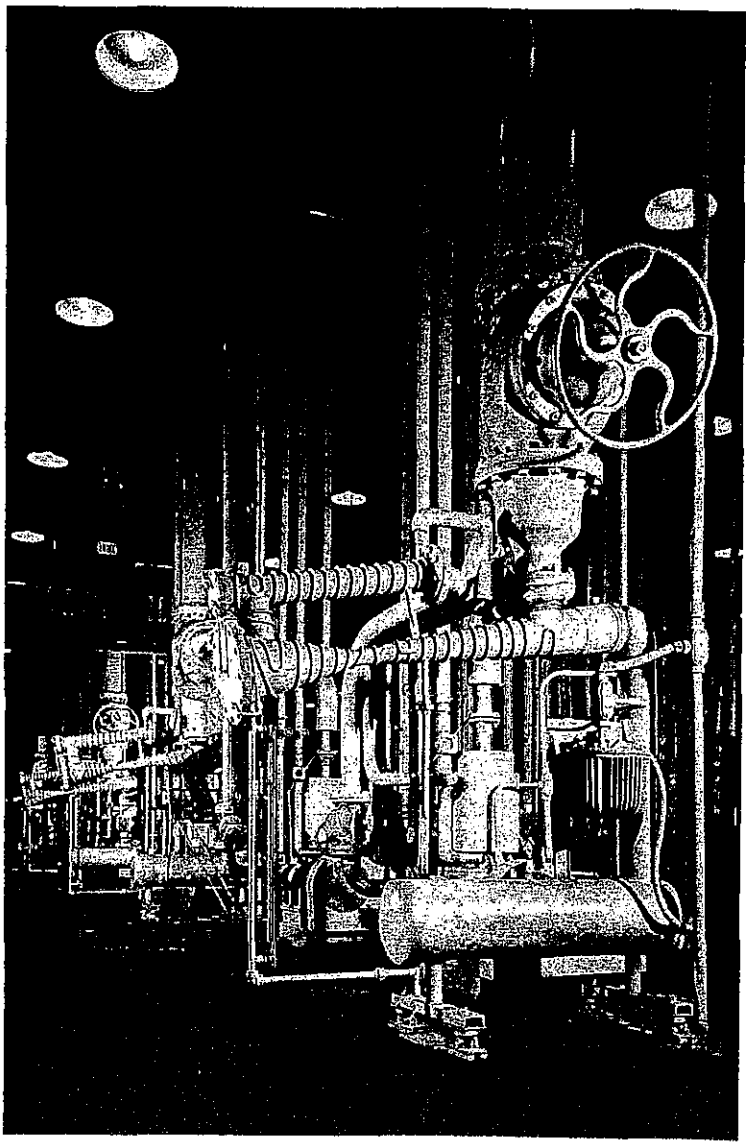
Our new Chicago branch and warehouse at Franklin Park, Illinois, which takes the place of the old one in the heart of the city, is one of the largest and most modern in our industry. Inventory capacity is estimated at two million dollars. It incorporates many of the most modern storage facilities, material handling equipment and inventory control methods.

To follow through on this vast program of improving distribution and reducing costs, a Warehouse Operations Department of the Branch House Division was organized last year. Good results have already been obtained at many branches where new procedures and equipment have been installed. We expect this program to result in lower capital cost of storage space per dollar of inventory carried as well as lower handling cost per dollar of merchandise sold.

As new locations are established and modernizations are made in existing locations throughout the country, this program will be expanded to include the majority of our branches.

CRANE00592

Below is part of the high vacuum distillation system, one of the final operations in the making of titanium sponge at Cramet. This apparatus draws off and distills residual magnesium chloride and residual magnesium metal from the titanium in the retorts on the floor above, leaving pure titanium sponge.

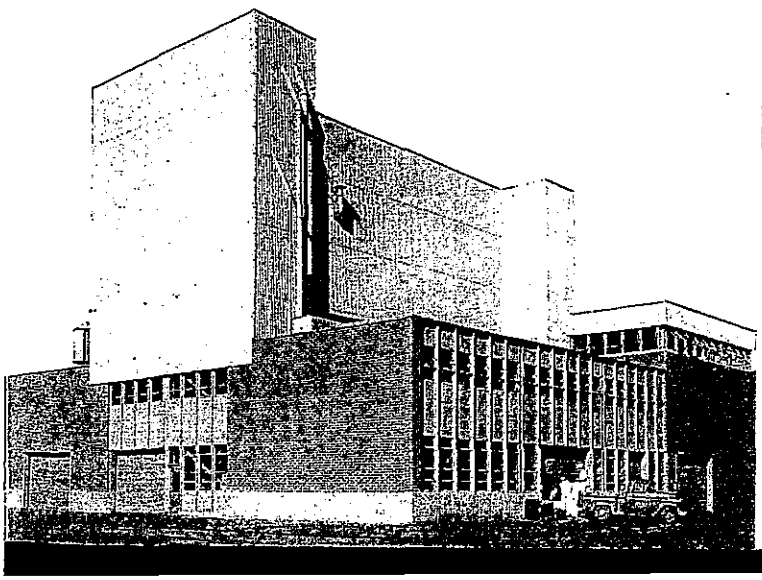


Operations at Cramet Inc., conducted jointly with Republic Steel Corporation, and at Heavy Minerals Co., conducted jointly with Vitro Corporation of America are proceeding with excellent results. The Cramet plant went into partial production in 1955, reducing the titanium bearing ore, rutile, into titanium sponge. Output is now more than 4,000 tons annually and is expected to reach 6,000 tons before the end of this year.

The Heavy Minerals plant at Chattanooga went into operation late in January of this year. It will produce in quantity a thorium-uranium compound, and rare earth chlorides, oxides, and similar products for the chemical, metallurgical, ceramics, glass and other industries.

This plant is the most modern for separation and purification of rare earths and rare earths compounds. Heavy Minerals Co. is the only fully integrated mining, processing and selling organization of its kind. The domestic ore sources which it controls assure continuity of supply and the consistency of the ore. It will provide a new supply of rare earths and heavy minerals for American industry from domestic ores.

Heavy Minerals' mining operations separate rutile for sale as a raw material in the production of titanium metals; ilmenite for sale as a raw material in the production of titanium pigments; zircon for sale for various uses; and monazite, which is to be processed by Heavy Minerals Co.



Left is the Heavy Minerals plant at Chattanooga which went into operation in January of this year. Mining and mineral separations are carried on at Aiken, South Carolina.

Plants and Products

In the United States . . .

Chicago Plant,
Chicago, Illinois
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
N. T. Garrett, *General Manager*

Chattanooga Division,
Chattanooga, Tennessee
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks, Lavatories, Iron Heating Boilers and Radiation
W. M. Hamilton, *Manager*

Crane-Pacific Division,
Colton, California
Vitreous China Plumbing Fixtures, Water Closets and Lavatories
S. A. Peer, *General Superintendent*

The Trenton Potteries Company,
Trenton, New Jersey
Vitreous China and Duraclay Plumbing Fixtures, Water Closets, Lavatories, Urinals, Tubs, Fountains, Hospital Fixtures
A. E. Bennett, *President*

Hydro-Aire, Inc.,
Burbank, California
Aircraft Valves, Filters and Actuators
D. A. Lichty, *Senior Vice President*

Toledo Desk & Fixture Co.,
a Division of Crane Co., Maumee, Ohio
Enameled Steel Kitchen Cabinets
F. M. Crook, *President*

In Great Britain . . .

Crane, Limited (Great Britain)
J. E. Bennett, *Chairman of the Board*
R. E. Dunnett, *Managing Director*

Ipswich Works,
Ipswich, Suffolk, England
Valves, Fittings, Boilers, Radiation
J. B. Webster, *Works Manager*

In Canada . . .

Crane, Limited (Canada)
Montreal
L. H. T. Clegg, *President*
G. R. Gustin, *Vice President*
F. D. MacNaughton, *Vice President*
F. H. Meyer, *Vice President*

St. Patrick St. Plant,
Montreal, Quebec
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
G. L. Pelley, *Acting General Superintendent*

Canadian Potteries Limited,
St. Johns, Quebec
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
A. G. Lennon, *Manager*

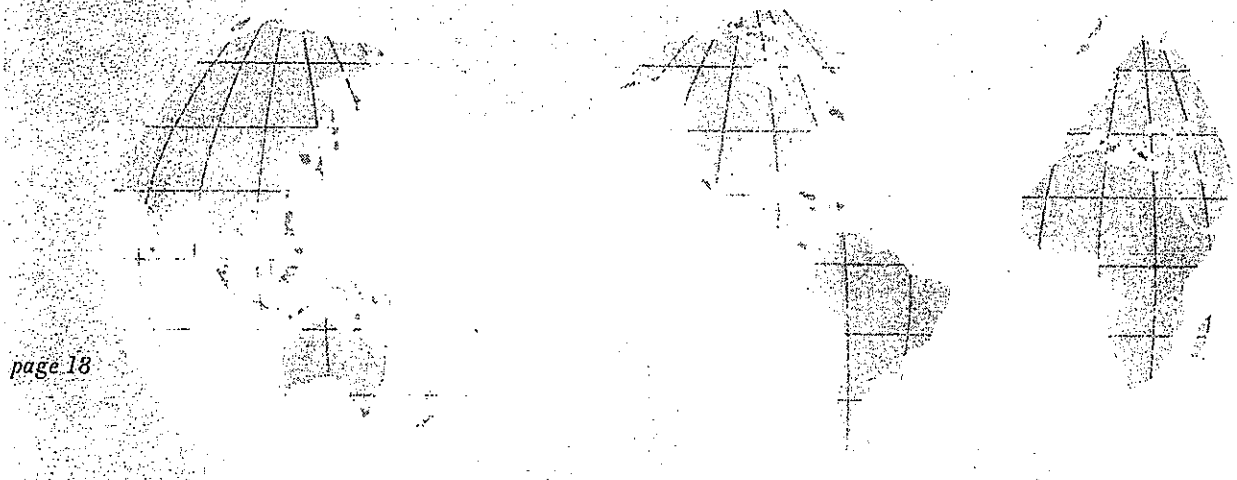
Port Hope Sanitary Manufacturing Co. Ltd.,
Port Hope, Ontario
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks and Lavatories
William Armstrong, *Manager*

Calgary Plant,
Calgary, Alberta
Valves and Fittings
G. M. Young, *Manager*

Allianceware Ltd.,
Vancouver, B. C.
Enameled Steel Plumbing Fixtures
R. E. Strain, *Vice President*

Crane Steelware, Limited,
Quebec, Quebec
Enameled Steel Plumbing Fixtures
E. A. Thompson, *Manager*

Warden King (Limited),
Montreal, Quebec
Iron Heating Boilers, Radiators, Soil Pipe
J. A. Lang, *Manager*



CRANE00594

for the year ended December 31, 1956

Net sales		$375,220,848
Cost of sales, selling, administrative and general expenses (Notes 3 and 5)	$351,382,295	
Provision for depreciation	5,758,029	357,140,324
Earnings from operations		$ 18,080,524
Other income and (deductions):		
Dividends received from English subsidiary (Note 2)	$ 1,078,842	
Gain on foreign exchange conversion (Note 1)	807,932	
Interest on debentures, notes, etc.	(1,081,552)	
Profit on sale of securities and fixed assets—net	257,530	
Miscellaneous—net	686,812	1,749,564
		$ 19,830,088
Minority stockholders' interest in net earnings of subsidiaries		168,890
Earnings before taxes on income		$ 19,661,198
Provision for taxes on income:		
Federal normal tax and surtax	$ 6,008,900	
Canadian income tax	2,753,228	8,762,128
Net earnings for the year		$ 10,899,070
Earned surplus, at beginning of the year		95,167,079
Excess of par value over cost of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements		8,560
		$106,074,709
Deduct:		
Cash dividends paid:		
On 3¾% cumulative preferred shares, $3.75 per share	$ 466,848	
On common shares, $2.00 per share	4,744,413	5,211,261
Earned surplus, at end of the year (Note 4)		$100,863,448

See accompanying notes.

CRANE00595

Assets

CURRENT ASSETS:		
Cash		$ 13,539,615
U. S. Government securities, at cost, which approximates market value		1,172,030
Accounts receivable	$ 51,406,199	
Less: Allowance for losses	1,989,596	49,416,603
Inventories (Note 3)—		
Raw materials and supplies	$ 14,674,769	
Work in process	20,471,627	
Finished goods	58,215,466	93,361,862
Total current assets		$157,490,110
INVESTMENTS:		
Investment in English subsidiary, at cost (Note 2)	$ 2,134,581	
Investments in and advances to associated companies, at cost	5,083,155	
Other investments at cost or nominal value (less reserve, $117,288)	544,143	7,761,879
FIXED ASSETS:		
Land	$ 7,624,239	
Buildings	$ 45,149,856	
Less: Accumulated depreciation	22,173,015	22,976,841
Machinery and equipment	$ 78,225,371	
Less: Accumulated depreciation	46,943,887	31,281,484
Unfinished construction	2,339,854	64,222,418
DEFERRED CHARGES:		
Prepaid expenses and other deferred charges	$ 1,183,673	
Deferred pension expense (Note 5)	1,247,452	2,431,125
		$231,905,532

See accompanying notes.

CRANE00596

Liabilities

CURRENT LIABILITIES:		
Notes payable to banks		$ 8,500,000
Accounts payable, accrued payrolls, etc.		18,142,007
Accrued Federal and Canadian taxes on income		6,864,644
Accrued general taxes		2,279,102
Current maturity of debentures (Note 4)		433,000
Total current liabilities		$ 36,218,753
TWENTY-FIVE YEAR 3⅛% SINKING FUND DEBENTURES, DUE MAY 1, 1977 (current portion included above) (Note 4)		19,050,000
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES		2,305,745
CAPITAL STOCK AND SURPLUS:		
Capital Stock—		
Cumulative preferred shares, 3¾%, par value $100 (Note 6):		
Authorized —160,000 shares		
Outstanding—127,395 shares (including 4,752 shares in treasury)	$ 12,739,500	
Common shares, par value $25 (Note 7):		
Authorized —3,500,000 shares		
Outstanding—2,372,624 shares	59,315,600	
	$ 72,055,100	
Surplus—		
Capital surplus (Note 7)	$ 1,856,281	
Earned surplus (Note 4)	100,863,448	
	102,719,729	
	$174,774,829	
Less: Cost of 4,752 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements (Note 6)	443,795	174,331,034
		$231,905,532

See accompanying notes.

CRANE00597

NOTE 1. CONVERSION OF ITEMS CARRIED IN CANADIAN CURRENCY:

In converting the items carried in Canadian currency, fixed assets were converted at U. S. dollar cost at dates of acquisition, less accumulated depreciation. Net current assets were converted at the current rate of exchange at the year-end and the net gain on conversion is included in the consolidated earnings statement under other income.

NOTE 2. INVESTMENT AND OPERATIONS IN ENGLAND:

The investment in Crane, Limited (Great Britain), a wholly-owned subsidiary, is carried in the consolidated balance sheet at cost, $2,134,581, and dividends received from that company are reflected in the consolidated earnings statement.

The net assets of Crane, Limited (Great Britain) stated at equivalent U. S. dollars, are summarized as follows:

Fixed assets at U. S. dollar cost at dates of acquisition, less accumulated depreciation	$ 4,790,065
Net current assets at current rate of exchange	6,881,063
	$11,671,128

The results of operations of Crane, Limited (Great Britain) for the year ended December 31, 1956, stated at equivalent U. S. dollars, are summarized below:

Net sales	$18,912,570
Cost of sales, selling, administrative and general expenses and provision for depreciation...	14,571,297
Earnings from operations.....	$ 4,341,273
Provision for taxes on income..	1,958,442
Net earnings for the year.....	$ 2,382,831

NOTE 3. INVENTORIES:

The major portion of the inventories is valued on a "last-in, first-out" (LIFO) basis. Other inventories aggregating $37,067,729 are priced at the lower of cost or market on a "first-in, first-out" basis.

NOTE 4. 25 YEAR 3⅛% SINKING FUND DEBENTURES, DUE MAY 1, 1977:

Each year from 1957 through 1976 the Company is obligated to redeem $950,000 principal amount of debentures. At December 31, 1956 the Company had acquired a principal amount of $517,000 which has been deducted from the amount outstanding. The balance of $433,000 for which the Company is liable prior to November 1, 1957 is shown in current liabilities.

Under the provisions of the indenture relating to the debentures, earned surplus at December 31, 1956 in the amount of $83,710,682 is not available for the payment of dividends on the Company's common shares.

NOTE 5. PENSIONS:

The cost of the pension plans for 1956 charged to operations, based upon actuarial estimates, was $5,983,260 of which $2,325,759 related to past service on the basis of amortizing past service liability over a period of approximately twenty-four years for employees in the United States and approximately twenty-seven years for employees in Canada. The estimated actuarial cost not provided for at December 31, 1956 was approximately $35,300,000, including $7,900,000 resulting from amendments adopted in 1956.

NOTE 6. 3¾% CUMULATIVE PREFERRED SHARES:

These shares are redeemable at the option of the Company at $104.50 per share, an aggregate amount of $12,816,193.

Under the sinking fund provisions the Company is required to pay over to the sinking fund agent for the redemption or purchase of such shares a determinable amount of cash, but not in excess of

CRANE00598

$320,000 with respect to any fiscal year. Against its obligation to make a cash sinking fund payment in any year the Company may, at its election, take credit for shares purchased by it otherwise than through the sinking fund.

At December 31, 1956 the Company held 4,752 reacquired shares with a cost of $443,795. A sufficient number of these reacquired shares will be deposited on or before April 30, 1957 with the sinking fund agent in satisfaction of the sinking fund requirements.

NOTE 7. STOCK OPTION PLAN:

Pursuant to a stock option plan adopted in 1951, 187,670 of the Company's unissued common shares are reserved for issuance to officers and employees of the Company and its subsidiaries. Under the plan, the Stock Option Committee may grant ten-year options to purchase shares at a price not less than 85% of the quoted market price on the date the option is granted. At January 2, 1957 options were outstanding to 98 officers and employees for 116,060 shares. 96,060 shares were at a price of $37 per share and 20,000 shares were at a price of $32.75 per share. During the first five years after an option is granted, the optionee may not acquire the optioned shares at a rate greater than 20% annually, such percentage being cumulative.

Options to purchase 1,170 unissued shares were exercised during the year 1956 and 27,170 were cancelled. The excess of the cash received over the par value of the common shares issued amounting to $14,040 was credited to capital surplus.

REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

TO THE SHAREHOLDERS OF CRANE CO.:

We have examined the consolidated balance sheet of Crane Co. and Subsidiaries in the United States and Canada at December 31, 1956, and the related consolidated earnings and earned surplus statement for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated earnings and earned surplus statement present fairly the financial position of Crane Co. and Subsidiaries in the United States and Canada at December 31, 1956 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

ARTHUR YOUNG & COMPANY

Chicago, Illinois, March 8, 1957.

CRANE00599

Board of Directors

FRANK F. ELLIOTT, *Chairman*

LEE N. BLUGERMAN, *Vice President*

LESLIE H. T. CLEGG, *President,*
Crane, Limited (Canada)

MARK W. LOWELL, *Vice President,*
Continental Illinois National Bank and Trust Company of Chicago

EDWARD H. McDERMOTT, *Partner,*
McDermott, Will & Emery, Chicago

WILLIAM L. McKNIGHT, *Chairman of Board,*
Minnesota Mining & Manufacturing Company, St. Paul

PETER V. MOULDER, *President,*
International Harvester Co., Chicago

SHEPHERD M. ROBERTS, *President,*
C. A. Roberts Co., Chicago

ANTHONY VON WENING, *Chairman of Board,*
Froedtert Corporation, Milwaukee

R. ARTHUR WILLIAMS, *President,*
Standard Railway Equipment Manufacturing Co., Chicago

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MARK W. LOWELL, *Chairman*

FRANK F. ELLIOTT

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R. ARTHUR WILLIAMS

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LEE N. BLUGERMAN, *Vice President*

LUCIEN W. MOORE, *Vice President*

CARTER T. POLLOCK, *Vice President*

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KENNETH L. KARR, *Secretary*

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EARL WYATT, *Executive Assistant*

ROBERT F. McDONALD, *Assistant Treasurer*

NORMAN I. PICKLES, *Assistant Treasurer*

HENRI A. TACON, *Assistant Treasurer*

C. CLIFFORD MARKS, *Assistant Comptroller*

JOHN W. HEDERICK, *Assistant Secretary*

WILLIAM R. STEAD, *Assistant Secretary*

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WILFRED A. BURBINE, *Heating and Air Conditioning Sales*

JOSEPH W. GREENE, *Industrial Sales*

THOMAS E. KILLEEN, *Employee Relations*

WARREN A. LOGELIN, *Public Relations*

JOHN P. MAGOS, *Engineering*

ROBERT E. PENNEY, *Branches*

Stock Transfer Agents

J. P. MORGAN & Co. Incorporated, *New York 8, New York*
CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY OF CHICAGO, *Chicago 90, Illinois*

Registrars of Stock

THE CHASE MANHATTAN BANK, *New York 15, New York*
THE FIRST NATIONAL BANK OF CHICAGO, *Chicago 90, Illinois*

Auditors

ARTHUR YOUNG & COMPANY, *Chicago 2, Illinois*

Printed in U. S. A.

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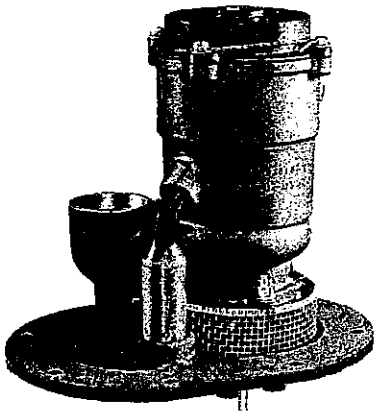
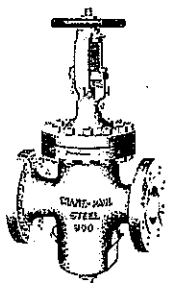


A new fuel pump, designed and built by Crane Co.'s aviation subsidiary, Hydro-Aire, Inc., helps the U. S. Air Force's latest and most glamorous jet—the Lockheed Starfighter—attain its fantastic speed and altitude. Every other U. S. fighter, bomber or transport uses Hydro-Aire equipment. Military transport and civilian passenger planes also depend upon brakes, pumps, valves, actuators or other parts and accessories made by Hydro-Aire.



CRANE CO.

CONFIDENTIAL

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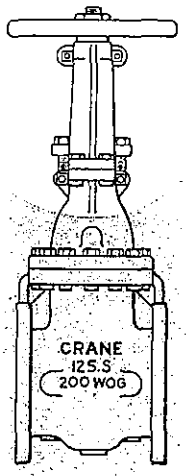
EASTERN STANDARD TIME,
FRIDAY, MARCH 21, 1958.

CRANE CO.

ANNUAL REPORT 1957

CRANE CO.



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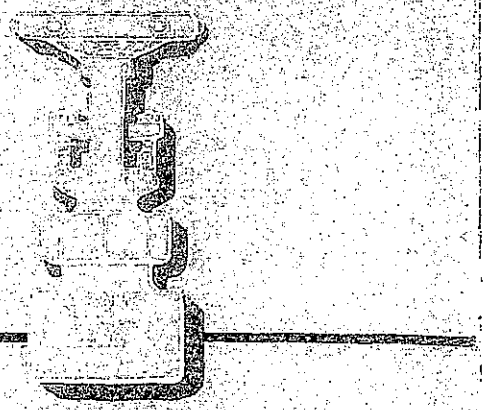
3 Years in Brief

Crane Co. and Subsidiary Companies



	1957	1956	1955
Net Sales	$378,948,173	$394,132,662	$346,709,527
Net Earnings	8,678,272	12,203,059	9,922,680
Per Share of Common Stock	3.46	4.94	3.98
Percent of Net Sales	2.2%	3.0%	2.8%
Dividends Paid—			
Preferred Shares	$ 454,005	$ 466,848	$ 483,246
Common Shares	4,745,248	4,744,413	4,736,088
Per Common Share	2.00	2.00	2.00
Direct Taxes per Common Share	5.77	6.66	5.15
Wages, Salaries and Employee Benefits	102,091,457	107,256,663	93,056,407
Fixed Assets Less Accumulated Depreciation	$ 70,194,928	$ 69,012,483	$ 66,600,039
Capital Expenditures	8,230,962	9,987,196	7,801,799
Depreciation Charged to Operations	6,213,179	6,109,485	5,905,191
Net Working Capital	130,175,138	128,122,909	121,602,330
Ratio Current Assets to Current Liabilities	6.75 to 1	4.37 to 1	5.08 to 1
Shareholders' Equities	187,048,180	183,867,581	177,208,730
Shareholders' Equity per Common Share	73.82	72.32	69.38
Number of Employees	20,304	24,014	22,633
Number of Shareholders—			
Preferred	1,102	1,169	1,242
Common	20,839	21,079	20,528
Number of Shares Outstanding—			
Preferred (net of treasury shares)	118,893	122,643	126,693
Common	2,372,624	2,372,624	2,371,454

The financial and statistical information set out above and in subsequent sections of this report is on the basis of consolidating the accounts of the Company and all of its subsidiaries including Crane, Limited (Canada) and its wholly-owned subsidiary, Crane, Limited (Great Britain).

CRANE CO.

1957 ANNUAL REPORT

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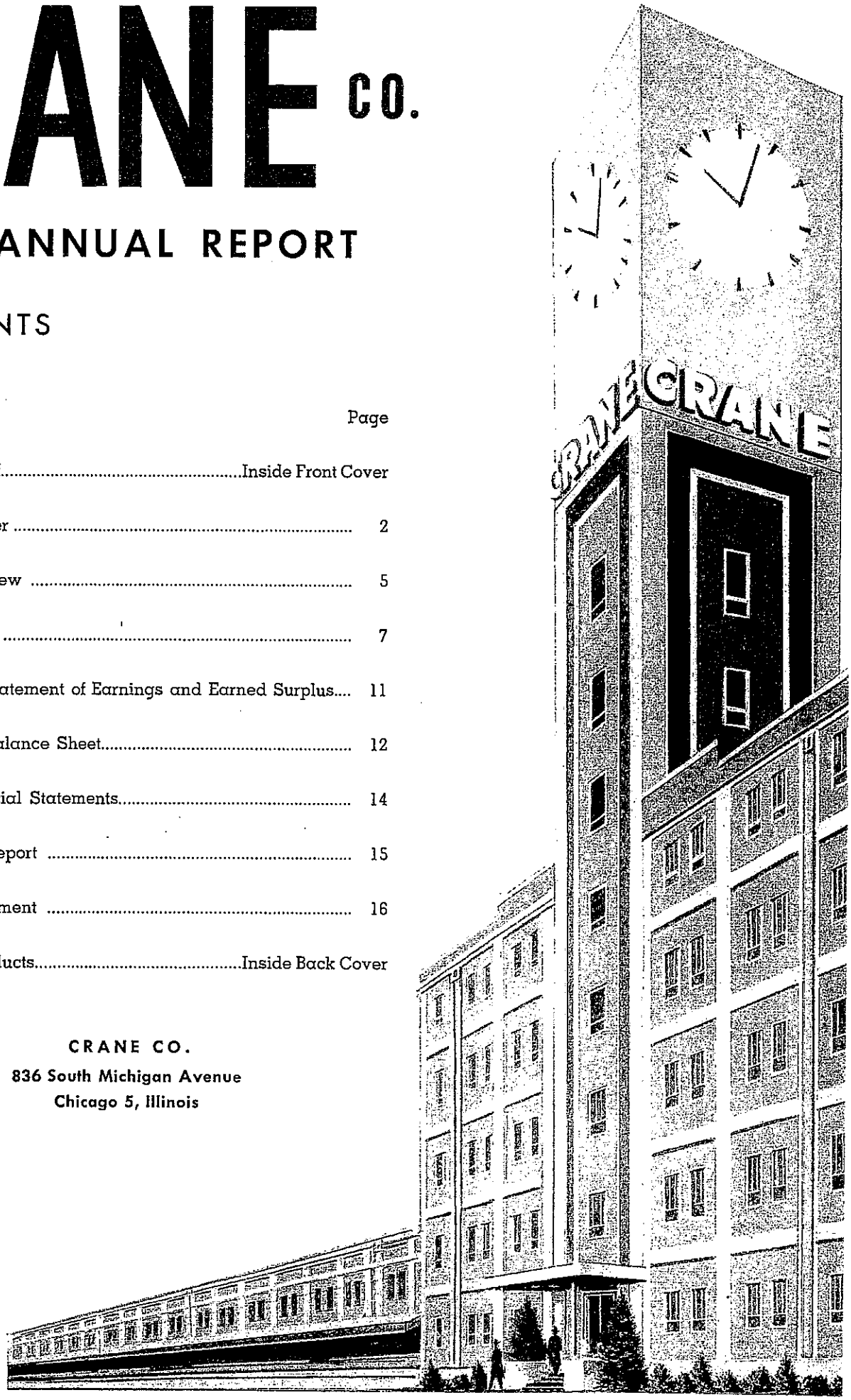
CRANE CO.
836 South Michigan Avenue
Chicago 5, Illinois



Neele E. Stearns
President

MANAGEMENT TRANSITION in Crane Co. began with the installation of Neele E. Stearns as President on January 2, 1957. Three new Vice Presidents, men of wide experience in industry, joined the Company later in the year. The new General Manager for Sales has served 27 years in various sales capacities with the Company. Administrative revitalization is being accomplished by blending the skills of established executives, new to the Company, with the talents and experience of management personnel within the organization.

Maurice Nelles,
President, Engineering

S. Kempf, *Vice President,*
el and Industrial Relations

F. Burley, *Vice President,*
urchasing and Traffic

William O. Brown
eneral Manager, Sales

FELLOW SHAREHOLDERS:

The year 1957 was one of significant adjustment in Crane Co. Progressive changes were established in organization philosophy, executive direction, and program planning that will eventually affect all divisions of the Company and result in improvement in its financial and operating position.

This Annual Report is the first from the present operating management formed after the Board of Directors installed a new President on January 2, 1957. This portion is devoted to comments upon some of the pertinent matters which have been dealt with in 1957 and outlines major issues which will require concentrated attention in 1958.

Sales, earnings and other financial statistics are briefly stated on the inside front cover and are detailed on several pages following this letter.

Organization and Personnel

Important progress has been made in revamping the executive structure of the Company in order to provide the needed leadership in specific areas of our business. The caliber of the management team has been enhanced through the addition in key positions of men with excellent qualifications and outstanding backgrounds.

The election as Vice Presidents of Maurice Nelles, Paul S. Kempf and George F. Burley, and the appointment of William O. Brown as General Manager for Sales, were the principal changes in the top administrative group.

Dr. Nelles is responsible for the engineering activities of the Company, including the related field of research and development. Prior to joining Crane Co. as Vice President for Engineering, he was Director of Diversification Research and Development and Divisional Manager for Technicolor, Inc. Before that he had been Director of Research and Vice President of the Petro-Mechanics Division of Borg-Warner Corporation.

Before his election as Vice President for Personnel and Industrial Relations, Mr. Kempf was Director of Industrial Relations for Hoffman Electronics Corporation of Los Angeles. He also served in similar capacities with Pacific Mercury Television Manufacturing Corporation and Inland Steel Products Company.

As Vice President for Purchasing and Traffic, Mr. Burley is responsible for all such activities of the Company. Mr. Burley most recently was Director of Purchases for Warwick Manufacturing Corporation of Chicago. His previous experience was in purchasing and traffic with Motor Products Corporation of Detroit and Hotpoint, Inc. of Chicago.

CRANE00606

Preceding his appointment as General Manager for Sales, Mr. Brown was District Sales Manager responsible for the administration of all of our Pacific Coast Branches. In his new capacity, he will coordinate industrial, plumbing and heating sales together with the market research and advertising activities of the Company.

Our Manufacturing Division, particularly at the Chicago Works, has been strengthened administratively and technically through the addition, by the Vice President for Manufacturing, of a number of new executives in key positions.

Manufacturing Facilities

A capital investment of approximately $4,200,000 was made during 1957 in Crane plants in the United States under the direction of the Manufacturing Division. These expenditures were directed principally toward achieving lower production costs, improved customer service, and better working conditions for our employees.

Nearly $3,400,000 was spent for new production equipment. This investment enabled us to obtain the advantage of line production methods in manufacture. Illustrative are conveyorized facilities for fabrication, assembly and testing of valves, and continuous annealing and galvanizing of fittings. The acquisition of other modern machine tools has increased our production capacity, reduced our manufacturing cycle and improved the quality of our product. Related to new products, these facilities have made it possible to meet the demands of expanding sales of special items, such as valves for atomic energy applications.

About $800,000 was invested for improvements to production services and general plant facilities. Important progress was made in the area of material handling technology involving the flow of process materials, finished stock warehousing, shipping and trucking facilities, and tighter control over physical inventories. Part of this investment applied to the systematic program of improvement to general plant facilities, air pollution problems and rehabilitation of parking facilities. The modernization of the Chicago Works office was essentially completed, providing space for more efficient management through consolidation of functions.

Investment in Crane plants in Canada totalled $2,100,000 in 1957. The major expenditure was $1,600,000 for a new pottery under construction near Vancouver, B.C., approved as a project in 1956. A new cast iron foundry sand system, and machine tools and equipment for the production of steel valves at the Calgary Plant, required investment of approximately $210,000. The remainder was used to acquire new machine tools and production and service equipment for the St. Patrick St. Plant in Montreal and at other factories.

Capital expenditures on manufacturing facilities in England amounted to $700,000. Approximately $300,000 of that amount was invested in buildings, machine tools and equipment to increase plant capacity for the production of both steel and brass valves. The remainder was invested in improvements in cupola melting practice and in cast iron foundry molding units, as well as in additional machine tools to improve output. Late in 1957, the first stage of a $1,600,000 project was approved for foundry buildings and facilities to increase malleable iron production capacity at the English plant.

Engineering Facilities and Product Research

Because a rapid rate of technical development is essential to corporate growth in these days of scientific advancement and new materials, engineering will play a much more important role in Crane Co.'s operations in the future.

Initial plans have been formulated by the new Vice President for Engineering to rehabilitate on a scheduled basis the equipment and facilities of the Company's engineering laboratories. Reorganization of personnel for improved performance has been started.

New plans have already been inaugurated to simplify Crane's line of plumbing fixtures and heating products. The larger task of simplifying and standardizing the Company's wide variety of valves and fittings will be given primary attention by the Engineering Division during 1958 in close liaison with Sales and Manufacturing Division personnel.

Our work related to improving existing products and developing new uses for them naturally continues, but we expect to accelerate our research and new product development activities. New products are more fully discussed later in this report.

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Commercial Procedures

In April of 1957, a corporate policy committee, composed of members of the Company's executive staff, was established to facilitate evaluation of inter-divisional commercial procedures. This committee has pursued its work of carefully and critically assessing our commercial practices through a task force, and its results will re-orient our merchandising and production policies. Presently, it is dealing with major problems including:

1. Jobbed products simplification and standardization.
2. Manufactured products simplification and standardization.
3. Physical distribution, materials handling, and stocking of products.
4. Customer service and order handling procedures.
5. Inventory and production control.

During the year, progress has been made in gaining more effective control over these important commercial considerations. With respect to inventories, this program has resulted in a reduction of approximately $10,000,000 between January 1, 1957 and December 31, 1957. There are, of course, many elements that have contributed to this improvement. The result has been to completely eliminate the Company's bank loans at the end of the year from $8,500,000 on January 1, 1957 without impairing our trade service.

Expense Reduction

Toward the middle of 1957, an expense reduction planning committee, consisting of selected officers of the Company's divisions, was created to reduce expenses for the balance of 1957 in all of the Company's activities.

It is difficult to calculate with exactness the results of this needed economy program, but it is estimated to represent an expense liquidation in excess of $4,000,000 on an annual basis. This program will be pursued with new diligence in 1958 in view of the probable economic outlook for the year.

Outlook and Objectives for 1958

Presently our Company, in all of its areas of activity, is operating at substantially reduced rates as compared with the levels prevailing in recent years, due to the existing economic and business climate. We are in a period of intense competition and continuing inventory liquidation, the duration of which cannot be forecast with certainty. It is our expectation that through the year we will develop better control over our own operations which will offset to some extent the effects of an anticipated declining general business trend in 1958. For the current year our principal objectives will include:

1. Improving our organization and personnel planning in order to build a vigorous, well-trained and commercially-oriented company, capable of meeting the problems of the current and probable future market.

2. Planning effectively necessary facility improvements. Particular emphasis will be given to our manufacturing plants in Chicago and Montreal which will require investments on a carefully planned basis through a number of years.

3. Developing further improvements in our commercial procedures so that they will function properly both service-wise and expense-wise.

4. Strengthening our market, product and process research, so as to improve our future position in the commercial areas which the Company intends to serve.

This has been an interesting year of work and as we enter 1958, which in all likelihood will be a more difficult year economically than 1957, it appears that the path is clear for making additional progress in the general betterment plan which your management has developed.

The establishment of the general policies pursued by the Company during 1957 was, naturally, the responsibility of your Board of Directors. The individual and joint achievements of all of our employees was essential to the successful execution of these policies. It is in behalf of the Board members that I express appreciation to these loyal and capable Crane people. We are grateful to our customers for their patronage and cooperation and to our shareholders for their interest and helpful suggestions.

Neele Stearns

President

By Order of the
Board of Directors

CRANE00608

Operating Review

The financial and statistical information contained in this review is on the basis of consolidating the accounts of the Company and all of its subsidiaries including Crane, Limited (Canada) and its wholly-owned subsidiary, Crane, Limited (Great Britain).

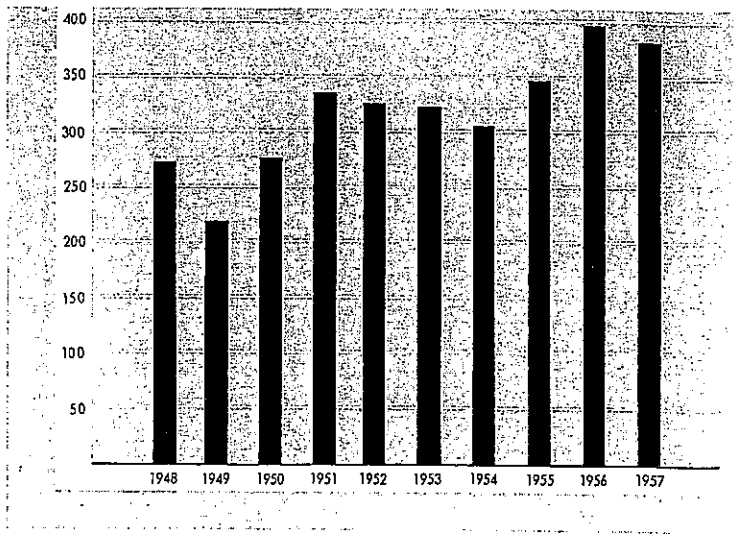
Sales and Earnings

Sales of $378,948,173 and net earnings of $8,678,272 in 1957 reflect the general trend which persisted throughout the year for our entire industry. Compared with 1956 levels, sales decreased $15,184,489 or 3.9% and net earnings decreased $3,524,787 or 28.9%. After payment of dividends on preferred shares, the earnings were equal to $3.46 per common share as compared with $4.94 per common share in 1956.

The reduced rate of residential building throughout 1957 and a decline in the rate of industrial expansion in the last half of the year were the principal factors contributing to the lower sales volume. As a result, sales of our plumbing products showed substantial declines from the 1956 levels while sales in our industrial line of product were only slightly under the 1956 levels.

The greater drop in earnings is due primarily to the unfavorable margin conditions which existed in the industry throughout 1957. Improvements in the latter part of the year resulting from concentrated efforts to increase operating efficiencies, reduce costs and expenses throughout the entire organization, and adjust prices to more equitably reflect costs, were beneficial but not sufficient to entirely offset increases in labor rates, fringe benefits, material prices and service charges.

Fluctuations in rates of foreign exchange had a substantially adverse effect on net earnings for 1957. Adjustments for conversion of foreign net assets of our subsidiaries in Canada and Great Britain decreased earnings by $623,431 or $0.27 per share whereas in 1956 such adjustments increased earnings by $735,620 or $0.31 per share.



Net Sales *(in Millions of Dollars)*

Dividends

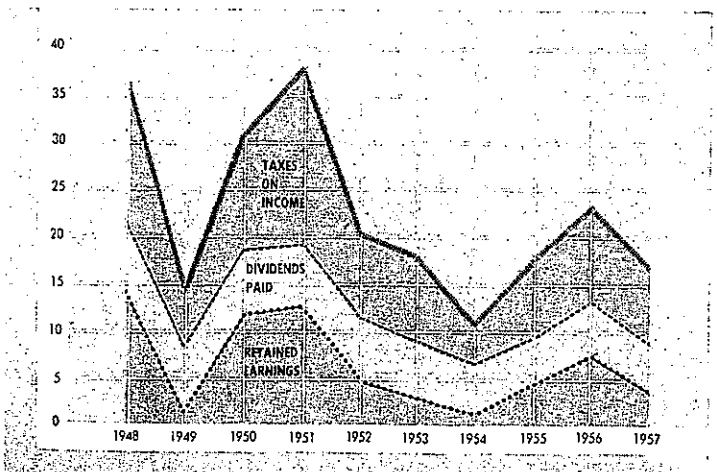
The regular quarterly dividends, both preferred and common, were paid last year. The annual rate was $3.75 per share on the preferred shares, amounting to $454,005, and $2.00 on the common shares, amounting to $4,745,248. Total dividends paid during 1957, of $5,199,253, represented 59.9% of net earnings as compared with 42.7% in 1956.

Taxes

Federal, state and local taxes, amounting to $13,695,415, were equal to 157.8% of net earnings after such taxes or $5.77 per common share.

Financial Position

The Company ended 1957 in a strong financial position. Total cash and marketable securities were $18,615,585 compared with $15,378,619 at the close of 1956. The year-end investment in receivables and inventories reflects a decrease of $16,560,737 from the December 31, 1956 comparable figure. Short-term loans from banks,



Earnings *(in Millions of Dollars)*

Earnings before Taxes on Income

Net Earnings (after taxes)

Retained Earnings

CRANE00609

which amounted to $8,500,000 at December 31, 1956 and which reached a high of $11,500,000 during the year, were entirely repaid by the year-end. Net working capital as of December 31, 1957 amounted to $130,175,138, an increase of $2,052,229 during the year under review. The ratio of current assets to current liabilities was 6.75 to 1 as compared with 4.37 to 1 at the end of 1956.

In 1957 the Company redeemed $950,000 principal amount of its Twenty-Five Year 3⅛% Sinking Fund Debentures and $335,700 par value of its 3¾% Cumulative Preferred Shares. At the year-end the Company also owned an additional $678,000 principal amount of Debentures and $514,500 par value of Cumulative Preferred Shares.

Capital Expenditures

In 1957 capital expenditures, the major items of which are described in the President's letter to shareholders, amounted to $8,230,962 compared with $9,987,196 in 1956. Depreciation charged to operations totalled $6,213,179 in 1957 compared with $6,109,485 in 1956.

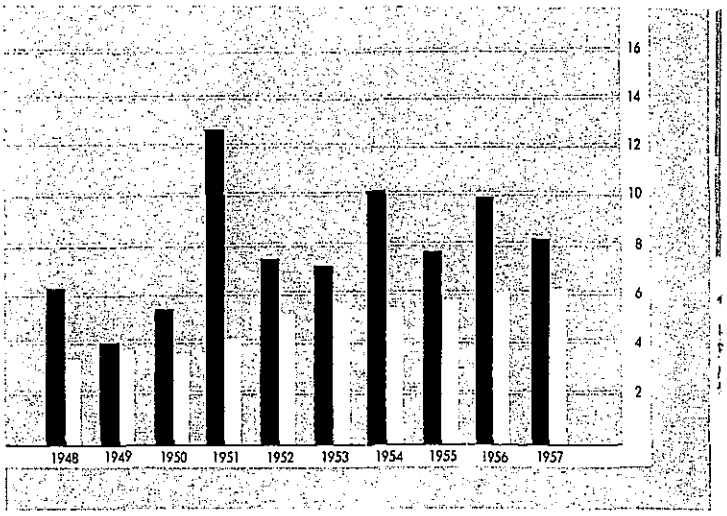
Of the total capital expenditures, approximately $4,900,000 was expended on expansion or modernization of facilities in the United States, $2,500,000 in Canada, and $800,000 in England.

Capital expenditures in 1958 are estimated at approximately $9,500,000.

Associated Companies

Due to recent developments, the commercial market for titanium sponge has practically disappeared and, therefore, the operations of Cramet Inc., owned jointly with Republic Steel Corporation, are being brought to a conclusion. Negotiations are now in process for turning the facility back to the Government. It is anticipated that the amount to be realized on this investment will be in excess of the carrying value thereof.

The Heavy Minerals Co., which is owned jointly with Vitro Corporation of America and Société de Produits Chimiques des Terres Rares, commenced operations in January of 1957. The operating results have been adversely affected by several things, among them, the decline in the titanium market, for which rutile is a main ingredient, and the fact that a market for the Company's other products is slow in developing. At the present time it is impossible to state when the Company may be placed in a profit position, but it is anticipated that some time may be required.



Capital Expenditures and Depreciation

(in Millions of Dollars)

■ *Capital Expenditures*

□ *Depreciation Charged to Operations*

Employee Relations

At the close of 1957 employees totalled 20,304 as compared with 24,014 at December 31, 1956. This substantial decrease in employees has resulted primarily from concentrated efforts to increase operating efficiencies and reduce costs, as well as from the reduced level of operations. Of the total employees at the year-end, 13,731 were in the United States, 3,570 in Canada and 3,003 in England.

Effective January 1, 1958 the benefits under Crane Companies' Pension Plan, applicable to most of the employees in the United States, were increased. These increased benefits were extended not only to employees who would become pensioners subsequent to that date but to former employees who were already pensioned under this Plan. Pension and group insurance plans cost the Company $8,089,459, an average of $398.41 per employee in 1957.

Employee relations in our plants and offices were generally harmonious throughout the year.

Shareholders

At the end of the year, there were 21,941 persons who were shareholders in Crane Co. Of this number 15,337 owned 1 to 99 shares, 6,338 owned 100 to 999 shares, and 266 owned 1,000 or more shares.

At the 1957 annual meeting of shareholders over 81% of shares entitled to vote were cast in person or by proxy. All shareholders are urged to exercise their right to vote.

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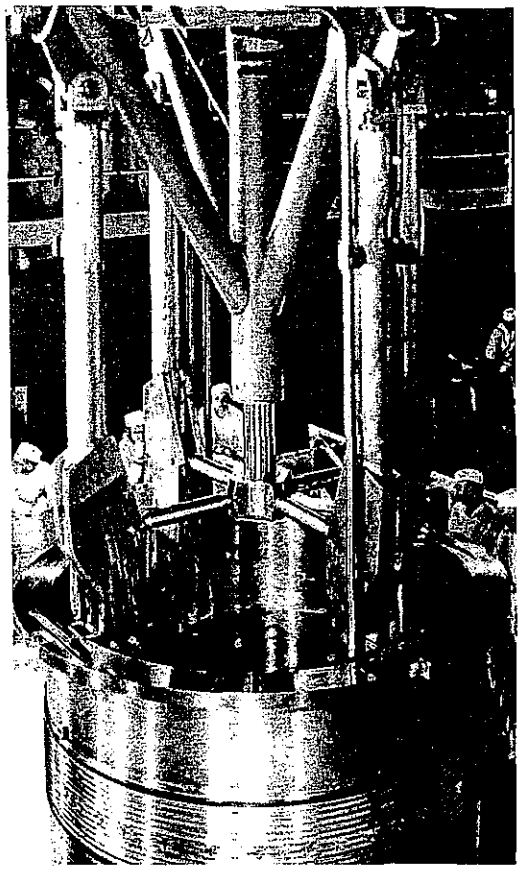


LOWERING REACTOR core in the nation's first commercial atomic power plant at Shippingport, Pennsylvania. Crane special design valves are in service on coolant loops.

CRANE PRODUCTS serve industry, the nation, and the home.

Crane Co. is the world's largest manufacturer of valves and fittings and is a leading producer and distributor of plumbing fixtures, heating and air conditioning equipment and enamel-steel kitchen cabinets. The Company's total sales volume is about equally divided between products of its own manufacture and purchased items.

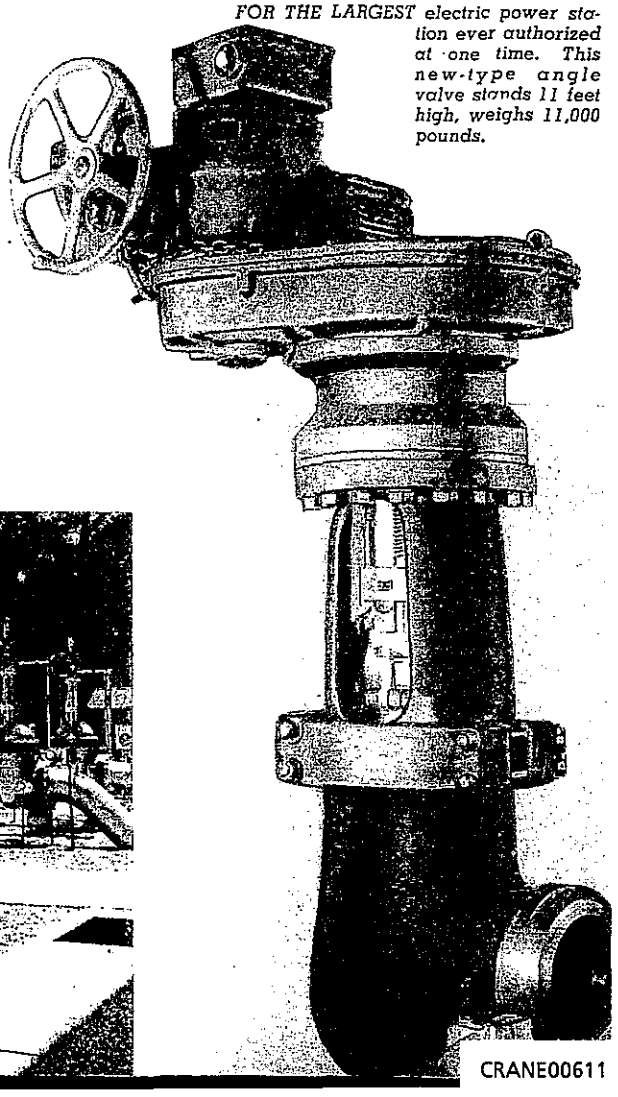
Crane products are manufactured in sixteen plants in the United States, Canada, and England. Distribution of both manufactured and jobbed products is made through an extensive system of Company sales branches located throughout the United States, Canada, and England. Hundreds of independent wholesalers also distribute products of Crane manufacture.

TO KEEP PACE with the changing needs of customers, Crane Co., during the past year, engineered and manufactured new products, standardized and simplified production of existing items, and expanded some product lines.

The continuing growth of the petro-chemicals industry, for example, created a need for valves of new design. A sizeable part of the annual expenditures for new plants by the chemical processing industry involves the purchase of piping materials, valves and fittings.

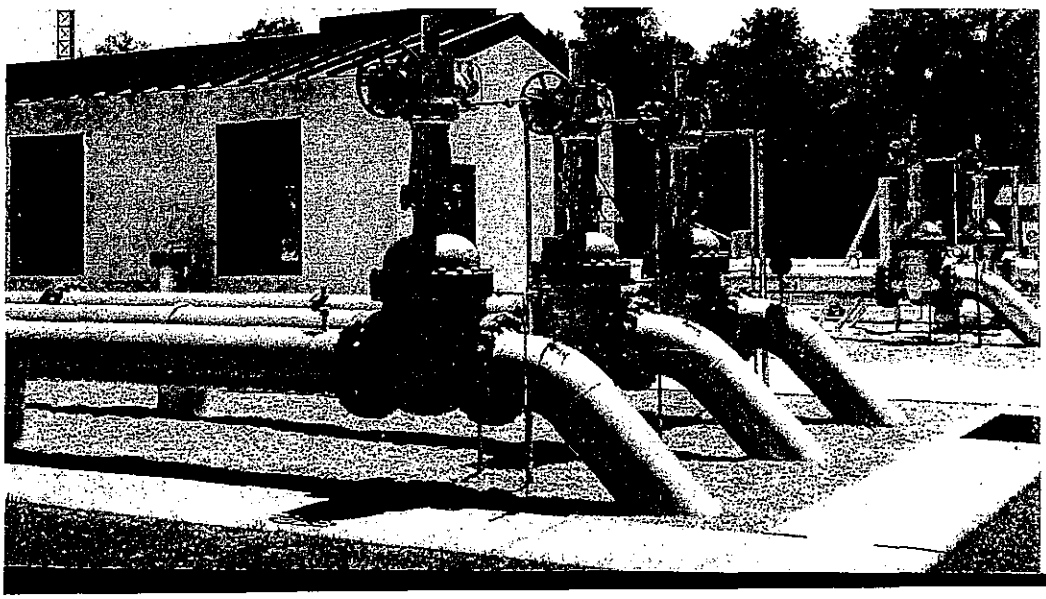
New demands for missile fuels place greater challenges before the chemical industry to produce them. In turn, Crane is called upon to design and manufacture new type valves necessary for producing these chemicals.

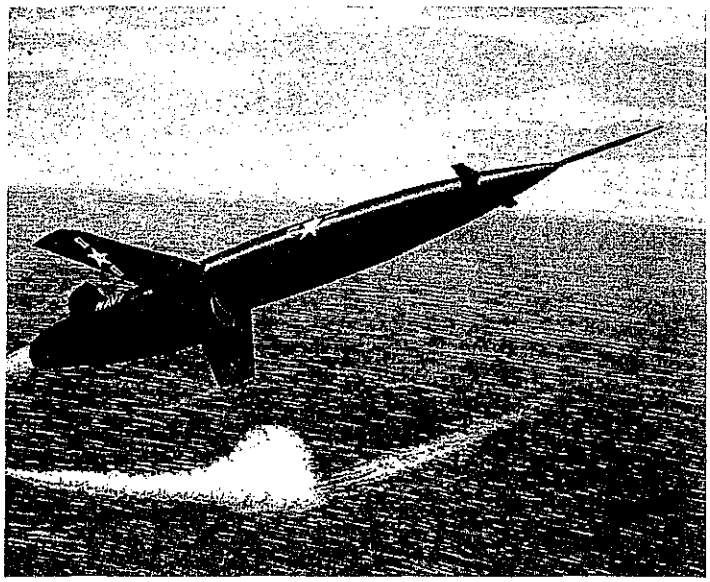
Valves of Crane manufacture for critical locations on rocket engine test stands and launching pads are already in operation. These valves are built to operate in liquid oxygen and



FOR THE LARGEST electric power station ever authorized at one time. This new-type angle valve stands 11 feet high, weighs 11,000 pounds.

MANY OF THE country's gas transmission lines are controlled by valves of Crane manufacture.





THE REGULUS missile built by Chance-Vought leaves its submarine base at supersonic speeds. Several of its components are manufactured by HYDRO-AIRE, INC., Crane Co.'s aviation subsidiary. Crane Co. also serves a vital function in the overall missile program by supplying valves for launching pads and engine test stands.

liquid nitrogen service (at 300 degrees below zero), helium, acids, and jet fuels, under severe operating conditions.

TO MEET the needs of the atomic power era, our special design valves are in service at the nation's first commercial atomic plant. This plant, at Shippingport, Pennsylvania, began producing power in December, 1957. Many of the large 18-inch main coolant valves for the reactor, along with numerous smaller valves that are a vital part of the plant's operation, are of Crane manufacture.

Further, Crane Co. is furnishing substantial valve and piping materials for the National Reactor Plant at Arco, Idaho. Stainless steel materials from our regular line are being used in a number of test reactors, many of them in foreign countries. Foreign markets in the nuclear power field are promising, especially in countries where diminishing supplies of coal, gas and oil demand new sources of power.

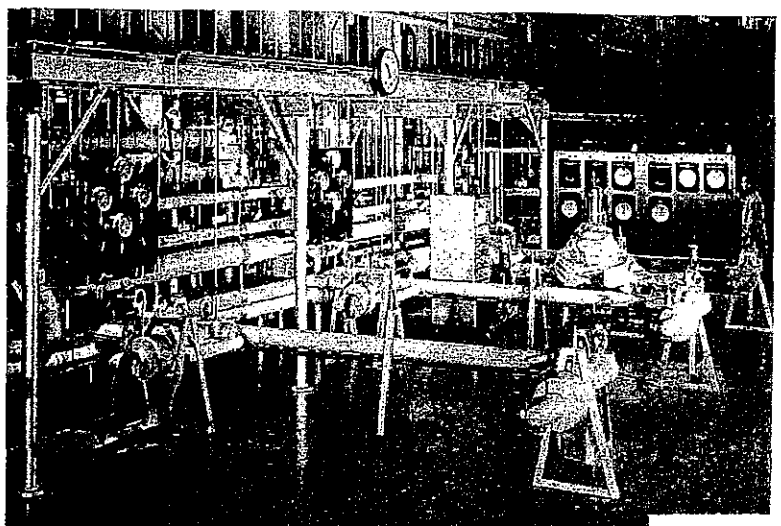
Currently, Crane is producing valves for the nation's first atomic aircraft carrier and a cruiser, now under construction. There is also need for valves on nuclear submarines, as well as other types of surface vessels now on the drawing boards. Another important segment of our valve business—both Naval and industrial—is supplying valves and valve parts as replacements on existing installations.

An important contribution of Crane Engineering Laboratories to the atomic program is the melting and rolling of hafnium metal for use in nuclear reactor systems. Hafnium is a preferred material for control rods because of its unique nuclear properties.

A NEW HOT TEST LOOP for testing and research of product used on reactor coolant systems, under simulated operating conditions, was further expanded during 1957 to help meet the needs of industry.

In the field of power generation, in addition to atomic work, the trend continues toward the use of steam at higher pressures and temperatures. In turn, new problems of design for valves and piping have been created. Crane engineers have developed steam valves for service at 5500 pounds per square inch and 1070°F, and feedwater valves in sizes to 14-inch for a pressure of 6600 pounds. These valves are now in production at the Chicago Works.

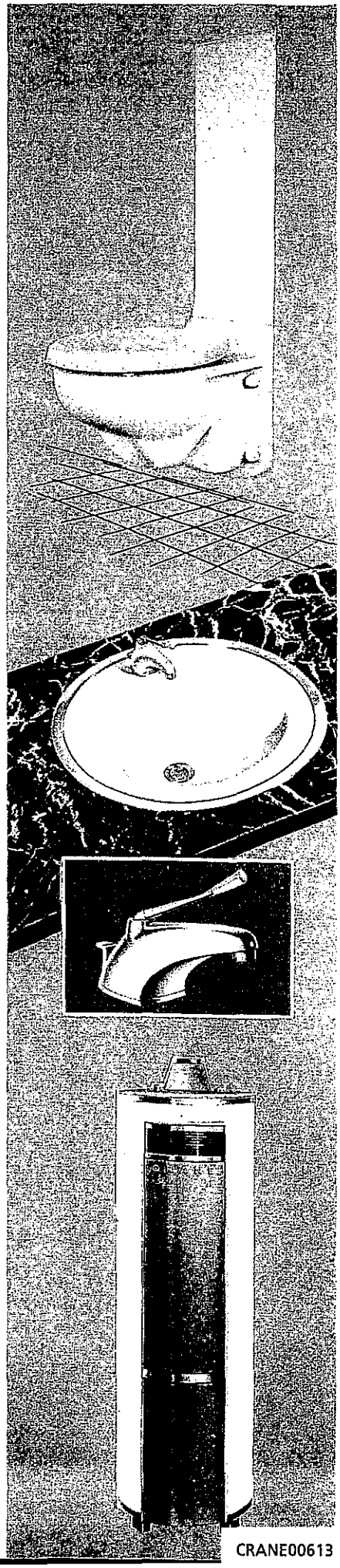
A new mark was reached during the past year in globe and angle valves when the first of an order for twenty-four 16-inch motor-operated angle valves was completed. These huge valves — each weighing over 11,000



FURTHER EXPANSION of hot test loop facilities for testing and research of product used on atomic reactor systems was accomplished to meet the needs of industry.

CRANE00612

FOUR NEW plumbing items—and a new color—were introduced at the 1958 National Home Builders' Show. Top to bottom: The WALSAN closet, CROWN round lavatory, SINGL-ESE trim, and SUPERIOR water heater.



pounds — are for the largest power plant of its kind in the world ever authorized at one time by any community. An operating pressure of 2480 pounds per square inch required the development of a motor operator larger than any existing designs to provide the half million pounds of thrust required to close the valve. This immense new plant, now under construction at Memphis, will be almost entirely Crane equipped.

FOR THE OIL industry, a new line of plug gate valves is being developed for water flooding service in the oil fields. In addition—following nearly two years of field investigation, designing, and field testing—a new line of valves for producing high octane gasoline by hydrogen fluoride alkylation has been developed. Engineering on the soft-seated disc for this line represented a marked departure from the industry in design. The new-type HF valve has resulted in additional business in this field, along with having many other possible industrial applications.

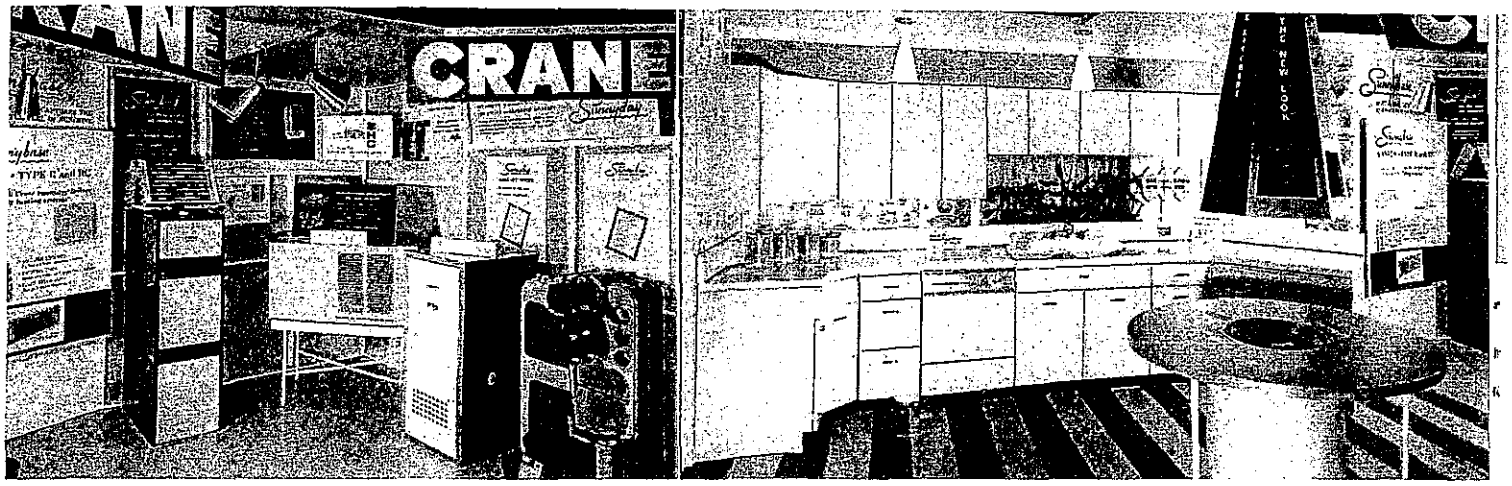
The Engineering Division, working with other divisions, has intensified its efforts to reduce the complexities of our lines of products in the Valve and Fitting, Plumbing, and Heating Divisions. The foundation for strong gains along this line has been laid. The end result will be reduced costs through simplified manufacturing procedures.

FOR HOME, and industry, products of the Plumbing, and the Heating and Air Conditioning Divisions are being redesigned, restyled, and expanded to meet changing markets.

The builders section of the Plumbing Sales Division, formed in 1956, stepped up its activities during the year. Contacts with builders' associations were accelerated and much time was given to an intensive field sales training program for developing this specialized phase of selling. The increasing trend toward quality products in the home, and more plumbing facilities per unit, holds promise for more activity in the building industry. Coupled with this is Crane's intense concentration on the huge potential remodeling market in plumbing.

Five new plumbing items were introduced at the 1958 Home Builders' Show. Distribution of these new products is slated to begin during the summer of 1958. These include the strikingly new CROWN round lavatory for countertop installation. Of modern design by Henry Dreyfuss, the trim consists of a new Crane SINGL-ESE lavatory fitting, graceful and smartly styled. This new design trim—first of a series—permits effortless control of water at the touch of a single handle. A new Crane

CRANE00613



FOR THE HOME, and commercial applications, new products, along with those which have strengthened our position in the industry, were displayed at the Home Builders' Show. Included were heating, air conditioning, and kitchen cabinet units.

SUPERIOR water heater, glass-lined and with many additional features, made its debut at the Builders' Show. This handsome heater—with "sweep front" styling by Dreyfuss—is being offered in four model sizes.

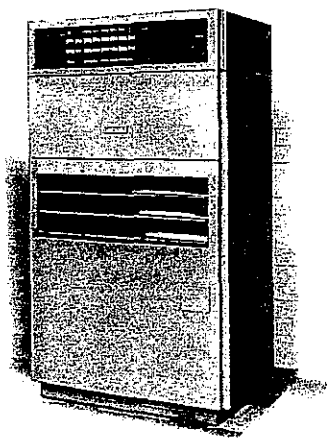
The new WALSAN—an off-the-floor, reverse trap, closet for residential installation—meets the demands of builders and home owners alike. This new "off-the-floor" closet features a concealed tank installed between the wall studdings. An attractive and functional fixture, it fulfills the requirements of modern builders and home owners in its attractiveness, space saving, and ease of cleaning.

A beautiful new pastel color—DESERT TURQUOISE—was created by a group of color experts, designers, and housewives. All Crane plumbing fixtures will be available in this new Desert Turquoise, an ideal color to complement the most contemporary decorating ideas.

IN HOME and commercial heating and air conditioning, new products were introduced, others standardized, to strengthen our position in the industry. The Sunnyday 26 home boiler established a new standard of excellence in heating engineering. Designed especially for economical gas operation, and with a 20-year guarantee, the Sunnyday 26 has become a leader in the industry. Our East Coast market has been greatly increased, since this boiler has capacities to meet the needs of that area. A tankless heater, and a ribbon burner suited to all types of gas, have further increased its sales volume. In addition to the home heating field, new sales emphasis is being placed on our commercial line of boilers.

A completely packaged central cooling system for homes, the Crane Stowaway, was marketed during 1957. The Stowaway unit, combining lower initial cost with ease of installation, makes it a strong contender in the relatively untapped home air conditioning field.

A new entrant in the air conditioning field, a packaged unit in three to fifteen ton capacities, was designed for places where a free standing unit is needed. Designed for use in churches, offices, stores, or shops, the new unit widens the line and opens new markets for air conditioning.



NEW ENTRANT in air conditioning—a packaged conditioner designed for places where a free-standing unit is needed.

MEETING requirements of ever-changing market demands for new and improved products is a challenge which calls for continuing, cooperative action of the Sales, Manufacturing, Engineering and Marketing Research divisions of the Company.

Consolidated Statement of Earnings and Earned Surplus*

for the year ended December 31, 1957

Net sales		$378,948,173
Cost of sales, selling, administrative and general expenses	$354,187,441	
Provision for depreciation	6,213,179	360,400,620
Earnings from operations		$ 18,547,553
Other (income) and deductions:		
Interest on debentures, notes, etc.	$ 912,898	
Loss on foreign exchange conversion	623,431	
Miscellaneous—net	(338,397)	1,197,932
		$ 17,349,621
Minority stockholders' interest in net earnings of subsidiaries		131,009
Earnings before taxes on income		$ 17,218,612
Provision for United States and foreign taxes on income		8,540,340
Net earnings for the year		$ 8,678,272
Earned surplus, at beginning of the year	$100,863,448	
Undistributed earnings of Crane, Limited (Great Britain) at beginning of the year	9,536,547	
Excess of par value over cost of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements	14,103	110,414,098
		$119,092,370
Deduct:		
Cash dividends paid:		
On 3¾% cumulative preferred shares, $3.75 per share	$ 454,005	
On common shares, $2.00 per share	4,745,248	5,199,253
Earned surplus, at end of the year		$113,893,117

See accompanying notes.

* *The consolidated financial statements include the accounts of the Company and all of its subsidiaries including Crane, Limited (Canada) and its wholly-owned subsidiary, Crane, Limited (Great Britain).*

ASSETS

CURRENT ASSETS:		
Cash		$ 16,490,415
U. S. Government and other marketable securities, at cost which approximates market value		2,125,170
Accounts receivable	$ 47,365,401	
Less: Allowance for losses	1,774,693	45,590,708
Inventories—		
Raw materials and supplies	$ 12,811,324	
Work in process	19,818,372	
Finished goods	55,971,002	88,600,698
Total current assets		$152,806,991
INVESTMENTS:		
Investments in and advances to associated companies, at cost	$ 4,218,155	
Other investments at cost or nominal value (less reserve, $117,288)	540,409	4,758,564
FIXED ASSETS:		
Land	$ 7,810,937	
Buildings	$ 47,677,580	
Less: Accumulated depreciation	23,726,246	23,951,334
Machinery and equipment	$ 88,342,993	
Less: Accumulated depreciation	53,280,993	35,062,000
Unfinished construction	3,370,657	70,194,928
DEFERRED CHARGES:		
Prepaid expenses and other deferred charges	$ 1,112,049	
Unamortized pension expense	1,155,557	2,267,606
		$230,028,089

See accompanying notes.

Consolidated Balance Sheet*—December 31, 1957

LIABILITIES

CURRENT LIABILITIES:		
Accounts payable, accrued payrolls, etc.		$ 16,480,438
United States and foreign taxes on income	$ 9,474,023	
Less: Tax notes	5,811,907	3,662,116
Accrued general taxes		2,217,299
Current maturity of debentures		272,000
Total current liabilities		$ 22,631,853
TWENTY-FIVE YEAR 3⅛% SINKING FUND DEBENTURES, DUE MAY 1, 1977 (current portion included above)		18,100,000
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES		2,248,056
CAPITAL STOCK AND SURPLUS:		
Capital Stock—		
Cumulative preferred shares, 3¾%, par value $100:		
Authorized —160,000 shares		
Outstanding—124,038 shares (including 5,145 shares in treasury)	$ 12,403,800	
Common shares, par value $25:		
Authorized —3,500,000 shares		
Outstanding—2,372,624 shares	59,315,600	
	$ 71,719,400	
Surplus—		
Capital surplus	$ 1,856,281	
Earned surplus	113,893,117	115,749,398
	$187,468,798	
Less: Cost of 5,145 shares of 3¾% cumulative preferred shares purchased in connection with sinking fund requirements	420,618	187,048,180
		$230,028,089

* *The consolidated financial statements include the accounts of the Company and all of its subsidiaries including Crane, Limited (Canada) and its wholly-owned subsidiary, Crane, Limited (Great Britain).*

CRANE00617

Notes to Financial Statements

Principles of Consolidation:

The consolidated financial statements include the accounts of the Company and all subsidiaries, whereas in prior years the accounts of Crane, Limited (Great Britain) were not included. The effect of this change is to increase reported consolidated earnings of the year 1957 by $1,748,635 after deducting dividends paid by the subsidiary of $1,176,557.

Net assets of Crane, Limited (Great Britain) included in the consolidated balance sheet are as follows:

Net current assets	$ 8,275,554
Fixed and other assets	5,144,209
Net assets	$13,419,763

Inventories:

Inventories amounting to $46,078,489 are valued on the "last-in, first-out" (LIFO) basis. The balance of the inventories are priced at the lower of cost or market on a "first-in, first-out" basis.

Twenty-Five Year 3⅛% Sinking Fund Debentures, Due May 1, 1977:

Each year through 1976 the Company is obligated to redeem $950,000 principal amount of debentures. At December 31, 1957 the Company had acquired a principal amount of $678,000 which has been deducted from the amount outstanding. The balance of $272,000 for which the Company is liable prior to November 1, 1958 is shown in current liabilities.

Under the provisions of the indenture relating to the debentures, earned surplus at December 31, 1957 in the amount of $96,766,519 is not available for the payment of dividends on the Company's common shares.

There was no change in the amount of capital surplus during the year 1957.

3¾% Cumulative Preferred Shares:

These shares are redeemable at the option of the Company at $104.50 per share, an aggregate amount of $12,424,319.

Under sinking fund provisions the Company is required to pay over to the sinking fund agent for the redemption or purchase of such shares a determinable amount of cash, but not in excess of $320,000 with respect to any fiscal year. Against its obligation to make a cash sinking fund payment

in any year the Company may, at its election, take credit for shares purchased by it otherwise than through the sinking fund.

At December 31, 1957 the Company held 5,145 reacquired shares with a cost of $420,618. A sufficient number of these reacquired shares will be deposited on or before April 30, 1958 with the sinking fund agent in satisfaction of the sinking fund requirements.

Stock Option Plan:

Pursuant to a stock option plan adopted in 1951, 187,670 of the Company's unissued common shares are reserved for issuance to officers and employees of the Company and its subsidiaries. Under the plan, the Stock Option Committee may grant ten-year options to purchase shares at a price not less than 85% of the quoted market value on the date the option is granted. At December 31, 1957 options were outstanding to 86 officers and employees for 101,710 shares. This is composed of 81,710 shares at a price of $37 per share and 20,000 shares at a price of $32.75 per share. During the first five years after an option is granted, the optionee may not acquire the optioned shares at a rate greater than 20% annually, such percentage being cumulative.

During the year 1957 the options previously given on 14,350 shares were cancelled.

Report of Certified Public Accountants

To The Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. and subsidiary companies at December 31, 1957 and the related consolidated statement of earnings and earned surplus for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated statement of earnings and earned surplus present fairly the financial position of Crane Co. and subsidiary companies at December 31, 1957 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year, except for the inclusion of Crane, Limited (Great Britain) in the consolidation, as covered by the note on principles of consolidation, which change has our approval.

Arthur Young & Company

Chicago, Illinois, March 7, 1958

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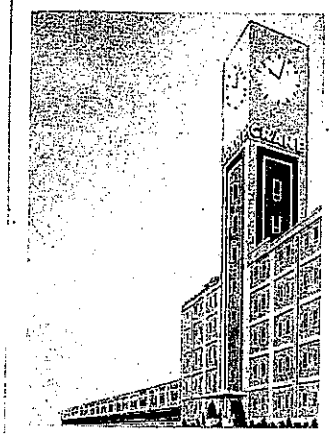


CRANE MANAGEMENT

Board of Directors

FRANK F. ELLIOTT, *Chairman*

LEE N. BLUGERMAN, *Vice President, Manufacturing*

LESLIE H. T. CLEGG, *President,*
Crane, Limited (Canada)

MARK W. LOWELL, *Vice President,*
Continental Illinois National Bank and Trust Company of Chicago

EDWARD H. McDERMOTT, *Partner,*
McDermott, Will & Emery, Chicago

WILLIAM L. McKNIGHT, *Chairman of Board,*
Minnesota Mining & Manufacturing Company, St. Paul

PETER V. MOULDER, *President* (Retired),
International Harvester Co., Chicago

SHEPHERD M. ROBERTS, *President,*
C. A. Roberts Co., Chicago

NEELE E. STEARNS, *President*

ANTHONY VON WENING, *Chairman of Board,*
Froedtert Corporation, Milwaukee

R. ARTHUR WILLIAMS, *President,*
Standard Railway Equipment Manufacturing Co., Chicago

Executive Committee

MARK W. LOWELL, *Chairman*
FRANK F. ELLIOTT
ANTHONY VON WENING
R. ARTHUR WILLIAMS
NEELE E. STEARNS

Officers

NEELE E. STEARNS, *President and Chief Executive Officer*

LEE N. BLUGERMAN, *Vice President, Manufacturing*

GEORGE F. BURLEY, *Vice President, Purchasing and Traffic*

PAUL S. KEMPF, *Vice President, Personnel and Industrial Relations*

MAURICE NELLES, *Vice President, Engineering*

CARTER T. POLLOCK, *Vice President, Plumbing Sales*

WILLIAM O. BROWN, *General Manager, Sales*

PAUL L. YATES, *Comptroller*

KENNETH L. KARR, *Secretary*

EDWARD H. PETERSEN, *Treasurer*

EARL WYATT, *Executive Assistant*

ROBERT F. McDONALD, *Ass't Treasurer*

NORMAN I. PICKLES, *Ass't Treasurer*

HENRI A. TACON, *Ass't Treasurer*

C. CLIFFORD MARKS, *Ass't Comptroller*

WILLIAM R. STEAD, *Ass't Secretary*

Stock Transfer Agents

J. P. MORGAN & CO. INCORPORATED, *New York 8, New York*
CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY OF CHICAGO, *Chicago 90, Illinois*

Registrars of Stock

THE CHASE MANHATTAN BANK, *New York 15, New York*
THE FIRST NATIONAL BANK OF CHICAGO, *Chicago 90, Illinois*

Auditors

ARTHUR YOUNG & COMPANY, *Chicago 2, Illinois*

1957

CRANE00620

PLANTS AND PRODUCTS

In the United States . . .

Chicago Works,
Chicago, Illinois
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
N. F. Garrett, *General Manager*

Chattanooga Division,
Chattanooga, Tennessee
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks, Lavatories, Iron Heating Boilers and Radiation
W. M. Hamilton, *Manager*

Crane-Pacific Division,
Colton, California
Vitreous China Plumbing Fixtures, Water Closets and Lavatories
S. A. Peer, *General Superintendent*

The Trenton Potteries Company,
a Division of Crane Co.,
Trenton, New Jersey
Vitreous China and Duraclay Plumbing Fixtures, Water Closets, Lavatories, Urinals, Tubs, Fountains, Hospital Fixtures
A. E. Bennett, *President*

Hydro-Aire, Inc.,
Burbank, California
Aircraft Valves, Filters and Actuators
D. A. Lichty, *President*

Toledo Desk & Fixture Co.,
a Division of Crane Co.,
Maumee, Ohio
Enameled Steel Kitchen Cabinets
C. W. Nelson, *Plant Manager*

In Great Britain . . .

Crane, Limited (Great Britain)
J. E. Bennett, *Chairman of the Board*
R. E. Dunnett, *Managing Director*

Ipswich Works,
Ipswich, Suffolk, England
Valves, Fittings, Boilers, Radiation
J. B. Webster, *Works Manager*

In Canada . . .

Crane, Limited (Canada)
Montreal
L. H. T. Clegg, *President*
G. R. Gustin, *Vice President*
F. D. MacNaughton, *Vice President*
F. H. Meyer, *Vice President*

St. Patrick St. Plant,
Montreal, Quebec
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
J. D. Walker, *Works Manager*

Canadian Potteries Limited,
St. Johns, Quebec
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
A. G. Lennon, *Manager*

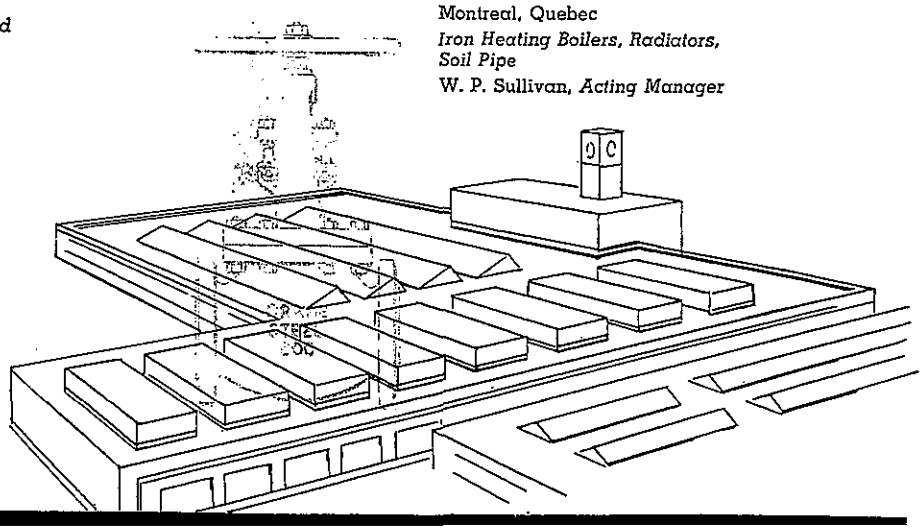
Port Hope Sanitary Manufacturing Co. Ltd.,
Port Hope, Ontario
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks and Lavatories
William Armstrong, *Manager*

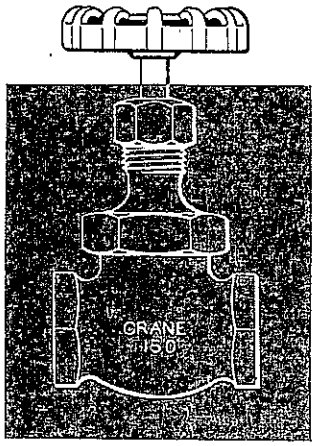
Calgary Plant,
Calgary, Alberta
Valves and Fittings
G. M. Young, *Manager*

Allianceware Ltd.,
Vancouver, B. C.
Enameled Steel Plumbing Fixtures
R. E. Strain, *Vice President*

Crane Steelware, Limited,
Quebec, Quebec
Enameled Steel Plumbing Fixtures
E. A. Thompson, *Manager*

Warden King (Limited),
Montreal, Quebec
Iron Heating Boilers, Radiators, Soil Pipe
W. P. Sullivan, *Acting Manager*





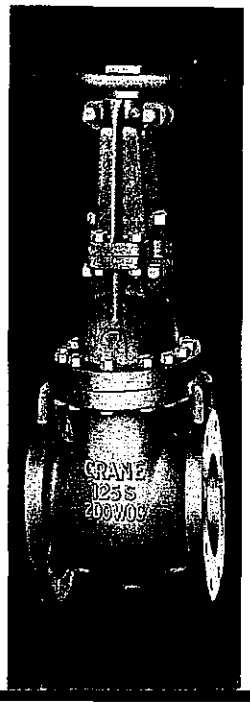
CRANE CO.

PRINTED IN U.S.A.

ANNUAL REPORT

1958

CRANE CO.



CRANE00623

LIST OF EXTRAORDINARY LOSSES IN 1958 AS REPORTED IN ANNUAL SHAREHOLDERS' REPORT

		EXPENSE	INCOME
Profit on Liquidation of Cramet			$1,016,878.15
Loss on Investment in Heavy Minerals		$1,750,000.00	
Loss on Heavy Minerals Notes		1,502,659.86	
Loss on Sale of Toledo Desk Inventory and Assets		1,664,361.90	
Additional Loss on Toledo Desk (Broker's Fee)		26,000.00	
Loss on Obsolete Materials		328,946.37	
Accelerated Depreciation:			
Chicago Division	$470,538.45		
Chattanooga Division	982,023.58		
Chattanooga Division	89,042.73		
Trenton Potteries	17,185.27		
Crane-Pacific	52,537.29		
Repcal Land	5,397.01		
Branches	17,027.19		
Hydro-Aire	49,406.60	$1,683,158.12	
		$6,955,126.25	$1,016,878.15
		1,016,878.15	
		$(5,938,248.10)	
Tax Credit		(2,630,000.00)	
Net Loss on Extraordinary Items		$(3,308,248.10)	

List of Extraordinary Items in 1958 as Reported in Annual Report

	Expenses	Income
Profit on Liquidation of Cramet		$1,016,878.
Loss on Investment in Heavy Minerals	1,750,000.00	
Loss on Heavy Mineral Notes	1,502,659.86	
Loss on Sale of Toledo Dock Inventory and Assets	1,664,361.90	
Additional Loss on Toledo Dock (Broker's Fee)	26,000.00	
Loss on obsolete Materials	328,946.37	
Accelerated Depreciation:		
Chicago Division	470,538.45	
Chattanooga Division	982,023.58	
" "	89,042.73	
Clinton Patterns	17,185.27	
Crane-Pacific	52,537.29	
Regal Fund	5,397.01	
Branches	17,027 19	
Hydro-Aire	49,406.60	1,683,158.12
	$6,955,126.25	$1,016,878.
	1,016,878.15	
	$(5,938,248.10)	
~~Provision for tax recovery~~ Tax credit	(2,630,000.00)	
Net Loss on Extraordinary Items.	$(3,308,248.10)	

3 YEARS IN BRIEF

Crane Co. and Subsidiary Companies

	1958	1957	1956
Net Sales	$336,196,279	$378,948,173	$394,132,662
Net Earnings	5,475,593*	8,678,272	12,203,059
Per Share of Common Stock	2.12*	3.46	4.94
Percent of Net Sales	1.6%*	2.2%	3.0%
Dividends Paid—			
Preferred Shares	$ 436,849	$ 454,005	$ 466,848
Common Shares	2,609,886	4,745,248	4,744,413
Per Common Share	1.10	2.00	2.00
Direct Taxes per Common Share	3.90*	5.77	6.66
Wages, Salaries and Employee Benefits	89,827,223	102,091,457	107,256,663
Fixed Assets Less Accumulated Depreciation	$ 66,497,283	$ 70,194,928	$ 69,012,483
Capital Expenditures	6,114,470	8,230,962	9,987,196
Depreciation Charged to Operations	5,915,406	6,213,179	6,109,485
Net Working Capital	136,163,472	130,175,138	128,122,909
Ratio Current Assets to Current Liabilities	8.19 to 1	6.75 to 1	4.37 to 1
Shareholders' Equities	185,656,661	187,048,180	183,867,581
Shareholders' Equity per Common Share	73.49	73.82	72.32
Number of Employees	17,817	20,304	24,014
Number of Shareholders—			
Preferred	1,019	1,102	1,169
Common	17,060	20,839	21,079
Number of Shares Outstanding—			
Preferred (net of treasury shares)	112,693	118,893	122,643
Common	2,372,624	2,372,624	2,372,624

*These items do not reflect extraordinary losses incurred during 1958 in the amount of $3,308,248 after taxes, equivalent to $1.40 per share of common stock.

CONTENTS

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		Plants and Products	Inside Back Cover

CRANE00626

Neele E. Stearns
President

The President's Letter

FELLOW SHAREHOLDERS:

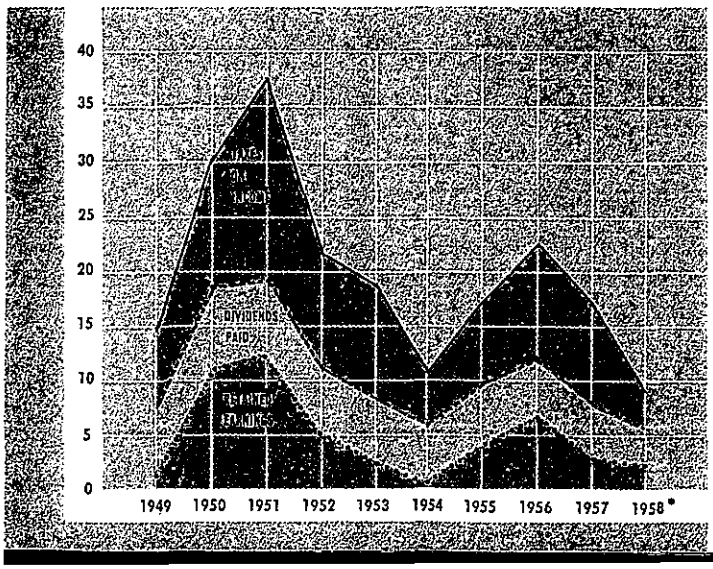
Our sales declined to $336,196,279 for 1958 as compared with $378,948,173 for the previous year. This drop was largely attributable to the general business recession. Especially affected was the industrial construction industry with which we are closely associated, particularly as a supplier of valves, fittings and pipe. In addition, our plumbing sales in the United States were adversely affected by a 4½ month strike at our Trenton Potteries Division which directly influenced sales of accessory products including those made at our other plants.

Earnings from operations in 1958, before adjustment for extraordinary losses related to the disposal of marginal investments, were $5,475,593, equal to $2.12 per common share, compared with $8,678,272, or $3.46 per share in 1957. This reduction was largely a reflection of the sales decline, the cost of the Trenton strike, as well as of the depressed prices prevailing through 1958 in the industries in which Crane participates. Net earnings for the year, after extraordinary losses, were $2,167,345, or 72 cents per common share.

Adjustments for conversion of net assets of subsidiaries in Canada and Great Britain, resulting from fluctuations in rates of foreign exchange, had the effect of increasing earnings in 1958 by $449,404, or 18 cents per common share, and decreasing earnings in 1957 by $623,431, or 27 cents per share.

The substantial level of funding of Crane Companies' Pension Plan in relation to the amounts needed to meet future pension requirements (determined actuarially) enabled the Company to reduce current payments under the Pension Plan. The total pension costs charged to earnings for 1958 are approximately $1,500,000 less after taxes than the charge would have been if calculated on the same basis as in the previous year.

Hydro-Aire, Inc., has been merged into Crane's operations as a Division. This operation, in which a variety of products for the aircraft and missle industry is manufactured, enjoyed the best year in its history in 1958. Hydro-Aire has been operating



Earnings *(in Millions of Dollars)*
Earnings before Taxes on Income
Net Earnings (after taxes)
Retained Earnings
* *Does Not Reflect Extraordinary Losses*

CRANE00627

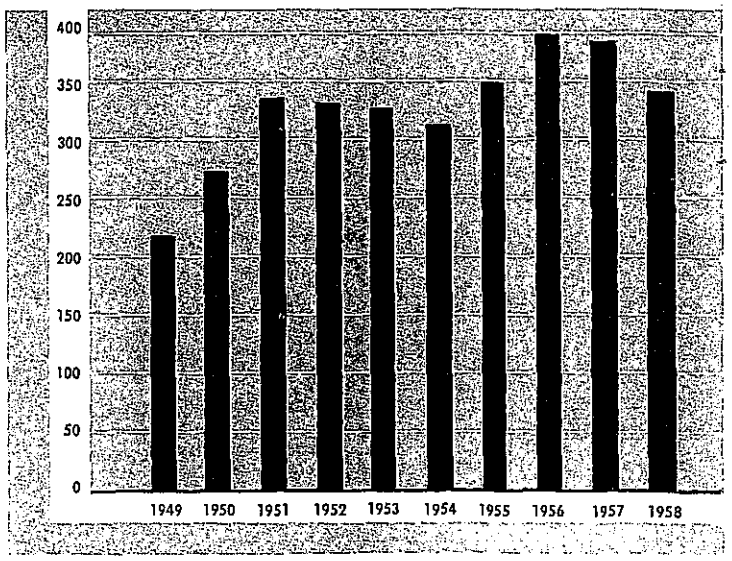
profitably for some time and will be further developed as a part of the Crane corporate family. The Division is now entering a promising new market with an adaptation of its widely used aircraft anti-skid braking system which has been perfected for the trucking industry.

As previously reported in the quarterly statements to shareholders, the Company has been following a program of disposing of marginal operations not directly associated with its main activities. This program, as summarized below, was substantially completed during the year and resulted in extraordinary losses of $3,308,248 (after applicable tax credits of $2,630,000) or $1.40 per common share.

Toledo Desk and Fixture Division: The fixed assets and inventory of this Division, which manufactured steel kitchen cabinets, were sold in July, 1958. Toledo Desk had experienced operating losses from the time of its acquisition in 1952. Contributing factors to these unsatisfactory results were the growing popularity of wood cabinets and the marketing disadvantage of competing on a national basis, from a single plant, with many cabinet manufacturers operating locally in cities throughout the United States. Our market studies indicated that both conditions would continue.

Interest in Cramet Inc. and Heavy Minerals Co.: Cramet, a producer of titanium sponge at Chattanooga, Tennessee, was owned jointly by Crane Co. and Republic Steel Corporation. It ceased operations early in 1958 and its facilities were turned back to the United States Government. The action became necessary because of the loss of principal markets for titanium sponge produced by this operation. Crane realized a gain on its investment in Cramet which partially offset the loss incurred in the disposal of its interest in Heavy Minerals Co.

The 40 per cent equity interest held by Crane Co. in Heavy Minerals was disposed of to Vitro Corporation of America, one of the joint owners of this company. Heavy Minerals was engaged in the mining of titanium ores and rare earth minerals, and in the production of thorium compounds and rare earth chemicals. It was an important supplier of rutile to Cramet Inc., a market which was lost with Cramet's liquidation. With the loss of Cramet as a market for rutile and the failure of markets for rare earth minerals produced from the operation to develop according to earlier forecasts, Crane Co. withdrew from further participation in this venture which was resulting in substantial operating losses and would have required additional cash outlays.



Net Sales *(in Millions of Dollars)*

Boiler-Radiator Manufacturing Facilities: The Company has also discontinued the manufacture of boilers and radiators at Chattanooga Division, which had resulted in operating losses for many years. Contributing to the decision were high freight costs involved in shipping from a southern plant to northern markets where more than two-thirds of the sales of this type of heating equipment are made. Crane Co. continues in the heating distribution business and has established a dependable source for boilers and radiators closer to the basic markets. The manufacture of cast iron enameled plumbing fixtures, the principal operation at Chattanooga, continues as heretofore.

FINANCIAL POSITION AND INVENTORIES

Throughout 1958, the Company continued to improve substantially its financial position. Net working capital at December 31, 1958 amounted to $136,163,472, reflecting an increase in 1958 of $5,988,334. The resulting ratio of current assets to current liabilities was 8.19 to 1, compared with 6.75 to 1 at the end of 1957.

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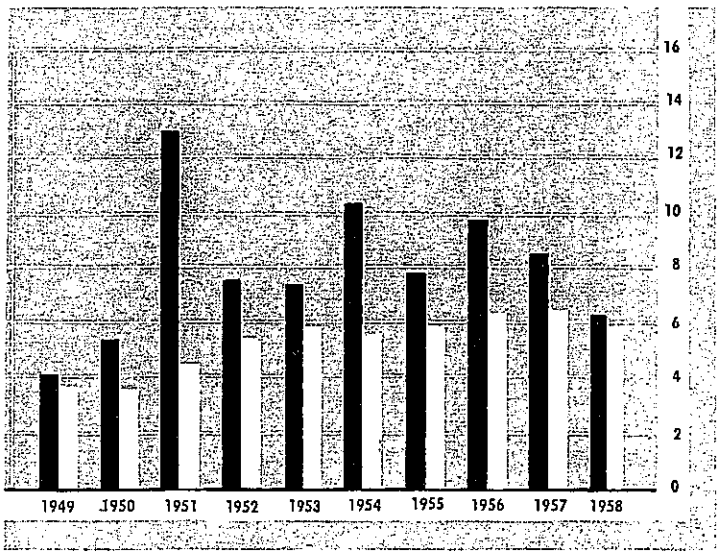
Cash and marketable securities totaled $37,091,091, compared with $18,615,585 at the close of the prior year. This increase was the result of a continuance of the program which brought about the elimination of bank debt and cash improvement in the prior year. Inventories were reduced $14,888,755, and receivables declined $3,987,409 in 1958. The reduction in these categories for the two year period beginning January 1, 1957 was $24,698,213 and $10,738,688 respectively.

With the reductions effected, inventories at December 31, 1958 totaled $73,711,943 of which $36,382,318 are carried at "Lifo" values which are considerably below current market values.

The Company, in 1958, redeemed $950,000 principal amount of its Twenty-Five Year 3⅛% Sinking Fund Debentures and $386,600 par value of its 3¾% Cumulative Preferred Shares through the regular sinking fund. At the year end, the Company also owned an additional $904,000 in principal amount of debentures and $747,900 par value of cumulative preferred shares, for future sinking fund requirements. The $904,000 of debentures will be applied against the 1959 sinking fund requirements which leaves a balance of $46,000 of these debentures to be acquired prior to November 1, 1959.

Major cost and expense reductions were accomplished in manufacturing, distribution and administration during the year, which helped to prevent a greater decline in earnings for 1958. The extent to which this program has been pursued in the past two years is illustrated by the decline in our employment from 24,014 at the end of 1956, to 20,304 in 1957, and to 17,817 at December 31, 1958.



Capital Expenditures and Depreciation

(in Millions of Dollars)

■ *Capital Expenditures*

□ *Depreciation Charged to Operations*

Dividends

Common and preferred dividends paid during 1958 totaled $3,046,735, representing 55.6 percent of net earnings, before the extraordinary charges. Regular quarterly dividends, at the annual rate of $3.75 per share were paid on the preferred shares, amounting to $436,849.

A total of $1.10 in dividends was paid on each common share during the year, aggregating $2,609,886. The regular quarterly dividend of 50 cents a common share was reduced to 20 cents in the second quarter when it became apparent that earnings would not warrant a continuation of the higher rate.

Capital Expenditures

Total capital expenditures in 1958 amounted to $6,114,470, compared with $8,230,962 in 1957. Of the 1958 total, approximately $3,200,000 was used on facilities in the United States; $2,200,000 in Canada, and $700,000 in England.

In the United States, the major portion of these expenditures was for the replacement or improvement of production equipment and machine tools. The completion of a new pottery near Vancouver, B. C., at a cost of $1,300,000 in 1958 (total cost $3,500,000) to supplement existing production at St. Johns, Quebec, accounted for the major portion of our capital expenditures in Canada. In England, principal expenditures were for an expansion of the malleable foundry facilities.

ORGANIZATION AND INDUSTRIAL RELATIONS

The Company's executive staff and major divisions have been substantially strengthened with managerial talent to enable it to carry out its broad programs. Realignment of management and supervisory personnel will continue.

In the important area of personnel and industrial relations, comprehensive programs were undertaken in wage and salary administration, employee and supervisory training, communications, safety, plant protection, employee health programs and benefit plans.

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In labor relations, agreement was reached on a total of thirty-four union contracts. There were four strikes in Company branch operations in addition to the one major strike of manufacturing employees at the Company's potteries in Trenton, New Jersey, previously referred to in this report.

SUMMARY OF PRESENT POSITION AND FUTURE OUTLOOK

During the year 1958, the stringent tightening of the Company's operations enabled it to deal with the curtailment of business in the heavy goods industries as well as with the accompanying problems of intense competition and general inventory reductions by customers.

The actions previously outlined in this report were directed to the complete or partial solution of immediate corporate problems. They represent only a prelude to management's longer range concept of the revitalized Crane Co. Major projects are being developed in three important areas of the Company's business—manufacturing, distribution, and engineering.

It is intended to expand Crane manufacturing operations into areas of the United States in which the Company does not now have production facilities. The objectives are to serve major customers better in rapidly growing sections of the country and to improve our competitive position through operating efficiencies and reduced freight costs resulting from the establishment of plants that are market-oriented.

Emphasis continues to be placed on engineering and research activities particularly in the direction of new or improved products. With major additions to this division's staff completed, more effective use of creative engineering talent is being accomplished in collaboration with representatives of Sales, Manufacturing, and Purchasing.

Crane's historic distribution system is being realigned so that it will cope more effectively with changing market conditions, major population shifts, and render improved service to customers. Additional independent wholesalers of Crane manufactured products will be an important factor in the overall program being developed for the distribution system.

At the close of 1958, Crane Co. had achieved a greatly strengthened organization, had eliminated many unprofitable products, had created an engineering organization capable of developing new and improved products, had bettered its competitive position, and had established a strong financial position adequate to carry out its plans for improvement. We believe, therefore, that the Company is now poised to produce better results for its shareholders while effecting the long-range plan to build Crane into a thriving operation.

It is a pleasure, on behalf of the Board of Directors, to express our gratitude to all those who contributed to the Company's activities in 1958—our employees, customers and suppliers.

Neele Stearns

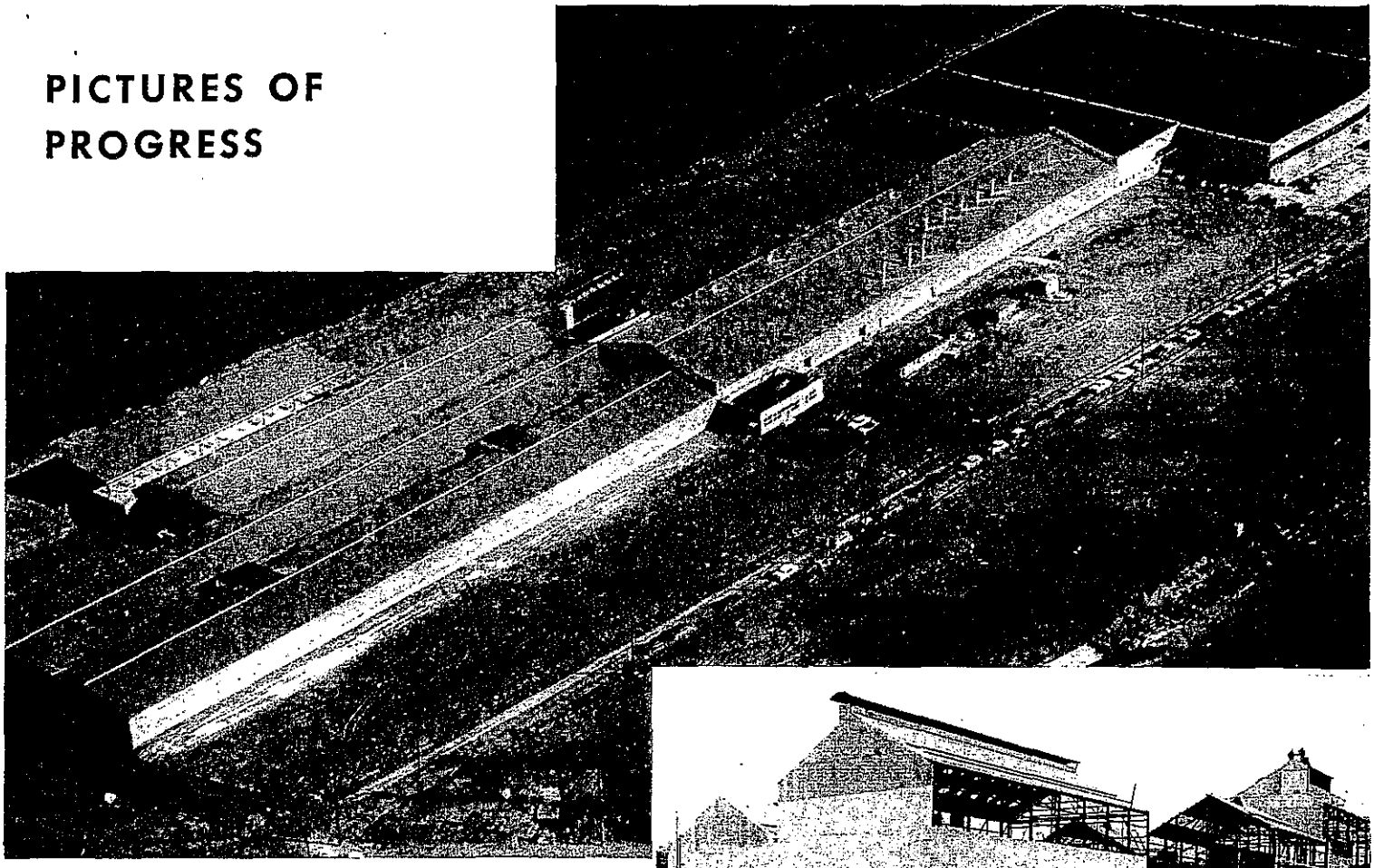
President

By Order of the
Board of Directors

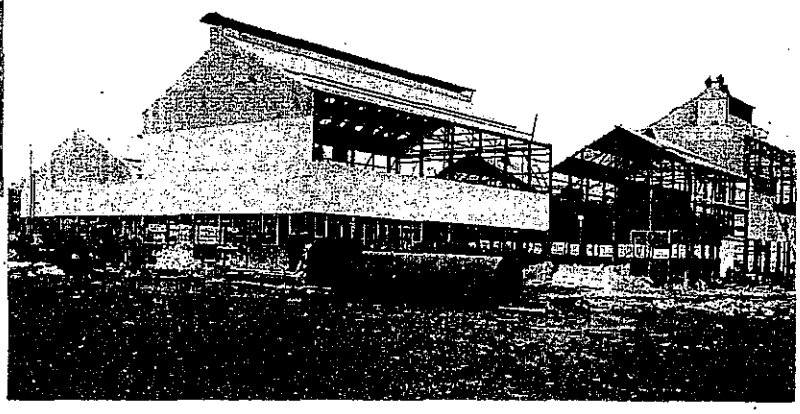
The management is always pleased to hear from shareholders concerning matters related to the Company's business.

Questions, comments or suggestions should be directed to the attention of the Secretary at the general offices of Crane Co., 836 S. Michigan Avenue, Chicago 5, Illinois.

PICTURES OF PROGRESS

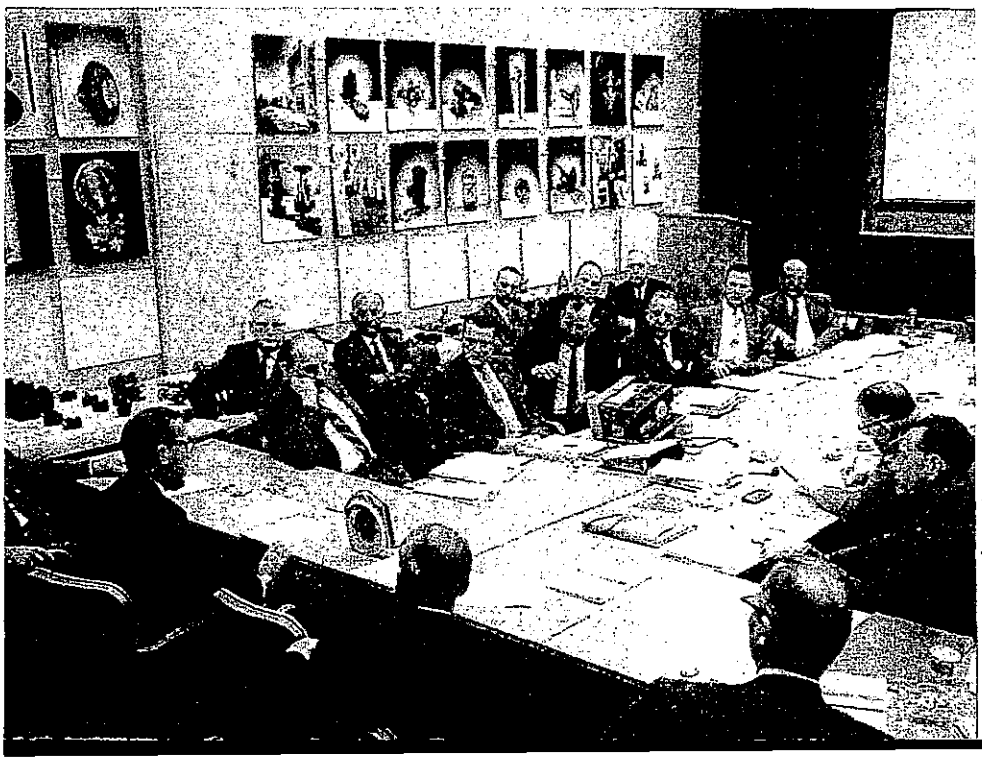


▲ Expanding with Canada, Crane, Limited opened its new $3,500,000 pottery near Vancouver, British Columbia, in September, 1958.

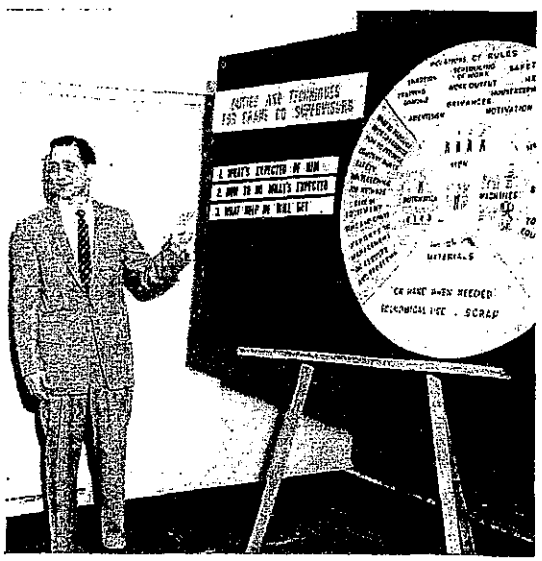


▶ New iron foundry adds to our manufacturing facilities in England. The 52,000 square foot building, shown under construction, will increase annual production of castings by 4,000 tons.

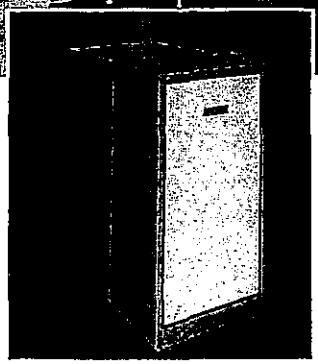
▼ New product development committees are effectively coordinating the talents of key personnel in the Company's engineering, manufacturing, sales and purchasing divisions.



▼ Emphasis on supervisory training was a feature of an expanding personnel and industrial relations activity during the year.

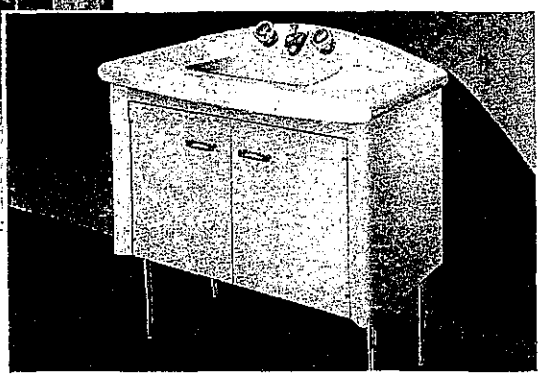


CRANE PRODUCTS FOR THE HOME



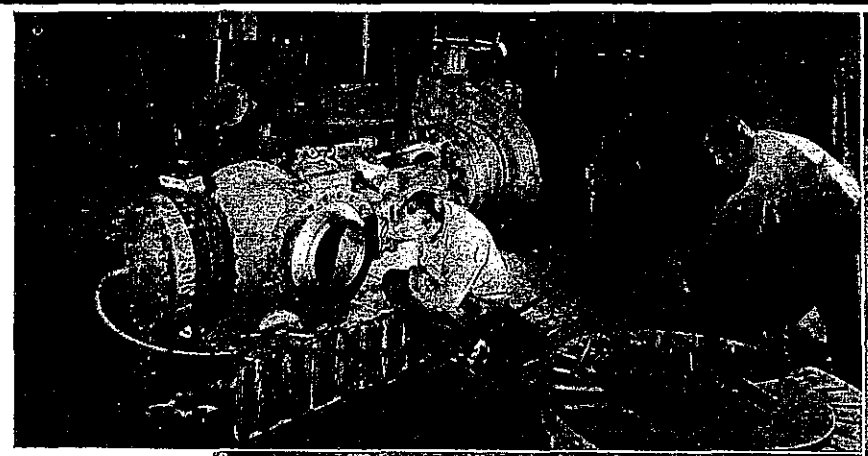
▲ Crane's Criterion ensemble—bathtub, lavatory and water closet—was rated among the 100 best-designed products of modern times. The judgment was made in a poll of top designers conducted in 1958 by the Institute of Design of the Illinois Institute of Technology.

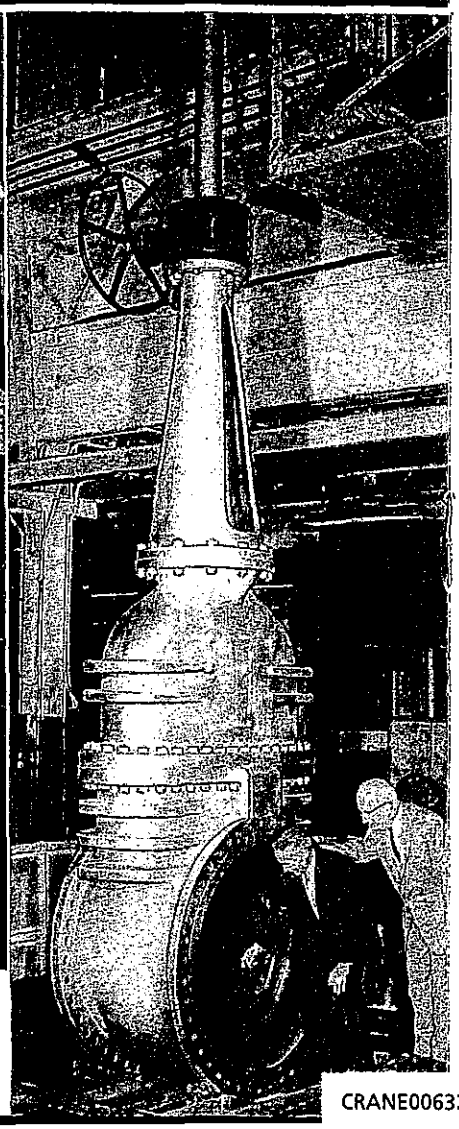
◀ A product line of five new cast iron boilers will be merchandised by Crane in 1959. The popular Sunnyday 15 model is pictured in its newly-designed jacket. The Company also merchandises warm air furnaces and air conditioning equipment.



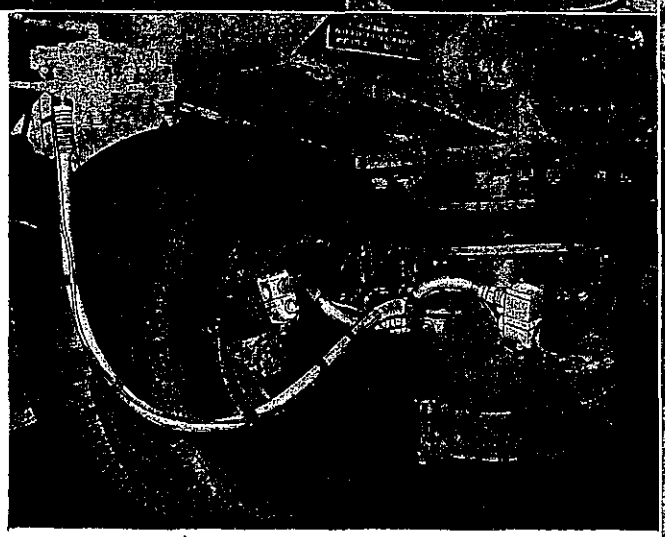
▲ The Crescent—a new lavatory—was recently introduced, joining Crane's wide range of plumbing fixtures. This vitreous china unit has rounded corners and a 45 degree control panel. It is designed for installation either on a cabinet or on metal legs.

CRANE PRODUCTS FOR INDUSTRY





▲ This 16-inch motor-operated angle valve, shown under test at Chicago Works, is one of 24 of this type installed in 1958 at the Thomas H. Allen Electric Generating Station, Memphis, Tenn. Crane also furnished hundreds of bronze, iron and steel valves, and fittings and other piping materials for this installation.



Hydro-Aire Division is entering a promising new market with the development for the trucking industry of an adaptation of its widely-used anti-skid aircraft braking system. ▶

One of the largest ever manufactured by Crane is this 48-inch steel gate valve. Produced for a mid-west refinery, it stands 217 inches high and weighs slightly more than ten tons. Crane valves—ranging in size from ⅛-inch to 48 inches—serve all of industry. ▶

Crane Co. and Subsidiary Companies

Consolidated Statement of Earnings and Earned Surplus

for the years ended December 31, 1958 and 1957

	1958	1957
Net sales	$336,196,279	$378,948,173
Operating costs and expenses:		
Cost of sales, selling, administrative and general expenses	320,746,135	354,187,441
Depreciation	5,915,406	6,213,179
	326,661,541	360,400,620
Earnings from operations	9,534,738	18,547,553
Other income and (deductions):		
Interest on debentures, notes, etc.	(613,049)	(912,898)
Gain (loss) on foreign exchange conversion	449,404	(623,431)
Miscellaneous—net	676,811	338,397
	513,166	(1,197,932)
	10,047,904	17,349,621
Minority shareholders' interest in net earnings of subsidiaries	212,471	131,009
Earnings before taxes on income	9,835,433	17,218,612
Provision for United States and foreign taxes on income	4,359,840	8,540,340
Net earnings for the year	5,475,593	8,678,272
Special item:		
Extraordinary losses (net) from sales and other dispositions of property and interests in associated companies (less $2,630,000 refundable income tax thereon)	3,308,248	—
Net earnings and special item	2,167,345	8,678,272
Earned surplus, at beginning of the year	113,893,117	110,399,995
Excess of par value over cost of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements	64,868	14,103
	116,125,330	119,092,370
Less cash dividends paid:		
On 3¾% cumulative preferred shares, $3.75 per share	436,849	454,005
On common shares, $1.10 and $2.00 per share in 1958 and 1957	2,609,886	4,745,248
	3,046,735	5,199,253
Earned surplus, at end of the year	$113,078,595	$113,893,117

See accompanying notes.

Crane Co. and Subsidiary Companies

ASSETS

	1958	1957
CURRENT ASSETS:		
Cash	$ 21,221,633	$ 16,490,415
Commercial paper and U. S. Government securities, at cost	15,869,458	2,125,170
Refundable United States income taxes	2,682,000	—
Accounts receivable, less allowance for losses (1958—$1,656,207; 1957—$1,774,693)	41,603,299	45,590,708
Inventories—		
Finished goods	44,491,295	55,971,002
Work in process	18,849,265	19,818,372
Raw materials and supplies	10,371,383	12,811,324
	73,711,943	88,600,698
Total current assets	155,088,333	152,806,991
INVESTMENTS:		
Investments in and advances to associated companies, at cost	—	4,218,155
Other investments, at cost or nominal value	695,786	540,409
	695,786	4,758,564
FIXED ASSETS:		
Land	7,617,467	7,810,937
Buildings and improvements	52,113,061	50,849,194
Machinery and equipment	83,095,884	85,171,379
Unfinished construction	1,308,737	3,370,657
	144,135,149	147,202,167
Less accumulated depreciation	77,637,866	77,007,239
	66,497,283	70,194,928
DEFERRED CHARGES:		
Prepaid expenses and other deferred charges	805,314	1,112,049
Unamortized pension expense	987,065	1,155,557
	1,792,379	2,267,606
	$224,073,781	$230,028,089

See accompanying notes.

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Consolidated Balance Sheet
December 31, 1958 and 1957

LIABILITIES AND SHAREHOLDERS' EQUITY

	1958	1957
CURRENT LIABILITIES:		
Accounts payable, accrued payrolls, etc.	$ 14,547,688	$ 16,480,438
United States and foreign taxes on income, less tax notes (1958—$3,991,187; 1957—$5,811,907)	2,298,805	3,662,116
Accrued general taxes	2,032,368	2,217,299
Current maturity of debentures	46,000	272,000
Total current liabilities	18,924,861	22,631,853
TWENTY-FIVE YEAR 3⅛% SINKING FUND DEBENTURES, DUE MAY 1, 1977 (current portion included above)	17,150,000	18,100,000
MINORITY SHAREHOLDERS' INTEREST IN SUBSIDIARY COMPANIES	2,342,259	2,248,056
SHAREHOLDERS' EQUITY:		
Capital stock—		
Cumulative preferred shares, 3¾%, par value $100: Authorized —160,000 shares Outstanding—120,172 shares in 1958 and 124,038 shares in 1957	12,017,200	12,403,800
Common shares, par value $25: Authorized —3,500,000 shares Outstanding—2,372,624 shares	59,315,600	59,315,600
	71,332,800	71,719,400
Capital surplus	1,856,281	1,856,281
Earned surplus	113,078,595	113,893,117
	186,267,676	187,468,798
Less cost of 7,479 and 5,145 shares of 3¾% cumulative preferred shares in 1958 and 1957 held in treasury	611,015	420,618
	185,656,661	187,048,180
	$224,073,781	$230,028,089

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Notes to Financial Statements

Principles of Consolidation:

The consolidated financial statements include the accounts of the Company and all domestic and foreign subsidiaries. Earnings of Crane, Limited (Great Britain) for 1958 of $2,321,315 are included in the consolidated statement of earnings, and dividends paid by that subsidiary to its Canadian parent of $1,967,703 have been eliminated in the determination of consolidated net earnings.

Net assets of Crane, Limited (Great Britain) included in the consolidated balance sheet are as follows:

Net current assets	$ 8,445,321
Fixed and other assets	5,328,054
	$13,773,375

In converting the items carried in Canadian and English currencies, fixed assets were converted at U. S. dollar cost at dates of acquisition, less accumulated depreciation. Net current assets were converted at current rates of exchange at the year-end and the net gain on conversion is included in the consolidated statement of earnings under other income.

Inventories:

Inventories at December 31, 1958 amounting to $36,382,318 are valued on the "last-in, first-out" (LIFO) basis. The balance of the inventories are valued at the lower of cost or market on a "first-in, first-out" basis.

Twenty-Five Year 3⅛% Sinking Fund Debentures, Due May 1, 1977:

Each year through 1976 the Company is obligated to redeem $950,000 principal amount of debentures. At December 31, 1958 the Company had acquired a principal amount of $904,000 which has been deducted from the amount outstanding. The balance of $46,000 for which the Company is liable prior to November 1, 1959 is shown in current liabilities.

Under the provisions of the indenture relating to the debentures, earned surplus at December 31, 1958 in the amount of $101,527,788 is not available for the payment of dividends on the Company's common shares.

3¾% Cumulative Preferred Shares:

These shares are redeemable at the option of the Company at $104.50 per share.

Under sinking fund provisions the Company is required to pay over to the sinking fund agent for the redemption or purchase of such shares a determinable amount of cash, but not in excess of $320,000 with respect to any fiscal year. Against its obligation to make a cash sinking fund payment in any year the Company may, at its election, take credit for shares purchased by it otherwise than through the sinking fund.

At December 31, 1958 the Company held 7,479 reacquired shares with a cost of $611,015. A sufficient number of these reacquired shares will be deposited on or before April 30, 1959 with the sinking fund agent in satisfaction of the sinking fund requirements.

Stock Option Plan:

Pursuant to a stock option plan adopted in 1951, 187,670 of the Company's unissued common shares are reserved for issuance to officers and employees of the Company and its subsidiaries. Under the plan, the Stock Option Committee may grant ten-year options to purchase shares at a price not less than 85% of the quoted market value on the date the option is granted. At December 31, 1958 options were outstanding to 78 officers and employees for 103,300 shares. This is composed of 50,850 shares at $37 per share, 20,000 at $32.75 and 32,450 at $32.50. During the first five years after an option is granted, the optionee may not acquire the optioned shares at a

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rate greater than 20% annually, such percentage being cumulative.

During the year 1958 options for 32,450 shares were granted and options previously given on 30,860 shares were cancelled.

Pensions:

In consideration of the substantial level of funding of the Company's major pension plan in relation to the amounts needed to meet future pension requirements (determined actuarially), the Directors of the Company have authorized contributions for 1958 that are considered reasonable in the light of the Trust's current status, but which are less than the 1958 current service costs. The total costs charged to earnings for 1958 are approximately $1,500,000 less (after taxes) than the charge would have been if calculated on the same basis as for the year 1957.

Report of Certified Public Accountants

ARTHUR YOUNG & COMPANY
CERTIFIED PUBLIC ACCOUNTANTS

1 NORTH LA SALLE STREET
CHICAGO 2

To The Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. and subsidiary companies at December 31, 1958 and the related consolidated statement of earnings and earned surplus for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet and consolidated statement of earnings and earned surplus present fairly the financial position of Crane Co. and subsidiary companies at December 31, 1958 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Arthur Young & Company

Chicago, Illinois
February 24, 1959.

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CRANE MANAGEMENT

BOARD OF DIRECTORS

MARK W. LOWELL, *Vice President,*
Continental Illinois National Bank and Trust Company of Chicago

WILLIAM L. MCKNIGHT, *Chairman of the Board,*
Minnesota Mining & Manufacturing Company

S. M. ROBERTS, *President,*
C. A. Roberts Co.

NEELE E. STEARNS, *President and Chief Executive Officer,*
Crane Co.

ANTHONY VON WENING, *President,*
Basic Products Corporation

GURDON W. WATTLES, *Director and officer in various investment and industrial corporations*
Chairman of the Board,
The Electric Auto-Lite Company

R. ARTHUR WILLIAMS, *President,*
Standard Railway Equipment Manufacturing Co.

EXECUTIVE COMMITTEE

MARK W. LOWELL
NEELE E. STEARNS
GURDON W. WATTLES
R. ARTHUR WILLIAMS

OFFICERS

NEELE E. STEARNS,
President and Chief Executive Officer

WILLIAM O. BROWN,
Vice President, Sales

GEORGE F. BURLEY,
Vice President, Purchasing and Traffic

NORMAN F. GARRETT,
Vice President, Manufacturing

KENNETH L. KARR,
Secretary and General Counsel

PAUL S. KEMPF,
Vice President, Personnel and Industrial Relations

JAMES A. MAROHN,
Vice President and Controller

MAURICE NELLES,
Vice President, Engineering

EARL WYATT,
Assistant to the President for Administrative Planning

PAUL L. YATES,
Treasurer

JAMES G. DUGGAN,
Assistant Secretary

WARREN A. LOGELIN,
Director, Public Relations

ROBERT F. MCDONALD,
Assistant Treasurer

ARTHUR M. NELSON,
Assistant Controller

NORMAN I. PICKLES,
Assistant Treasurer

HENRI A. TACON,
Assistant Treasurer

STOCK TRANSFER AGENTS

J. P. Morgan & Co. Incorporated, New York 8, New York
Continental Illinois National Bank and Trust Company of Chicago, Chicago 90, Illinois

REGISTRARS OF STOCK

The Chase Manhattan Bank, New York 15, New York
The First National Bank of Chicago, Chicago 90, Illinois

AUDITORS

Arthur Young & Company, Chicago 2, Illinois

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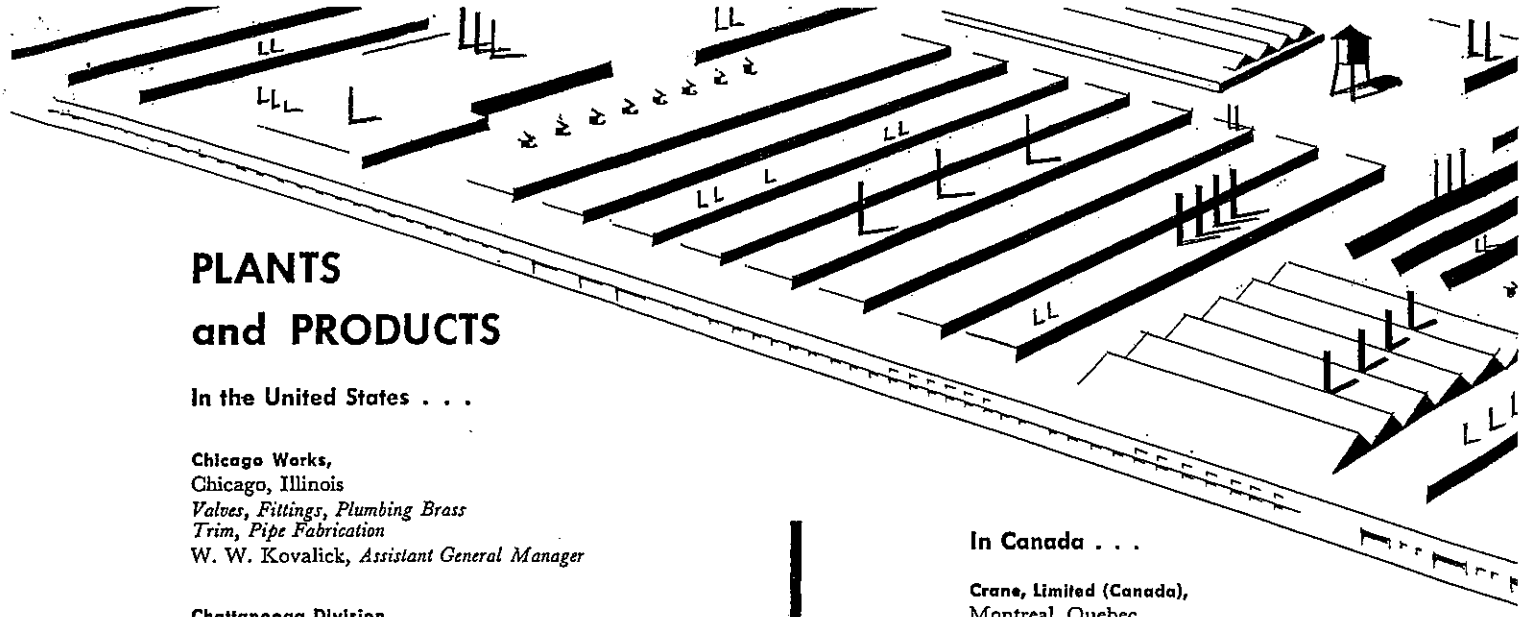


PLANTS and PRODUCTS

In the United States . . .

Chicago Works,
Chicago, Illinois
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
W. W. Kovalick, *Assistant General Manager*

Chattanooga Division,
Chattanooga, Tennessee
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks, Lavatories
W. M. Hamilton, *Manager*

Corwith Company,
a Division of Crane Co.,
Chicago, Illinois
Government sponsored research and development work
Clarence E. Watson, *Executive Vice President*

Crane-Pacific,
a Division of Crane Co.,
Colton, California
Vitreous China Plumbing Fixtures, Water Closets and Lavatories
S. A. Peer, *General Superintendent*

The Trenton Potteries Company,
a Division of Crane Co.,
Trenton, New Jersey
Vitreous China and Duraclay Plumbing Fixtures, Water Closets, Lavatories, Urinals, Tubs, Fountains, Hospital Fixtures
A. E. Bennett, *President*

Hydro-Aire Company,
a Division of Crane Co.,
Burbank, California
Aircraft Valves, Filters and Actuators
D. A. Lichty, *President*

In Great Britain . . .

Crane, Limited (Great Britain),
J. E. Bennett, *Chairman of the Board*
R. E. Dunnett, *Managing Director*

Ipswich Works,
Ipswich, Suffolk, England
Valves, Fittings, Boilers, Radiation
J. B. Webster, *Works Manager*

In Canada . . .

Crane, Limited (Canada),
Montreal, Quebec
L. H. T. Clegg, *President*
G. R. Gustin, *Vice President*
F. D. MacNaughton, *Vice President*
R. E. Cadwallader, *Acting Vice President*

St. Patrick St. Plant,
Montreal, Quebec
Valves, Fittings, Plumbing Brass Trim, Pipe Fabrication
J. D. Walker, *Works Manager*

Canadian Potteries Limited,
St. Johns, Quebec
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
A. G. Lennon, *Manager*

Canadian Potteries Limited,
New Westminster, B. C.
Vitreous China Plumbing Fixtures, Water Closets, Lavatories
R. S. Cooke, *Manager*

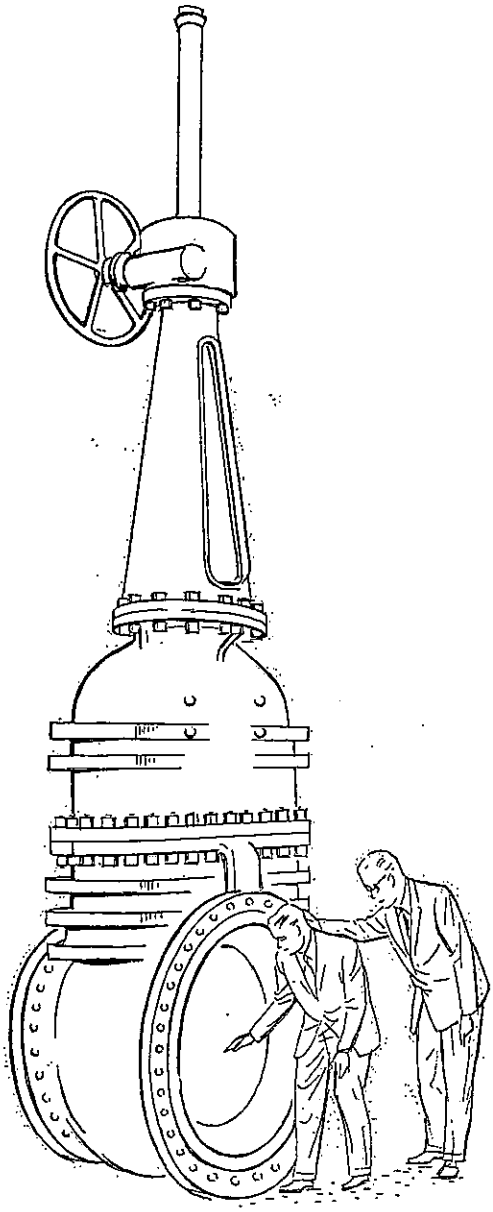
Port Hope Sanitary Manufacturing Co. Ltd.,
Port Hope, Ontario
Enameled Iron Plumbing Fixtures, Bathtubs, Sinks and Lavatories
William Armstrong, *Manager*

Calgary Plant,
Calgary, Alberta
Valves and Fittings
G. M. Young, *Manager*

AllianceWare Ltd.,
Vancouver, B. C.
Enameled Steel Plumbing Fixtures
N. G. Hodgson, *Acting Manager*

Crane Steelware, Limited,
Quebec, Quebec
Enameled Steel Plumbing Fixtures
E. A. Thompson, *Manager*

Warden King (Limited),
Montreal, Quebec
Iron Heating Boilers, Radiators, Soil Pipe
W. P. Sullivan, *Manager*



PRINTED IN U.S.A.

CRANE

ANNUAL REPORT 1959

CRANE00641

CRANE

CRANE MANAGEMENT

THOMAS M. EVANS, *Chairman*
WESLEY A. SONGER, *President*
CHARLES H. LOVELACE, *Vice President*
THEODORE B. FOCKE, *Vice President*
GEORGE F. BURLEY, *Vice President*
KENNETH L. KARR, *Secretary and General Counsel*
ALLEN M. HARRELSON, *Treasurer*
JOHN A. CLARK, JR., *Controller*
L. H. T. CLEGG, *President, Crane, Limited (Canada)*
ROBERT E. DUNNETT, *Managing Director, Crane, Limited (Great Britain)*

THOMAS M. EVANS	*Chairman of the Board*
ROBERT B. CRANE	*Manager, Crane Family Charitable Trusts*
MARK W. LOWELL	*Vice President and Executive Trust Officer of Continental Illinois National Bank and Trust Company of Chicago*
R. ARTHUR WILLIAMS	*President, Standard Railway Equipment Manufacturing Co.*

Morgan Guaranty Trust Company, New York 15, New York
Continental Illinois National Bank and Trust Company of Chicago, Chicago 90, Illinois

The Chase Manhattan Bank, New York 15, New York
The First National Bank of Chicago, Chicago 90, Illinois

Arthur Young & Company, Chicago 2, Illinois

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CRANE00642

Memorandum to Shareholders

In the past ten months the management of your Company has largely concentrated its attention on improvement of domestic operations. Although much remains to be done to further strengthen the Company in the U.S., we believe you will find satisfaction in the progress reported here and on succeeding pages.

Net earnings in 1959, after taxes and non-recurring adjustments, were $6,517,746 compared with $2,167,345 in 1958. Earnings per common share, after preferred dividends, were $4.03 against $1.14 in 1958 based on a reduced number of shares outstanding. Depreciation in 1959 was $6,369,811 or $4.20 per share compared with $3.90 in the previous year.

The Company's total income, before taxes, was $13,585,161, adjusted for offsetting non-recurring gains and losses, compared with $9,835,433 in 1958. This higher income was achieved on sales of $310,172,639, compared with the $336,196,279 reported for 1958. The decrease in sales volume reflects discontinuance of unprofitable products and sales branches which, in addition to Crane items, sold products supplied by other manufacturers. Also, late in the year the steel strike was a factor.

Four quarterly dividends, totalling $1.10 per share on the common stock, were paid during 1959, as in 1958, in addition to the regular preferred dividends.

ACCOUNTING POLICIES

Due to over-accrual in the Company's major pension plan, it was not necessary to make any payments in 1959. As a result of this and certain other changes in accounting policies, the 1959 net income was approximately $440,000 less, after taxes, than it would have been if determined on the same basis as 1958. These accounting changes included depreciation and amortization of certain foreign assets on an income tax basis and conversion of foreign net current assets and earnings on a par basis.

CRANE00643

STOCK TENDER

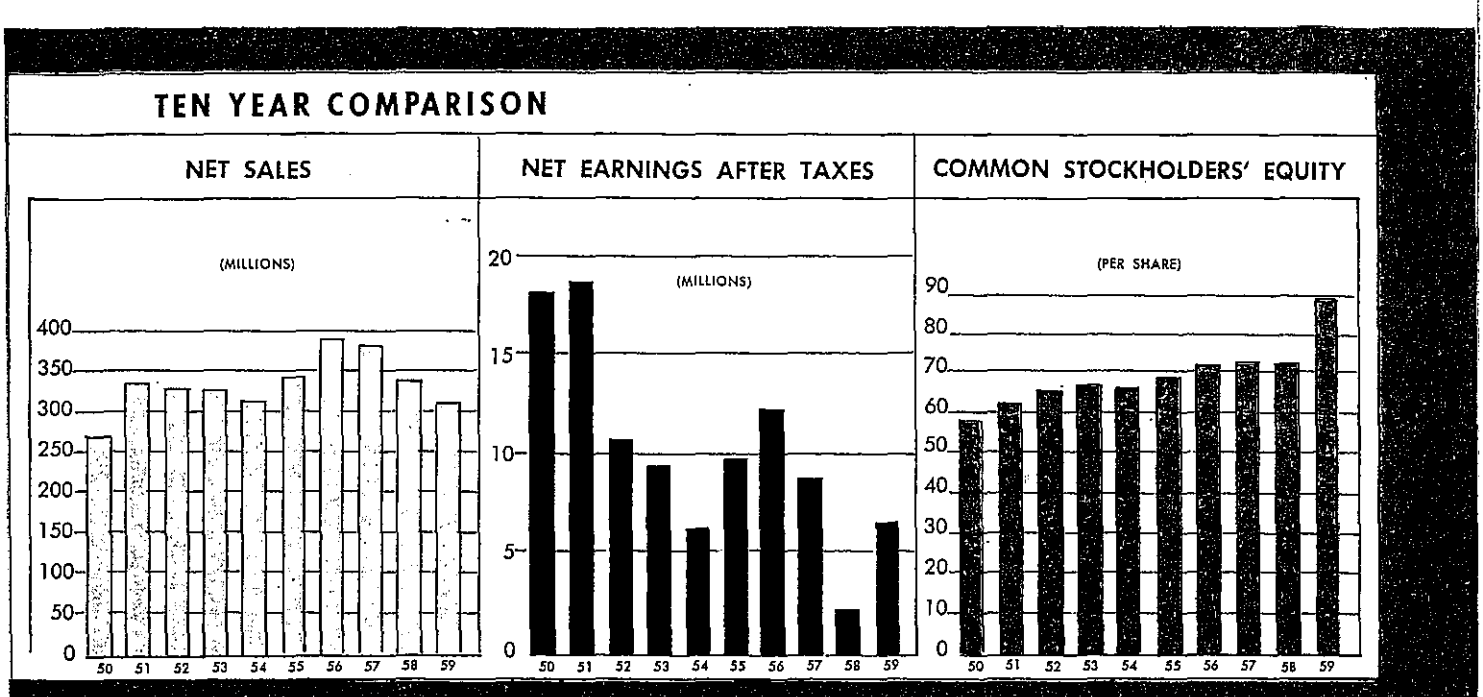
Before the stock tender was effected, sinking fund debentures in the amount of $17,196,000 were retired. Subsequently, the Company purchased 766,244 common shares for $34,634,892 by means of a tender at $45 per share. As a result, book value at year's end was $89 per share as compared with $73 in 1958.

ACQUISITIONS

In the last half of 1959, Crane strengthened its competitive position by acquiring three companies. The most important of these was Chapman Valve Manufacturing Company located in Indian Orchard, Mass., which not only gave Crane valve manufacturing facilities on the Eastern seaboard for the first time since 1941, but also a line of specially engineered valves for utilities, irrigation projects, and chemical companies. Other acquisitions were Pipe Fabricators, Inc., a small facility in East Chicago, Indiana and a modern pipe fabrication plant located in Hamilton, Ontario, which helped alleviate crowded production space in the Montreal plant.

Since the beginning of the new fiscal year your Company made two more important acquisitions; National-U.S. Radiator Corporation of Johnstown, Pennsylvania and The Autronic Division of Swartwout Company of Cleveland, Ohio. The former is a leading producer of heating and air conditioning equipment and the latter, a pioneer in the development of electronic control systems and valve controls.

TEN YEAR COMPARISON



DECENTRALIZATION AND SELECTIVE DISTRIBUTION

The operating divisions of Crane Co. were recently organized into four autonomous groups. They are: Industrial Products Group, Plumbing-Heating-Air Conditioning Group, Crane Supply Company, and International Group. A Systems and Controls Group, designed to place Crane in the forefront of the rapidly growing field of automation and automatic valving, is now being formed.

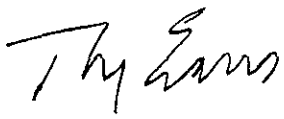
Changes in marketing patterns and the high cost of operating Company-owned branches called for a basic alteration in distribution and sales policies in 1959. Crane's previous dependence on Company-owned branches to distribute its own and related products of other manufacturers was reduced substantially by cutting the number of these branches from 130 to 53. Carefully selected local and regional wholesalers replaced these branches.

TERM LOAN

In January 1960, a $45,000,000 seven year credit agreement was negotiated with a group of seventeen leading banks. An initial amount of $20,000,000 was borrowed for use in the acquisition of National-U.S. Radiator Corporation on February 1. The remainder will provide funds for further growth and expansion.

FUTURE OUTLOOK

It is felt that these necessary changes in structure and business methods have placed Crane in a strong position. With twenty-nine plants in the U.S., Canada, and Europe developing and producing products needed by industries and consumers throughout the world, we feel the Crane future will be a bright one.



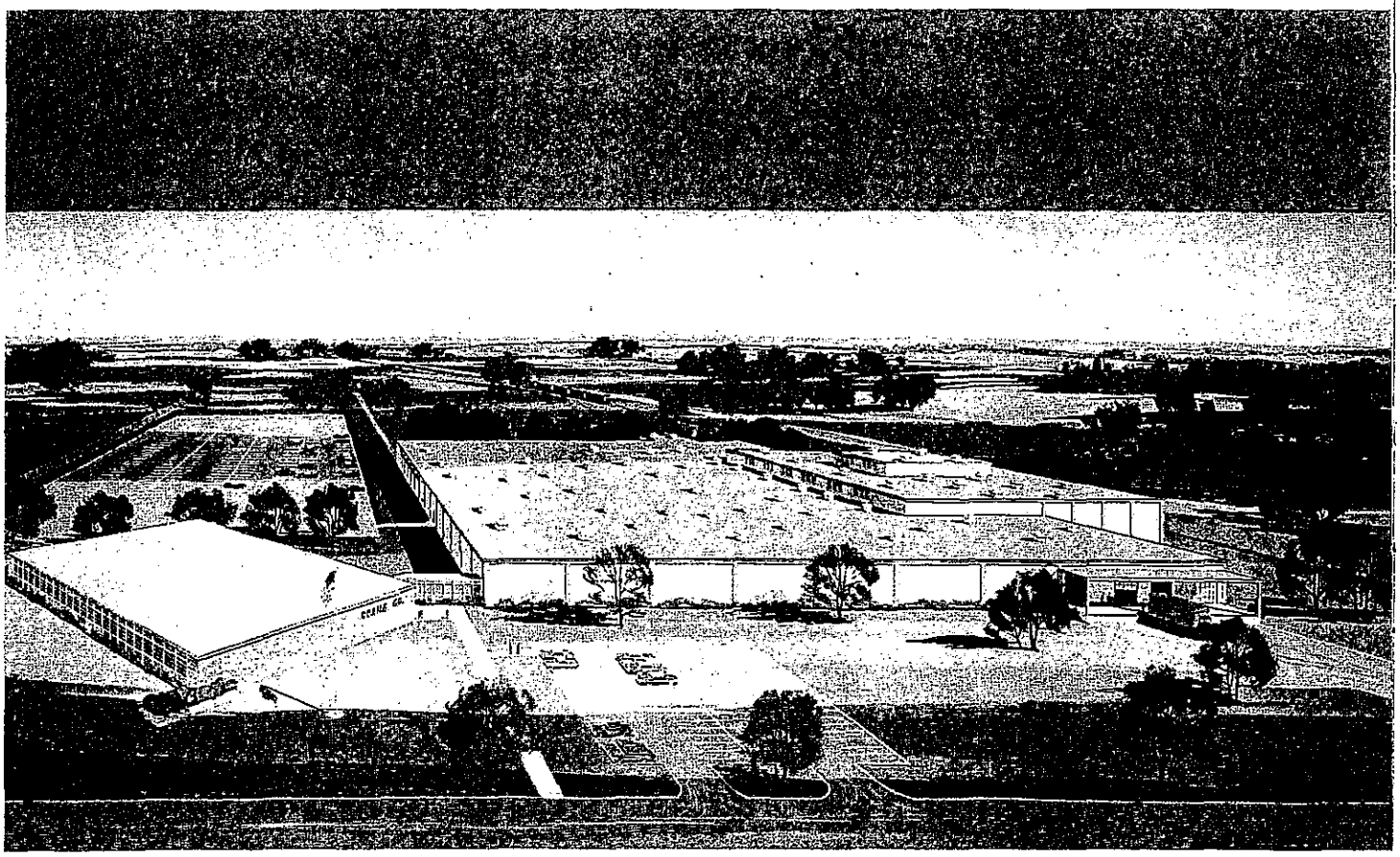
THOMAS M. EVANS, *Chairman*

WESLEY A. SONGER, *President*

CRANE00645

STATUS OF THE STOCK OPTION PLAN ADOPTED IN 1951

	Number of Shares	*Price per share*
Balance outstanding, January 1, 1959	103,300	$32.50 to $37.00
Options granted	27,400	42.75 to 53.00
Options cancelled	(45,350)	32.50 to 37.00
Options exercised	(31,650)	32.50 to 37.00
Balance outstanding, December 31, 1959	53,700	$32.50 to $53.00



Architect's rendering of Crane plumbing brass plant now under construction at Jonesboro, Arkansas. Completion of this facility will strengthen Crane's competitive position as a manufacturer of a complete line of brass fittings.

CRANE00646

CRANE

CONSOLIDATED STATEMENT OF INCOME AND EARNED SURPLUS

For the year ended December 31, 1959

(Includes operations of Chapman Valve Manufacturing Company from October 1, 1959 and Pipe Fabricators, Inc. and Canadian Pittsburgh Piping, Ltd. from November 1, 1959, the effective dates of acquisition)

Net sales			$310,172,639
Cost of sales, selling, administrative and general expenses		$289,644,150	
Provision for depreciation		6,369,811	296,013,961
Income from operations			14,158,678
Other deductions (income):			
Loss on disposal of fixed assets—			
Abandonment of machinery and equipment	$ 2,287,176		
Gain on sales—net	(2,121,374)	165,802	
Interest on debentures, notes, etc.		687,401	
Miscellaneous—net		(365,848)	487,355
			13,671,323
Minority shareholders' equity in net income of subsidiaries			86,162
Income before income taxes			13,585,161
Provision for United States and foreign taxes on income			7,067,415
Net income for the year			6,517,746
Earned surplus at beginning of year		113,078,595	
Adjustments of earned surplus at beginning of year:			
To adjust foreign accounts to the income tax basis—			
Accumulated depreciation	3,377,119		
Unamortized pension expense	949,159		
To adjust foreign net current assets to a par basis of conversion	425,942	4,752,220	
Adjusted earned surplus at beginning of year		108,326,375	
Add:			
Excess of par value over cost of 3,919 shares of 3¾% cumulative preferred shares cancelled in connection with sinking fund requirements		70,060	108,396,435
			114,914,181
Deduct:			
Cash dividends paid:			
On 3¾% cumulative preferred shares, $3.75 per share	407,739		
On common shares, $1.10 per share	1,978,553	2,386,292	
Premium paid on 766,244 common shares cancelled in connection with stock tender, less portion charged to capital surplus (see page 2)		13,622,511	16,008,803
Earned surplus at end of year			$ 98,905,378

CONSOLIDATED STATEMENT OF CAPITAL SURPLUS

For the year ended December 31, 1959

Balance at beginning of year	$ 1,856,281
Deduct portion of premium paid on 766,244 common shares cancelled in connection with stock tender (see page 2)	1,856,281
Balance at end of year	$ —

CRANE00647

CRANE CO. and SUBSIDIARY COMPANIES

ASSETS

CURRENT ASSETS:		
Cash		$ 17,612,320
Accounts receivable, less allowance for losses—$1,230,559		34,562,695
Inventories, at lower of cost or market (includes $26,718,339 at LIFO cost)—		
Finished goods	$ 29,430,009	
Work in process	19,074,204	
Raw materials and supplies	7,562,459	56,066,672
Total current assets		108,241,687
INVESTMENTS AND OTHER ASSETS, AT COST OR NOMINAL VALUE		3,008,865
FIXED ASSETS, AT COST:		
Land	6,550,874	
Buildings and improvements	51,555,729	
Machinery and equipment	77,487,041	
Unfinished construction	478,713	
	136,072,357	
Less accumulated depreciation	78,001,096	58,071,261
PREPAID EXPENSES AND DEFERRED CHARGES		932,905
		$170,254,718

Report of Certified Public Accountants

To the Shareholders of Crane Co.:

We have examined the consolidated balance sheet of Crane Co. and subsidiary companies at December 31, 1959 and the related consolidated statements of income and earned surplus and capital surplus for the year then ended. Our examination was made in accordance with generally accepted auditing standards, and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the accompanying consolidated balance sheet, consolidated statements of income and earned surplus and capital surplus present fairly the financial position of Crane Co. and subsidiary companies at December 31, 1959 and the results of their operations for the year then ended, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year except for the changes described on page 1, which we approve.

Arthur Young & Company

Chicago, Illinois
February 24, 1960

CRANE00648

CONSOLIDATED BALANCE SHEET December 31 1959

LIABILITIES AND SHAREHOLDERS' EQUITY

CURRENT LIABILITIES:			
Accounts payable			$ 8,399,754
Accrued payrolls, taxes and other liabilities			7,391,836
United States and foreign taxes on income			7,823,517
Total current liabilities			23,615,107
MINORITY SHAREHOLDERS' INTEREST IN SUBSIDIARY COMPANIES			694,648
SHAREHOLDERS' EQUITY:			
Capital stock—			
Cumulative preferred shares, 3¾%, par value $100 (redeemable at the option of the company at $104.50 per share, and subject to sinking fund requirements of not in excess of $320,000 annually): Authorized—160,000 shares Issued —116,253 shares		$ 11,625,300	
Common shares, par value $25 (156,020 shares reserved under stock option plan of which options for 53,700 shares are outstanding at an aggregate option price of $2,305,050): Authorized—3,500,000 shares Issued —1,606,380 shares		40,159,500	
		51,784,800	
Earned surplus ($76,308,752 restricted as to payment of dividends under terms of cumulative preferred shares; under terms of a bank credit agreement dated January 20, 1960, earned surplus restricted as to payment of dividends is increased to $95,905,378—see page 3)		98,905,378	
		150,690,178	
Less cost of capital stock held in treasury—			
8,260 cumulative preferred shares	$ 683,777		
90,540 common shares	4,061,438	4,745,215	145,944,963
			$170,254,718

CRANE00649

A section of the Crane Criterion bathroom ensemble, judged one of the 100 best-designed products of modern times in a world-wide poll of leading designers.

Crane valves to be used at missile launching sites will handle liquid oxygen and liquid nitrogen at temperatures as low as minus 318°F. The center valve is equipped with a micro-switch which operates from a remote control board.

CRANE00650

PRODUCTS FOR EXPANDING MARKETS

Long known for fine quality and styling, Crane plumbing fixtures received an honor in 1959 that foreshadows growing acceptance in the markets of the sixties. In a world-wide poll of leading industrial designers, conducted by the Illinois Institute of Technology, the Crane Criterion line was voted one of the 100 best-designed products of modern times. It was the only plumbing ensemble among 100 products honored.

In the home building field, styling of bathrooms is one of the most important selling points to the consumer. Styling also is a key factor in sales of fixtures for apartment buildings, hotels, office structures and other institutional projects. Crane, however, is not content to rest on its quality and styling laurels. Product improvement and modernization programs were accelerated in the past year.

On the industrial side of the business, every item Crane makes was appraised carefully to determine its contribution to the total line and its fitness for independent wholesaler distribution. A large number of items were discontinued; many were modified. Crane entered 1960 with the soundest and best balanced product line yet offered for industrial piping use, and several significant new products will be introduced this year.

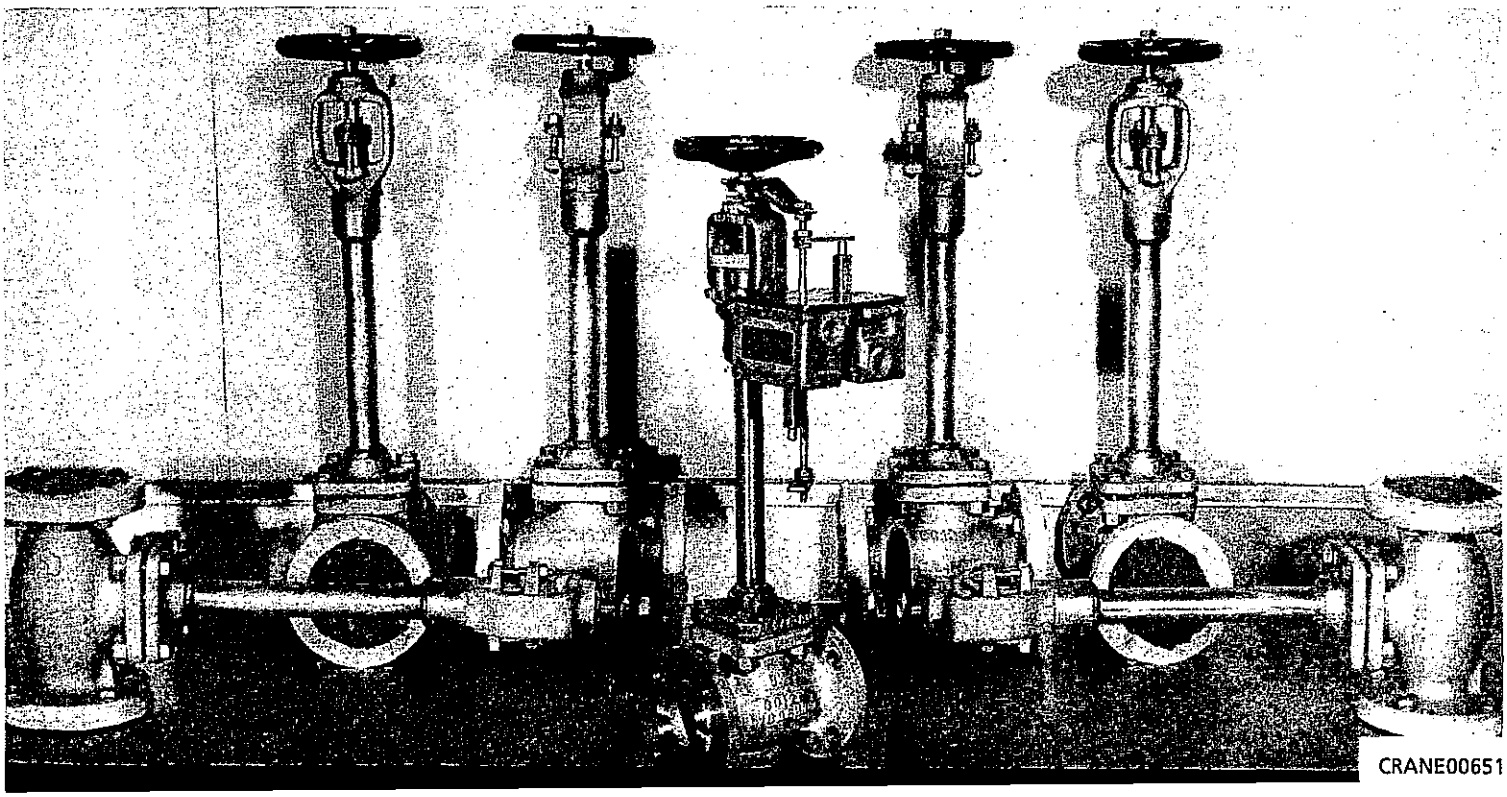
Crane valving and piping is essential to scores of basic, growing industries. As a result of acquisitions and new product developments, Crane now is preparing to participate in the exciting growth of nuclear energy, automation and automatic flow processing. The year 1959 was one of preparation to serve rapidly expanding markets better and more profitably.

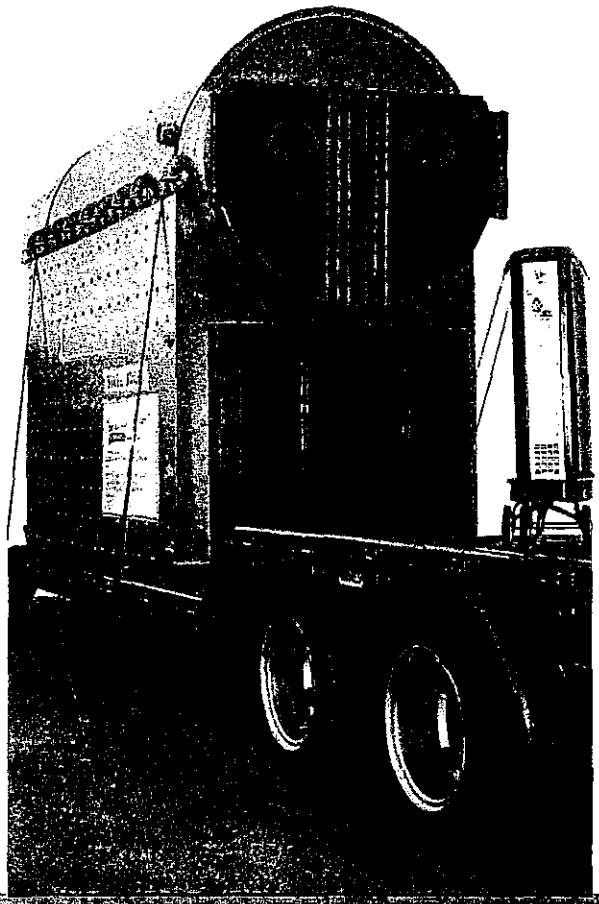
This preparation is part of a carefully conceived plan which we call "Direction 70." It is a new concept of marketing, manufacturing and research designed to meet the challenge ahead of us. It is forecast that the U.S. population will increase by 34,000,000 in the next decade. New home construction is expected to nearly double its present volume and industrial construction is expected to undergo a dramatic face-lifting under the spur of automation.

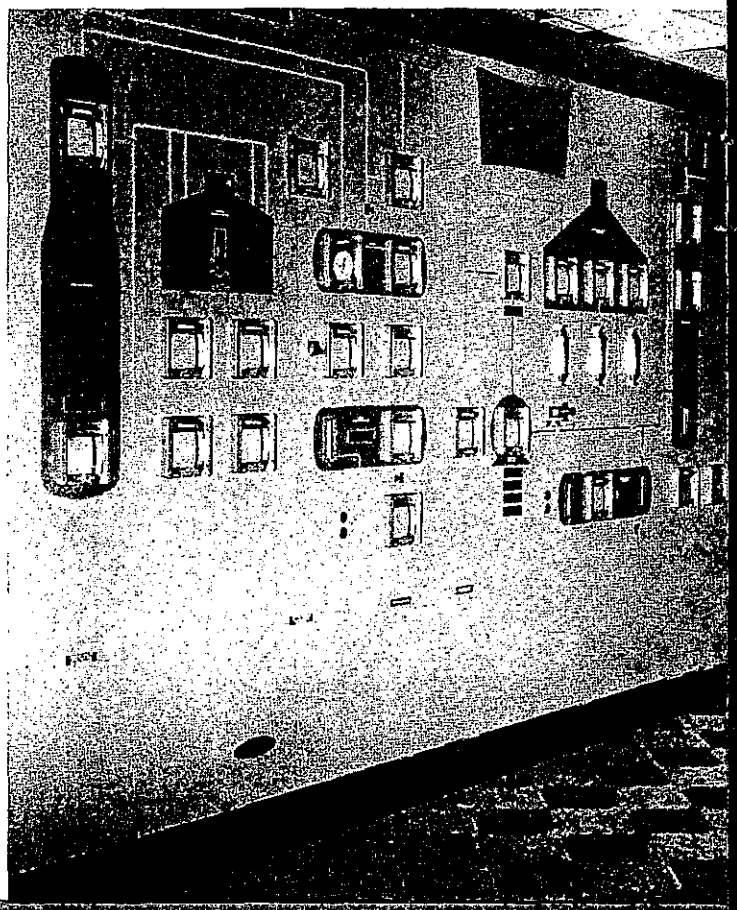
We have established separate research programs and separate research facilities for each of our product groups. Fully competitive product lines, of course, are essential to the success of "Direction 70." With them, we will be in position to pursue our basic marketing objectives:

—To streamline our channels of distribution
—To provide specialized marketing services to help wholesalers and distributors sell Crane products
—To develop new products designed to fill the needs of our growing markets.

In 1960, Crane Co. is moving firmly in the direction of 1970—and beyond.





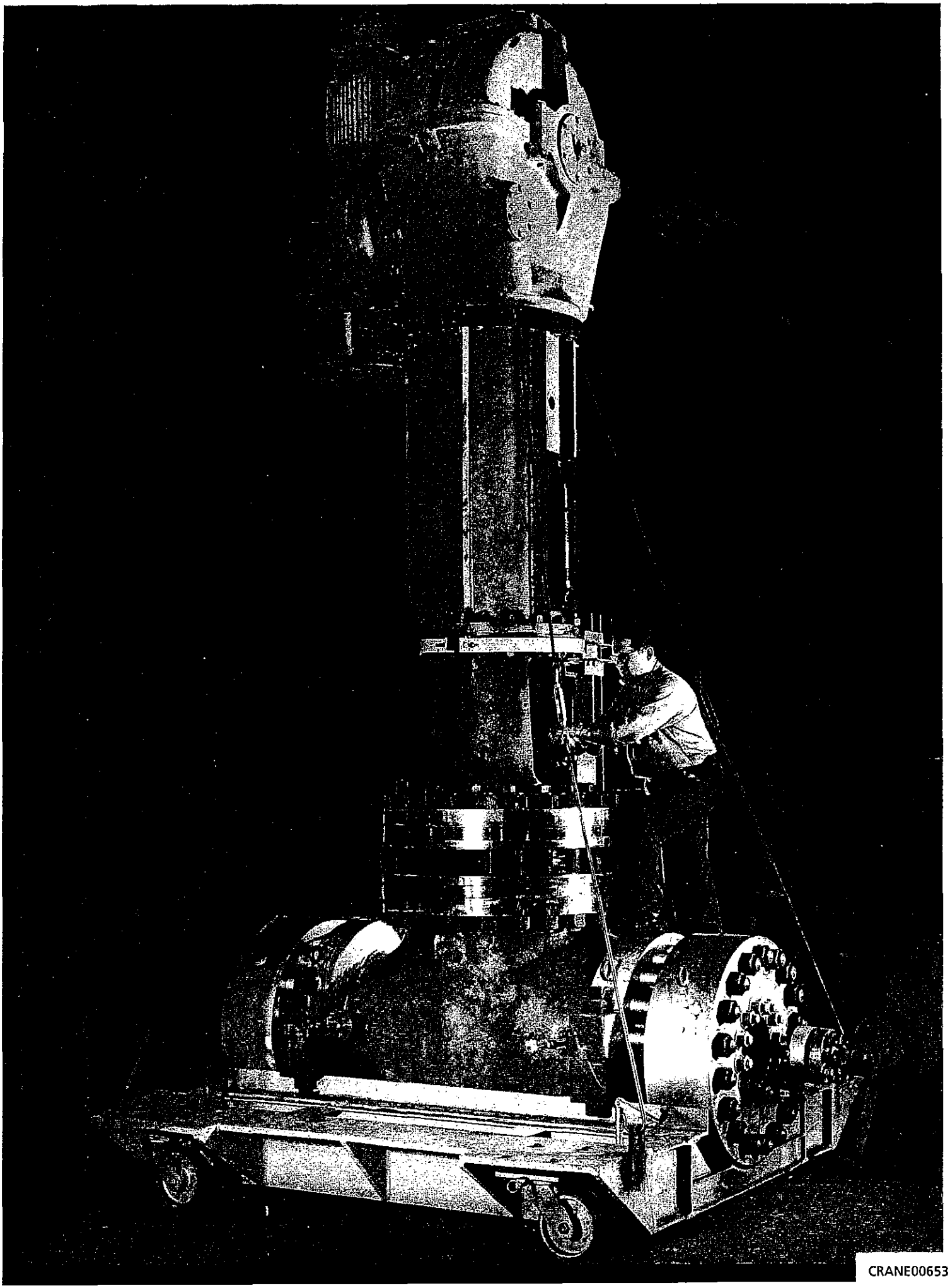


Crane manufactures a full line of heating and air conditioning equipment. Pictured above are two boilers, the large industrial boiler must be hauled by heavy trailer truck while the compact, gas-fired residential boiler can be moved in a child's wagon.

Instruments made by the Swartwout division of Crane Co. record and control temperatures, pressures and flow of fluids in the process of converting crude oil to gasoline. Crane is entering the field of automation and automatic flow processing.

Symbolic of Crane's role in the future of American industry is this 24" motor-operated, stainless steel, gate valve, specially built to meet the requirements of an atomic power plant. Eight of these giants were built for service at an atomic energy plant now being constructed. Each valve stands more than 18 feet high and weighs approximately 15 tons.

CRANE00652



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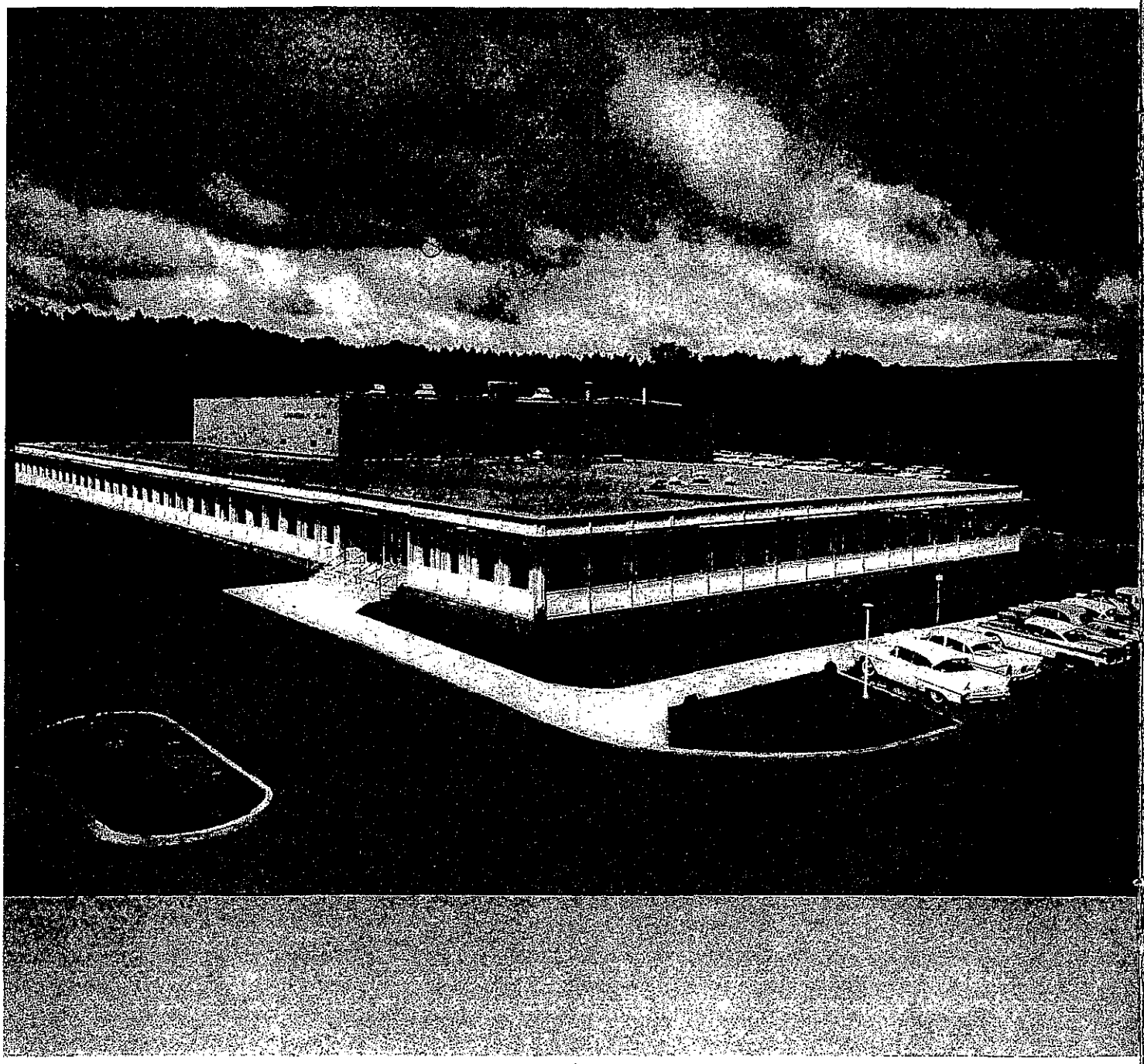


New Crane engineering center at Johnstown, Pennsylvania, provides the facilities for product development in the plumbing, heating and air conditioning field.

CRANE00654

CRANE

PLANT LOCATIONS

CRANE CO. AND SUBSIDIARIES

Industrial Products Group

Chicago, Illinois
Indian Orchard, Massachusetts
East Chicago, Indiana
Chattanooga, Tennessee
Oswego, New York
Johnstown, Pennsylvania

Plumbing-Heating-Air Conditioning Group

Colton, California
Trenton, New Jersey
Middletown, Pennsylvania
Duncansville, Pennsylvania
New Castle, Pennsylvania
Geneva, New York
Greenville, Illinois
Los Angeles, California (2 plants)
Cleveland, Ohio
Jonesboro, Arkansas (under construction)

Systems and Controls Group

Burbank, California
Hooksett, New Hampshire

Crane, Limited, Canada

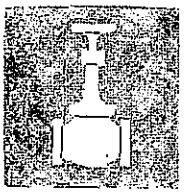
Montreal, Quebec (2 plants)
St. Johns, Quebec
Quebec, Quebec
New Westminster, British Columbia
Vancouver, British Columbia
Port Hope, Ontario
Hamilton, Ontario

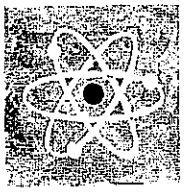
Crane, Limited, Great Britain

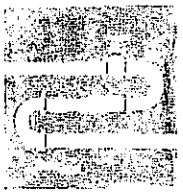
Ipswich, England

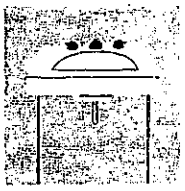
International Group

Deventer, The Netherlands









VALVES

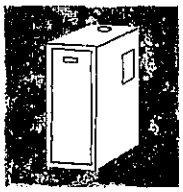
ELECTRONIC CONTROLS

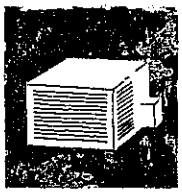
PIPING

PLUMBING

HEATING

AIR CONDITIONING





CRANE

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D I G E S T

OF THE PROCEEDINGS

OF THE

NORTHERN & CENTRAL ZONE MEETING - HELD IN ROCKFORD, ILLINOIS.

OCTOBER 9th & 10th, 1923.

CRANE00657

The following were in attendance -

Mr. D. G. Park, Assistant Manager of Branches, Chicago.

. . . . . .

NORTHERN ZONE

Mr. R. A. Hodgson	Aberdeen
Mr. P. R. Mork	Duluth
Mr. J. E. Dady	Fargo
Mr. J. G. Ordway	St. Paul

CENTRAL ZONE

Mr. Geo. J. Jones	Cincinnati
Mr. S. A. McCool	Davenport
Mr. C. W. Owens	Des Moines
Mr. J. A. Roe	Detroit
Mr. R. J. Douglass	Grand Rapids
Mr. R. A. MacGill	Indianapolis
Mr. E. H. Graham	Kansas City
Mr. W. F. Henderson	Lima
Mr. F. A. Malatesta	Muskogee
Mr. F. E. Georgia	Oklahoma City
Mr. W. T. Cotter	Omaha
Mr. T. R. Brady	Oshkosh
Mr. E. M. Faul	Rockford
Mr. H. L. Wood	Sioux City
Mr. E. W. Miller	Terre Haute
Mr. C. Philipp	Wichita

CRANE00658

EACH SUBJECT IN THE PROGRAM WAS DISCUSSED - A REPORT OF WHICH FOLLOWS:

- JOBBING ACCOUNTS

This subject was introduced by Mr. Jones and was thoroughly discussed. Mr. Park answered Mr. Jones' request for an official expression from our Home Office on this subject by the following remarks:

> "The elimination of the jobbers entirely is not a good policy to consider. The Jobbers' business is required to keep our factories busy. Times like these, of course, we do well without selling any jobbers, but they are important and use a lot of goods. We do not believe the time has come that we can dispose of them. The handling of Crane goods makes them maintain prices a little better.

The following resolution was then offered by Mr. Graham, seconded by Mr. Malatesta:

> "I make a resolution to the effect that this subject be handled by the individual Branch, in conjunction with advice of the Chicago Office. Where satisfactory jobbing accounts are had, they should be retained, and where unsatisfactory, discontinued."

The above resolution was adopted unanimously.

3 - CONSIGNED STOCK OF BOILERS & RADIATION

(a) ARCOLAS.

This subject was introduced by Mr. McCool. The Indianapolis and Duluth Branches carry a consigned stock of boilers and radiation. Their reports follow:

INDIANAPOLIS - #1 Inasmuch as we receive an extra 7½% on boilers and 5% on radiation on all shipments for consigned stock, we feel that we have sufficient profit to warrant our stocking this material.

#2 Boilers. We carry a maximum stock of 350, including round Arco boilers up to 31" - sectional steam boilers up to 48", and water boilers up to 28".
Radiation. We carry 20" Window - 26" 3 Col. 32" 3 Col. - 38" 3 Col. 38" 2 Col., all in steam and water, and 9-B Wall Radiation.

CRANE00659

#3 We sell about 80% of our boilers from consigned stock. Radiation, we cannot estimate.

#4 We feel that by having a stock of this material, we secure a much larger business that we could in any other way.

DULUTH - Cost of rented space, 10,000 sq. ft., $75.00 per month.

We stock in this space consigned boilers and consigned radiation.

Boilers

We stock round boilers only, in the Arco type, in all sizes listed.

On Arco Steam we stock extra steam dome and trimmings, so that we can convert water to steam.

We do not stock square boilers.

Radiation

We stock practically all sizes on radiation in hot water only.

For steam we furnish hot water after tapping and plugging properly.

We fill 80% of our orders out of warehouse.

This does not, of course, include direct carloads from factory.

Our pipe machine man rebuilds where necessary.

Last year we received 3% extra on radiation handled through our warehouse.

This 3%, besides paying for rent and labor, showed us a profit on our sales last year of $300.00.

CRANE00660

Consigned Stock of Boilers and Radiation Cont'd.

Mr. Douglas of Grand Rapids covered the subject very thoroughly by the following remarks:

> Regarding the advisability of carrying radiation as a consigned stock, unless the Branch House has a surplus of space, without material that could be carried in this space, and which could be turned over more rapidly than a miscellaneous stock of all sizes and styles of radiation, I do not think it would be advisable and profitable.
>
> In this territory our call is for 38" Water Radiation, which is used with hot water heating systems and vapor vacuum systems, with Arcola Heating Systems, and as we are stocking Arcola packages, we find that we gradually acquire a small surplus stock of 38", 3 Col. Water Radiation, and as this is purchased at carload prices, the excess radiation can be sold at sheet prices, which, when considering the basis on which it is purchased, and the extra 2¢ per foot we get for cartage, gives us a fair profit, which would not be profitable, however, if we did not turn this stock over rapidly. The excess radiation on hand over that required for the Arcola packages, varies between one thousand to two thousand square feet.
>
> In 1922 we sold 172 Arcola packages, which included 54,625 square feet of radiation, or approximately 14 cars, which gives us an average turn over on this investment of 1-1/6 cars in 30 days. So far in this year, we have sold up to October 1st, 73 Arcola packages, including 26,925 square feet of radiation.
>
> Our stock of Arcolas on hand at any time would approximate about one car, or possibly a car and half of Arcola packages. We frequently order low radiation and individual heating jobs in the cars, to be shipped with Arcola packages, thus taking advantage of the carlot price and lower freight rates.
>
> Regarding the stocking of boilers, owing to the variety of sizes and kinds called for, we do not think it advisable to stock boilers, and especially because of our proximity to Detroit, where most of the shipments of boilers are made.

CRANE00661

	1	2	3	4	5	6	7	8
	CLASS	AVERAGE MONTHLY SHIPMENTS FROM STOCK TOTALS ONLY	MINIMUM STOCK	MAXIMUM STOCK	NUMBER ON HAND AND IN TRANSIT	NUMBER DAYS SHIPMENTS REPRESENTED BY COLUMN 2 TOTALS ONLY	NUMBER OF ITEMS CARRIED IN STOCK	NUMBER OF ITEMS IN STOCK AND IN TRANSIT
PREVIOUS REPORT		2415	1807	3113	3621	45	37	30
STOCK RECEIVED					8400			
TOTAL					12021			
MALLEABLE UNIONS	AA		602	905	3070		4	4
	A		687	1034	4447		27	19
	X		114	171	174		7	7
	XX		404	1003	879		9	9
	TOTAL	850	1807	3113	8570	28	37	34
X		861		0	3451			

PREVIOUS REPORT FIGURES TAKEN FROM TRIANNUAL INVENTORY OF APRIL 31ST.

NOTE X FIGURES IN RED INK DENOTE RESULTS OBTAINED BY COMPILING RECORD OF UNIONS RECEIVED DURING MAY, JUNE, JULY AND AUGUST ADDED TO INVENTORY OF APRIL 31ST FROM WHICH WE DEDUCTED INVENTORY OF AUGUST 31ST.

CRANE00662

Consigned Stock of Boilers & Radiation Cont'd.

4 - PRICES

This subject was introduced by Mr. Brady, wherein he asks for information as to the policy of Branches regarding special prices, brought out some interesting points. Mr. Mork and Mr. Hodgson, as well as some of the other Managers, have found it necessary to establish a few preferred customers. It was the general opinion that Mr. Brady would have to work this out himself, and probably along these lines.

5 - COMPETITION

The question of competition from J. L. Mott & Company on their Lombard Bowl, was brought up by Mr. Owens. It developed that outside of Des Moines that none of the Branches were having any trouble in offsetting this competition. Bulletin No. 64, dated April 10th, 1922, issued by the Plumbing Department, Chicago, covers this.

6 - BRANCH HOUSE SYSTEMS, REPORTS & METHODS

Under this subject Mr. Malatesta offered the following:

COMPILING TRI-ANNUAL INVENTORY

This subject was discussed at the last meeting, terminating in a vote taken for the opinions of the Managers as to the benefits derived in compiling this report.

I think that the accuracy of these reports could be improved, and the expense in compiling these reports lessened to a great extent, if we would keep a tally of goods received for stock on form C-4125, instead of keeping a tally of goods on orders received.

The amount of time and expense in recording inbound goods, would take about one-tenth the time; also eliminate chances of entries of materials which are shipped direct, instead of moving from our stock.

To carry out this plan, it would be necessary to revise from C-4111-C like facsimile attached. This facsimile shows actual figures taken from Muskogee Tri-Annual Stock Report dated April 30th, 1923, and the figures taken from the last report, dated August 31st, 1923.

CRANE00663

The red ink figures show results obtained by recording receipts of material for stock, as outlined in this letter.

The revised form, in my estimation, would contain more information for comparative purposes than our present form. It would permit our general office and the Branch House Manager to make an immediate comparison between the condition of the current stock and the condition of the stock at the time the previous report was rendered. It would also show the purchases for the time intervening between the current and the last report.

After a discussion, Mr. Graham made the following motion, seconded by Mr. Cotter:

"I make the motion that we go on record as having approved the subject of Mr. Malatesta's for the consideration of Chicago."

The vote follows -

Yes - Jones, McCool, Owens, Roe, Douglas, Graham, Henderson, Malatesta, Ordway, Cotter, Brady, Faul, Wood, Miller, Philipp, Mork, Dady and Georgia.

No - Hodgson and MacGill.

A facsimile of the report as submitted by Mr. Malatesta, is enclosed.

Per Capita Sales

MR. PHILIPP - "We are to compile these figures for per Capita Sales annually. Could we not eliminate the account cards, so that the customer's cards could be filed in alphabetical order as to towns instead of counties? It would be just as easy.

CRANE00664

Mr. Mork then made the following motion, seconded by Mr. Philipp:

"I make the motion that the report on the Per Capita Sales be eliminated, being of no value in the way of sales information for the Branches."

The Vote - Yes - Jones, McCool, Owens, Douglass, Graham, Malatesta, Cotter, Brady, Faul, Wood, Miller, Philipp, Mork, Dady and Georgia.

No - Hodgson, Roe, MacGill, Henderson and Ordway.

Form K-2562

MR. GRAHAM - We made a resolution at the Grand Rapids meeting, that the form we were using at Kansas City, Form No. K-2562, for customers, be put back in use, and I don't believe we have ever had any information on it.

MR. PARK - Recommendation has been made to put this report through.

Branch House Rule A-10 "Absence Due to Sickness."

MR. PHILIPP - In regard to this, special cases are to be taken up with Chicago by the individual Branch.

Invoices.

The question of invoices covering purchase goods being in the Branch Houses' hands sooner, was brought up. Mr. Park read a letter from Mr. Beville, our Purchasing Agent, which covered the matter very thoroughly, and explained the various causes of delay. Mr. Graham then offered the following motion, seconded by Mr. Cotter:

"I make the motion that all the Managers present, make a record of the dates of purchase invoices, dates of bills of lading, dates invoices are received in Chicago, and dates invoices are received at the Branch, and on invoices that do not reach them within

CRANE00665

a period of three days, plus the necessary time that it takes the mail to be received from Chicago, that each individual invoice be reported to the Purchasing Department, which will give them something concrete to work on, and bring out the situation within a short time. This for a period of thirty days, commencing October 15th."

The motion carried unanimously.

The following motion was offered by Mr. MacGill, seconded by Mr. Jones:

"I would offer a resolution that invoices from Crane Co., Chicago, to the Branches, invoicing material shipped from our Assembling Department, show the date of shipment on the bottom of the invoice."

Carried unanimously.

Reporting Price Changes on Crane Goods.

MR. PARK - In the days gone by, we used to have a CRANE book for recording various price changes. At that time there was very little demand for it, but since we have the new discount sheet covering the No. 51 Catalogue, we have had a number of requests from the Branches, asking whether or not they could get a half dozen copies or so, made up in accordance with the new book. Upon investigation, we find some of the Branches have been using it. It is a very convenient form, and we want to get your opinion as to the advisability of printing. The cost of the pamphlets would be approximately $355.00, and if there is a demand, we will go ahead and print it.

CRANE Plumbing Brass and "Z" Sheet material. Some Managers think we should cover both these lines.

CRANE00666

Branch House Systems, Reports & Methods, Cont'd.

Mr. Malatesta made the following motion, seconded by Mr. Roe:

"I offer a resolution that a discount sheet, loose leaf, ruled, covering the No. 51 Catalogue, CRANE goods, "Z" sheets, and special Black Quotations be put in use for recording prices on the above lines, in the Branch Houses."

The Vote - Yes - McCool, Owens, Roe, Douglass, Graham, Malatesta, Cotter, Wood, Miller, Philipp, Hodgson, Mork, Dady, Brady, Ordway and Georgia.

No - MacGill, Jones, Henderson and Faul.

Prospective Customers' Cards, C-4106.

MR. PARK - Prospective Customers' Card, C-4106. This is a subject that has been brought up at practically every meeting since the card was inaugurated. Let me impress you with the importance of keeping it up to date, and get as much benefit as you can out of it. This card, and the Per Capita Sales Card, many of the Branches thought, were useless. Some of the boys, I think, speak without considering the subject very seriously, and this is one in particular. Each one should have something to say about it. A few comments from some of the Managers."

From the remarks from the Managers, it developed that some had obtained good results, others not so satisfactory. Mr. Park then gave us a few comparisons of how this form had worked out with the various Branches, which proved conclusively that it will bring results.

7 - PLUMBING BRASS GOODS -

Mr. Douglass brought up the question of the Branches carrying a stock of a competitive line of plumbing brass goods. It developed that with a few exceptions, all of the Branches are carrying the Crane line only. This, however, does not apply to traps, as most of the Branches find it necessary to carry a competitive line of traps. In regard to the present cost of Crane traps, Mr. Park stated that the price could not be lowered at present, but there was a possibility as production increased, that the cost could be lowered.

CRANE00667

8 - PRINTING OUR PRICE BOOK - Refer to Question No. 20.

9 - ENAMELWARE -

Roughing-in Measurements on Crane Enamelware.

We were advised by Mr. Park that there is a bulletin on the press, covering this.

Drilling of Modus Tubs.

Mr. Park read the following:

"Holes may be drilled at Branch Houses by the use of ratchet drills. The operation should be from the inside upon the enameled surface, and the bit should have a center point engaging theaenamel first. The outer edge of the bit functions only after the center holes have been made. A blank or disc is drilled out of the wall of the tub.

The drilling operation is a difficult one to do without chipping and cracking of the enamel, unless done by one who is familiar with the work, and who has the proper bit and clamp "set-up."

It was the general opinion that it was better for the Branches not to attempt the drilling of tubs, and this subject was passed.

Chattanooga Factory Progress.

MR. PARK - A complete line of patterns was designed for the shops at Chattanooga. The Crane Enamelware Co. using the old Cahill Iron Works patterns, while the new patterns were being made, immediately replacing the old patterns with the new patterns as they were completed.

Practically 95% of the old Cahill patterns have been set aside, and those still in use will be out of the sand by January 1st.

The new patterns were designed to conform in general design and measurements with the staple ware of the other larger manufacturers. The purpose of this was to avoid too much annoyance on the part of the Branch Managers and their plumbing customers in the matter of roughing measurements and sales effort in the matter of difference in design.

CRANE00668

Chattanooga Factory Progress Cont'd.

The few remaining Cahill Iron Works patterns are of wares of which the production is small. These new patterns will be made up and will gradually replace the old ones, as our pattern shop facilities permit.

Wing Tubs. The Wing Tub patterns are in course of construction. The Cahill Iron Works patterns were shell-patterns, and the losses due to the use of these patterns were great.

There will be twelve different patterns for the Wing Tubs. This pattern program is about one-half completed. February or March should be about the time when these patterns are put into the shop.

This tub is a difficult moulding proposition in the foundry, and where it is specified enameled inside and out, is probably attended with a greater danger of losses than any ware going through the shops.

The subject of eliminating this style of tub from the manufacturers' list of wares, has come up for discussion before assembled enamelware manufacturers many times.

Kohler is very much opposed to making the tub; it is contended that the losses in the foundry and enameling shops bring the cost up to the cost of the Apron Tub.

Standard refuse to discontinue its manufacture, claiming that it is not "so bad," and that it fills a gap in price difference between the tub on legs of on base, and the Apron Tub.

Kohler, therefore, has not stopped making these tubs, and Crane Enamelware Co. also will manufacture them. Standard are "setting the styles" in this instance.

The magniture of the business of this tub may be judged from our Branch House orders; i. e.,

In the first eight months of 1923, 9,908 of them were purchased for the Branch Houses, and the unfilled orders on the 1st of September, were 5,751, making a total demand of 15,659.

Provision has been made in the Chattanooga shops for the manufacture of these tubs in quantities sufficient for our Branch House needs.

CRANE00669

Chattanooga Factory Progress Cont'd.

Apron Tubs. All of the Apron Tub patterns are now completed; nine of them are in the foundry at Chattanooga, and the remaining three were shipped in the week of September 18th. We are waiting for steel flasks, which are being made by an eastern pressed steel company. Experimental flasks were necessary, and changes after changes were made, until a flask of proper bearing and sufficient strength was evolved to handle the heavy patterns. These patterns weigh 4,000 lbs. each. Staunchness of pattern and flasks was necessary for perfect and uniform castings.

The delivery of these steel flasks will determine our starting date in the foundry on the Corwith Tub.

We are contemplating completing an order for 1,200 of these tubs during the month of January.

After completing this order, we will be in a position to accept some other Branch House orders. Our production will be slower at first, as the best moulders are always more or less over-cautious when taking on classes of work different than their regular line of work.

The new smallware foundry, sandblast, and enameling shops are about 75% completed. Production in these shops will be in full swing by the first of the year. The completion of these shops will liberate more floor space in the new tub shops, as many patterns not belonging in that shop are for economic reasons now being used there.

The new smallware shop is designed and equipped to produce three to four times the present small ware output with the present patterns and less flasks.

10 - CATALOGUES

MR. MACGILL - A committee composed of Mr. Jones, Mr. Roe, and myself, have compiled a complete dummy of Plumbing Catalogue, and we have a dummy here - three sections altogether - prepared on the Standard size of present issue of "C" Books, 1, 2 and 3, and have gone right through them, the first page showing eight cuts on the various methods of trimming any lavatory, etc.

CRANE00670

Catalogues Cont'd.

After a thorough discussion of this catalogue as submitted by the Catalogue Committee, Mr. Cotter offered a motion seconded by Mr. Graham, as follows:

> "I offer a resolution that we approve of the work that has already been done, and compliment the Committee on their efforts. I would also suggest that the catalogue be subjected to the final approval of the Home Office. This Zone recommends and requests that no item be taken out of this catalogue, unless the Catalogue Committee is so advised."

Amendment to this resolution by Mr. Wood, follows:

> "That the proper authorities be authorized to go ahead with the printing of this catalogue at once."

The above motion and amendment carried unanimously.

Architect's Plumbing Catalogue Progress.

MR. PARK - We have only further to report on the progress that we have made, and give you an idea as to when the book will be ready for publication. The original date estimated for the Architects' book, is April 1924, and those working, compiling the catalogue, as well as the Catalogue Department, seem very sure that they will be able to live up to this date. As previously advised, this book will have 650 pages, and will be loose leaf. The following is the present status of the book -

Lavatory Section	Dummy and Art Work Completed
Bath Section	Dummy and Art Work Completed
Shower Section	Dummy and Art Work Completed
Drinking Fountain Section	Dummy and Art Work Completed
Hospital Section	Dummy and Art Work Completed
Water Closet Section	Dummy about half completed. No art work started.
Urinal Section	Dummy Completed. Just starting Art Work. Complete about December 1st.

CRANE00671

Catalogue Cont'd.

Slop Sink Section	Dummy completed. Art work not started.
Laundry Tray Section	Dummy completed. Art work not started.
Bath Room Accessory Section	Dummy started and practically completed. No art work started.
Brass Goods Section	Dummy and art work not completed.
Miscellaneous Material	Dummy and art work not completed.

The General Plumbing Catalogue, which is to be a bound book, will have everything the Architects' book will have, and in addition, the staples, such as soil pipe, lead pipe, lead goods, water systems, range boilers, storage tanks and great deal more staple brass than shown in the Architects' book.

It has not been definitely decided whether pipe machines, drainage fittings, some radiation, boilers and mill goods will be included.

11 - CRANE CLOSET BOWLS -

Change in Designs of Crane Closet Bowls.

In the discussion of this subject, it was brought out that owing to change in designs of Crane Closet Bowls, several of the Branches had found it very difficult to obtain the old design bowls, and they were unable to secure much information from either the Mutual Potteries or our Plumbing Department, Chicago. Mr. Park then read the following communication from the Plumbing Department:

> The Potteries have been notified to advise this Department as soon as new moulds are completed and placed in operation, at which time we will issue a bulletin to the Branches notifying them how soon the first of the new bowls will be through the Potteries, and at the same time, ask them to advise the Potteries promptly of any orders which they have entered, covering actual operations on which they have furnished the roughing-in's.

CRANE00672

so the Potteries can bring through a sufficient number of bowls of the old dimensions, to take care of each operation.

The subject was then passed.

12 - COMPENSATION FOR SALESMEN - Refer to Question No. 22.

13 - PIPE - Refer to Question No. 19.

14 - SELLING PLUMBING GOODS TO INDUSTRIAL CONCERNS.-

It was the sense of all Managers that local conditions to a great extent would have to govern, and that each Manager, when the question of the sale of plumbing goods to an Industrial Concern is raised, must make the decision. This brought out a discussion of the Baltimore Resolution, a copy of which should be in the hands of each Manager, and read carefully.

15 - CAST IRON PIPE -

The above subject, which was brought up by Mr. Wood, was disposed of by a motion made by Mr. Cotter, and seconded by Mr. Wood, as follows:

"I make the resolution that it is the sense of this meeting that our people at Chicago, just as soon as they possibly can, make arrangements for some producers to put in a consigned stock of Water Main and Specials, for such Branches as may want it.

Carried unanimously.

16 - SPECIALTY SALESMEN -

Mr. Brady brought up the question as to employing a specialty man at a small Branch. This is a matter that is up to the Manager, and the subject was passed.

CRANE00673

17 - FLUSHING VALVES -

MR. PARK - It has been decided to furnish the water controlled flush valves with the straight way stops with the screwed connection, no union, and a union connection for use with valves furnished with angle pattern stops.

In arriving at this decision, it was found that a union connection was necessary on the angle pattern stop, to swing the valve in installing; where the straight waste stop is used, a union is not required for installation purposes. It was decided to omit this, due to the fact that it increased the roughing-in dimension center to end of the valve, to approximately 6-1/2 or 7", and would make the valve cost approximately 50¢ more, and it was the opinion that the advantages of the union over the screwed connection on the straight way stop would not warrant the extra expense involved.

We have compiled a circular for the Branches on this new Water Controlled Valve, which is in the hands of the Product Engineering Department for approval, at the present time.

18 - EARTHENWARE - Refer to Question No. 25.

19 - PIPE -

This subject, which was brought up by Mr. Roe, has been discussed at our previous meetings. It was brought out that the situation is gradually improving, and it was found that a number of the Branches have been very well taken care of by the National Tube Company, and that their stocks are in good shape. Mr. Roe also brought the question before Mr. Crane, and while Mr. Crane made no definite statement, we were told that this matter would be gone into.

20 - PRICE BOOK -

This subject was brought up by Mr. Roe, who is strongly of the opinion that one general price book on plumbing and jobbed goods should be issued by the Home Office, and used by all of the Branches, thus saving a large expense. This subject was gone over thoroughly, and while no definite action was taken, it was the general opinion that at the present Mr. Roe's plan is not feasible.

CRANE00674

21 - SALESMEN -

Mr. Roe brought up the subject of having a school for salesmen in our Home Office. Mr. Park stated that this could not be done, and the subject was passed.

22 - SALESMEN TO BE PAID ON COMMISSION OR BONUS BASIS -

This subject was again brought up by Mr. Roe and discussed. Mr. Jones stated that a jobber located in Cincinnati had tried this, but had found it not satisfactory. Mr. Cotter and Mr. Mork were very much in favor of the plan, but stated that they had no plan to offer. Mr. Park stated that the Home Office had given considerable thought to this subject, but as yet, no feasible plan had been offered. He further stated that if any of the Managers had a plan, which, in their opinion, would be satisfactory, they were at liberty to submit same to our officials at Chicago, who would go over it very carefully.

23 - STANDARDIZATION -

This subject was again discussed with the result that a motion was made by Mr. Roe, seconded by Mr. Philipp, as follows:

"I make a motion that Subject 23 be put up to the Standardization Committee."

Carried unanimously.

24 - ENAMELWARE - See Question No. 9.

25 - MUTUAL POTTERIES -

This subject was brought up by Mr. Wood and Mr. Roe. Mr. Wood was of the opinion that the Potteries should be impressed with the importance of furnishing the Branches with some of the better grade of Earthenware bowls, especially seat-acting bowls for School work. Mr. Roe was also desirous of having information as to the conditions at the Pottery. We were informed by Mr. Park that the Potteries were getting in better shape daily, and that their output was increasing. This was confirmed by Mr. Crane, who stated further that he had recently returned from the Potteries, and that they are making splendid progress and will eventually be able to take care of our needs.

CRANE00675

26 - ADVERTISING -

Mr. Roe brought up the question of advertising by the use of street signs or bill-boards. After a discussion Mr. Roe made the following motion, which was seconded by Mr. Jones:

"I make a motion that this matter be referred to the Advertising Department, and the case be gone into thoroughly, and the Branches advised."

Vote - Yes - Hodgson, Dady, Jones, McCool, Roe, MacGill, Henderson, Cotter, Miller and Georgia.

No - Graham, Mork, Faul, Brady, Ordway, Wood, Douglass, Owens, Malatesta and Philipp.

This completes the subjects as covered by the program. In a general discussion, which followed, Mr. Jones made the following statement:

MR. JONES - I would like to know what is being done with the Warlo Pumping outfits. Have had a lot of trouble, principally with motors; also with the piston sleeves curling up. Second pump on the same installation gone bad. Motors are received running backwards.

MR. MACGILL - We developed a little motor trouble on the Warlo Pump, and found that on the Westinghouse motors, the brushes were set a little close.

MR. ORDWAY - I would like to know what experience everyone has had with the Warlo Pump. We do not sell them in our territory. Sometime ago, the Duro people got out a list, giving all the weak points in the Warlo Pump.

MR. MACGILL - Have had no trouble at all. Have about 300 out, within a year.

MR. FAUL - Have had a few kicks, but very minor; 550 or 600 pumps out.

MR. ROE - Have sold 51. Had trouble with only two, which was motor trouble.

CRANE00676

NATIONAL CASH REGISTER CALCULATING MACHINE -

A cut of this machine was shown to the Managers. Regarding it, the remarks of Mr. Park and Mr. MacGill follow:

MR. PARK - It has eliminated the work of three clerks. The machine, itself, is made up of sixteen adding machines, synchronized to work together. It is a very wonderful machine. You can't appreciate it until you see it work. In addition to saving the help, it makes for accuracy. We inaugurated one at Indianapolis, with an idea of trying it out on Branch House Work. For a large Branch, I believe it is a machine which is well worthy of investigation. Before we advertise it too much, however, we were anxious to have Mr. MacGill try it out and see how it would work. Our machine at Chicago cost $2,600.00. It has proven such a good investment, we are going to buy another one. The machine which Mr. MacGill has, cost $2,350.00, less 5%.

MR. MACGILL - We have had this machine for probably ninety days, and are using it for taking off our daily sales, and when we take them off, each customer has a number, each salesman has a number, and we classify the goods with a number and get out a ticket. From this ticket we get out three classes every day - our total of CRANE goods, total of pipe, and total in jobbed goods - in dollars and cents. It shows whether the sales are made directly by the salesmen or a voluntary sale. Re-cap for our report to Chicago every day. Haven't had it long enough to say definitely very much about it.

NOISELESS TYPEWRITERS -

Mr. Ordway asked for the experience of the other Managers with this machine. Very few of the Branches are using it. Mr. Park stated that the keyboard was not standard and that operators complained.

CRANE00677

WALES ADDING MACHINES -

MR. FAUL - Has any one of the other Managers present, had any trouble with their Wales adding machine?

MR. MALATESTA - We had to have a new one installed.

No complaints were recorded by any of the other Managers.

No further subjects were brought up. The Managers were then advised that the next meeting will be held in Chicago, date to be set later.

Nominations for Chairman for the coming year were now in order. Mr. MacGill was nominated by Mr. Douglass, and elected by acclamation.

On the evening of October 9th, Mr. Faul gave us a wonderful dinner. A rising vote of thanks was extended to Mr. Faul for his hospitality, and the excellent way in which he had taken care of us.

Later in the evening, our President, Mr. R. T. Crane, Jr., spent some time with us. His remarks were devoted to the various angles of Crane Co's. business and the general business situation. He left with us the message that apparently there is nothing to fear in the business situation, as far as the immediate future is concerned, but at the same time we should be cautious. His talk was an inspiration to all.

The Managers visited in a body, the plant of the Ward Love Pump Corporation, where the Warlo pump is made. Mr. Johnson and his assistants extended us every courtesy, and every detail in the making of this pump was gone into.

* * * * * * * * * * * * * * * * *

In closing, I wish to thank the Managers of the Central Zone for your co-operation while I have acted as your Chairman, and I bespeak for Mr. MacGill, the same hearty co-operation.

F. E. Georgia,
CHAIRMAN, CENTRAL ZONE.

CRANE00678

BATES LABELED

CRANE-00679-709

CRANE

SUGGESTED CONSUMER PRICE BOOK

PCP-11

SEPTEMBER 8, 1961

PLUMBING FIXTURES AND FITTINGS

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CRANE SUPPLY COMPANY

110 North Wacker Drive Chicago 6, Illinois

PRINTED IN U. S. A.

CRANE PLUMBING FIXTURES

TERMS AND CONDITIONS OF SALE

1. **PRICES:** All previous prices are withdrawn. Prices shown herein are subject to change without notice.

2. **TAXES:** In addition to the stated prices, the Buyer shall reimburse Crane Co. for all sales, use, excise and retailers' occupational taxes which Crane Co. must, at any time, either pay or collect in connection with the material sold hereunder.

3. **APPROVAL OF ORDERS:** All orders shall be subject to approval and acceptance by the Credit Department at Crane Co.'s home office. If, at any time after approval of Buyers' credit, the financial condition of the Buyer shall, in the sole judgment of Crane Co., become impaired, Crane Co. may at its election (a) require Buyer to make payment in full prior to shipment or (b) cancel Buyer's order - all without liability to Crane Co.'s rights to any sums owing from Buyer.

4. **DELIVERY AND SHIPMENT OF MATERIAL:** Delivery of material to the common carrier shall constitute delivery thereof to Buyer and thereafter material shall be at Buyer's risk. Claims for damage to or loss of material in transit shall be filed by Buyer direct with carrier. Delivery dates are estimated as closely as possible. Crane Co. will use its best efforts to make delivery within the time specified but, in any event, Crane Co. will not be liable for failure to meet delivery dates. All errors, clerical or otherwise are subject to correction.

5. **CLAIMS FOR SHORTAGE:** All claims for shortages or inaccurate filling of orders shall be made within 10 days after Buyer's receipt of the material.

6. **RETURN OF MATERIAL AND TERMINATION OF ORDERS:**

   (a) Buyer shall not return any material delivered by Crane Co. without first obtaining Crane Co.'s written consent.

   (d) If Buyer seeks to terminate any part or all of an order prior to delivery, Buyer shall contact Crane Co. in writing at once. In any event, no order or part thereof shall be subject to cancellation or termination by Buyer without Crane Co.'s prior written consent.

7. **WARRANTIES:** The following warranties are made in lieu of all other warranties expressed or implied and no other warranty is made or authorized to be made:

   (a) Warranty of Quality—If within one year following date of delivery, any material manufactured by or trade-marked for Crane Co. proves defective, Buyer shall not return it unless requested to do so, but shall immediately notify Crane Co. stating full particulars in support of his claim and, if faulty workmanship or material is involved, Crane Co. will adjust the matter fairly and promptly. Under no circumstances shall Crane Co. be obligated to allow claims for consequential damages or for any labor or other expense incurred by reason of the use or sale of any defective material, the sole measure of damages being the price received therefor by Crane Co.

   (b) Patent Warranty—Crane Co. will, at its own expense, defend any suits that may be instituted against the Buyer for alleged infringement of United States patents relating solely to specific devices of Crane Co.'s manufacture listed herein, provided such alleged infringement shall consist only in the use of such specific device itself and not as a part of any combination of other devices and/or parts; and provided the Buyer gives Crane Co. immediate notice in writing of any such alleged infringement and of the institution of any such suit and permits Crane Co., through its counsel, to answer the charge of alleged infringement and to defend such suit; and provided Buyer gives all needed information, assistance, and authority to enable Crane Co. to do so and thereupon in case of a final award of damages in any suit, Crane Co. will pay such award but shall not be responsible for any compromise made without its written consent.

   (c) Product Changes—No warranty shall apply to any product which is modified or changed in design or function after leaving Crane Co.'s factory.

CRANE PLUMBING FIXTURES

TERMS AND CONDITIONS OF SALE—Continued

8. **ILLUSTRATIONS:** Catalog illustrations are actual representations of a certain size of each line of products but do not necessarily represent all sizes in all details. The designs shown are subject to change without notice.

9. **EFFECT OF TERMS AND CONDITIONS:** The terms and conditions herein contained shall apply to any order or direction received from Buyer and no provision in any such order or direction from Buyer in any way modifying or changing said terms and conditions shall be binding upon Crane Co. No modification shall be effected by Crane Co.'s shipment of goods following receipt of Buyer's order or request for shipment which may contain provisions contrary to the terms and conditions herein contained.

10. **WAIVER:** Waiver by Crane Co. of any breach of these provisions must be in writing to be valid; such waiver shall not be construed as a waiver of any other breach, nor shall it be applicable unless so stated, to the breach of the same provisions on any other order.

11. **ASSIGNMENT:** None of the Buyer's rights under any order shall be assigned by the Buyer to any other person, whether by operation or law or otherwise, without the Crane Co.'s prior written approval.

12. **WEIGHTS:** Weights shown in catalogs, price schedules, quotations, or acknowledgments or orders are approximate and are in no sense guaranteed. They represent the average weight of products as made from patterns in use at time weights were compiled.

13. **SPECIAL CONDITIONS:** Any additional cost incurred in packaging or in making any special test or inspection which is requested by Buyer, and is in addition to those regularly supplied by Crane Co., will be charged to the Buyer. Such tests and inspections will be made only at the factory before date of shipment.

FREIGHT ALLOWANCES

Shipments of Crane Vitreous China, Duraclay, Porcelain Enameled Cast Iron and Porcelain Enameled Steel Plumbing Fixtures and Crane Plumbing Brass Trim and Parts, Bathroom Accessories, Closet Seats and Modern Kelly Freeze-Proof Units are F.O.B. Factories with freight allowances as outlined below:

Product Classification	Minimum Weight for Freight Allowance	Factory Shipping Point
Vitreous China and Duraclay	200 pounds	Trenton, N. J. Colton, Calif.
Porcelain Enameled Cast Iron	200 pounds	Chattanooga, Tenn.
Porcelain Enameled Steel	200 pounds	Alliance, Ohio Kilgore, Texas Colton, Calif.
Plumbing Brass Fittings & Parts	150 pounds	Jonesboro, Ark.
Bathroom Accessories	150 pieces	Jonesboro, Ark.
Closet Seats	30 seats	Jonesboro, Ark. Trenton, N. J.
Freeze-Proof Units	None	Chicago, Ill.

No freight allowance will be made on shipments weighing less than the minimum shown above.

DURACLAY, VITREOUS CHINA, OR PORCELAIN ENAMELED CAST IRON

On shipments of Duraclay, Vitreous China, or Porcelain Enameled Cast Iron plumbing fixtures weighing 200 pounds or more, the carload or truckload rate of freight, whichever is cheaper, from the factory to the destination within the continental United States, excluding Alaska and Hawaii, will be allowed. On shipments to Alaska and Hawaii the above freight allowance terms apply to the usual port of export nearest the factory of origin. Where fixtures are priced and furnished complete with brass fittings, the weight of the brass fittings may be used to make aggregate weight for freight allowance purposes.

CRANE PLUMBING FIXTURES

TERMS AND CONDITIONS OF SALE—Continued

PORCELAIN ENAMELED STEEL

On shipments of Porcelain Enameled Steel plumbing fixtures weighing 200 pounds or more, the minimum mixed carload or truckload rate of freight, whichever is cheaper, from the factory to destination within the continental United States, excluding Alaska and Hawaii, will be allowed. On shipments to Alaska and Hawaii the above freight allowance terms apply to the usual port of export nearest the factory of origin.

PLUMBING BRASS FITTINGS AND PARTS

Full freight will be allowed on shipments of plumbing brass fittings weighing 150 pounds or more within the continental United States and Hawaii. On shipments to Alaska the above freight allowance terms apply to the usual port of export nearest the factory of origin.

STAR-LITE ACCESSORIES

Full freight will be allowed on shipments of 150 pieces or more within the continental United States and Hawaii. On shipments for less than 150 pieces full freight will be allowed when shipped with 150 pounds of plumbing brass fittings. Weight of the accessories may be included to reach the 150 pounds. On shipments to Alaska the above freight allowance terms apply to the usual port of export nearest the factory of origin.

CLOSET SEATS

Full freight will be allowed on shipments of 30 or more seats within the continental United States excluding Alaska and Hawaii. A 5% handling charge will apply on all orders for less than 6 seats. All seats are shipped six to a master carton. On shipments to Alaska and Hawaii the above freight allowance terms apply to the usual port of export nearest the factory of origin.

FREEZE-PROOF UNITS

All Modern-Kelly Freeze-Proof Units on Crane Drinking Fountains are all F.O.B. Chicago, with no freight allowed.

All allowances are based on rail rates, but in no case will freight be allowed in excess of the actual freight paid to carrier, whether rail, truck, or water.

FREIGHT ALLOWANCES ARE SUBJECT TO CHANGE WITHOUT NOTICE
WE RESERVE THE CHOICE OF TRANSPORTATION FACILITIES AND ROUTING

COLOR—Crane Vitreous China, Duraclay, Porcelain Enameled Cast Iron and Porcelain Enameled Steel acid-resisting plumbing fixtures in color are priced on a selection from the following range:

No. 402	Shell Pink	No. 419	Desert Turquoise
No. 410-A	Citrus Yellow	No. 427	Sky Blue
No. 415-B	Pale Jade	No. 495-A	Sun Tan

No. 500 French Grey

CRANE00682

LAVATORIES – VITREOUS CHINA

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White	Color
1-80	CRITERION—With 8-1 Criterion Brush Finish Supply and Securo Waste—Less Other Fittings	21½x17¾ 30x22	51 104	132.75 164.77	163.56 211.60
	If 8-765 Brackets Required—Add Per Pr.	.....	.....	4.58	4.58
1-100-L	DIANA—With 8-10 Temple Supply and Securo Waste, Less Other Fittings With 8-765 Brackets	24x20 27x21	60 79	102.75 116.32	127.30 147.31
1-110-J	DREXEL—With Concealed Hangers, Wall Screws and 8-9 Temple Supply and Securo Waste, Less Other Fittings	22x18	60	81.36	103.43
1-119	DREXEL DENTAL—With Concealed Hangers, Wall Screws, 8-160 Supply Fitting and 8-352 Waste, Less Supplies and Trap	14x14	40	79.41	94.83
*1-120-E	BEVERLY—With Concealed Hangers, Wall Screws and 8-130-A Supply and Waste, Less Other Fittings	20x18	48	58.75	74.18
*1-125-E	OXFORD—With Concealed Hangers, Wall Screws, 8-130-A Supply and Waste, Less Other Fittings	20x14	51	59.07	74.69
*1-125-ERS	OXFORD—With Concealed Hangers, Wall Screws and 8-132-A Crestmont Supply and Waste, Less Other Fittings	20x14	52	51.67	67.30
*1-125-FRS	OXFORD—With Concealed Hangers, Wall Screws and 8-135-A Crestmont Supply with Chain and Stopper, Less Other Fittings	20x14	51	46.27	61.90
1-126	OXFORD—With Concealed Hangers, Wall Screws, Less Other Fittings	19x17	36	27.37	32.84
*1-126-E	OXFORD—With Concealed Hangers, Wall Screws, 8-130-A Supply and Waste, Less Other Fittings	19x17	42	55.23	60.70
*1-126-ERS	OXFORD—With Concealed Hangers, Wall Screws and 8-132-A Crestmont Supply and Waste, Less Other Fittings	19x17	41	47.84	53.31
*1-126-FRS	OXFORD—With Concealed Hangers, Wall Screws and 8-135-A Crestmont Supply with Chain and Stopper, Less Other Fittings	19x17	40	42.43	47.91
1-129	OXFORD—With Concealed Hangers, Wall Screws, Less Other Fittings	19x17	36	27.37	32.84
*1-146-E	WESTGATE—With Concealed Hangers, Wall Screws and 8-130-A Supply and Waste, Less Other Fittings	22x18	59	68.29	79.20
1-160-B	NORWICH—Less Back—Less Fittings	20x18 24x21	36 53	30.69 43.00	44.28 64.08
1-160	NORWICH—Less Back—Less Fittings, Drilled for "D", "M", "P", "S" or "V" Trim	20x18 24x21	36 53	27.17 39.48	40.76 60.53
	For China Leg and 8-765 Brackets .. Add			13.96	18.66
1-160-T	NORWICH—Less Back—Less Fittings	20x18 24x21	36 53	30.69 43.00	44.28 64.08
	*If Less Aerator, specify and ..... Deduct			1.06	1.06

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price White	Suggested Consumer Price Color
1-160 with frame	NORWICH—Single Section with Supporting Frame, Less Fittings	20x18	88	55.11	68.69
		24x21	115	68.97	90.02
	Each Additional Single Section .....Add	20x18	74	47.54	61.11
		24x21	101	60.91	81.96
1-165	NORWICH—With Openings for Concealed Brackets, Less Fittings	20x18	36	31.40	45.00
		24x21	62	43.70	64.75
	Drilled for "D", "M", "P", "S" or "V" Trim				
1-165-T	NORWICH—With Openings for Concealed Brackets—Less Fittings	20x18	36	34.92	48.52
		24x21	53	47.22	68.27
1-185	NORWICH—With Back, Concealed Hangers, Wall Screws, Integral Soap Chamber and Soap Valve, Less Other Fittings	20x18	49	65.26	†
1-185-T	NORWICH—With Back, Concealed Hangers, Wall Screws, Integral Soap Chamber and Soap Valve, Less Other Fittings	20x18	49	69.15	†
1-194	NORWICH—With Openings for Concealed Brackets—Less Fittings	20x18	44	30.47	43.60
	Drilled for "D", "M", "P", "S" or "V" Trim	24x21	62	48.45	†
1-194-T	NORWICH—With Openings for Concealed Brackets—Less Fittings	20x18	44	33.99	47.12
		24x21	62	51.97	†
1-195	NORWICH—With Back, Concealed Hangers	18x15	40	25.33	†
	and Wall Screws, Less Other Fittings	20x18	44	26.24	39.37
	Drilled for "D", "M", "P", "S" or "V" Trim	24x21	83	44.23	†
1-195-T	NORWICH—With Back, Concealed Hangers	20x18	44	33.99	47.12
	and Wall Screws, Less Other Fittings	24x21	83	51.97	†
1-205	NORWICH—With Back, Concealed Hangers	20x18	48	26.24	†
	and Wall Screws, Less Other Fittings	24x21	83	44.23	†
1-206	NORWICH—With Back, Concealed Hangers and Wall Screws, Less Other Fittings	20x18	48	26.24	†
	If with China Leg (20x18" or 24x21") Add			9.38	†
1-230	COUNTER LAV—With Integral Counter, China Leg, Concealed Hangers, and Wall Bracket, Less Other Fittings	49½x18½	104	136.29	204.44
1-235	CRESCENT—With Concealed Hanger, Wall Screws, and 8-150-A Supply and Waste Fitting, Less Other Fittings	36x18½	95	128.43	168.70
1-235	CRESCENT—Same, except with 8-151-A Supply and Waste Fitting	36x18½	95	120.96	161.23
*1-235	CRESCENT—Lavatory Cabinet with Exterior, Front and Sides Surfaced with "White "Sequin" #28-SE-1 Formica, 2 Legs and 2 Handles, Brush Finish Chrome Plate	34x17⅜		71.10	
	*F.O.B. Chicago—No freight allowance				
1-270-L	ELAYNE—With 8-10 Temple Supply and Securo Waste, Less Other Fittings	27x20	63	111.11	141.94
1-272	CROWN—Round with Oval Basin Less Fittings, Drilled for "B", "S", or "V" Trim	18x18	28	30.96	46.43
1-275-J	MARCIA—With 8-9 Temple Supply and Securo Waste, Less Other Fittings	24x21	60	97.79	128.09

† Prices on Application.

LAVATORIES—VITREOUS CHINA

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White	Color
1-282	WESTLAND—Less Fittings ..... Drilled for "B", "S", or "V" Trim	20x19	35	24.78	37.24
1-282-L	WESTLAND—With 8-10 Temple Supply and Securo Waste, Less Other Fittings	20x19	44	76.15	88.62
1-284	COUNTESS—Less Fittings	20x17	36	26.58	34.85
1-300	YORKSHIRE—With Concealed Hangers, Wall Screws, Less Other Fittings	20x18	43	19.98	24.90
1-307	YORKSHIRE—With Concealed Hangers and Wall Screws, Less Other Fittings	20x18	43	23.02	28.74
1-311-V	PETITE—With Concealed Hangers, Wall Screws, Less Other Fittings	14x14	35	24.80	37.21
1-320-V	WESTMONT—With Concealed Hangers, Less Other Fittings	19x17	33	16.81	21.03
1-370	CORNATE—With Concealed Hangers, Wall Screws, Bracket, Less Other Fittings	17x17	41	38.88	58.11
1-370-E	CORNATE—With Concealed Hangers, Wall Screws, Bracket and 8-130-A Supply and Waste, Less Other Fittings	17x17	47	66.74	85.98
	If Less Aerator, specify and .....Deduct			1.06	1.06
1-398	ORAL HYGIENE DENTAL—With Concealed Hanger, Wall Brackets and Push Button Self-Closing Supply Fitting, Less Other Fittings	9x9	24	58.08	†
1-600 or 1-601	PARVUS—With Back, Integral Supply Channel and Integral Strainer, Less Fittings	14x13	45	36.06	.....
1-602 or 1-603	PARVUS—Corner with Back, Integral Supply Channel and Integral Strainer, Less Fittings	14x14	47	42.98	.....
	Any of the above Parvus Lavatories furnished arranged for but Less Metal Drain Plug or with 1½" Outlet Spud—Same Price.				
1-610 or 1-611	FOLSOM—With Back and Integral Strainer, Less Fittings	20x15	60	40.57	.....
1-980	Oval China Basin with Securo Overflow, Less Other Fittings	18x15	24	30.66	45.99
		21x16	28	35.04	52.55
	LAVATORY SUPPORTS				
	China Leg for Norwich Lavatories—To Set Lavatories 27" or 31" Rim to Floor	.....	14	10.30	15.45
	8-763 Enameled Wall Brackets: For 20" or 24" Lavatories, 17½" Bracket .....Per Pr.	.....	15	15.80	.....
	For 27" or Larger Lavatories .....Per Pr.	.....	15	17.56	.....
	8-765 Knee Brackets .....Per Pr.	.....	2	4.58	.....
	CHINA LAVATORY DRILLINGS				
	For Drilling in Slabs or Backs other than shown in catalog:				
	Holes 1" Diameter or Larger .....per hole	.....	.....	2.20	2.20
	Holes Less and 1" Diameter .....per hole	.....	.....	1.14	1.14
	Concealed Bracket Arm Drillings, per lavatory	.....	.....	4.22	4.22

LAVATORIES—PORCELAIN ENAMELED CAST IRON

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price White Regular	White A.R.	Color A.R.
1-288	CHARLOTTE—Less Fittings	20x18	40	19.31	21.74	24.15
*1-455-E	NEUDAY—With Concealed Hangers and 8-130-A Supply and Waste, Less Other Fittings	19x17 24x18	65 80	42.42 51.24	47.17 55.41	50.78 59.67
*1-455-ERS	NEUDAY—With Concealed Hangers and 8-132-A Crestmont Supply and Waste, Less Other Fittings	19x17 24x18	65 80	40.57 47.52	43.98 51.69	47.40 55.95
*1-455-FRS	NEUDAY—With Concealed Hangers and 8-135-A Crestmont Supply with Chain and Stopper, Less Other Fittings *If Less Aerator, specify and .....Deduct	19x17 24x18	65 80	36.06 46.50 1.06	39.48 50.48 1.06	43.00 54.37 1.06
1-506	FERMONT—With Back, Concealed Hangers, Less Fittings	20x18	55	25.43	28.62	31.82
1-531	CAROLINA—With Back, Concealed Hangers, Less Fittings	19x17	60	22.39	25.15	30.31

LAVATORIES—PORCELAIN ENAMELED STEEL

1-290	STAFFORD—Countertop, Less Fittings	19½x15¾ 20x18	17 18	....	13.29 14.17	14.61 15.58
1-293	STELLAR—Countertop, Double Bowl, Less Fittings	42x18	43	.....	34.57	38.02
1-298	STEVENS—Countertop, Round, Less Fittings	18x18	17	.....	14.17	15.58
1-472	STEPHANIE—Shelf Back, Less Fittings	20x18	27	.....	22.84	25.13

BATHS—PORCELAIN ENAMELED CAST IRON

	Less Fittings					
2-50	NEUVOGUE—Recess Receptor	4'x46"	460	.....	229.45	255.06
2-60	CRITERION—Corner	5' 0"	445	133.62	150.25	166.97
2-80	CRITERION—Recess	5' 0" 5' 6"	355 420	106.28 136.58	118.60 153.58	136.42 170.68
2-98	NEUDAY—Recess	4' 6"	310	108.29	121.88	135.36
2-100	FAIRFAX—Recess	5' 0"	320	87.08	91.27	96.10

BATHS—DURACLAY

Catalog Number	DESCRIPTION	Size inches	Approx Shpg Wt Pounds	Suggested Consumer Price			
				White Regular	White A.R.	Color A.R.	
	Less Fittings						
2-130	LAHOMA—Recess Receptor	42x31	270	.....	152.10	228.13	

BATHS—PORCELAIN ENAMELED STEEL

	Less Fittings						
2-155	OMEGA—Corner	5' 0"	144	.....	99.49	109.44	
2-160	OLYMPIC—Recess	4' 6"	125	.....	70.72	77.79	
		5' 0"	134	.....	73.64	81.00	
2-163	OTTAWA—Recess	5' 0"	125	.....	69.96	76.95	
2-180	OHIO—Recess (12 gauge)	5' 0"	159	.....	81.80	89.97	
2-181	OHIO—Recess (14 gauge)	5' 0"	140	.....	77.49	85.24	
2-183	CRESTMONT—Free-Standing, Double Apron	5' 0"	200	.....	105.60	116.16	
2-185	CRESTMONT—Recess Receptor	42x30⅝	90	.....	64.94	71.44	

CLOSETS—VITREOUS CHINA

Catalog Number	DESCRIPTION	Size	Approx Shpg Wt Pounds	Suggested Consumer Price		
				White	Color	
	ONE-PIECE CLOSETS					
3-112	AMBASSADOR—Elongated, Closet with Bolt Caps, Supply, Stop, Escutcheon and 3-887 Teleseat		130	142.21	201.52	
	CLOSE-COUPLED CLOSETS With Bolt Caps, Less Supply and Stop					
3-102	CRITERION—Elongated, with 3-102 Seat with Telescopic Cover		174	157.48	234.27	
3-104	CRITERION—Elongated, with Seat (Sahara Tank)		183	166.09	239.01	
3-113	REXMONT—Regular Rim, Less Seat		130	116.93	140.32	
3-126	DREXEL—Regular Rim, Less Seat		111	66.21	92.51	
3-127	DREXEL—Elongated Rim, Less Seat		114	72.11	99.40	
3-128	DREXEL—Regular Rim, Less Seat (Sahara Tank)		120	84.16	111.87	
3-129	DREXEL—Elongated Rim, Less Seat (Sahara Tank)		123	90.06	118.76	
	For Anti-Siphon Float Valve .....**Add**		.....	1.94	1.94	

CLOSETS—VITREOUS CHINA

Catalog Number	DESCRIPTION	Size	Approx Shpg Wt Pounds	Suggested Consumer Price		
				White	Color	
	CLOSE-COUPLED CLOSETS **With Bolt Caps, Less Supply and Stop**					
3-140	OXFORD—Regular Rim, Less Seat		97	40.59	50.69	
3-142	OXFORD—Regular Rim, Less Seat (Sahara Tank)		112	74.91	95.74	
3-160	NEUDAY—Regular Rim, Less Seat		96	38.19	47.70	
3-162	NEUDAY—Regular Rim, Less Seat (Sahara Tank)		111	70.77	89.90	
3-167	PETITE—Regular Rim, Less Seat—with Bolt-on Tank Cover		86	51.96	64.15	
3-284	HY-SAN—Close-Coupled, with Tank and Trim, Less Supply Pipe, Stop and Bolt Caps		143	107.73	†	
	For Anti-Siphon Float Valve .....Add		.....	1.94	1.94	
	SEPARATE BOWL AND TANK CLOSETS					
3-115	WALSAN—Regular Rim, Bowl, with 3-886 Teleseat		68	82.70	104.40	
3-115	Concealed Tank and Access Wall Panel, for Walsan Closet, Less Carrier Fitting		35	86.06	86.06	
	Use Z-1200 Carrier Fitting for 3-115 WALSAN Closet. For Prices and Proper Index Number, Refer to J. A. Zurn's Current Price Sheet.					
3-200	SAXONET—Regular Rim—2" Back Spud, Bowl Only		38	22.72	†	
3-220	TROY—Elongated Rim—2" Back Spud, Bowl Only		45	.....	.....	
3-221	TROY—Regular Rim—2" Back Spud, Bowl Only		44	.....	.....	
	Low Tanks for above bowls—refer to 3-560					
3-204	SANTON—Elongated Rim—2" Back Spud....		75	41.64	†	
3-206	SANTON—Regular Rim—2" Top Spud		57	30.36	45.55	
3-207	SANTON—Elongated Rim—2" Top Spud....		58	35.53	53.31	
3-208	SANTON JR.—Elongated Rim—2" Top Spud		64	37.95	†	
3-209	SANTON JR.—Regular Rim—2" Top Spud		60	32.93	†	
3-210	BABY—Regular Rim—2" Top Spud		51	36.36	†	
3-215	SANETO—Elongated Rim—2" Top Spud		58	35.53	53.31	
3-216	SANETO—Regular Rim—2" Top Spud		57	31.82	47.73	
	Low Tanks for above bowls—refer to 3-570					
	FLUSH VALVE CLOSETS **Less Valves, Seats, Bolt Caps, Screws and Washers**					
3-282	HY-SAN—Floor Outlet—1½" Top Spud		85	72.65	†	
3-289	HY-SAN—Wall Outlet—1½" Top Spud		85	83.04	†	
3-291	HY-SAN—Wall Outlet—1½" Back Spud		85	83.04	†	
3-295	SANETO—Elongated Rim—1½" Top Spud		58	35.53	53.31	
3-296	SANETO—Regular Rim—1½" Top Spud		57	31.82	47.73	

† Prices on Application.

CLOSETS—VITREOUS CHINA

Catalog Number	DESCRIPTION	Size	Approx Shpg Wt Pounds	Suggested Consumer Price		
				White	Color	
	FLUSH VALVE CLOSETS **Less Valves, Seats, Bolt Caps, Screws and Washers**					
3-300	SANTON—Elongated Rim—1½" Top Spud		60	35.53	53.31	
3-301	SANTON—Regular Rim—1½" Top Spud		63	30.36	45.55	
3-310	SANTON—Elongated Rim—1½" Back Spud		69	41.64	†	
3-302	SANTON JR.—Elongated Rim—1½" Top Spud		63	37.95	†	
3-303	SANTON JR.—Regular Rim—1½" Top Spud		60	32.93	†	
3-320	WHIRLTON—Elongated Rim—1½" Top Spud		58	42.06	63.10	
3-321	WHIRLTON—Regular Rim—1½" Top Spud		57	36.75	55.14	
3-340	SPEEDWAY—Elongated Rim—1½" Top Spud		60	34.53	†	
3-360 3-363	PURTON—Elongated Rim—1½" Top Spud		67	45.21	†	
3-380	BABY—Regular Rim—1½" Top Spud		51	36.36	†	
3-400	TROY—Elongated Rim—1½" Back Spud		45	28.81	43.23	
3-401	TROY—Regular Rim—1½" Back Spud		44	24.38	36.57	
3-420	SAXONET—Regular Rim—1½" Back Spud		40	22.72	.....	
3-450	WALTON—Elongated Rim—1½" Top Spud		63	48.79	†	
3-452	WALTON—Elongated Rim—1½" Back Spud		63	48.79	†	
3-458	PLACIDUS—Elongated Rim—1½" Back Spud		63	55.04	†	
3-459	PLACIDUS—Elongated Rim—1½" Top Spud		63	55.04	†	
3-460	RAPIDWAY—Elongated Rim—1½" Top Spud		60	45.37	†	
3-462	RAPIDWAY—Elongated Rim, Integral Seat—1½" Back Spud		62	50.69	†	
3-464	RAPIDWAY—Elongated Rim—1½" Back Spud		64	45.37	†	
3-475	SANWALTON—Elongated Rim—1½" Top Spud—Wall Outlet		77	55.26	†	
3-476	SANWALTON—Elongated Rim, Integral Seat—1½" Back Spud—Wall Outlet		82	61.04	†	
3-477	SANWALTON—Elongated Rim, Integral Seat—1½" Back Spud—Floor Outlet		82	64.10	†	
3-479	SANWALTON—Elongated Rim—1½" Top Spud—Floor Outlet		77	57.85	†	
3-487	ANGLETON—Regular Rim, Integral Seat—1½" Back Spud—Wall Outlet		73	50.62	†	

CLOSETS; LOW TANKS—VITREOUS CHINA

Catalog Number	DESCRIPTION	Size	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White	Color
	LOW CLOSET TANKS Less Supply				
3-558	SAHARA—Bottom Supply with Trimmings, Supporting Screws and Rubber Insulating Liner		77	53.03	66.05
3-560	NEU-ERA—Bottom Supply with Trimmings and Supporting Screws	6 Gal.	52	30.08	.....
3-570	IPSWICH—Bottom Supply with Trimmings and Supporting Screws and Offset Flush Connection	8 Gal.	65	33.19	44.37
	For Anti-Siphon Float Valve .....Add			1.94	1.94
	Tank Cover Only for 3-560		17	6.28	9.45
	3-570		18	7.74	11.58
	For Tank Cover Locking Device .....Add		.....	4.88	4.88
	BOLT CAPS				
	Oval or Small Round When Ordered Separately .....Per Pr.		.....	.25	.46

BIDETS—VITREOUS CHINA

3-267	HYGIENE—With Chromium Plated Supply Fitting including Vacuum Breaker, Supplies to Floor Less Stops and with Floor Escutcheons, Less Trap		70	119.94	134.99

SINKS—PORCELAIN ENAMELED CAST IRON

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price		
				White Regular	White A.R.	Color A.R.
	CABINET TYPES Less Cabinets and Fittings					
5-40	KITCHEN QUEEN—Two Compartment, Double Drainboard	72x25¼	315	.....	154.12	171.32
5-50	SUNNYDAY—Double Drainboard	54x25¼	220	.....	94.86	105.39
		60x25¼	245	.....	99.84	110.84
5-81 or 5-82	HOMEMAKER—Single Drainboard	42x25¼	185	.....	68.64	76.19
	FLAT RIM, Less Fittings					
5-124	ALL-AMERICAN—Two Compartment	38x22	150	.....	72.86	80.92
5-125 or 5-126	SUNNY LEDGE—Single Drainboard, Single Compartment	42x21	120	.....	57.20	63.57

† Prices on Application.

SINKS—PORCELAIN ENAMELED CAST IRON

Catalog Number	DESCRIPTION	Size inches	Approx Shpg Wt Pounds	Suggested Consumer Price		
				White Regular	White A.R.	Color A.R.
	FLAT RIM, Less Fittings (Continued)					
5-131	SUNNYDEC—Two Compartment with Ledge	32x21	95	.....	37.15	41.22
		42x21	117	.....	58.96	65.91
5-136	SUNNYDEC—Single Compartment with Ledge	24x21	75	.....	26.33	29.20
		30x21	95	.....	31.05	34.37
5-150	Single Compartment—Center Outlet	24x20	55	.....	23.55	26.08
5-155	Single Compartment—End Outlet	24x18	50	.....	22.39	24.90
		24x20	55	.....	23.55	26.08
		30x18	65	.....	25.15	27.86
		30x20	65	.....	27.47	30.50
5-160	Two Compartments—Center Outlets	32x20	115	.....	42.79	47.50
5-195	CLASSROOM—Single Compartment with Ledge,	24x18	51	.....	36.78	41.11

SINKS—PORCELAIN ENAMELED STEEL

	CABINET TYPES Less Cabinets and Fittings					
5-117	Two Compartment—Double Drainboard	66x25	93	.....	56.32	*
5-118	Single Compartment—Double Drainboard	54x25	75	.....	33.11	*
5-121 or 5-122	Single Compartment—Single Drainboard	42x25	61	.....	29.52	*
	FLAT RIM, Less Fittings					
5-140	Two Compartment—with Ledge	32x21	33	.....	18.48	20.33
5-146	Single Compartment—with Ledge	24x21	27	.....	12.32	13.55
		30x21	32	.....	14.71	*

* These fixtures can be furnished in color on the following price basis:
One to eleven pieces (any type or any regular color)—white price plus 15%.
Twelve or more pieces (one type in any one regular color)—white price plus 10%.

SINKS—DURACLAY AND VITREOUS CHINA

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White	Color
	FLAT RIM SINKS Less Fittings				
5-186	Single Compartment, China, with Integral Overflow and End Outlet	12x8	31	24.99	†
		15x12	38	30.78	†
		20x14	44	41.61	†

† Prices on Application.

SINK AND LAUNDRY TUB COMBINATIONS

PORCELAIN ENAMELED CAST IRON

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price		
				White Regular	White A.R.	Color A.R.
	With Concealed Hangers Less Fittings					
6-50 6-51	ASHFORD—With Ledge and Back—Less Legs..	42x25¼	230	.....	81.51	96.06
6-72	Enameled Sliding Drainboard	20⅜x19	6	.....	8.45	.....
6-80	Flat Rim—Reversible	42x20	160	.....	59.42	66.07
8-730	**Angle Pattern Leg—For Under Tub Compartment**	.....	10	7.18	.....	9.01
	Painted	.....	.....	4.75	.....	.....
8-730	**Angle Pattern Leg—For Under Sink Compartment**	.....	12	8.62	.....	10.77
	Painted	.....	.....	5.44	.....	.....

PORCELAIN ENAMELED STEEL

	Less Fittings					
6-68 or 6-69	With Ledge and Back with Sliding Drainboard less Wall Brackets and Leg	42x25	83	.....	56.97	*
6-84	Two Compartment—without Ledge	42x18	50	.....	29.92	*
6-86 or 6-87	Two Compartment—with Ledge	42x21	47	.....	30.10	*
6-78	Sliding Drainboard Only .....for	42x25	9	.....	6.42	.....
	for	42x18	7	.....	6.28	.....
	for	42x21	7	.....	6.28	.....

* These fixtures only can be furnished in color on the following price basis:
One to eleven pieces (any type or any regular color)—white price plus 15%.
Twelve or more pieces (one type in any one regular color)—white price plus 10%.

LAUNDRY TUBS—DURACLAY

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White	Color
	Less Supports and Fittings				
*6-112	LAUNDRETTE—Two Compartment with Brass Duo Waste, Outlet Plugs and Stoppers	42x25	235	120.17	†
	*Back of LAUNDRETTE must be ground to fit flush against wall when used with exposed wall brackets. For grinding charge .....Add	.....	.....	6.11	6.11
6-116	LAUNDRETTE—Single Compartment	22x25	115	50.69	†

† Prices on Application.

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WASH SINKS—PORCELAIN ENAMELED CAST IRON

Catalog Number	DESCRIPTION	Size	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White A.R.	Color A.R.
	Less Fittings				
6-300 or *6-305	Roll Rim—With Back and Concealed Hangers	4' 0"	165	113.38	†
		5' 0"	205	129.64	†
		6' 0"	255	145.99	†
	*If with Stainless Steel Soap Dishes—Add Per Dish	.....	.....	1.94	.....

DRINKING FOUNTAINS—VITREOUS CHINA

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White	Color
6-514	CLEARSTREAM—Wall—Complete with Trim	12x13	38	88.09	106.57
6-520	WATERFALL—Wall, with 7" High Back—Complete with Trim	12x13	46	90.53	110.21
6-525	WATERFALL—Wall, with 15" High Back—Complete with Trim Less Ice Water Faucet	12x13	69	118.52	150.02
6-526	WATERFALL—Wall, with 15" High Back—Complete with Trim including Ice Water Faucet	12x13	75	129.31	160.81
6-530	ERIE—Wall, with 8" Back—Complete with Trim Less Trap	24x13	60	153.84	†
6-536	ERIE—Wall, with 8" Back—Complete with Trim Less Trap	12x13	42	81.01	†
6-542	ONTARIO—Wall—Complete with Trim Less Trap	24x11	60	160.76	†
6-551	THURSTEND—Pedestal—Complete with Trim	10x7½	49	70.59	†
6-555	THURSTEND—Wall—Complete with Trim Less Trap	10x7½	23	49.02	†
6-569	COOLBROOK—Semi-Recess Wall—Complete with Trim including 6-760 Push Button Ice Water Faucet, Less Trap	.....	.....	132.05	165.00
6-570	COOLBROOK—Semi-Recess Wall—Complete with Trim Less Trap	26⅝x15	70	120.33	153.28
6-574	CORRIDOR—Recess—Complete with Trim including 6-760 Push Button Ice Water Faucet	30x16	90	170.77	221.92
6-575	CORRIDOR—Recess—Complete with Trim Less Trap	30x16	86	154.25	205.39
6-610	CORRIDOR—Fountain and Cuspidor Combination Complete with Trim—Less Traps ...	.....	170	285.03	†

DRINKING FOUNTAINS—VITREOUS CHINA

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White	Color
	FREEZE-PROOF DRINKING FOUNTAINS				
6-563	THURSTEND—Freeze-Proof—With Fittings and No. 10 Self Draining Pedal Action Assembly Less Trap .....Bury	18	51	121.18	.....
		36	56	125.05	.....
		48	58	127.78	.....
		60	60	130.50	.....
		72	62	133.32	.....
6-590	ERIE—Freeze-Proof—With Fittings and No. 14 Push Button Automatic Freeze-Proof Valves and Drain Assembly	12x13	63	166.95	.....
6-591	ONTARIO—Freeze-Proof—With Fittings and No. 15 Push Button Automatic Freeze-Proof Valves and Drain Assembly	24x11	102	314.65	.....
	Note: Recessed cabinet regular. If access panel for exposed cabinet installation, specify when ordering. No extra charge.				
	Note: Regularly furnished for wall thickness up to 12" for exposed or 16" for recessed cabinets. For greater wall thickness, specify when ordering. No extra charge.				
	Note: Freeze-Proof equipment Nos. 10, 14 and 15 f.o.b. Chicago, Ill. No freight allowed.				
	Note: Freeze-Proof equipment regularly furnished with 1¼" trap. Can be furnished with 1½" trap when specified. No extra charge.				

URINALS—VITREOUS CHINA

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White	Color
	STALLS, Less All Fittings				
7-31, 7-32 7-34, 7-37 7-40, 7-43 7-44	SANITOR—Slope Front Stall Only, Integral Flushing Rim, Top or Back Inlet	18	135	93.05	†
7-35	CHINA—Plain Front Seam Cover	5¼	65	23.44	†
		7¼	75	33.90	†
	ADDITIONAL CHARGES, for Stall Urinals				
	Grinding Back of Stall	.....	.....	6.11	6.11
	Grinding Sides of Stall	.....	.....	6.11	6.11
	WALL AND PEDESTAL URINALS, Less All Fittings				
7-80, 7-81 7-82	NEU-RIO—Top or Back Inlet with Supporting Screws	18	89	91.75	†
7-85, 7-87 7-90, 7-88	CORRECTO—Top or Back Inlet with Supporting Screws	18	80	78.44	†
7-92, 7-96 7-98	SANURO—Pedestal, Top or Back Inlet, Less Bolt Caps and Screws	.....	70	62.83	†
7-103 or 7-104	EXPEDIO—Top or Back Inlet—2" or 3" S.P.S. Outlet Connection	.....	65	60.33	†

† Prices on Application.

URINALS—VITREOUS CHINA

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price	
				White	Color
	WALL AND PEDESTAL URINALS, Less All Fittings (Continued)				
7-105 or 7-108	MANHATTAN—Top Inlet, Back Outlet, Less Supporting Screws	.....	53	42.22	†
7-107	MANHATTAN—Back Inlet, Back Outlet, Less Supporting Screws	.....	57	43.12	†
7-111	SANTO—Top Inlet, Back Outlet, Less Supporting Screws	.....	55	37.54	†
7-116 or 7-117	BEDFORDSHIRE—Top Inlet, Bottom Outlet, with Tail Piece, Less Supporting Screws	.....	30	25.98	†
7-118	SERVITOR—Top Inlet, Bottom Outlet with Tail Piece, Concealed Hangers and Supporting Screws	.....	44	30.62	†

URINALS—DURACLAY

	TROUGH URINALS				
7-124	DURACLAY—With Supporting Screws, Brackets, Strainer, Stop and Perforated Flush Pipe, Less Trap	36	125	97.45	†
		48	160	112.02	†
		60	200	138.35	†
7-123 or 7-125	DURACLAY—With Supporting Screws, Brackets, Strainer, and Perforated Flush Pipe, Less Other Trim	36	125	93.09	†
		48	160	108.26	†
		60	200	134.94	†

URINAL TANKS—VITREOUS CHINA

	Less Fittings				
7-170	BELLEMEADE—China, End Outlet	#1	37	18.73	†
		#3	53	23.53	†
		#4	59	26.49	†
7-171	BELLEMEADE-SAHARA—China, End Outlet.. Add to the Above Tanks for Automatic Tank Fittings consisting of:	.....	63	38.76	†
	*¾" 9-890 Alert Flush Valve with 9-896 Float Valve	.....	7	23.53	.....
	*1" 9-890 Alert Flush Valve with 9-896 Float Valve	.....	9	26.28	.....
	*1¼" 9-890 Alert Flush Valve with 9-896 Float Valve	.....	11	28.18	.....
	*1½" 9-890 Alert Flush Valve with 9-896 Float Valve	.....	13	31.77	.....

* For Individual Valve Prices See Page 24

SERVICE SINKS—DURACLAY

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	Suggested Consumer Price White	Suggested Consumer Price Color
7-500	DURACLAY—With 8" Back and Supporting Screw, Less Trap Standard and Other Fittings	20x18	100	74.89	†
		22x20	115	84.53	†
	ADD FOR RIM GUARDS:				
	8-981, For Front and Side Rims .....Per Set	20x18	.....	21.81	.....
		22x20	.....	21.81	.....
	8-982, For Front Rim Only .....Each	20x18	.....	8.10	.....
		22x20	.....	8.10	.....

SERVICE SINKS—PORCELAIN ENAMELED CAST IRON

Catalog Number	DESCRIPTION	Size Inches	Approx Shpg Wt Pounds	White Regular	White A.R.
	Less Trap Standard, Strainer and Fittings				
7-560, 7-562, 7-563, 7-566	Roll Rim—With Back	22x18	120	.....	56.55
		24x20	130	.....	63.94
	ADD FOR RIM GUARDS:				
	8-979, For Front and Side Rims	22x18	.....	10.91	.....
		24x20	.....	11.56	.....
	8-983, For Front Rim Only	22x18	.....	5.12	.....
		24x20	.....	5.12	.....
	TRAP STANDARDS With Strainer and Gasket for Service Sinks				
7-620	"P" Type—Enameled Inside	.....	25	26.33	28.92
7-625, 7-626	"S" Type—Enameled Inside	.....	35	28.46	31.42

PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each
	CONCEALED BATH AND SHOWER FITTINGS			
2-295	SINGL-ESE Bath and Shower .....Brush Finish	1	11	88.09
2-297	SINGL-ESE Bath and Shower .....Chrome Plated	1	8	55.51
*2-305	REGAL—with Deviator Spout, with Unions	5	46	29.73
*2-310	CRITERION—with Deviator Spout, with Unions			
	Brush Finish	1	16	88.09
	Chrome Plated	1	16	88.09

* Available for ½" union solder connections (Add suffix "TU")

† Prices on Application.

PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each
	CONCEALED BATH AND SHOWER FITTINGS—(Continued)			
*2-330	TEMPLE—with Deviator Spout, with Unions—3 Rib Handles	5	58	55.51
	Same as above except Lucite Handles	1	12	62.23
*2-332	TEMPLE—with Deviator Spout, with Unions—Lever Handles	1	11	55.51
	CONCEALED SHOWER FITTINGS			
*2-355	REGAL—Two Valve, with Unions	5	34	22.83
*2-360	CRITERION—Two Valve ....Brush Finish	1	6	62.39
	Chrome Plated	1	6	62.39
*2-376	TEMPLE—Two Valve, with Unions—3 Rib Handles	1	8	46.60
*2-378	Same as above except Hooded Lever Handles	1	8	46.60
2-382	Y. M. C. A.—Two Valve *Available for ½" Union Solder Connections (Add suffix "TU")	1	11	48.43
	SHOWERS			
2-470	Exposed—Two Valve—½" Union Elbow Wall Inlets	1	8	39.92
2-471	Exposed—Two Valve with Gooseneck Riser	1	8	41.27
2-511	Exposed—Two Valve—Factory ....(Rough Plated)	1	5	14.73
	FOUNTAIN FITTINGS			
6-518	Supply Fitting for Clearstream Fountain	1	5	46.41
6-529	Supply Fitting for Waterfall Fountain	10	50	45.25
6-547	Supply Fitting for Erie and Ontario Fountains	10	50	52.15
6-559	THURSTEND—Receptor ....(Galvanized)	1	7	6.27
6-572	Supply Fitting for Coolbrook Fountain	10	50	44.95
6-577	Supply for Corridor Fountain	1	5	44.95
6-578	Supply for Corridor Fountain and Cuspidor Comb	1	5	45.43
6-727	Supply Fitting for Thurstend Wall Drinking Fountain	10	25	24.78
6-728	Supply Fitting for Thurstend Pedestal Fountain	1	2	40.36
6-731	PURFLO—Bubbler	1	1	10.08
6-735	PURFLO—Bubbler with Regulating Screw	1	1	16.37
6-740	PURFLO—Lavatory Bubbler with Self-Closing Valve	1	3	23.55
6-746	PURFLO—Wall Bubbler with Self-Closing Valve	1	4	30.25
6-751	PURFLO—Angle Stream Bubbler	1	1	8.66
6-760	Self-Closing—Ice Water Faucet—Angle Spout	6	4	11.40
6-762	Self-Closing—Ice Water Faucet—Swinging Spout	6	6	14.47
6-781	VICTOR—¼" Concealed Self-Closing Stop	6	10	12.69
6-782	VICTOR—Exposed Self-Closing Stop—⅜"	6	5	9.20
	½"	6	6	9.20

PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each
	FOUNTAIN FITTINGS (Continued)			
6-784	Stop—⅜" Exposed with Screwdriver Slot	6	5	4.29
6-800	Regulator—⅜" Exposed Straight Pattern	1	1	12.85
6-801	Regulator—¼" Concealed Straight Pattern (Rough Brass)	1	1	10.03
6-813	Waste for Coolbrook and Corridor Fountains	1	2	8.01
6-815	Waste for Thurstend Wall Fountain (Machine Finish Tailpiece)	1	5	8.08
	(Chromium Plated Tailpiece)	1	5	8.80
6-818	1¼" S.P.S. "P" Trap with Cleanout for Clearstream, Thurstend and Waterfall Fountains (Galvanized)	10	40	8.84
6-820	Waste Fitting for Thurstend Pedestal Fountains (Galvanized)	1	20	18.83
	LAVATORY FITTINGS			
8-0	Wrench—for Dial-ese and Magiclose—Steel	7	1	.26
8-1	CRITERION—Dial-ese Supply and Securo Waste Brush Finish	5	40	67.74
	Chrome Plated	5	40	67.74
8-9	TEMPLE—Supply and Securo Waste for Drexel and Marcia Lavatories—3 Rib Handles	5	35	39.41
	Same as above except Brush Finish	5	35	47.27
	Same as above except with Lucite Handles Chrome Plated	5	35	46.13
	Brush Finish	5	35	55.37
8-10	TEMPLE—Supply and Securo Waste—Metal Spout—3 Rib Handles ....Chrome Plated	5	45	52.73
	Brush Finish	1	9	63.29
	Same as above except Lucite Handles Chrome Plated	1	9	59.45
	Brush Finish	1	9	71.37
8-10	TEMPLE—Modified Supply and Securo Waste—Metal Spout—3 Rib Handles—For use on Marble Slab ⅞" to 1⅞" Thick ....Chrome Plated	1	9	60.51
	Brush Finish	1	9	71.07
	Same as above except Lucite Handles Chrome Plated	1	9	67.23
	Brush Finish	1	9	79.16
8-20-A	SINGL-ESE—Single Lever Mixing Faucet Supply and Indirect Lift Waste Fitting with Aerator Chrome Plated	1	7	49.68
	Brush Finish	1	7	63.20
8-31	VANTAGE—Lavatory Faucet ....Each	20	29	6.35
8-36	VICTOR—Self-Closing Faucet ....Each	20	32	8.13
8-39	VANTAGE—Lavatory Faucet—Indexed "H" or "C" Each	20	32	6.35
8-40	SECURO—Lever Action Waste for Drexel	1	2	18.74
8-44	Indirect Lift Waste with 1¼" (or 1½") Tailpiece for China or E.I. Lavatories	10	16	9.73
	SINK AND LAUNDRY TUB SUPPLY FITTINGS			
8-60-A	TEMPLE—with Swinging Spout and Spray, Lever Handles and Aerator	5	35	34.74

PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each
	SINK AND LAUNDRY TUB SUPPLY FITTINGS (Continued)			
8-72-LA	EMBASSY—with Soap Dish—Female Inlets with 8" Spout, Aerator	1	5	20.72
8-84	EMBASSY—Ledge Type—For E.I. or Steel Sinks	10	40	16.88
8-84-A	Same as 8-84 except with Aerator	10	40	18.30
8-85-A	EMBASSY—Three Valve Ledge Type with Aerator—For E.I. or Steel Sinks	10	56	26.29
8-86-A	EMBASSY—Ledge Type with Aerator—For Duraclay or Countertop Fixtures	10	54	22.58
8-88	EMBASSY—Ledge Type with Spray	5	30	24.16
8-88-A	Same as 8-88 except with Aerator	5	31	25.57
8-89-A	EMBASSY—Three Valve Ledge Type with Spray and Aerator	1	6	33.60
8-97-A	SINGL-ESE—Sink Faucet with Hose Spray	5	26	41.45
8-98	Center Set Supply Fitting with Swinging Spout and Hose End	10	44	17.81
8-117-A	Single Pantry Faucet with Gooseneck Spout and Aerator	5	10	22.14
	SERVICE SINK SUPPLY FITTING			
8-101	Exposed Sink Faucet with Pail Hook and Hose End (Rough Plated)	1	5	17.53
	LAVATORY FITTINGS			
*8-130	WHITNEY—Supply and Direct Lift Waste	10	43	26.01
*8-130-A	Same as 8-130 except with Aerator	10	43	27.42
8-150-A	Supply and Indirect Lift Waste with Aerator and Criterion Lucite Handles	1	5	40.87
8-151-A	Supply and Indirect Lift Waste with Aerator and Embassy Lever Handles	1	5	33.00
8-160	Supply Fitting for Drexel Dental Lavatory	1	5	42.68
	*If Required with Magi-Close Self Closing Units—Specify and Add	....	....	7.71
	LAVATORY SUPPLY PIPES AND STOPS			
8-300	Angle Type—with Stops and Reducers			
	⅜" S.P.S. & W. 6x6"....Per Pr.	20	23	8.61
	⅜" S.P.S. & W. 6x9"....Per Pr.	20	27	8.99
8-304	Angle Type—with Stops with Flexible Tube Riser			
	⅜" S.P.S. x 7/16" O.D. x 11½" Chrome Plated Per Pr.	10	10	7.18
	Brush Finish	2	2	9.50
	Note: Above Supplies available with Loose Key Stops (Add suffix L.K.)	....	....	.....

PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each
	LAVATORY SUPPLY PIPES AND STOPS (Continued)			
8-324	Tailpieces—¼" S.P.S. Male—2" Long (Rough Plated) .....Per Pr.	2	1	.44
8-325	Reducers—⅜" x ¼" Straight (Rough Plated) .....Per Pr.	2	1	.70
8-326	Tailpieces—¼ x 2" Offset (Rough Plated) .....Per Pr.	12	3	1.41
8-335	Stops—⅜" S.P.S. Straight .....Each	6	3	3.13
8-336	Stops—⅜" S.P.S. Angle .....Each	6	3	3.13
8-337	Stops—⅜"S.P.S. x 7/16" O.D. Angle .....Each	6	3	3.50
	LAVATORY AND SINK WASTE FITTINGS			
8-350	P. O. Plug—Less Rubber Stopper—1¼ or 1½" Tailpiece	5	5	3.41
8-351	P. O. Plug—Less Rubber Stopper—1¼" Tailpiece	5	6	5.02
8-352	Waste Fitting—1¼" Tailpiece	5	5	7.13
8-353	P. O. Plug—with Open Strainer—1¼ or 1½" Tailpiece	6	7	3.54
8-354	Sink Waste—Perforated Open Strainer—1½" Tailpiece	1	1	2.06
8-355	Waste Plug—Rubber Stopper—1½" Tailpiece	1	1	2.06
8-362	RECEPTO Waste—for 3½" Outlets	10	28	5.33
8-369	Standing Waste and Overflow—1½ x 7"	1	3	16.12
	LAVATORY FITTINGS AND FAUCET WASHERS			
8-510-A	Low Pattern Spout with Aerator	1	2	9.47
8-525	Single Pedal Control Valve (RGH. CHR. PL.)	1	2	21.28
*8-562	NEU-RAINIER—Supply and Indirect Lift Waste	10	48	21.26
*8-562-A	Same as 8-562 except with Aerator	10	48	22.69
*8-569	NEU-RAINIER—Supply with Chain and Stopper	10	40	13.57
*8-569-A	Same as 8-569 except with Aerator	10	41	14.98
*8-572	NEU-SPRAY—Supply with Spray Outlet	1	5	17.14
*8-575	EMBASSY—Supply and Indirect Lift Waste	5	30	27.05
*8-575-A	Same as 8-575 except with Aerator	5	30	28.48
*8-576	EMBASSY—Supply and Indirect Lift Waste with Ice Water Valve	1	7	47.91
*8-576-A	Same as 8-576 except with Aerator	1	7	49.33
	For above Indirect Lift Waste Fittings with 1½" Tailpiece specify and Add			
8-659	Basin Faucet Washers—(Galvanized) .....Per "C"	....	....	6.11
	*If Required with Magi-Close Self Closing Units—Specify and Add	....	....	7.71

PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each
	CONCEALED BATH AND SHOWER FITTINGS (Continued)			
*2-316	CRESTMONT—C.P. Deviator Spout, Corner Pattern Valves with Unions and Ejector Tee	12	78	17.44
2-316-T	Same as 2-316 except with Integral ½" Solder Inlet Connections	12	78	16.91
*2-317	CRESTMONT—C.P. Deviator Spout, By-Pass Pattern Valves with Unions and Ejector Tee	12	80	18.74
2-317-T	Same as 2-317 except with Integral ½" Solder Inlet Connections	12	80	18.22
*2-318	CRESTMONT—C.P. Three Valve Diverter, Corner Pattern Valves with Unions	8	66	15.86
2-318-T	Same as 2-318 except with Integral ½" Solder Inlet Connections	8	66	15.33
*2-319	CRESTMONT—C.P. Three Valve Diverter, By-Pass Pattern Valves with Unions	8	68	17.16
2-319-T	Same as 2-319 except with Integral ½" Solder Inlet Connections	8	68	16.63
	CONCEALED BATH AND SHOWER FITTINGS WITH INTEGRAL STOPS			
2-345	CRESTMONT—C.P. Deviator Spout, By-Pass Pattern Valves with Unions, Integral Stops and Ejector Ell	8	74	28.90
2-345-TU	Same as 2-345 except with ½" Union Solder Inlet Connections	8	77	28.90
2-347	CRESTMONT—Same as 2-345 except with Ejector Tee	8	74	28.42
2-347-TU	Same as 2-347 except with ½" Union Solder Inlet Connections	8	77	28.42
2-348	CRESTMONT—C.P. "Wall-O-Matic" (Diverter in Wall) By-Pass Pattern Valves with Unions and Integral Stops	8	64	28.18
2-348-TU	Same as 2-348 except with ½" Union Solder Inlet Connections	8	67	28.18
2-349	CRESTMONT—C.P. Three Valve Diverter, By-Pass Pattern Valves with Unions and Integral Stops	8	70	26.84
2-349-TU	Same as 2-349 except with ½" Union Solder Inlet Connections	8	73	26.84
	CONCEALED SHOWER FITTINGS			
*2-383	CRESTMONT—C.P. Shower, Corner Pattern Valves with Unions	12	57	11.19
2-383-T	Same as 2-383 except with Integral ½" Solder Inlet Connections	12	57	10.67
*2-384	CRESTMONT—C.P. Shower, By-Pass Pattern Valves with Unions	12	61	12.21
2-384-T	Same as 2-384 except with Integral ½" Solder Inlet Connections	12	61	11.69
	*Available for ½" Union Solder Connections (Add Suffix "TU")			

PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each
	CONCEALED SHOWER FITTINGS WITH INTEGRAL STOPS			
2-393	CRESTMONT—C.P. Shower, By-Pass Pattern Valves with Unions and Integral Stops	8	62	21.89
2-393-TU	Same as 2-393 except with ½" Union Solder Inlet Connections	8	65	21.89
	ADAPTER SHOWERS			
2-451	CRESTMONT—C.P. Overrim Spout with Deviator, Gooseneck, Shower Head and Wall Bracket	6	35	26.59
2-452	CRESTMONT—C.P. Stub Pattern Spout with Deviator, Valves, Gooseneck, Shower Head, Wall Bracket and Lever Handles	6	42	33.44
2-453	CRESTMONT—C.P. Non-Syphoning Spout with Deviator, Valves, Gooseneck, Shower Head, Wall Bracket and Lever Handles	6	45	38.17
	INSTITUTIONAL AND GOVERNMENT SHOWERS			
2-481	CRESTMONT—C.P. Shower with Riser Pipes on 8" Centers, Gooseneck, Shower Head, Three Wall Brackets and Cross Handles	6	73	46.97
	CURTAIN FRAMES AND CURTAIN ROD HOLDERS			
4-105	C.P. Rectangular Curtain Frame for use with Adapter Showers, Complete with 36" Adjustable Ceiling Support	6	30	20.12
4-106	Same as 4-105 except with Wall Support to be used Independently of Shower	6	32	22.83
4-107	C.P. "Spee-D-Way" Curtain Rod Holder	144	20	.79
	SINK FAUCETS			
8-110-A	CRESTMONT—C.P. Surface Mount Ledge Type with Aerator and Spray	8	36	16.14
8-111-A	Same as 8-110-A except with Soap Dish	8	38	17.35
8-112-A	CRESTMONT—C.P. Surface Mount Ledge Type with Aerator—Less Spray	8	31	11.47
8-113-A	Same as 8-112-A except with Soap Dish	8	33	12.69
	45° PANEL BACK LAVATORY FITTINGS			
8-132	CRESTMONT—C.P. Supply and Waste Fitting with Lever Handles for 45° Panel Back Lavatories	1	5	14.03
8-132-A	Same as 8-132 except with Aerator	1	5	15.15
8-135	CRESTMONT—C.P. Supply Fitting with Chain and 1¼" Rubber Stopper, Lever Handles for 45° Panel Back Lavatories	1	4	10.33
8-135-A	Same as 8-135 except with Aerator	1	4	11.46

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PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each
	SINK FAUCETS			
‡8-250-A	CRESTMONT—C.P. Bottom Mount Ledge Type with Hydromold Spout, Aerator and Spray	8	55	18.27
‡8-251-A	Same as 8-250-A except with Heavy Tubular Spout	8	54	17.16
‡8-252-A	CRESTMONT—C.P. Bottom Mount Ledge Type with Hydromold Spout and Aerator—Less Spray	12	51	12.83
‡8-253-A	Same as 8-252-A except with Heavy Tubular Spout	12	50	11.72
8-254-A	CRESTMONT—C.P. Wall Mount Faucet with Aerator—2½" Adjustment—8" Centers—Lever Handles	12	46	14.64
8-255-A	Same as 8-254-A except with Soap Dish	12	50	15.79
	LAUNDRY TRAY FITTINGS			
8-258	CRESTMONT—R.B. Laundry Tray Fitting for Supplies from Ceiling—Lever Handles	12	50	5.05
8-258-TU	Same as 8-258 except with ½" Union Solder Inlet Connections	12	55	5.05
	LAVATORY FITTINGS			
8-563	CRESTMONT—C.P. Single Lavatory Faucet with Cross Handle—Indexed Hot or Cold	36	38	3.20
8-565-A	CRESTMONT—C.P. Lavatory Supply and Pop-Up Waste with Aerator—4" Centerset	12	56	12.21
8-570-A	CRESTMONT—C.P. Lavatory Supply with Aerator—4" Centers—Less Waste	24	70	7.55
8-571-A	Same as 8-570-A except with Chain and 1⅛" Stopper	24	70	7.80
8-580-A	CRESTMONT—C.P. Lavatory Supply and Pop-Up Waste with Aerator—8" Centers	8	56	23.65
8-581-A	Same as 8-580-A except Less Waste	12	52	18.88
8-582-A	Same as 8-581-A except with Chain and Stopper	12	54	19.13
	CONCEALED OVERRIM BATH SUPPLY FITTING			
*9-41	CRESTMONT—C.P. Overrim Tub Filler, Corner Pattern Valves with Unions	12	57	9.80
9-41-T	Same as 9-41 except with Integral ½" Solder Inlet Connections	12	57	9.28
*9-42	CRESTMONT—C.P. Overrim Tub Filler, By-Pass Pattern Valves with Unions	12	61	10.54
9-42-T	Same as 9-42 except with Integral ½" Solder Inlet Connections	12	61	10.01
	BATH WASTE FITTINGS			
9-43	CRESTMONT—C.P. Trip Lever Waste and Overflow—with "Plug-In-Tee" 1½"—20 Gauge—Adjustable for 14" or 16" Tubs *Available for ½" Union Solder Connections (Add Suffix "TU")	8	34	8.48

PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each
	BATH WASTE FITTINGS (Continued)			
9-43-P	CRESTMONT—C.P. Pop-Up Waste and Overflow—with Plug in Spud, 1½"—20 Gauge—Adjustable for 14" or 16" Tubs	8	34	9.28
	For 17 Gauge, Add	...	....	.74
	For Female Tee, Add	....	....	....
	CONCEALED OVERRIM BATH SUPPLY FITTINGS WITH INTEGRAL STOPS			
9-92	CRESTMONT—C.P. Overrim Tub Filler, By-Pass Pattern Valves with Unions and Integral Stops	8	63	20.22
9-92-TU	Same as 9-92 except with ½" Union Solder Inlet Connections	8	66	20.22
	INDIVIDUAL VALVES AND STOPS			
9-325	CRESTMONT—C.P. Concealed Straightway Supply Valve, ½" S.P.S.	36	55	3.36
9-325-T	Same as 9-325, except with Integral ½" Solder Inlet Connection	36	55	3.36
*9-326	CRESTMONT—C.P. Concealed Corner Pattern Bath and Shower Valve with Union, ½" S.P.S.	36	60	3.92
9-326-T	Same as 9-326 except with Integral ½" Solder Inlet Connection	36	60	3.66
*9-327	CRESTMONT—C.P. Concealed By-Pass Pattern Bath and Shower Valve with Union, ½" S.P.S.	36	66	4.29
9-327-T	Same as 9-327 except with Integral ½" Solder Inlet Connection	36	66	4.03
9-328	CRESTMONT—C.P. Concealed Screw-Driver Stop with Flange ½" S.P.S.	36	46	3.36
9-328-T	Same as 9-328 except with Integral ½" Solder Inlet Connection	36	46	3.36
9-329	CRESTMONT—C.P. By-Pass Pattern Bath and Shower Valve with Unions and Integral Stop, ½" S.P.S.	12	39	8.85
9-329-TU	Same as 9-329 except with ½" Union Solder Inlet Connections	12	39	8.85
9-348	CRESTMONT—C.P. Loose Key School Stop, with Flange ½" S.P.S.	36	43	4.98
	¾" S.P.S.	36	47	5.07
9-349	CRESTMONT—C.P. Loose Key School Stop, Extra Long Barrel, with Flange ½" S.P.S.	36	54	6.74
	¾" S.P.S.	36	57	6.88
	*Available for ½" Union Solder Connections (Add Suffix "TU")			

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PLUMBING BRASS TRIM

Catalog Number	DESCRIPTION	Pcs Per Shpg Carton	Approx Wt Per Shpg Ctn	Suggested Consumer Price Each	
	PLUMBING FITTINGS FOR FEDERAL SPECIFICATION WW-P-541b				
	Paragraph 17-22, Type 56 Laundry Tray Faucet (Overhead Supplies Only)				
8H-95	CRESTMONT—Combination Fitting with 5" Swinging Spout with Hose End, Indexed Lever Handles, with ½" Iron Pipe Female Inlets, Renewable Seats with Union Couplings, on 3¼" Centers, Equipped with Backflow Preventer, Rough Chrome Plate Only	12	52	16.56	
	Paragraph 17-18, Type 48 Service Sink Faucet				
8H-143	CRESTMONT—Service Sink Faucet on 8" Centers, with Lever Handles, ½" Iron Pipe Female Inlets, Adjustable Flanges, Spout with Pail Hook and ¾" Hose End, Equipped with Backflow Preventer, with Renewable Seats, Furnished in Rough Chrome Plate	12	50	26.26	
	Paragraph 17-21, Type 54 Laundry Tray Faucet				
8H-145	CRESTMONT—Combination Fitting with Swinging Hose End Spout, Indexed Lever Handles, Renewable Seats, Equipped with Backflow Preventer, on 8" Centers with ½" Iron Pipe Female Eccentric Union Connections, Adjustable Flanges, Rough Chrome Plate	12	56	24.08	
	STAR-LITE BATHROOM ACCESSORIES				
2-900	C.P. Soap Holder with Removable Plastic Tray	5	4	1.67	
2-902	C.P. Tumbler and Toothbrush Holder	5	3	1.43	
2-904	C.P. Paper Holder with Metal Roller	5	5	2.64	
2-906	C.P. Soap Holder (Removable Plastic Tray) and Grab Bar with Oval-Shaped Metal Bar	5	7	3.15	
2-908	C.P. Oval-Shaped Towel Bar .....18"	1	1	2.87	
	24"	1	1	3.10	
	30"	1	1	3.38	
2-910	C.P. Robe Hook	5	1	.97	
2-915	C.P. Recessed Paper Holder with Metal Roller	5	10	3.75	
2-917	C.P. Recessed Soap Holder with Removable Plastic Tray	5	9	3.04	
2-919	C.P. Recessed Soap and Grab Bar with Removable Soap Tray	5	11	4.21	
	Add the suffix "C" to the above Catalog Numbers to denote Accessories for Cement-in Mounting.				
D-2-950	Star-Lite Display Board with Accessories	1	22.5	.....	

CLOSET SEATS

Catalog Number	DESCRIPTION	Suggested Consumers Price Each		
		White	Black	Plain Color
	RESIDENTIAL SEATS WITH TELESCOPIC COVER			
*3-102	CRITERION—Moltex—Correct Posture with Telescopic Cover	43.16	.....	68.13
*3-886	Regular Rim—Teleseat—Solid Urea Fireproof Plastic with Telescopic Cover	22.88	.....	24.64
*3-887	Elongated Rim—Teleseat—Solid Urea Fireproof Plastic with Telescopic Cover	24.64	.....	26.40
	Solid Plastic Seats - Residential Type			
3-880	Regular Bowl, Open Front, with Cover	14.26	13.29	15.93
3-881	Elongated Bowl, Open Front, with Cover	18.30	18.30	20.15
3-882	Regular Bowl, Closed Front, with Cover	14.26	13.29	15.93
3-883	Elongated Bowl, Closed Front, with Cover	18.30	18.30	20.15
	Budget Price - Solid Plastic Seats			
3-884	Regular Bowl, Closed Front, with Cover			
	Quantities 1 to 143 inclusive	9.15	9.15	9.59
	Quantities 144 or more	8.27	8.27	8.71
	Open Back Solid Plastic Seats			
3-889	Elongated Bowl, Open Front, Open Back, Less Cover	18.74	17.86	.....
	Industrial Type - Solid Plastic Seats			
3-890CC	Regular Bowl, Open Front, Less Cover, with Concealed Check Hinge	11.79	9.77	.....
3-891CC	Elongated Bowl, Open Front, Less Cover, with Concealed Check Hinge	12.14	10.21	.....
	If Less Concealed check, omit CC from number and deduct	.44	.44	.....
	Extra Heavy Industrial Solid Plastic Seats			
3-895	Elongated Bowl, Open Front, Less Cover	16.90	16.10	.....
3-897	Regular Bowl, Open Front, Less Cover	16.54	15.75	.....
	Juvenile Solid Plastic Seats			
3-896	Regular Baby Bowl, Open Front, Less Cover, with Surface Check Hinge	12.85	10.56	.....
	*These Seats Stocked Only at Trenton, N. J. All Others Stocked at Jonesboro, Ark.			

CRANE00708

CRANE

JOHNSTOWN, PA.

MARKETING SERVICES DEPT.

CONSUMERS'

PRICE BULLETIN

Issued by: MARKETING SERVICES
Supersedes and cancels Bulletin No. SUGGESTED CONSUMER PRICE BOOK PCP-10
Enclosures:

Bulletin No. PCP 11-A
Date: September 8, 1961
References:

Subject: SUGGESTED CONSUMER PRICE BOOK PCP-11

Attached is a copy of the new Suggested Consumer Price Book PCP-11.

This price book outlines current consumer prices on all Crane Vitreous China, Duraclay, Porcelain Enameled Cast Iron, Porcelain Enameled Steel Fixtures, Plumbing Brass Trim, Bathroom Accessories and Closet Seats.

Prices are based on fixtures as described and not necessarily complete combinations as illustrated in our 60-G Catalog.

Your attention is called to the Terms and Conditions of Sale and Freight Allowances as outlined on Pages 2 and 3.

The suggested consumer prices are based on a 33-1/3% markup above dealer cost. A 25% discount from suggested consumer price provides dealer cost.

Prices are subject to change without notice.

The PCP-11 Price Book will not be mailed direct to dealers. Each Crane Wholesaler will receive sufficient copies for distribution to his own sales organization.

A limited number of these books have been printed at this time and additional copies for wholesaler distribution may be secured by ordering through our Sales Offices.

CRANE CO.

H. R. Schambach

H. R. Schambach, Manager
Plumbing Products

BATES LABELED

CRANE-00710-00718

CRANE SUPPLY COMPANY

WARRANTY POLICY

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CRANE SUPPLY COMPANY
300 PARK AVENUE • NEW YORK, NEW YORK 10022

Section I.

COOLING PRODUCTS WARRANTY

The Manufacturer warrants to the original user of the air conditioning unit identified hereon that such unit has been manufactured in accordance with its standard manufacturing practices. The Manufacturer further warrants that the unit is fit for the ordinary purpose or purposes specified in its catalog when installed, operated, serviced and used in accordance with (i) all specifications and instructions attached to or accompanying the unit or set forth in the Manufacturer's catalog, and (ii) standards equivalent to those set forth by the National Environmental Systems. Contractors Association. Except as stated herein, MANUFACTURER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY.

Manufacturer shall, at its sole option, repair or replace (or make an appropriate allowance or credit for the repair or replacement of) any component part thereof (other than filters) which shall prove to the satisfaction of the Manufacturer to have been defective in material or workmanship at the time of shipment from its factory and which is returned to Manufacturer, through an authorized wholesaler, freight prepaid, to Manufacturer's factory, within (i) IN THE CASE OF COMPRESSORS ONLY, five years (a) from the date of sale, if the unit has been registered with the Manufacturer or (b) from the date of shipment from the factory of the Manufacturer, if registration has not been made; and (ii) IN THE CASE OF ALL OTHER COMPONENT PARTS, one year (a) from the date of sale, if the unit has been registered with the Manufacturer, or (b) from the date of shipment from the factory of the Manufacturer, if registration has not been made. Any claim not so made within the applicable period shall conclusively be deemed waived by the user. The Manufacturer's responsibility hereunder shall be conditioned upon inspection of the unit and, if authorized by the Manufacturer, return of the unit or component part to Manufacturer without expense to the Manufacturer. THIS WARRANTY SHALL NOT APPLY TO ANY COMPRESSOR WHICH, AT THE TIME OF SUCH INSPECTION, IS MISSING THE MANUFACTURER'S NAME PLATE. No field charges for labor or other expenses incurred in the removal, repair or replacement of the unit or any component claimed to be defective shall be paid by the Manufacturer nor shall Manufacturer be liable for any expense incurred by the user in order to remedy any defect in the unit. Manufacturer shall not be liable for any consequential, special or contingent damage or expense, arising directly or indirectly from any defect in the unit or from the use thereof. THE REMEDIES SET FORTH HEREIN SHALL BE THE EXCLUSIVE REMEDIES AVAILABLE TO THE USER AND ARE IN LIEU OF ALL OTHER REMEDIES.

Service under the warranty covering this air conditioner is the responsibility of the dealer or contractor who installs the equipment. In the event service under this warranty is required, the owner should request such service directly from the dealer or contractor from whom he purchased the unit, under the provisions of any applicable service agreement.

In addition to the Manufacturer's warranty as stated above, Manufacturer will extend to the Wholesaler a labor allowance (per schedule listed under Section I, Paragraph D). The labor allowance will be paid only if registration has been made.

A. How to Register Your Air Conditioning Unit

1. WHOLESALER'S RESPONSIBILITY

Affixed to each unit is an envelope containing a 3-part warranty registration form. This envelope can be reached through the access flap in the shipping carton.

The registration form has been partially completed at the factory and has the unit serial and model numbers and compressor serial number. In the appropriate spaces, using a ball point pen or sharp pencil, CLEARLY PRINT the date of shipment from wholesaler's warehouse, dealer's name, address and telephone number.

Return the warranty registration to us. This is your formal registration for warranty protection. Returns can be made individually or in groups at your option.

Warranty Registration		No.
Condenser Unit Model #	Condenser Unit Ser. #	Compressor Ser. #
Date Of Shipment From Wholesaler		

This card MUST be returned to Activate WARRANTY.

Wholesaler's Name	Owner's Name
Address	Address
City State	City State
Dealer Name	For Service Contact
Address	
City State	Phone

Retain the Wholesaler's Copy for your own warranty file. This file should be a serial number file in numerical order.

Wholesaler's Copy		No.
Condenser Unit Model #	Condenser Unit Ser. #	Compressor Ser. #
Date Warranty Starts		

Wholesaler's Name	Owner's Name
Address	Address
City State	City State
Dealer Name	For Service Contact
Address	
City State	Phone

Insert Home Owner Copy into the envelope affixed to the unit. This copy tells him the date his warranty starts and who to call for service.

Home Owner Copy		No.
Condenser Unit Model #	Condenser Unit Ser. #	Compressor Ser. #
Date Warranty Starts		

Wholesaler's Name	Owner's Name
Address	Address
City State	City State
Dealer Name	For Service Contact
Address	
City State	Phone

2. DEALER'S RESPONSIBILITY

The installer of the air conditioning unit should remove the envelope containing the homeowner's copy of the registration form from the unit as soon as the carton is opened and, on split systems, tape it to an accessible and visible section of the return air duct.

On self-contained units, tape the envelope to an accessible, visible and protected location near the unit, or deliver personally to the home owner.

This envelope reads--

"IMPORTANT --- WARRANTY INFORMATION INSIDE DO NOT DESTROY"

B. When Does the Warranty Start

1. At date of purchase from our wholesaler, if the unit is registered at the time of sale, or
2. At date of shipment from our factory, if the unit is not registered.
   a. NOTE – On equipment shipped direct to a job site, we will register the equipment. The warranty period will begin 60 days from date of shipment from our factory.

C. How is Failure Date Determined

1. FAILURE DATE WILL AUTOMATICALLY BE DETERMINED TO BE 30 DAYS PRIOR TO RECEIPT OF AN INOPERABLE COMPRESSOR AT OUR FACTORY.

   This is of primary importance on units in the first and fifth year of the warranty period. Failure to promptly return inoperative compressors during the latter portion of the first year period could move the failure date into the second year with a loss of labor allowance. Failure to promptly return inoperative compressor during the latter portion of the fifth year could mean extending beyond the warranty period.

2. If the compressor is received at our factory within 30 days from date of sale, the failure date will be established as date of sale.

D. Schedule of Allowances

APPLICABLE DURING THE FIRST YEAR OF THE WARRANTY PERIOD.

1. If a compressor requires replacement, the following will be the allowance for labor:

	LABOR
1½ & 2-ton	$25.00
2½, 3 & 3½-ton	35.00
4 & 5-ton	50.00
7½ & 10-ton	50.00 per compressor

2. If a leak occurs in a factory made joint or a coil requires replacement, the following will be the allowance for labor:

Factory Leak Repair	$15.00
Coil Replacement	25.00

3. If freon must be replaced due to a factory leak or replacement of a compressor or coil, the following will be the allowance for freon:

1½, 2 & 2½-ton	$6.00
3 & 3½-ton	7.00
4-ton	8.00
5, 7½ & 10-ton	9.00 per circuit

4. No allowances will be made for labor or freon in the second through fifth years of the warranty period.

Section II.

WHAT TO DO IF AN AIR CONDITIONER BECOMES INOPERABLE

A. Dealer's Responsibility

1. The installing dealer or his representative is responsible for inspecting an inoperable unit and determining cause. Consult Section II, D. for compressor check out procedure. When cause is determined, take appropriate corrective measures as outlined.
2. Remove the warranty card from its envelope and record on the R.C. Tag the serial number and condenser model and serial number. Check to insure the serial number on the card matches the serial number on the name plate. (In the event of a mismatch, list both numbers and indicate which is card and which is unit.)
3. If the compressor requires replacement, check to see if the unit is in its first year warranty period. Promptly return compressors in this period to insure receiving applicable labor allowances. REMEMBER–FAILURE

CRANE00712

DATE IS DETERMINED AS 30 DAYS PRIOR TO RECEIPT OF COMPRESSOR AT OUR FACTORY.

4. Application for in-warranty claims and exchange of defective parts should be made through your wholesaler.

B. Wholesaler's Responsibility

1. When a dealer applies for in-warranty labor allowance or an exchange of a defective part, first check the serial number of the unit involved against your warranty file.

2. If the unit is in warranty, prepare the return material Form RMF-1.

   Return the defective material, properly packed and freight prepaid, to our factory. (See packing return material section.)

   If the compressor requires replacement, check to see if the unit is in its first year warranty period. Promptly return compressors in this period to insure receiving applicable labor allowances. REMEMBER--FAILURE DATE IS DETERMINED AS 30 DAYS PRIOR TO RECEIPT OF COMPRESSOR AT OUR FACTORY.

C. Manufacturer's Responsibility

1. On receipt of returned merchandise, we will record the date of failure as 30 days prior to receipt.

   This date will be entered into the warranty record and will establish which year of the 5-year warranty the failure occurred.

2. The compressor will be inspected and tested.

   A large percentage of inoperative compressors are defective and should properly be replaced under warranty but there is also a significant portion which fall into the following categories:

   a. The compressor checks OK and should not have been removed from the unit.

   b. The compressor is missing its nameplate.

   c. The compressor shows definite signs of abuse.

   d. The compressor has failed due to excessive moisture in the system.

   e. The compressor has failed due to external electrical problems as evidenced by uniformly burned windings.

3. Compressors falling into categories a. and b. will be void of warranty. Notification will be made within 30 days of receipt of compressor at our factory and NO WARRANTY CREDIT WILL BE ISSUED.

4. Disposition of Operative or Abused Compressors.

   Two options are available if the compressor is determined to be operative--or abused.

   a. We will return the compressor to the wholesaler, f.o.b. our factory and will debit the wholesaler's account $18.00 per compressor for handling and testing costs, or

   b. We will return the compressor to the manufacturer for a carcass allowance to offset the cost of the handling and testing in lieu of debiting the wholesaler account for $18.00.

5. Disposition of First Year Failures

   If the compressor is determined to be inoperative, 100-percent credit will be issued to the wholesaler within 30 days of receipt at our factory.

   a. If the compressor manufacturer determines cause of failure to be in category d. or e. responsibility for the failure becomes difficult to determine. Poor installation, maintenance, or quality of component could be the cause. Cause will not be known for six months to a year. Consequently, WE WILL ISSUE FULL WARRANTY CREDIT AT THE TIME OF FAILURE BUT RESERVE THE RIGHT TO APPLY A 50-PERCENT DEBIT WHEN ACTUAL CAUSE HAS BEEN DETERMINED.

6. Disposition of Second through Fifth Year Compressors

   If the compressor is determined to be inoperative, full credit will be issued to the wholesaler within 30 days of receipt at our factory.

D. Compressor Replacement Instructions

Before replacing the hermetic compressor, be sure to check the following to make certain that the compressor needs replacing:

A. COMPRESSOR DOES NOT START - NO HUM

1. Check fuses.
2. Main switch open - check for voltage at contactor with volt meter.
3. Contactor not pulled in -
   (a) Check time delay switch
   (b) High pressure or low pressure switch open (if unit is so equipped)
   (c) Compressor internal thermostat open from overheating (due to loss of refrigerant)
4. Compressor overload protector tripped or defective (If external protector is used)
5. Check compressor winding continuity with leads removed using a low range (0 to 5-Ohms) Ohmmeter or VTVM (Vacuum Tube Volt Meter). Resistance measured from "start" to "common" and from "run" to "common" should total to equal resistance measured from "start" to "run". If this procedure checks compressor winding as "good" and there are no grounds, look elsewhere for difficulty before changing compressor.

B. COMPRESSOR DOES NOT START - HUMS BUT CYCLES ON OVERLOAD PROTECTOR

1. Check high and low side pressures to be sure they are equalized.
2. Measure voltage on terminals with a voltmeter while trying to start and compare with nameplate rating.
3. Check run capacitor.

C. COMPRESSOR STARTS AND RUNS BUT CYCLES ON OVERLOAD

1. Check for proper voltage.
2. Measure current draw with ammeter and compare with data curve. If current is not high, replace overload (if replaceable) NOTE: Do not use acid flux when soldering electrical connections on overload. Use rosin flux and 50-50 solder - do not over feed solder.
3. Check or replace run capacitor.
4. If a start capacitor and start relay are used, replace these parts.

If it is determined for certain that a compressor replacement is required, proceed as follows:

After first disconnecting power supply and removing fuses:

1. Discharge a small amount of refrigerant and oil onto a clean white cloth tissue or paper towel - through the high side gage port. Check the color of the oil and check for any acrid odor to the refrigerant or oil.
2. Discharge a small amount of refrigerant and oil through the low side gage port and check again for acrid odor or oil discoloration.
3. If no oil discoloration or acrid odor is detected, proceed to step 13.
4. If the oil is discolored with carbon and an acrid smell is noted, the compressor hermetic motor windings have burned and it will be necessary to clean out the carbon, acid, water and other contamination before installing a new compressor.

Failure to properly clean up a system with a burnout will result in another burnout of the replacement compressor and this is not covered by the warranty.

5. Determine the extent to which the system has been contaminated.

   (a) Discharge the remainder of the refrigerant through the liquid line gage port on a factory charged system or the high side gage port of a field charged system. (avoid contact with the skin by the refrigerant or oil).

   (b) Use a tubing cutter and cut the suction line tube about one foot from the compressor. Also cut the high pressure switch pressure connection as close to the discharge line as possible (if a high pressure switch is used).

   On field charged units cut off the low pressure (¼" o.d.) line to the service valve. With a torch, heat and remove the low pressure switch connection to the compressor.

   As each piece of tubing is cut open, examine the inside for evidence of discolored oil to determine how far from the compressor the carbon and other burned by-products have carried.

   (c) Remove the burned compressor and close or plug the tubing connections tightly for return shipment.

   (c) Disconnect the liquid and suction lines from the evaporator end of the remote tubing lines and examine for evidence of discolored, contaminated oil and acrid odor.

   (d) If burn occurred rapidly and is confined to the compressor, the evaporator and condenser coil might not be contaminated. If oil and lines do not show carbon or acrid odor away from the compressor, then step 6 may be omitted.
   If there is any doubt as to the extent of the burn and contamination, then include step 6 in cleanup procedure.

6. If the burn has been slow and the refrigerant and oil has been circulated in the system, the evaporator will also be contaminated. It will be necessary to flush out the evaporator with R-11.

   (a) If the evaporator is equipped with an expansion valve, remove the power head and cage assembly and close off the valve body with a blank or use the power head itself without the cage. (reinstall valve cage after cleaning.)

   Pump R-ll through the evaporator until the solution returns clear.

   (b) If the evaporator is equipped with capillary tubes, remove the capillary tubes, flush out the coils, replace the capillary tubes with new ones recommended by the factory for the particular coil.

   (c) Disconnect the liquid and suction lines from the condensing unit. If contaminated, flush out both lines with R-11 until all contamination is removed.

   New tubing should be used when installing the new compressor after the system has been cleaned of all contamination.

   (d) Flush out the condenser coil with R-11 to remove all contamination.

7. Locate the new compressor on the base and run new tubing from the compressor discharge line to the condenser (using a tee fitting for the high pressure switch tap).

   Install new tubing and fittings from the compressor suction stub to the remote line.

   If field charged, run new ¼" O.D. tubing from compressor process connection on the low side to the service valve. If a low pressure switch is used, insert the end of the tap in the stub of the process connection along with the line to the low side service valve.

8. Solder all copper to copper joints using a self fluxing brazing alloy such as "Phoson" or "Silphos" while flowing dry nitrogen through the tubing as long as it is hot, to prevent internal oxidation.

   Use silver solder and flux when joining copper to the steel process valve used on field charged models.

   NOTE: If nitrogen is not used to prevent oxidation inside the copper tubing, then 95-5 solder and flux with lower temperatures may be used, however, extreme care must be used to avoid over feeding the solder or using

too much flux. Failure of a system the second time because of solder pieces in the system is not covered by the warranty.

9. Install a SUCTION LINE FILTER* in the suction line as near to the compressor as practical. Use either a "Permaclean" Type F220 or a "Sporlan" SF28 – of the correct fitting size for the suction line.

*Heat pump models are equipped with a combination accumulator and suction filter. Replace the entire accumulator on 1½ and 2 ton models. On larger sizes, a replaceable dessicant strainer cartridge is used and should be replaced by first removing the cap on one side of the accumulator. The old cartridge should be withdrawn from its retainer tube and replaced with a new one furnished dehydrated in a sealed package.

10. Install a new filter drier in the liquid line and check for refrigerant leaks.

11. Triple evacuate the entire system, breaking the vacuum each time to about 5 psig. with R-22 refrigerant.

12. After the last evacuation, weigh the correct refrigerant charge into the system and place the system in operation. (See refrigerant charging chart included with each replacement compressor). On self-contained models refer to the unit rating plate for total refrigerant charge.

13. If compressor is not burned but is to be replaced for some other reason:

    (a) Bleed off refrigerant charge in system and remove all pressure from system.

    (b) Either cut off tubing away from compressor at suction and discharge lines, or heat fittings to pull out tubing from compressor stubs. NOTE: Factory joints are made with copper solder requiring about 1500° to re-melt solder.

    (c) Disconnect wiring and remove defective compressor, install new compressor and solder lines back to compressor stubs as recommended in step No. 8. Locate high and low pressure switch capillary connections in the same location as on the original compressor.

    (d) Replace wiring to new compressor following wiring diagram furnished with compressor.

Follow steps 10, 11 and 12 to dehydrate and charge the system with refrigerant.

RETURNING COMPRESSOR TO FACTORY

Compressors returned in warranty must have a tag attached identifying the condensing unit model and serial number from which it was removed, the compressor serial number and a statement describing the nature of the defect for which the compressor was removed.

Return the defective compressor in the shipping carton in which the replacement compressor was received, otherwise box the compressor to prevent further damage from shipping.

Motor compressors are all tested one or more times before they leave the factory. Special fittings are used to connect to the various valves, tubes and terminals employed. When a customer returns a unit claiming in warranty failure, it is necessary to repeat these tests. If the valves, tubes and terminals are in good condition, this presents no problem, but if the threads are mashed, valves or tubes mashed, broken, sawed off or melted out of the domes or if terminal bolts are loose and wires dropped off inside, such tests are impossible, except at a prohibitive expense. Under such circumstances the return is coded "Field Abuse" and the warranty is voided.

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Section III.

HEATING PRODUCTS WARRANTY

The Manufacturer warrants to the original user of the heating product identified hereon that such product has been manufactured in accordance with its standard manufacturing practices. The Manufacturer further warrants that the product is fit for the ordinary purpose or purposes specified in its catalog when installed, operated, serviced and used in accordance with (i) all specifications and instructions attached to or accompanying the product or set forth in the Manufacturer's catalog, and (ii) standards equivalent to those set forth by the National Environmental Systems Contractors Association. Except as stated herein, MANUFACTURER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY.

The Manufacturer shall, at its sole option, repair or replace (or make an appropriate allowance or credit for the repair or replacement of) any component part thereof (other than filters) which shall prove to the satisfaction of the Manufacturer to have been defective in material or workmanship at the time of shipment from its factory and which is returned to Manufacturer, through an authorized wholesaler, freight prepaid, to Manufacturer's factory. (With the exception of heat exchangers which shall be held by the wholesaler for inspection by the manufacturer's representative) within (i) IN THE CASE OF HEAT EXCHANGERS ONLY, the period specified (see table below) with respect to the appropriate unit as measured from the earlier of: (a) the date of installation, or (b) a date six (6) months from the date of manufacture, and (ii) IN THE CASE OF ALL OTHER COMPONENT PARTS, a period of one year measured from the earlier of (a) the date of installation, or (b) a date six (6) months from the date of manufacture. Any claim not so made within the applicable period shall conclusively be deemed waived by the user. The Manufacturer's responsibility hereunder shall be conditioned upon inspection of the product and, if authorized by the Manufacturer, return of the product or component part to Manufacturer without expense to the Manufacturer.
THIS WARRANTY SHALL NOT APPLY TO ANY HEAT EXCHANGER WHICH UPON INSPECTION IS DETERMINED TO HAVE BEEN OPERATED IN A CORROSIVE ATMOSPHERE.
No field charges for labor or other expenses incurred in the removal, repair or replacement of the product or any component claimed to be defective shall be paid by the Manufacturer nor shall Manufacturer be liable for any expense incurred by the user in order to remedy any defect in the product. Manufacturer shall not be liable for any consequential, special or contingent damage or expense, arising directly or indirectly from any defect in the product or from the use thereof. THE REMEDIES SET FORTH HEREIN SHALL BE THE EXCLUSIVE REMEDIES AVAILABLE TO THE USER AND ARE IN LIEU OF ALL OTHER REMEDIES.

Service under the warranty covering this heating unit is the responsibility of the dealer or contractor who installs the equipment. In the event service under this warranty is required, the owner should request such service directly from the dealer or contractor from whom he purchased the unit, under the provisions of any applicable service agreement.

Furnace heat exchangers have extended warranty protection as follows:

MODEL (S)	PERIOD
GH, G-L, G-C, O-L, O-H, O-C, O-S	20 Years
G-S, GB	10 Years
WG (heating element only)	10 Years
PG1 (heating element only)	5 Years
PG2, PG3	5 Years
O - Industrial Oil	5 Years
E3, EWC (heating element only	1 Year

Section IV.

WHAT TO DO IF A HEAT EXCHANGER FAILS

A. Dealer's Responsibility

The installing dealer or his representative is responsible for proper installation, application and servicing of a gas or oil heating unit.

Should premature failure of the heating element (heat exchanger) occur during the warranty period applicable to that model, it shall be the dealer's responsibility to diagnose the failure, order a replacement element and make replacement for the user within a reasonable period of time.

After removal of the defective element from the furnace the dealer should take or send the element to the wholesaler from whom the furnace was purchased and, at the same time, furnish to the wholesaler the following information:

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1. Model and date code (from furnace rating plate).
2. Customer name and address.
3. Date of installation.
4. Date of failure (or removal from unit).

B. Wholesaler's Responsibility

The wholesaler shall order any required heating element from our factory and furnish same to the dealer within a prompt and reasonable time period.

The Wholesaler shall hold the defective heating element for inspection by a representative from our Company.

After inspection the defective element will be either field scrapped at the Wholesaler's (by sending an RM tag with the requested information, including the invoice number the replacement was purchased on and the signature of the factory representative) or returned to the factory for special analysis.

Once a heating element has been determined to be defective because of poor materials and/or workmanship, full credit (if within the warranty period) shall be issued by the wholesaler to the dealer to cover the cost of the replacement element furnished.

C. Manufacturer's Responsibility

We will furnish f.o.b. our factory a replacement element at no cost to the dealer, provided the unit is within the warranty period.

On receipt of an order for a replacement heating element, we will make every reasonable effort to ship the heating element promptly to the destination designated and will invoice the wholesaler for this heating element.

After the failed element has been inspected by a factory representative and has been determined to be defective because of poor material and/or workmanship the element will be field scrapped and proper credit will be issued to the wholesaler to cover the cost of the replacement element furnished.

This warranty DOES NOT COVER ANY LABOR involved in replacing the failed element.

Section V.

HOW TO RETURN EQUIPMENT FOR CREDIT OR REPAIR

A. Returning Compressors

1. Inspection

Before removing the hermetic compressor from the unit, refer to the check list on "compressor replacement" instructions C13" provided with each replacement compressor. RETURNING AN OPERATIVE COMPRESSOR WILL VOID THE WARRANTY.

2. Removal

Compressors may be removed by unsweating or use of a tubing cutter. If a brazing torch is used, avoid overheating, which could melt the factory solder. When using a tubing cutter, do not cut refrigerant lines closer than ½" from the compressor stubs.

USE OF A HACKSAW TO CUT REFRIGERANT LINES WILL VOID THE WARRANTY.

3. Sealing

Rubber plugs are furnished in the replacement compressor. As soon as the inoperative compressor is removed from the condensing unit, firmly insert these plugs in the open tubing and then tape in place to prevent plugs from falling out during transit.

Proper sealing is required to prevent contamination from moisture and dirt which could void the warranty.

4. Packing

In each replacement compressor carton is an envelope containing a multiple part replacement compressor tag. The installer must fill in all required information on this form and—

a. Place manufacturer's two (2) copies and wholesaler's one (1) copy in the envelope and securely wire to the compressor.

b. Retain installer's copy for the dealer's record.

Pack the inoperative compressor (with envelope attached) in the replacement compressor carton. Pack with care to avoid damage in transit. Compressors received without cartons or packed with negligence so damage has occured will not be accepted.

5. Returning

The inoperative compressor in its carton should be IMMEDIATELY RETURNED to the wholesaler from which the replacement compressor was obtained.

The wholesaler should remove his copy of the R. C. tag from the envelope and compare to his warranty registration file to determine which year of the warranty period the compressor is in. Compressors in the first and fifth years of the warranty period should be returned immediately to insure receiving full benefits.

The wholesaler should seal the carton for shipment to our factory and return with return material form RMF-1.

PLEASE INSURE THE ABOVE INSTRUCTIONS ARE KNOWN TO ALL PERSONNEL HANDLING RETURN COMPRESSORS.

B. Returning Controls and Parts

Inoperative parts such as thermostats, motors, contactors, etc. may be returned to our factory for replacement under standard warranty terms.

Before returning inoperative parts, check your yellow pages to determine if an authorized original manufacturer's repair, exchange, or service station is conveniently located. These authorized stations repair or exchange parts, most often at a freight and time savings.

If no service or exchange station is nearby, inoperative parts may be returned as follows:

1. Complete Returned Material Tag (form RMT-1). This is a multiple part tag with an advance mail-in manufacturer's copy, a dealer copy and a cardboard copy to be attached to each returned part.

   Whenever the age of a control or part is doubtful or beyond the warranty period, the installation date and failure date as shown on the RMT tag will govern if within reason.

   RMT forms are available on request.

2. Single part returns require no further paper work. However, for multiple part returns a list of these parts must be included with each return shipment. The wholesaler may elect to use his own form, keeping a copy for his records; or our return material RMF-1, available on request.

   Parts must be packed with care to prevent shipping damage. Many parts have salvage value if in an undamaged condition even though inoperative due to in-warranty failure.

   We reserve the right to deny in-warranty credit or to refuse no charge replacement on parts received in a damaged condition. It is the responsibility of the wholesaler returning these parts to package and return as follows:

   a. Attach RMT tag to each part.

   b. Return advance mail and manufacturer's copy to alert us of your return.

   c. Small parts, such as controls, should be individually packaged or preferably wrapped. These parts should be placed on top of heavier items such as motors.

   d. Motors and other heavy items should be on the bottom and should be carefully separated from each other with corrugated material.

   e. A protective layer of corrugated cardboard should be used to separate smaller items on top from the heavier, larger items below.

   f. All parts should be packed so that little or no internal movement of parts will occur during transit.

   g. Each carton should be taped and/or banded securely. Mark each carton "FRAGILE" and "THIS SIDE UP."

   Air conditioning compressors are NOT to be returned with other parts. For return of inoperative compressors, see specific instructions and policy regarding these returns.

4. Return parts freight prepaid to:

   CRANE SUPPLY COMPANY
   300 Park Avenue
   New York, New York 10022

   Size and weight of shipment will determine safest and most economical method for return.

5. Parts which obviously have no salvage value may be scrapped locally. For example– a blown capacitor. Wholesaler may hold these parts for inspection by our factory sales representative who can authorize field scrapping. When this is done, the RMT tag form must be properly filled in and submitted by our sales representative to receive in-warranty credit or shipment of replacement part.

6. Gas and oil furnace heat exchangers are covered by a separate section on policy and procedure.

   We will furnish replacement parts and controls as per published warranty terms. Such parts, if in warranty will be furnished f.o.b. factory on a credit, replacement, or exchange basis. There is no labor or special allowance for costs incurred in replacing these parts.

   It is the responsibility of the installing dealer or contractor to replace failed, in-warranty parts and controls in the original equipment.

C. Returning Heat Exchanger

Most heat exchangers are field scrapped. See Section IV. Paragraph B for instructions.

D. Returning Complete Units

At times there is occasion for return of a major piece of equipment to our factory.

Major equipment means furnace, condenser, coil, line set, or air handler and NOT parts such as controls, motors, and compressors which are returned under the established in-warranty procedure.

Generally such a return is for the purpose of inspection, special reconditioning, or credit.

In order to properly handle these returns, please follow this procedure:

1. Write or phone the sales office giving details – model and serial (or series) number, invoice number of replacement unit, plus reason for return.
2. Upon approval for return, we will issue you part three of form UR-2 which gives these details and also includes a special shipping label which has the same identification number as shown on the form. Parts one and two of the form are retained for us to use. Part three is for your records.
3. Affix the special label to the unit and return it to Johnson Corporation in the usual manner.
4. When the unit is received it will then be processed to completion as per the original request.

Please note that units received without permission and without the special yellow shipping label will be refused and thus returned to the sender.

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BATES LABELED

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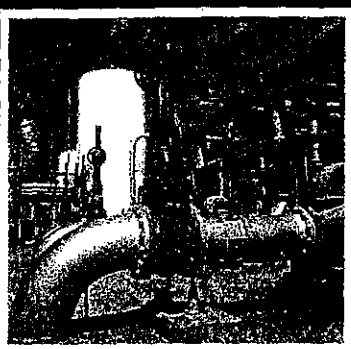

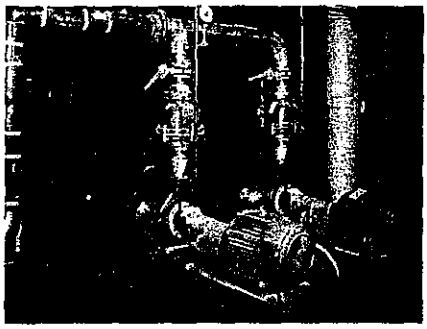

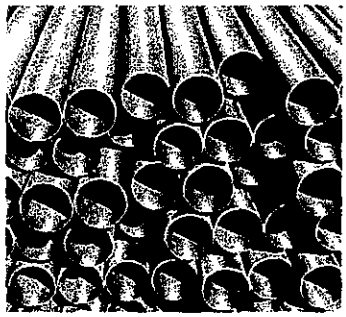

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CRANE SUPPLY COMPANY

CRANE, U.S.A.

DIVISION OF CRANE CO.

PRICE SERVICE

CRANE00719

CRANE SUPPLY COMPANY

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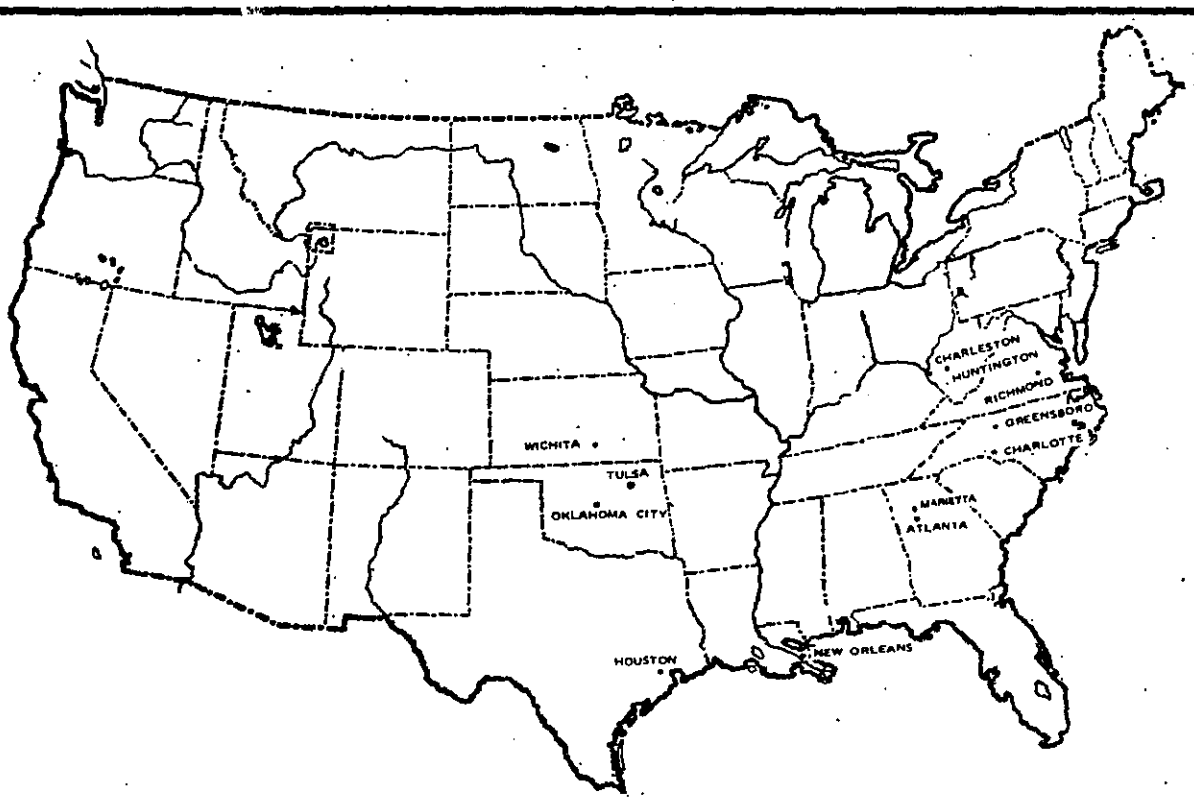

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CRANE SUPPLY COMPANY

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Revised: 5-27-81
Replacing: 4-1-81

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CRANE SUPPLY COMPANY

CRANE

CAPRI

CAPRI

CORNATE

YORKSHIRE

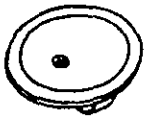
OXFORD

NORWICH

CONCERTO

RAINBEAU

SONNET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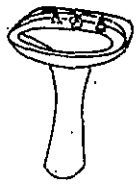
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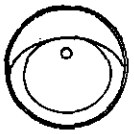
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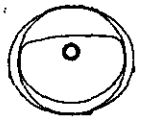
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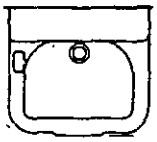
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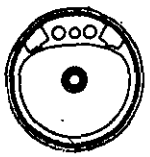
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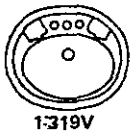
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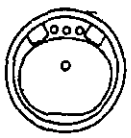
1-315V

CHINA LAVATORIES

			WHITE	COLOR
CAPRI VANITY PACKAGE:				
1-420-V	CAPRI	19 x 17" CHINA LAV. W/C-20 CABINET	245.39	261.54
1-425-V	CAPRI	25 x 22" CHINA LAV. W/C-25 CABINET	349.70	376.29
WALL HUNG:				
1-372	CORNATE	17 x 17" CORNER LAVATORY	239.23	
1-127	OXFORD	19 x 17" WITH HANGERS	175.79	232.05
1-300-S	YORKSHIRE	20 x 18" W/CONC. HANGER 8" CENTERS	96.62	118.85
1-318-V	WESTMONT	19 x 17" F/CONC.ARM CARRIER 4" CTR.	90.03	
1-320	WESTMONT	19 x 17" W/CONC. HANGER 4" CENTERS	59.08	77.04
SLAB TYPE: (4" OR 8" CENTERS)				
1-160	NORWICH	20 x 18" LESS LEG, WITH BRACKET	142.02	
1-165	NORWICH	20 x 18" DRILLED FOR CONCEALED ARMS	160.95	
CHINA, HIGH BACK: (4" OR 8" CENTERS)				
1-194	NORWICH	18 x 15" F/CONC. HANGER OR ARMS	142.02	
1-194	NORWICH	20 x 18" F/CONC. HANGER OR ARMS	131.33	
1-194	NORWICH	24 x 21" F/CONC. HANGER OR ARMS	243.25	
LEGS:				
8-7054	F/NORWICH	SETS LAVATORY 31" TO TOP OF SLAB	62.67	

SELF-RIMMING LAVATORIES

			WHITE	COLOR	PREM. COLOR
CHINA: (4" OR 8" CENTERS)					
1-356	CONCERTO	21x19" RECTANGULAR W/SEALANT	185.71		
1-358	CONCERTO	21x19" SAME W/CONC. SOAP DISH.	185.71	223.84	248.63
1-243	RAINBEAU	21x17" OVAL W/CONC. SOAP DISH	139.37	176.47	194.09
1-283-S	SONNET	19x16" OVAL WITH SEALANT	110.30	143.13	157.41
1-285	SONATA	19x16" SAME W/CONC. SOAP DISH	110.30	143.13	157.41
COUNTERTOP:					
1-981	TIARA	19x16" W/GRND. RIM F/UNDER CTR.	109.44	153.81	169.20
1-983	TIARA	19x16" GLAZED RIM F/COUNTER TOP	124.32	165.44	182.03

PEDESTAL LAVATORY

CHINA:					
1-20-S	DIANA	25x21" W/PEDESTAL 8" CENTERS	480.25	629.37	692.29
		TWO TONE COLORS			761.46

GALAXY LAVATORIES

CHINA: (4" CENTERS)						
1-250-V	19"	DIAMETER, ROUND,	SELF-RIM	110.30	137.57	151.34
1-283-V	19 ¼ x 16"	OVAL	SELF-RIM	110.30	137.57	
1-300-V	20 x 18"	WALL HUNG, WITH CONC. HANGERS		90.80	111.75	
FORMED STEEL: (4" CENTERS)						
1-299	18" DIA.	ROUND	FLAT RIM	40.36		
1-306	21 x 17"	OVAL, SELF-RIM W/CUSH'N'SEAL		51.98	55.89	
1-315	19" DIA.	ROUND	SELF-RIM	48.65	53.52	58.91
1-319	20 x 17"	OVAL	SELF-RIM	51.64	56.77	
1-321	19 x 16"	OVAL	FLAT RIM	42.49		
1-346	20 x 18"	RECTANGULAR	SELF-RIM	56.94	62.67	68.91

ENAMELED CAST IRON LAVATORIES

CRANE SUPPLY CO.				WHITE	COLOR
SELF-RIMMING: (4" OR 8" CENTERS)					
052-0264	APRIL	19"	ROUND WITH SEALANT	123.90	159.15
052-0274	OVETTE	20 x 17"	OVAL WITH SEALANT	139.35	175.50
COUNTERTOP: (4" CENTERS)					
052-0234	APRIL	18"	ROUND, REQUIRES RIM	113.70	135.60
052-0244	OVETTE	19-1/4x16-1/4"	OVAL, REQUIRES RIM	119.40	144.90
052-0254	CHARLOTTE	20 x 18"	RECTANG., REQUIRES RIM	126.60	144.90
WALL HUNG: (4" OR 8" CENTERS)					
052-0164	FREMONT	19 x 17"	LOW BACK	148.80	
052-0174	FREMONT	20 x 18"	LOW BACK	159.00	

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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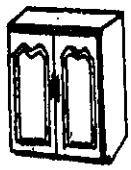
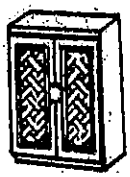
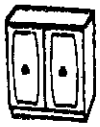

ROYAL PROVINCIAL

LEXINGTON


AMERICANA


CAPRI

CAPRI

COMPLETE CABINETS:		
C-20	WHITE WALNUT CABINET	155.01
C-20	NATURAL OAK	155.01

COMPLETE CABINETS:		
C-25	WHITE WALNUT CABINET	201.35
C-25	NATURAL OAK	201.35

AVAILABLE IN AZTEC, GOLD, SKY BLUE AND SUN TAN.

SIZE	NUMBER	PRICE
CABINET PACKAGE:		
SPACE SAVER:		
	786WW	77.46
17-3/4" SS	786WW	77.46
	786FW	77.46
	786FW	77.46
DELUXE:		
	244WW	89.95
	244WW	89.95
23-1/2" STD.	244WW	89.95
	244FW	89.95
	244FW	89.95
	244FW	89.95

NO.	DESIGN	PRICE
DOOR PACKAGE:		
448W	ROYAL PROV.	42.58
C20WW	CAPRI	39.24
548FW	LEXINGTON	42.58
C20FW	CAPRI	39.24
444WW	ROYAL PROV.	67.72
844WW	AMERICANA	82.76
C25WW	CAPRI	62.67
544FW	LEXINGTON	67.72
844FW	AMERICANA	82.76
C25FW	CAPRI	62.67

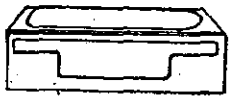
NO.		PRICE
VANITY TOPS:		
FOR USE WITH C-20 CABINET:		
1-420-V	LAVATORY WHITE	90.37
1-420-V	LAVATORY COLOR	106.53
COLORS: AZTEC, GOLD, SKY BLUE, CAMEO & SUN TAN.		
FOR USE WITH C-25 CABINET:		
1-425V OR S.	LAV. WHITE	148.34
1-425V OR S.	LAV. COLOR	174.93
COLORS:AVAILABLE: AZTEC, GOLD, CAMEO, SKY BLUE & SUN TAN.		

CABINET FINISHES – WW=WHITE WALNUT
FW=FRUITWOOD

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

CRANE®



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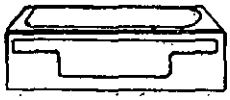

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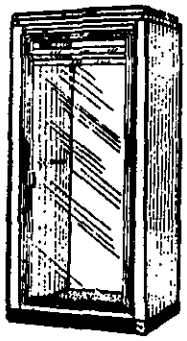
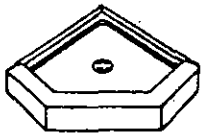
POWERS FIAT CORPORATION





BATH TUBS

CRANE: FORMED STEEL GALAXY:				WHITE	COLOR	PREM. COLOR
2-160	OLYMPIC	4'6"	LESS SLIP RESIST. BOTTOM	220.33	254.11	
2-162X	OAKBROOK	5'	ABOVE FLOOR ROUGH-IN WITH SLIP RESIST. BOTTOM	226.49		
2-166	OTTAWA	5'	LESS SLIP RESIST. BOTTOM	198.36	218.20	251.71
FOR SLIP RESISTANT BOTTOM, SPECIFY & ADD:				11.71	11.71	11.71
HEAVY STEEL:						
2-150X	GRANDPRIX	5'	WITH SLIP-RESIST. BOTTOM	304.98	335.50	369.02
2-152X	GRANDPRIX	5'	WITH SLIP-RESIST. BOTTOM	427.50		
CRANE SUPPLY CO. ENAMELED CAST IRON:						
012-1320	NEUDAY	4' 6"	RECESSED, 14" APRON	591.75	638.40	
012-1420	FAIRFAX	5'	RECESSED, 14" APRON	395.85	549.60	
012-1120	PREMIER	5'	RECESSED, 16" APRON	630.15	785.10	
012-1220	PREMIER	5' 6"	RECESSED, 16" APRON	907.20	1146.15	
012-1520	HYWELL	5'	F/ABOVE FLOOR INSTALLATION	639.75		

SHOWERS

FIAT:				
532	32 x 32 x 75"	JUBILEE	WHITE ACRYLIC REVERSIBLE	503.25
98-M	30 x 30 x 75"	PILOT	WHITE BAKED ENAMEL (REV.)	344.40
98-M	32 x 32 x 75"	PILOT	WHITE BAKED ENAMEL (REV.)	344.40
27	32 x 32 x 81"	CADET	WHITE BAKED ENAMEL (REV.)	682.50
27	36 x 36 x 81"	CADET	WHITE BAKED ENAMEL (REV.)	738.75
630	30 x 30 x 74-1/2"	SEAGULL	WHITE POLYPROPLENE LESS DOOR	383.40
632	32 x 32 x 74-1/2"	SEAGULL	WHITE POLYPROPLENE LESS DOOR	383.40
633	32 x 32 x 76-1/2"	SEAGULL	WHITE POLYPROPLENE LESS DOOR	439.20
ADD FOR DOOR ON SEAGULL MODEL				110.40
SHOWER FLOORS: TERRAZZO				
32-MFT	32 x 32"	MONTEREY	SINGLE THRESHOLD	237.30
36-MFT	36 x 36"	MONTEREY	SINGLE THRESHOLD	257.55
48-MFTR	48 x 32"	MONTEREY	SINGLE THRESHOLD	301.35
36-MFTC	36 x 36"	MONTEREY	NEO CORNER	254.55
32-MFTD	32 x 32"	MONTEREY	DOUBLE THRESHOLD	242.25
36-MFTD	36 x 36"	MONTEREY	DOUBLE THRESHOLD	270.90
32-FT	32 x 32"	SIERRA	FLANGED FOUR SIDES	223.80
36-FT	36 x 36"	SIERRA	FLANGED FOUR SIDES	243.00
36-FTC	36 x 36"	SIERRA	NEO CORNER	228.00
MOLDED STONE:				
32-CST	32 x 32"	CASCADE	SGL. THRESHOLD F/RECESS. INSTALL.	152.70
34-CST	34 x 34"	CASCADE	SGL. THRESHOLD F/RECESS. INSTALL.	159.45
36-CST	36 x 36"	CASCADE	SGL. THRESHOLD F/RECESS. INSTALL.	165.75
42-CST	42 x 34"	CASCADE	SGL. THRESHOLD F/RECESS. INSTALL.	190.05
48-CST	48 x 34"	CASCADE	SGL. THRESHOLD F/RECESS. INSTALL.	201.75
54-CST	54 x 34"	CASCADE	SGL. THRESHOLD F/RECESS. INSTALL.	241.35
60-CST	60 x 34"	CASCADE	SGL. THRESHOLD F/RECESS. INSTALL.	257.85
34-CDT	34 x 34"	CASCADE	DBL. THRESHOLD F/CORNER INSTALL.	172.35
36-CDT	36 x 36"	CASCADE	DBL. THRESHOLD F/CORNER INSTALL.	183.45
38-CSTC	38 x 38"	CASCADE	NEO CORNER	176.70
48-ST	48 x 32"	CASCADE	SINGLE THRESHOLD	201.75

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CRANE SUPPLY COMPANY

301	CRANE CLOSETS	Revised: 6-24-81 Replacing: 5-27-81	301

CRANE®

EMPRESS

RADCLIFFE

HYMONT

FLORMONT

REXMONT

HYGIENE

NEU-SANETO

SANTON JR.

WHIRLTON

PURTON

PLACIDUS

RAPIDWAY

SANWALTON

HARVARD

RADCLIFFE

NEU SAHARA

CLOSET COMBINATIONS

			WHITE	COLOR	PREM COLOR
ONE PIECE:					
3-113	EMPRESS	ELONGATED RIM, SYPHON JET	660.15	943.07	
CLOSE COUPLED, REVERSE TRAP: WATER ECONOMY					
3-130	RADCLIFFE	PLAIN RIM, 10" RGH-IN	151.68	184.08	
3-132	RADCLIFFE	PLAIN RIM, 14" RGH-IN	151.68	184.08	
3-143	RADCLIFFE	PLAIN RIM, 12" RGH-IN	164.16	205.03	232.56
3-144	RADCLIFFE	ELONG., 12" RGH-IN	204.17	265.05	294.12
3-154	HYMONT	ELONG., 18" HIGH BOWL	294.46	366.54	
3-171	REXMONT	WALL HUNG	415.79	493.68	540.70
3-189	GALAXY	ELONG. RIM 12"	163.13	196.14	
3-190	GALAXY	PLAIN RIM 12"	123.98	149.63	
CLOSE COUPLED, REVERSE TRAP: WATER ECONOMY					
3-116	FLORMONT	PLAIN RIM, WALL OUTLET	259.07	356.96	
3-184	FLORMONT	ELONG., WALL OUTLET	301.82	394.16	
FOR 3-559 NEU SAHARA TANK ON RADCLIFFE, REXMONT & FLORMONT		ADD:	25.74	25.74	25.74

BIDETS LESS STOPS & TRAPS

3-267	HYGIENE	LESS FITTINGS	196.91	262.57	288.82
WITH SUPPLY FTG. & VACUUM BREAKER:					
3-267-2	HYGIENE	WITH 8-1645 TRIM	599.53	665.02	691.44

FLUSH VALVE CLOSETS

			WHITE
3-297	NEU-SANETO	ELONGATED RIM, BOWL ONLY, TOP SPUD	168.35
3-309	SANTON, JR.	ELONGATED RIM, BOWL ONLY, TOP SPUD	173.05
3-325	WHIRLTON	ELONGATED RIM, BOWL ONLY, TOP SPUD	168.35
3-362	PURTON	ELONGATED RIM, BOWL ONLY, TOP SPUD	253.51
3-446	PLACIDUS	ELONGATED RIM, BOWL ONLY, TOP SPUD	227.26
3-460	RAPIDWAY	ELONGATED RIM, BOWL ONLY, TOP SPUD	242.39
3-480	SANWALTON	WALL OUTLET, ELONG. RIM, TOP SPUD	275.22
3-449	PLACIDUS	ELONGATED RIM, BOWL ONLY, BACK SPUD	227.26
3-462	RAPIDWAY	ELONGATED RIM, INTEGRAL SEAT, BK.SPUD	226.42
3-464	RAPIDWAY	ELONGATED RIM, BOWL ONLY, BACK SPUD	242.39
3-481	SANWALTON	WALL OUTLET, INTEGRAL SEAT, BACK SPUD	332.34

REPLACEMENT BOWLS, TANKS & COVERS

			WHITE	COLOR	PREM COLOR
WATER ECONOMY CLOSET BOWLS:					
3-130	RADCLIFFE	10" RGH-IN BOWL ONLY	89.35	105.51	
3-132	RADCLIFFE	14" RGH-IN BOWL ONLY	89.35	105.51	
3-189	GALAXY	ELONGATED BOWL ONLY 12" RI	102.34	120.98	
3-190	GALAXY	PLAIN RIM BOWL ONLY 12" RI	70.54	76.52	
LOW CLOSET TANKS:					
3-175	HARVARD	W/COVER & TRIM	56.00	69.00	75.92
WATER ECONOMY CLOSET TANKS:					
3-179	GALAXY	TANK W/COVER & TRIM	56.00	69.00	
3-540	RADCLIFFE	W/COVER & TRIM FOR USE WITH 3-116, 3-130, 3-132–3-143, 3-144, 3-154 & 3-171	56.00	69.00	75.92
3-559	NEU SAHARA	INSULATED TANK FOR USE WITH 3-131, 3-133, 3-145, 3-146, 3-153, 3-172, 3-119 & 3-186	81.74	94.73	101.66
TANK COVERS:					
3-113	EMPRESS		66.53	71.56	78.57
3-175	HARVARD		41.81	51.39	56.52
3-540	RADCLIFFE		41.81	51.39	56.52
3-559	NEU SAHARA		41.81	51.39	56.52

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CRANE SUPPLY COMPANY

CLOSET SEATS

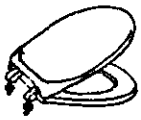
Revised: 7-1-81
Replacing: 9-1-80

302

BENEKE

XM-20TM
EM-20TM

880



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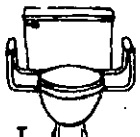
SAMARITAN

SHELTERING ARMS



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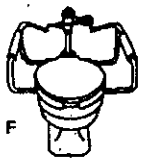

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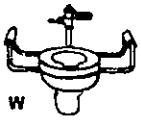

W

DESCRIPTION		SEAT WITH COVER MODEL NO.	WHITE	COLOR	SEAT WITHOUT COVER MODEL NO.	WHITE	COLOR
SQUARE BACK REGULAR RIM:							
Closed front	Top Mount Hinge	XM-20TM	14.40	14.40			
	Chrome Plated Hinge	XM-20CPH	23.40		—		
Open front	Top Mount Hinge	XM-21TM	15.15		XM-23TM	14.40	
SQUARE BACK ELONGATED RIM:							
Closed front	Top Mount Hinge	EM-20TM	19.05	19.05			
	Chrome Plated Hinge	EM-20CPH	28.05		—		BLACK
Open front	Top Mount Hinge	EM-21TM	19.80		EM-23TM	18.60	18.60
	Chrome Plated Hinge				EM-23TM	27.60	
SOLID PLASTIC REGULAR RIM:							
Closed front	Regular Hinge	880	26.25	26.25	—		
Open front	Regular Hinge	881	26.25		—		
HI-RISE SOLID PLASTIC:							
REGULAR RIM:							
Closed front	Regular Hinge	420	40.05	44.55	—		
Open front	Regular Hinge	421	40.05		—		
ELONGATED RIM:							
Closed front	Regular Hinge	520	50.55	57.60	—		
Open front	Regular Hinge	521	50.55		—		
SOLID PLASTIC REGULAR RIM:							
Open front	Regular Hinge	—			423NCH	29.85	27.00
Open front	Check Hinge	—			423	29.85	27.00
Open front	Self-Raising Hinge	—			423NSR	101.10	96.75
Open front	Self-Sustaining Hinge	—			423SS/NCH	32.70	30.00
SOLID PLASTIC ELONGATED RIM:							
Open front	Regular Hinge	—			523NCH	30.00	27.45
Open front	Check Hinge	—			523	30.00	27.45
Open front	Self-Raising Hinge	—			523NSR	102.75	98.40
Open front	Self-Sustaining Hinge	—			523SS/NCH	32.25	29.55
EXTRA HEAVY DUTY:							
Open front	Check Hinge	—			527	40.95	38.85
SAMARITAN 4-1/2" LIFT WITH SEAT:							
Open front	REGULAR RIM	—			L-403	185.25	
Open front	ELONGATED RIM	—			L-503	196.35	
SHELTERING ARMS SEATS:							
FOR TANK TYPE BOWLS:							
Open front	REGULAR RIM	T-401	184.50		T-403	184.50	
Open front	ELONGATED RIM	T-501	195.60		T-503	195.60	
FOR WALL HUNG BOWLS:							
Open front	REGULAR RIM	W-401	184.50		W-403	184.50	
Open front	ELONGATED RIM	W-501	195.60		W-503	195.60	
FOR FLUSH VALVE FLOOR MOUNT:							
Open front	REGULAR RIM	F-401	193.50		—		
Open front	ELONGATED RIM	F-501	205.05		—		

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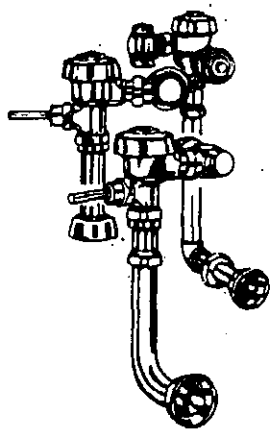
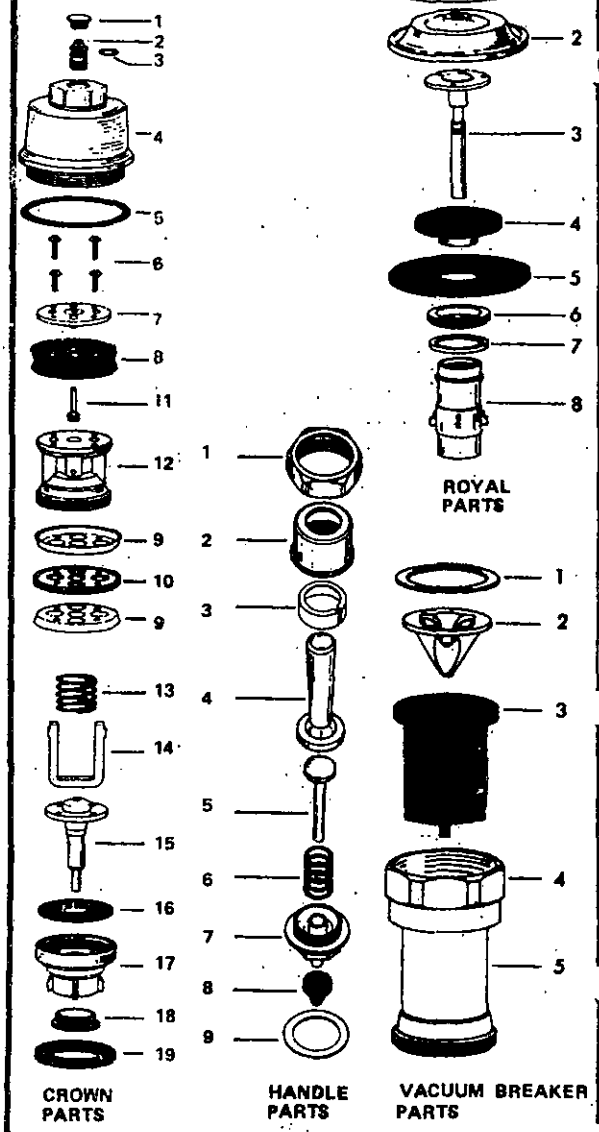
CRANE SUPPLY COMPANY

SLOAN FLUSH VALVES

Revised: 3-11-81
Replacing: 4-10-80



SLOAN
Flush Valves



FLUSH VALVES

	ROYAL WITH VACUUM BREAKER	CODE	PRICE
110	CLOSET EXPOSED TOP SPUD TYPE	3010100	125.10
115	CLOSET EXPOSED TOP SPUD TYPE	3010300	131.28
120	CLOSET EXPOSED BACK SPUD TYPE	3010800	133.41
140	CLOSET CONCEALED BACK SPUD	3011110	137.58
152	CLOSET CONCEALED BACK SPUD	3011610	129.21
180	URINAL EXPOSED F/1-1/4 TOP SPUD	3012400	125.10
186	URINAL EXPOSED F/3/4 TOP SPUD	3012600	125.10
190	" CONCEALED F/1-1/4 BACK SPUD	3013010	125.67
195	" CONCEALED F/3/4 BACK SPUD	3013210	125.67

ROYAL REPAIR PARTS

3-8	CLOSET VALVE INSIDE PARTS KIT	3301036	23.30
3-8	URINAL VALVE INSIDE PARTS KIT	3301037	23.30
1	A72 CP COVER	0301172	19.31
2	A71 INSIDE COVER	0301168	5.86
3	A19AC CLOSET RELIEF VALVE	0301058	6.70
	A19AU URINAL RELIEF VALVE	0301059	6.70
4	A15A DISC	0301111	4.71
5	A156A SEGMENT DIAPHRAGM	0301188	5.41
6-8	A163A GUIDE	0301236	6.82

CROWN REPAIR PARTS

	CLOSET/URINAL VALVE REPAIR KIT WITH K60A PISTONS & ITEMS 3,5,7 9-11, 16,19 & M10 & S26 (NOT SHOWN)	0319185	21.50
1-5	CR74A C.P. COVER ASSEMBLY	0332078	24.12
	K60A CLOSET PISTON ASSEMBLY WITH ITEMS 6-8, 11-12, 14-19	0311056	36.79
	S60AU URINAL PISTON ASSEMBLY WITH ITEMS 6-7, 9-12, 14-19	0319025	32.61
1	CR71 COVER BUTTON	0332086	1.00
2-3	CR70 REG.SCREW W/CR72 "O" RING	0332092	1.35
4	CR74A COVER	0332078	24.12
5	S-5 COVER GASKET	0319034	.50
6	CR-75 TOP PLATE SCREWS (4 REQ.)	0332094	.22
7&11	S15A TOP PLATE EXPELLOR	0319027	6.07
8	S14A MOLDED CUP	0319046	3.29
9	S14 CUP LEATHER (2 REQ.)	0319045	1.83
10	S36 SPACER	0319096	1.89
14	CR58 SAFETY BAR	0332068	.58
15	CR18A RELIEF VALVE	0332032	5.82
16	S20 RELIEF VALVE SEAT	0319076	.94
17-18	K123A CLOSET GUIDE W/K444 RESTRICTION RING	0311085	15.76
	S43A URINAL GUIDE W/44 RESTRICTION RING	0319101	12.47
19	S123A CLOSET MAIN SEAT	0319162	7.56
	S21 URINAL MAIN SEAT	0319079	1.92

HANDLE PARTS

5-9	B50A	HANDLE REPAIR KIT	3302305	4.49
2-9	B32A	C.P. HANDLE ASSEMBLY	0302279	13.82
1	A6	C.P. COUPLING	0301082	4.75
2-3	B7A	HANDLE SOCKET	0302109	4.38
4	B32	C.P. GRIP	0314114	13.03
5	B8A	PLUNGER		
6	B10	SPRING	AVAILABLE IN KITS ONLY	
7	B40	BUSHING		
8	B39	SEAL		
9	A31	HANDLE GASKET	0301139	.17

VACUUM BREAKERS PARTS

1-3	V500 SERIES REPAIR KIT	3323192	3.76
1-5	V500A C.P. VACUUM BREAKER	0323010	23.36
1-5	V500AA 1-1/2x9" C.P. VAC. BREAKER	0323007	23.36
1-5	V500AA 3/4x9" C.P. VAC. BREAKER	0323005	23.36

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CRANE SUPPLY COMPANY

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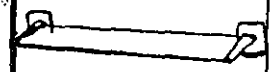
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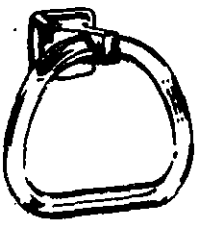
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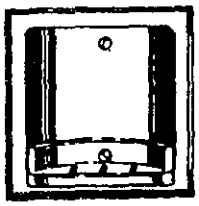
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CORONADO

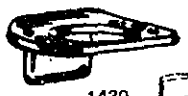
CHROME:		
620	SOAP HOLDER	6.90
621	SOAP HLDR. W/DRAIN	7.23
622	SOAP HLDR. W/TRAY	7.56
630	TUMBLER & T.B.	6.90
640	TUMBLER HOLDER	7.02
642	ASHTRAY	8.91
650	TOOTHBRUSH HOLDER	5.73
660	SOAP & GRAB	13.83
670	PAPER HOLDER	12.42
671	PAPER HOLDER	10.41
681	SINGLE HOOK	4.32
682	DOUBLE HOOK	5.46
685	TOWEL PIN	7.44
686	TOWEL RING	10.32
688	18" ADJ. RACK	42.06
688	24" ADJ. RACK	44.97
689	3-ARM SWING BAR	16.14
694	18" SQUARE BAR	12.15
694	24" SQUARE BAR	13.02
694	30" SQUARE BAR	14.25
694	36" SQUARE BAR	15.81
698	18" GLASS SHELF	17.34
698	24" GLASS SHELF	17.55
698	24" S/S SHELF	25.98
CHROME RECESSED:		
625	SOAP HOLDER	12.96
635	SOAP, T.B. & TUMBLER	19.05
645	TUMBLER HOLDER	12.96
665	SOAP & GRAB	18.24
675	PAPER HOLDER	16.35
676	PAPER HOLDER	14.79

METROPOLITAN

BLISTER PACKED:		
720	SOAP HOLDER	5.94
730	TUMBLER & T.B.	5.94
770	PAPER HOLDER	10.74
771	PAPER HOLDER	9.12
781	SINGLE HOOK	4.32
782	DOUBLE HOOK	5.40
786	TOWEL RING	9.12
794	18" SQUARE BAR	11.28
794	24" SQUARE BAR	11.94

TEMPO

CHROME:		
822	SOAP HOLDER	4.26
832	TUMBLER HOLDER	4.26
872	PAPER HOLDER	7.83
884	TOWEL RING	6.69
896	18" SQUARE BAR	8.25
896	24" SQUARE BAR	9.18
896	30" SQUARE BAR	9.78
CHROME RECESSED:		
824	SOAP HOLDER	12.15
865	SOAP & GRAB	18.90
875	PAPER HOLDER	16.08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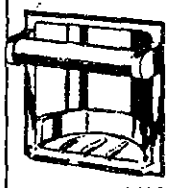
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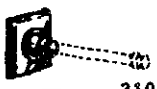
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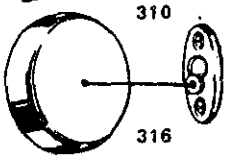
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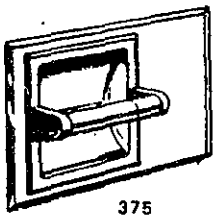
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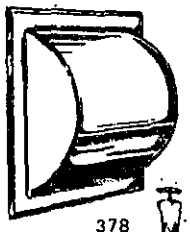

378

LL-2

ARISTOCHROME

POLISHED BRASS:		
1420-PB	SOAP HOLDER	29.10
421-PB	SOAP HLDR. W/DRAIN	29.31
1430-PB	TUMBLER & T.B.	29.10
1470-PB	PAPER HOLDER	37.80
481-PB	SINGLE HOOK	17.55
1482-PB	DOUBLE HOOK	20.52
1486-PB	TOWEL RING	21.60
1495-PB	18" ROUND BAR	40.29
1495-PB	24" ROUND BAR	42.60
495-PB	30" ROUND BAR	42.99
498-PB	18" GLASS SHELF	49.56
498-PB	24" GLASS SHELF	52.65
POLISHED BRASS RECESSED:		
425-PB	SOAP HOLDER	26.40
445-PB	TUMBLER HOLDER	26.40
1465-PB	SOAP & GRAB	46.65
475-PB	PAPER HOLDER	41.04

SPECIALTIES

CHROME:		
303	RELAX UNIT	92.55
TOWELSCOPE:		
310	RECESSED	20.85
311	SURFACE	20.19
316	CLOTHESLINE	26.07
338	CONC. LAV. UNIT	96.39
351	WALL SCALE	198.66
360	9" GRAB BAR	21.87
360	16" GRAB BAR	24.03
360	24" GRAB BAR	26.40
361	ANGLE GRAB BAR	59.19
362	ANGLE GRAB BAR	59.19
375	CONCEAL-A-ROLL	72.30
378	PAPER HOLDER	44.89
TOWEL RINGS:		
686R	CLEAR LUCITE	10.86
686C	STARDUST LUCITE	11.28
499PC	TOWEL LADDER	86.01

PARTS

9418	18" SQUARE BAR	3.30
9424	24" SQUARE BAR	4.20
9430	30" SQUARE BAR	5.46
C-360	TUBE CONNECTOR	1.23
694	POST ONLY PAIR	9.12
6670	CHROME ROLL	2.97
6671	ROLLER, BLACK	1.35
6625	TRAY ONLY	1.56
L-600	LUG WALL PLATE	1.08
M-600	SCREW WALL PLATE	.87
1600-B	ADHESIVE MOUNT	1.29
600-C	RECESS CLAMPS	3.03

LEGS & TOWEL BARS

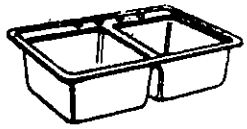
LL-2	LEGS	PAIR	30.45
LB-2	BARS	PAIR	21.87
883	CLAMP BAR		12.30

CRANE00731

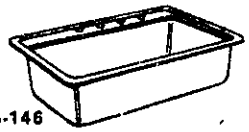
12

CRANE SUPPLY COMPANY

CRANE®



5-140



5-146

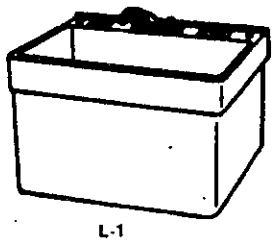
POWERS FIAT CORPORATION

ENAMELED STEEL SINKS

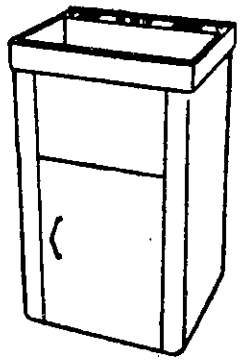
					WHITE	COLOR
CRANE:						
5-140	CRESTMONT	32 x 21	DOUBLE	4-HOLE	64.98	71.48
5-146	CRESTMONT	24 x 21"	SINGLE	4-HOLE	48.39	53.27

ENAMELED CAST IRON SINKS

212-1083	FLAIRMONT	25 x 22"	SINGLE,	SELF-RIM, 3-HOLE	182.70	
212-1084	FLAIRMONT	25 x 22"	SINGLE,	SELF-RIM, 4-HOLE	182.70	216.15
212-1088	FLAIRMONT	33 x 22"	DOUBLE,	SELF-RIM, 3-HOLE	257.35	
212-1089	FLAIRMONT	33 x 22"	DOUBLE,	SELF-RIM, 4-HOLE	257.35	324.00
212-1048	SUNNY DEC	24 x 21"	SINGLE,	3-HOLE	147.45	
212-1069	SUNNY DEC	24 x 21"	SINGLE,	4-HOLE	147.45	166.50
212-1008	SUNNY DEC	32 x 21"	DOUBLE,	3-HOLE	204.90	
212-1029	SUNNY DEC	32 x 21"	DOUBLE,	4-HOLE	204.90	232.20



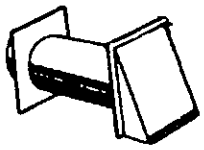
L-1

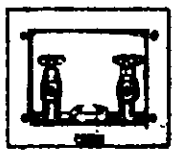


L-2

LAUNDRY TRAYS

FIAT MOLDED STONE LAUNDRY TUBS:			
L-1	SINGLE PACK WALL HUNG, SINGLE TUB		90.60
L-6	SIX PACK WALL HUNG, SINGLE TUB	PER EACH	84.45
FL-1	SINGLE PACK FLOOR MOUNTED, SINGLE TUB WITH LEGS		90.60
FL-6	SIX PACK FLOOR MOUNTED, SINGLE TUB WITH LEGS	PER EACH	84.45
L-2	DELUXE CABINET WITH SINGLE TRAY		188.55
LTD	SINGLE PACK WALL HUNG, DOUBLE TUB		181.20
FLTD	SINGLE PACK FLOOR MOUNTED DOUBLE TUB WITH LEGS		181.20
POLYPROPYLENE LAUNDRY TUBS:			
P-1	SINGLE PACK SINGLE TUB WITH LEGS		52.95
P-6	SIX PACK SINGLE TUB WITH LEGS	PER EACH	49.20
SERV-A-SINK ACCESSORIES:			
A-1	C.P. FAUCET, 4" CENTERS WITH SWING SPOUT, HOSE END		34.05
A-2	12" C.P. BRASS OVERFLOW TUBE W/SELF-SEATING 'O' RING		4.50
A-3	5 x 1-1/2" FAUCET BLOCK FOR OVERHEAD PIPED FAUCETS		2.55
A-6	MOULDED STONE COVER FOR LAUNDRY TUB		26.70





B-150

DRYER VENTS

VU4-1-12	4" VENT HOOD		5.31
VFK-45	4" FLEX KIT		11.76
VF-405	4" FLEX TUBING	5' LG.	4.95
VF-408	4" FLEX TUBING	8' LG.	7.89
VC-4	4" TUBING CLAMP		.57
VP-4	4" x 2' PIPE		2.88
VE-4	4' ALUMINUM ELBOW		2.76

WASHER DRIP BOXES

GUY GRAY:		
BOTTOM SUPPLY:		
B-150	W/1-1/2" DRAIN, NO ELEC.	55.32
BED-150	W/1-1/2" DRAIN & ELEC.	74.94
TOP SUPPLY:		
BB-150-TS	W/1-1/2" DRAIN, NO ELEC.	55.62
BBED-150-TS	W/1-1/2" DRAIN & ELEC.	75.24

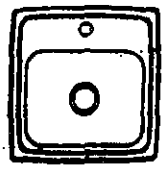
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

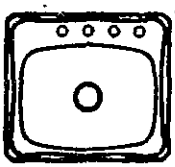
ELKAY STAINLESS STEEL SINKS

Revised: 3-24-81
Replacing: 3-11-81

ELKAY



BLR-150



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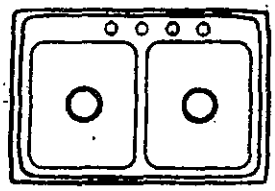
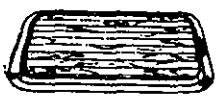
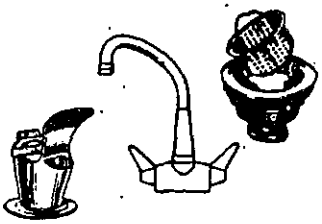
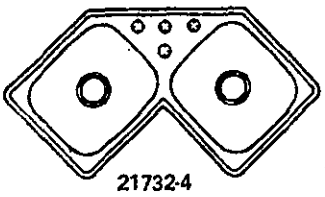


PSR-3322



CUTTING BOARD





21732-4

CELEBRITY BAR SINKS

BCR-15	20 GA	15 x 15	SINGLE BOWL	1 OR 2 HOLE	100.05
BCRA-150-C	20 GA	15 x 15	SINGLE BOWL	2 HOLE	159.00

LUSTERTONE BAR SINKS

BLR-15	18 GA	15 x 15	SINGLE BOWL	1 OR 2 HOLE	189.45
BLR-150-C	18 GA	15 x 15	SINGLE BOWL	2 HOLE	409.20

CELEBRITY CORNER SINK

CCR-3232	20 GA	31-7/8 x 31-7/8"	DOUBLE BOWL	3 OR 4 HOLE	312.75

CELEBRITY SINKS

CR-3322	20 GA	33 x 22	DOUBLE BOWL	3 OR 4 HOLE	185.70
CR-2522	20 GA	25 x 22	SINGLE BOWL	3 OR 4 HOLE	135.15

LUSTERTONE SINKS

LR-2522	18 GA	25 x 22	SINGLE BOWL	3 OR 4 HOLE	241.50
LR-3322	18 GA	33 x 22	DOUBLE BOWL	3 OR 4 HOLE	363.00
LR-4322	18 GA	43 x 22	DOUBLE BOWL	3 OR 4 HOLE	412.50

PACEMAKER/STARLITE SINKS

PSR-2522	20 GA	25 x 22	SINGLE BOWL	3 OR 4 HOLE	174.15
PSR-3322	20 GA	33 x 22	DOUBLE BOWL	3 OR 4 HOLE	246.30
PSRS-3322	20 GA	33 x 22	DOUBLE BOWL	3 OR 4 HOLE	232.80

CUISINE CENTRE WITH TIARA TRIM

LCR-4322-C	18 GA	43 x 22	TRIPLE BOWL	WITH TRIM	1347.90
LCR-3322-RC	18 GA	33 x 22	DOUBLE BOWL	WITH TRIM	994.05

CUTTING BOARDS

CB-912	12-7/8 x 10-1/8 x 1"		33.45
CB-1516	14-3/4 x 16-1/2 x 3/4"		36.30
CB-1613	16-3/4 x 13-1/2 x 1"		42.30
CB-1712	17 x 12 x 1"		43.80
CB-1713	17 x 13 x 1"		43.80
CB-1716	17-3/4 x 16 x 5/8"		58.05
CB-1813	18-3/4 x 13-1/2 x 1"		45.60
CB-2317	22-7/8 x 16-7/8 x 1"	WITH CORNER CUTOUT	78.75

FITTINGS

LK-35	3-1/2" BASKET STRAINER	24.75
LK-36	2" SMALL BASKET STRAINER	28.65
LK-83	PUSH BUTTON BUBBLER, SELF CLOSING	212.85
LK-110	PUSH BUTTON GOOSENECK GLASS FILLER 13"	79.20
LK-141	BUBBLER, SELF CLOSING, LEVER HANDLE, VOLUME CONTROL	148.65
LK-2085-13	SINGLE WATER GOOSENECK FAUCET	120.90
LK-2085-13-L	SAME WITH HANDLE ON LEFT SIDE	120.90
LK-2088-8	DUO WATER GOOSENECK FAUCET 8" SPOUT	162.30
LK-2088-13	SAME WITH 13" SPOUT	167.40
LK-2200	TIARA DUO SINK FAUCET, 8" CENTER SWIVEL AERATOR	305.70
LK-2201	SAME WITH SPRAY & HOSE	324.60
LK-2223	TIARA DUO WATER GOOSENECK FAUCET	196.80
LK-2232	SINGLE LEVER FAUCET	218.25
LK-2461	SINGLE LEVER FAUCET	178.65

DAYTON SINKS

11515-2	15 x 15	SELF-RIMMING BAR SINK	1 OR 2 HOLE	55.05
12522-4	25 x 22	SELF-RIMMING SINGLE BOWL	3 OR 4 HOLE	68.85
23322-4	33 x 22	SELF-RIMMING DOUBLE BOWL	3 OR 4 HOLE	93.75
22519-4	25 x 19	SELF-RIMMING DOUBLE BOWL	3 OR 4 HOLE	92.55
21732-4	CORNER SELF-RIMMING	DOUBLE BOWL	3 OR 4 HOLE	194.70
11721-3	17 x 21	SELF-RIMMING SINGLE BOWL	3 HOLE	67.80

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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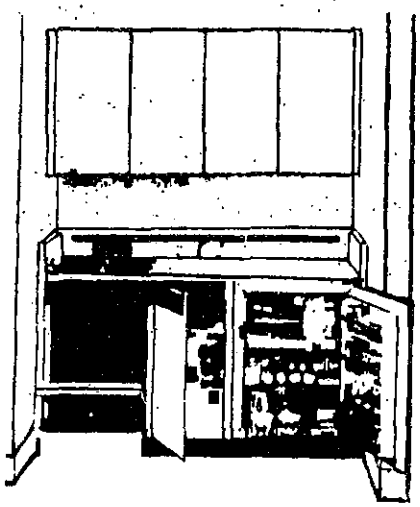
CRANE SUPPLY COMPANY

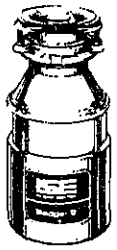
503	KITCHEN UNITS & DISPOSERS	Revised: 4-9-81 Replacing: 4-1-81	503



DWYER KITCHENS

		PRICE
SR SERIES:		
SR-5	39" SINK, REFRIGERATOR–STORAGE	1480.50
SR-7	48" SINK, REFRIGERATOR–STORAGE	1570.80
39 SERIES:		
E-39-SB	2-BURNER, 230V RANGE REFRIGERATOR–SINK	1755.60
51 SERIES:		
E-51-SB	3-BURNER, 230V RANGE–OVEN–REFRIGERATOR SINK	2232.30
60 SERIES:		
E-60-SB	3-BURNER, 230V RANGE–LG. OVEN–REFRIG.–SINK–STORAGE	2343.60
69 SERIES–WITH WALL CABINETS:		
E-69-SC	3-BURNER, 230V RANGE–OVEN–REFRIG.–SINK–STORAGE	2870.70
84 SERIES–WITH WALL CABINETS:		
E-84-SCR	3-BURNER, 230V RANGE–OVEN–REFRIG.–SINK–STORAGE	3385.20
400 SERIES:		
EB-400-S	2-BURNER, 230V RANGE–REFRIGERATOR–SINK–STORAGE	2123.10

FOR RECESSED UNITS SEE YOUR SALESMAN.

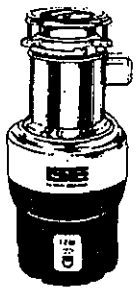


IN-SINK-ERATOR

DISPOSERS:		
CONTINUOUS FEED:		
SINGLE DIRECTION		
BADGER 1	1/3 HP	115.20
BADGER V	1/2 HP	128.40
333-SS	1/2 HP	198.45
333	1/2 HP	156.00
AUTOMATIC REVERSE:		
77	1/2 HP	262.35
CLASSIC	1/2 HP	392.25
BATCH FEED:		
AUTOMATIC REVERSE		
17	1/2 HP	310.20
CLASSIC/LC	1/2 HP	450.75

77

CLASSIC



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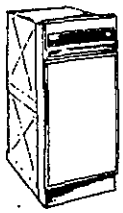


3304

COMPACTORS

IN-SINK-ERATOR:		
7704	FREE-STANDING	784.95
3304	BUILT-IN	717.00

COMPACTORS ARE PRICED F.O.B. FACTORY WAREHOUSE. FREIGHT MUST BE ADDED.

REPLACEMENT BAGS:		
BOX	12 BAGS	15.00

ELKAY

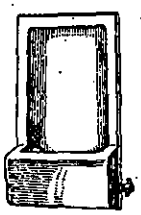
DISPOSERS:		
LKD-30	1/3 H.P.	115.20
LKD-50	1/2 H.P.	128.40
LKD-60	1/2 H.P.	156.00
LKD-70	1/2 H.P.	198.45
AUTOMATIC REVERSING:		
LKD-80	1/2 H.P.	262.35

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

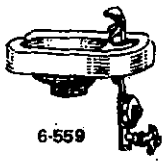
15

CRANE SUPPLY COMPANY

CRANE®



6-570



6-559

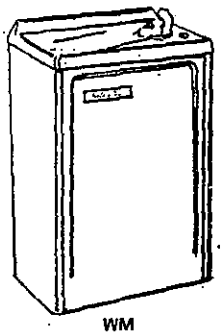
CHINA DRINKING FOUNTAINS

WALL MOUNTED:		WHITE
6-520	WATERFALL WITH TRIM & 7" BACK	439.47
SEMI-RECESSED:		
6-570	COOLBROOK WITH TRIM	622.87
6-615	COOLBROOK WITH CUSPIDOR & TRIM	1203.33

GALVANIZED DRINKING FOUNTAINS

WALL MOUNTED:		
8-5612	THURSTEND RECEPTOR ONLY	45.49
8-5632	SUPPLY TRIM FOR THURSTEND RECEPTOR	116.62

Halsey Taylor®



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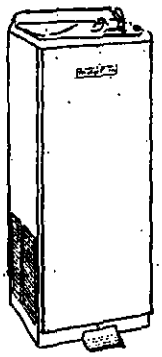
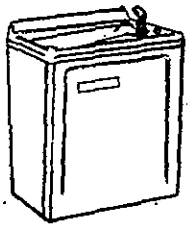


WT



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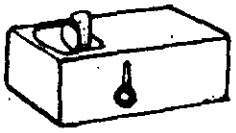
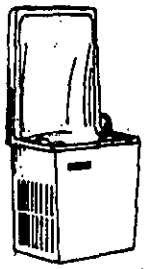


6800-WC



HBW-8-A

3063

8130

WATER COOLERS

WM-8-A	WALL MOUNTED	8 G.P.H.	873.60
WM-14-A	WALL MOUNTED	14 G.P.H.	900.45
WM-14-CB	WALL MOUNTED W/COFFEE BAR	14 G.P.H.	1468.30
WM-16-A	WALL MOUNTED	16 G.P.H.	950.85
SW-4A	SHORT WALL MOUNTED	4 G.P.H.	703.90
SW-6A	SHORT WALL MOUNTED	6 G.P.H.	739.20
SW-8A	SHORT WALL MOUNTED	8 G.P.H.	865.20
SW-14A	SHORT WALL MOUNTED	14 G.P.H.	892.10
WT-8-A	FLOOR MODEL WALLTITE	8 G.P.H.	873.60
WT-14-A	FLOOR MODEL WALLTITE	14 G.P.H.	902.20
WT-14-FL	SAME, W/L.H. SIDE MOUNTED FOUNTAIN		1365.85
S-3C-1	FLOOR MODEL FREE STANDING	3 G.P.H.	672.00
S-5-C	FLOOR MODEL FREE STANDING	5 G.P.H.	749.30
SC-8-A	FLOOR MODEL FREE STANDING	8 G.P.H.	873.60
S-10-C	FLOOR MODEL FREE STANDING	10 G.P.H.	819.85
SC-14-A	FLOOR MODEL FREE STANDING	14 G.P.H.	910.55
SC-16-A	FLOOR MODEL FREE STANDING	16 G.P.H.	996.25
HBW-8-A	SIMULATED SEMI-RECESSED	8 G.P.H.	1004.65
HBW-13-A	SIMULATED SEMI-RECESSED	13 G.P.H.	1046.60
WC-7-A-1	WHEEL CHAIR	7 G.P.H.	1164.55

DRINKING FOUNTAINS

6800-WC	STAINLESS STEEL WHEEL CHAIR	680.78

ACCESSORIES

3063	LEVER HANDLE GLASS FILLER	79.75
8130	PUSH BACK GLASS FILLER	110.70
8480	PUSH DOWN GLASS FILLER	82.50
8560	PUSH BUTTON GLASS FILLER	65.80

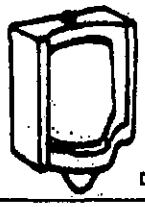
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

16.

CRANE SUPPLY COMPANY

CRANE®

EXPEDIO



DELRIO

SANITOR

EMBASSY

URINALS

			WHITE
CRANE:			
WALL HUNG:			
7-104	EXPEDIO	BLOWOUT 1-1/2" TOP SPUD, 2 OR 3" SPS OUTLET	303.01
7-105	MANHATTAN	SYPHON JET, 1-1/4" TOP SPUD, BACK OUTLET	212.90
7-180	DELRIO	BLOWOUT, INTEGRAL TRAP, 3/4" TOP SPUD	409.63
7-182	DELRIO	BLOWOUT, INTEGRAL TRAP, 3/4" BACK SPUD	409.63
7-187	CROMWELL	WASHOUT, INTEGRAL TRAP, 3/4" TOP SPUD	375.35
7-188	CROMWELL	WASHOUT, INTEGRAL TRAP, 3/4" BACK SPUD	375.35
WATER ECONOMY STALL URINALS:			
7-32	SANITOR	STALL URINAL, 3/4" TOP SPUD	457.00
7-54	SANITOR	STALL URINAL, 3/4" BACK SPUD	457.00
WATER ECONOMY WALL HUNG URINALS:			
7-116	BEDFORDSHIRE	WASHOUT, BOTTOM OUTLET, 3/4" TOP SPUD	94.99
7-150	EMBASSY	SYPHON JET, INTEGRAL TRAP, 3/4" TOP SPUD	375.35
7-151	EMBASSY	SYPHON JET, INTEGRAL TRAP, 3/4" BACK SPUD	375.35

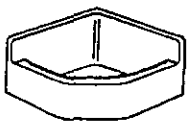
SERVICE SINKS

			WHITE
CHINA:			
7-503	22 x 20"	DRILLED BACK AND SUPPORTING SCREW	383.38
CAST IRON:			
242-0100	22 x 18"	12" HIGH PLAIN BACK LESS RIM GUARD	303.30
242-0105	24 x 20"	12" HIGH PLAIN BACK LESS RIM GUARD	345.90
242-0130	22 x 18"	BACK DRILLED, 8" CENTERS LESS RIM GUARD	303.30
242-0135	24 x 20"	BACK DRILLED, 8" CENTERS LESS RIM GUARD	345.90
242-0120	22 x 18"	12" HIGH PLAIN BACK WITH RIM GUARD	358.95
242-0125	24 x 20"	12" HIGH PLAIN BACK WITH RIM GUARD	404.85
242-0150	22 x 18"	BACK DRILLED 8" CENTERS W/RIM GUARD	358.95
242-0155	24 x 20"	BACK DRILLED 8" CENTERS W/RIM GUARD	404.85
TRAP STANDARD:			
804-1060	'P'	3" THREADED OUTLET WITH STRAINER	146.70

CAST IRON

P-TRAP

MOP BASINS



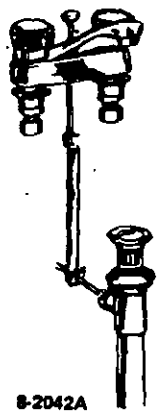
242-0050

CAST IRON:			
242-0050	28 x 28"	CORNER CUSTODIAL FLOOR SINK	804.30
RIM GUARD:			
805-0200		REMOVABLE VINYL COATED FOR ABOVE	64.05
STRAINER:			
803-0630		WITH FLAT METAL GRID, 3" I.P.S.	67.35

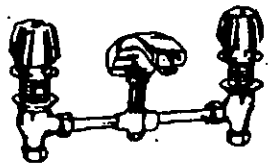
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

CRANE



8-2042A



8-2175A

8-2200

8-2202

CITADEL 4'' CENTERSET LAVATORY TRIM

NEW NO.	OLD NO.		CHROME PRICE
C-1072	8-2012A	CENTERSET FAUCET W/POP-UP WASTE	124.49
C-1005	8-2041A	CENTERSET FAUCET W/POP-UP & METAL HANDLES	101.15
C-1003	8-2042A	SAME AS C-1005 EXCEPT CLEAR ACRYLIC HANDLES	103.97
C-1005-B	8-2045A	SAME AS C-1005 EXCEPT ALL BRASS	114.48
C-1042	8-2051A	CENTERSET FAUCET WITH CHAIN LUG	69.51
C-1040		SAME AS C-1042 EXCEPT ACRYLIC HANDLES	76.95
C-1042-B	8-2055A	SAME AS C-1042 EXCEPT ALL BRASS	76.95
C-1139	8-2061	CENTERSET W/SPRAY, FACE OUTLET & CHAIN LUG	81.65
C-1138		SAME AS C-1139 EXCEPT ACRYLIC HANDLES	88.24
C-1139-B	8-2065	SAME AS C-1139 EXCEPT ALL BRASS	88.24

CITADEL WIDESPREAD LAVATORY TRIM

C-1126	8-2175AX	8" SPREAD FAUCET WITH CHAIN LUG	100.55
C-1123		SAME AS 1126 EXCEPT ACRYLIC HANDLES	146.38
C-1116	8-2177AX	8" SPREAD FAUCET WITH POP-UP WASTE	129.36
C-1116-B	8-2178AX	SAME AS C-1116 EXCEPT ALL BRASS	146.38
C-1113	8-2179AX	8" SPREAD FAUCET WITH POP-UP WASTE LONG SPOUT AND ACRYLIC HANDLES	131.41

NOTE: ALL ABOVE FAUCETS HAVE AERATORS EXCEPT SPRAY FACED FAUCETS.

CITADEL SINGLE LAVATORY FAUCETS

C-1054H	8-2200	SINGLE FAUCET W/5-RIB METAL HANDLE "H"	31.81
C-1054-C		SINGLE FAUCET W/5-RIB METAL HANDLE "C"	31.81
C-1058-H	8-2201	SELF-CLOSING FAUCET W/5-RIB HANDLE "H"	48.31
C-1058-C		SELF-CLOSING FAUCET W/5-RIB HANDLE "C"	48.31
C-1054H-L	8-2202	SINGLE FAUCET W/HOODED LEVER HANDLE "H"	31.81
C-1054C-L	8-2203	SINGLE FAUCET W/HOODED LEVER HANDLE "C"	31.81
C-1932	8-2210A	SELF-CLOSING GOOSENECK SPOUT, SGL. FAUCET	84.82
C-1930		SINGLE GOOSENECK SPOUT FAUCET	71.05

LAVATORY LEG

C-1180	8-7045	UNIVERSAL LEG FOR CHINA LAVATORIES	34.20

NOTE: AERATORS DELIVER APPROXIMATELY 2-3/4 GPM AT 80 PSI.
SHOWER HEADS DELIVER APPROXIMATELY 2-3/4 GPM AT 80 PSI.

MAGICLOSE SELF-CLOSING UNITS — SPECIFY & ADD PER PAIR	30.44
FOR VANDAL-PROOF AERATOR — SPECIFY & ADD	2.31
FOR VANDAL-PROOF HANDLE — SPECIFY & ADD PER HANDLE	5.33

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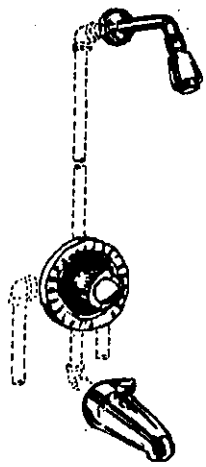
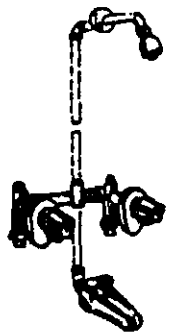
CRANE SUPPLY COMPANY

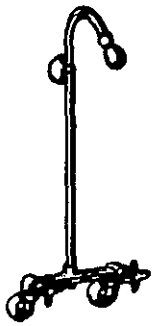
CRANE®



8-2309



8-2320



8-2371

CITADEL PRESSURE COMPENSATING MIXING VALVES

NEW NO.	OLD NO.		CHROME PRICE
C-2255	8-2304	MIXING VALVE ONLY, CLEAR ACRYLIC HANDLE	121.24
C-2256		SAME AS C-2255 EXCEPT WITH CHECK STOPS	140.90
C-2307	8-2307	MIXING VALVE W/SHOWER TRIM ACRYLIC HANDLE	134.32
C-2308		SAME AS C-2307 EXCEPT WITH CHECK STOPS	153.99
C-2309	8-2309	MIXING VALVE W/DIVERTER SPOUT & SHOWER TRIM	150.05
C-2310		SAME AS C-2309 EXCEPT WITH CHECK STOPS	169.80
C-2262		MIXING VALVE WITH OVERRIM TUB FILLER	134.32
C-2265		SAME AS C-2262 EXCEPT WITH CHECK STOPS	153.99

CITADEL CONCEALED BATH & SHOWER FITTINGS

C-2314	8-2311	BATH/SHOWER, DIVERTER SPOUT, CORNER VALVES SHOWER TRIM WITH UNIVERSAL TAIL PIECES.	135.69
		C-2314-15-18-R ROUGH TRIM ONLY FOR C2314	65.15
		C-2313-14-F FINISH TRIM ONLY FOR C2314	70.54
C-2313		SAME WITH SOLDER JOINT INLETS	135.69
		C-2313-16-17R ROUGH TRIMOONLY FOR C-2313	65.15
		C-2313-14-F FINISH TRIM ONLY FOR C-2313	70.54
C-2315	8-2311H	SAME AS C-2314 EXCEPT ACRYLIC HANDLES	135.69
		C-2314-15-18-R ROUGH TRIM ONLY FOR C-2315	65.15
		C-2315-16-F FINISH TRIM ONLY FOR C-2315	70.54
C-2316		SAME AS C-2315 EXCEPT SOLDER JOINT INLETS	135.69
		C-2313-16-17-R ROUGH TRIM ONLY FOR C-2316	65.15
		C-2315-16-F FINISH TRIM ONLY FOR C-2316	70.54
C-2318	8-2316	SAME AS C-2314 EXCEPT ALL BRASS	144.32
		C-2314-15-18-R ROUGH TRIM ONLY FOR C-2318	65.15
		C-2317-18-F FINISH TRIM ONLY FOR C-2318	79.17
C-2317		SAME AS C-2318 EXCEPT SOLDER JOINT INLETS	144.32
		C-2313-16-17-R ROUGH TRIM ONLY FOR C-2317	65.15
		C-2317-18-F FINISH TRIM ONLY FOR C-2317	79.17
C-2351	8-2318	BATH/SHOWER: DIVERTER SPOUT CORNER VALVES, ACRYLIC HANDLES, & SHOWER HEAD, ARM & FLANGE UNIVERSAL TAILPIECES.	167.24
C-2350		SAME AS C-2351 EXCEPT SOLDER JOINT INLETS	167.24
C-2353		SAME AS C-2351 EXCEPT METAL HANDLES	167.24
C-2352		SAME AS C-2350 EXCEPT METAL HANDLES	167.24
C-2320	82320	BATH/SHOWER: DIVERTER SPOUT INTEGRAL STOP CORNER VALVES W/1-1/2" SPS MALE & SOLDER JOINT INLETS	184.85
C-2323	8-2323	SAME AS C-2320 EXCEPT BRASS HANDLES	195.03

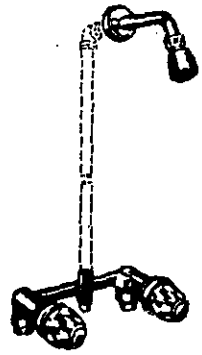
CITADEL EXPOSED SHOWER FITTINGS

C-2191	8-2371	EXPOSED TWO VALVE, SUPPLIES FROM WALL	171.09
C-2192	8-2372	EXPOSED TWO VALVE, SUPPLIES FROM CEILING OR FLOOR	192.03

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

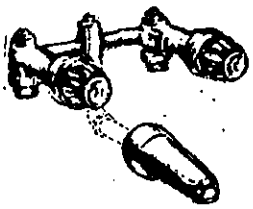
CRANE



8-2351

CITADEL CONCEALED SHOWER FITTINGS

NEW NO.	OLD NO.		CHROME PRICE
C-2361	8-2349	TWO VALVE SHOWER, ACRYLIC HANDLES, CORNER VALVES WITH UNIVERSAL TAILPIECES	148.60
C-2360		SAME AS C-2361 EXCEPT W/SOLDER JOINT INLETS	148.60
C-2362		SAME AS C-2360 EXCEPT WITH METAL HANDLES	148.60
C-2363		SAME AS C-2361 EXCEPT WITH METAL HANDLES	148.60
C-2325	8-2351	TWO VALVE SHOWER CORNER VALVES UNIV. TAILPIECE	102.34
C-2326		SAME AS C-2325 EXCEPT SOLDER JOINT INLETS	102.34
C-2328	8-2351H	SAME AS C-2325 EXCEPT ACRYLIC HANDLES	102.34
C-2327		SAME AS C-2326 EXCEPT ACRYLIC HANDLES	102.34
C-2330	8-2356	SAME AS C-2325 EXCEPT ALL BRASS	122.18
C-2331		SAME AS C-2326 EXCEPT ALL BRASS	122.18
C-2332	8-2360	TWO VALVE SHOWER, INTEGRAL STOPS, CORNER VALVES, WITH 1/2" SPS MALE & SOLDER JOINT INLETS	151.59
C-2334	8-2363	SAME AS C-2332 EXCEPT WITH BRASS HANDLES	156.47

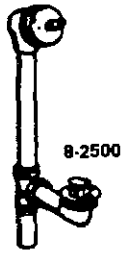


8-2380

CITADEL CONCEALED BATH SUPPLY FITTINGS

C-2343	8-2380	TWO VALVE BATH FILLER' CORNER VALVES WITH UNIVERSAL TAILPIECES	101.75
		C-2341-43-44-R ROUGH TRIM ONLY	48.82
		C-2342-43-F FINISH TRIM ONLY	52.92
C-2342		SAME AS C-2343 EXCEPT W/SOLDER JOINT INLETS	101.75
		C-2340-42-45-R ROUGH TRIM ONLY	48.82
		C-2342-43-F FINISH TRIM ONLY	52.92
C-2341	8-2380H	SAME AS C-2343 EXCEPT W/ACRYLIC HANDLES	101.75
		C-2341-43-44-R ROUGH TRIM ONLY	48.82
		C-2340-41-F FINISH TRIM ONLY	52.92
C-2340		SAME AS C-2342 EXCEPT ACRYLIC HANDLES	101.75
		C-2340-42-45-R ROUGH TRIM ONLY	48.82
		C-2340-41-F FINISH TRIM ONLY	52.92
C-2344	8-2383	SAME AS C-2343 EXCEPT ALL BRASS	112.77
		C-2341-43-44-R ROUGH TRIM ONLY	48.82
		C-2344-45-F FINISH TRIM ONLY	63.95
C-2345		SAME AS C-2342 EXCEPT ALL BRASS	112.77
		C-2340-42-45-R ROUGH TRIM ONLY	48.82
		C-2344-45-F FINISH TRIM ONLY	63.95
C-2348	8-2390	TWO VALVE BATH FILLER, INTEGRAL STOPS CORNER VALVES WITH 1/2" SPS MALE & SOLDER INLETS	139.02
C-2347	8-2393	SAME AS C-2348 EXCEPT ALL BRASS	145.52
C-2197	8-2398	TWO VALVE BATH FILLER WITH DECK MOUNTED ROMAN SPOUT	311.13

8-2393



8-2500

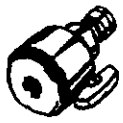
CITADEL BATH WASTE FITTINGS

C-2200	8-2500	POP-UP WASTE FOR 16" TUBS, MALE TEE	73.02

20

CRANE SUPPLY COMPANY

CRANE

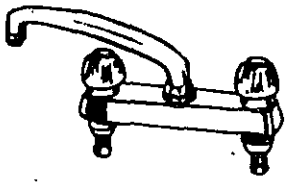


8-2551

8-2557

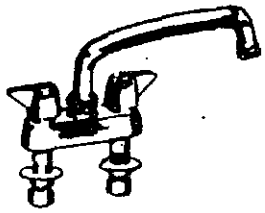
8-2566

8-2570



7B-2690A

8-2751A



8-2780

8-2808

CITADEL SHOWER HEADS & ARMS

NEW NO.	OLD NO.		CHROME PRICE
C-2209	8-1561	ADJUSTABLE SPRAY HEAD W/BALL JOINT	58.48
C-2211	8-2551	CITADEL BALL JOINT SHOWER HEAD	32.92
C-2214	8-2552	BALL JOINT SHOWER HEAD 3-1/2 G.P.M. FLOW CONTROL	32.92
C-2216	8-2557	CITADEL RIGID SHOWER HEAD	23.60
C-2224	8-2558	BALL JOINT SHOWER HEAD, 2-3/4 GPM FLOW CONTROL	26.93
C-2215	8-2566	RIGID 3/8" SPRAY SHOWER HEAD	29.58
C-2218	8-2570	NEW DESIGN VANDAL PROOF SHOWER HEAD	114.57
C-2230	8-2576	SHOWER ARM WITH WALL FLANGE	14.54

CITADEL SINK FITTINGS

C-5064	8-2690A	NEW DESIGN TOP MOUNT SINK FAUCET WITH METAL HANDLES & UNION RINGS	102.26
C-5061		SAME AS C-5064 W/1/2" SPS MALE & S.J. INLETS	102.26
C-5060		SAME AS C-5061 W/ACRYLIC HANDLES	113.54
C-5063		SAME AS C-5064 S/ACRYLIC HANDLES	113.54
C-5076	8-2692A	NEW DESIGN TOP MOUNT SINK FAUCET WITH HOSE & SPRAY' METAL HANDLES & UNION RINGS	123.46
C-5073		SAME AS C-5076 W/1/2" SPS MALE & S.J. INLETS	123.46
C-5072		SAME AS C-5073 W/ACRYLIC HANDLES	137.06
C-5075		SAME AS C-5076 W/ACRYLIC HANDLES	137.06
C-5011	8-2720A	TWO VALVE FAUCET FOR LEDGE TYPE SINKS WITH UNION RINGS	95.59
C-5010		SAME AS C-5011 W/1/2" SPS MALE & S.J. INLETS	95.59
C-5011-B	8-2724A	SAME AS C-5011 EXCEPT ALL BRASS	99.95
8-2730A	8-2730A	THREE VALVE FAUCET F/LEDGE TYPE SINKS	113.54

CITADEL SINK & LAUNDRY TUB FITTINGS

8-8751A	8-8751A	TWO VALVE FAUCET F/LEDGE W/HOSE & SPRAY	117.73
8-2755A	8-2755A	SAME AS 8-8751A EXCEPT ALL BRASS	123.38
C-5032	8-2770A	DOUBLE WALL TYPE FAUCET WITH 2-3/4" BLADE HANDLES LESS SOAP DISH	115.25
C-5035		SAME AS C-5032 WITH MALE INLETS	115.25
CH-8006	8-7225A	BAR FAUCET, WITH SWING SPOUT	126.80
C-5036	8-2780	CENTERSET FAUCET WITH 2-3/4" BLADE HANDLES & HOSE END SPOUT	79.43
C-5037		SAME AS C-5036 EXCEPT W/AERATOR SPOUT	79.43

CITADEL SERVICE SINK FAUCETS

C-5048	8-2808	EXPOSED FAUCET, RIGID HOSE END SPOUT & HOOK	69.60
C-5049	8-2809	SAME AS C5048 EXCEPT W/INTEGRAL STOPS	105.93
C-5050	8-2810	SAME AS C5048 EXCEPT W/VACUUM BREAKER	114.06
C-5051	8-2811	SAME AS C-5044 EXCEPT W/VACUUM BREAKER	149.71

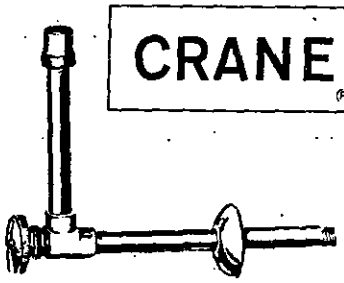
LAVATORY & SINK WASTE FITTINGS

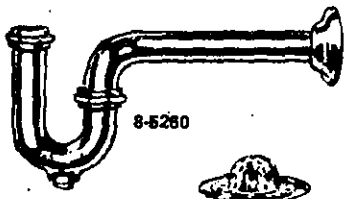
C-1060	8-5210	1-1/4" INDIRECT LIFT WASTE	49.16
C-1067	8-5520-4	1-1/4" P.O. PLUG WITH CHAIN & STOPPER	20.86
8-5220	8-5220-2	1-1/2" P.O. PLUG WITH CHAIN & STOPPER	20.86
C-1065	8-5222-4	1-1/4" P.O. PLUG WITH OPEN STRAINER	20.09
8-5222	8-5222-2	1-1/2" P.O. PLUG WITH OPEN STRAINER	20.09
8-5230	8-5230	1-1/2" SINK WASTE, PERFORATED STRAINER	14.45
8-5231	8-5231	1-1/2" WASTE PLUG W/RUBBER STOPPER	14.45
8-5240	8-5240	3-1/2" RECEPTO BASKET STRAINER, BRASS	36.59
8-5241	8-5241	3-1/2" RECEPTO BASKET STRAINER, S.S.	21.46

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

CRANE





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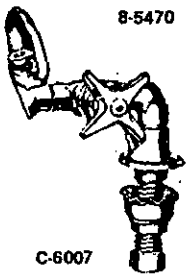
8-5470



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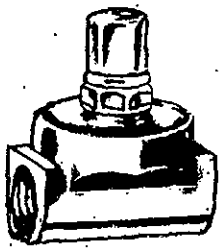

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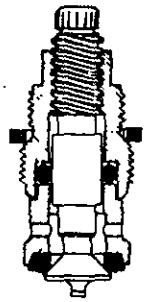

LAVATORY SUPPLIES

NEW NO.	OLD NO.		EACH
C-1151	8-5000	3/8x6x6" WHEEL HDLE. ANGLE SUPPLY	26.08
C-1152	8-5001	3/8x6x6" LOOSE KEY ANGLE SUPPLY	27.92
C-1160	8-5100	1/4x2" R.N.P. MALE TAILPIECE	1.71

CAST BRASS "P" TRAPS

WITH CLEANOUT:			1-1/4"	1-1/4x1-1/2"	1-1/2"
8-5260	8-5260	ADJ. 17 GA. TO WALL	43.18	44.63	44.63
8-5270	8-5270	NYR PATTERN	32.06	32.06	32.06
8-5272	8-5272	ADJ. SPS OUTLET	41.90		45.57

URINAL TRIM

C-4100	8-5450	1-1/4" ALERT AUTOMATIC SYPHON VALVE	183.74
8-5466		FLAT METAL STRAINER (WR-906)	26.73
8-5470		BEEHIVE METAL STRAINER (WR-908)	31.59

CLOSET TANK TRIM

FLOAT VALVES WITH BACKFLOW PREVENTERS:		
8-5384	FOR 3540 WATER ECONOMY TANK	20.61
8-5385	BRASS FOR 3-540 WATER ECONOMY TANK	24.62
8-5392-51	F/3-175/3-559 HARVARD & NEW SAHARA TANK	20.61
8-5398	BRASS FOR 3-113 EMPRESS	128.93
8-5403-51	BRASS F/3-175/3-559 HARVARD & SAHARA TANK	24.62
FLUSH VALVES:		
8-5399-20	F/3175/3-559 HARVARD & NEW SAHARA TANK	8.64
8-5406	FOR 3-540 WATER ECONOMY TANK	8.64
8-5404	FOR 3-113 EMPRESS	43.01

DRINKING FOUNTAIN FITTINGS

C-6007	8-5646	LAVATORY BUBBLER SELF-CLOSING L.H.	112.95
C-6008		LAVATORY BUBBLER SELF-CLOSING R.H.	112.95
C-6010	8-5664	1/4" PUSH BUTTON SELF-CLOSING STOP	66.52
C-6026	8-5667	3/8" PUSH BUTTON SELF-CLOSING STOP	48.99
C-6020	8-5674	3/8" REGULATOR, STRAIGHT, SPS.	55.66
C-6021	8-5676	1/4" REGULATOR CONCEALED RGH. BR.	53.27
C-6044	8-5684	1-1/4" GALV. P-TRAP F/WATER FALL FTN.	71.39

DIAL-ESE & MAGICLOSE PARTS AND PARTS KITS

C-7070	8-0001	WRENCH FOR DIAL-ESE FOR MAGICLOSE	3.93
C-7050	8-0010	DIAL-ESE PARTS KIT IN PLASTIC BOX	51.90
C-7055	8-0016	DIAL-ESE PARTS IN ENVELOPE PER PKG.	5.39
C-7052	8-0020	MAGICLOSE PARTS KIT IN METAL BOX	114.48
C-7057	8-0026	MAGICLOSE PARTS IN ENVELOPE PER PKG.	1.80
FB-9704		REPLACEMENT CARTRIDGE FOR DIALETTE UNIT	42.88

DIAL-ESE TRIMMING UNIT
CLOSING CLOCKWISE
LEFT HAND THREAD
(FOR HOT SIDE)

DIAL-ESE TRIMMING UNIT
CLOSING COUNTER-CLOCKWISE
RIGHT HAND THREAD
(FOR COLD SIDE)

FB8173	COMPLETE UNIT		FB8172	COMPLETE UNIT	9.54
F10586	CENTERPIECE		F10586	CENTERPIECE	2.77
F12376	PACKING RING		F12376	PACKING RING	.40
F10589	SLEEVE		F10589	SLEEVE	1.51
F10592	SEAT RING (BLACK COMPOSITION)		F10592	SEAT RING (BLACK COMPOSITION)	.40
F12536	STEM		F12536	STEM	3.92

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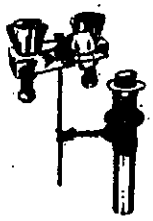
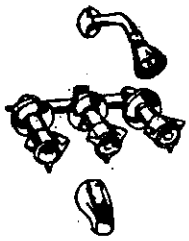
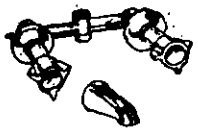
CRANE SUPPLY COMPANY

806 | **SAYCO PLUMBING BRASS** | Revised: 3-24-81 Replacing: 3-11-81 | 806


422-A

250


D-308


D-208

802T

114A

SPACE AGE

LUCKY 7

PRECIOUS STONE

LAVATORY TRIM

	SPACE ACE	LUCKY 7 CLEAR	PRECIOUS STONE	ADD FOR WASHERLESS
CENTERSET - 4" CENTER:				
420A L/POP-UP, W/AERATOR	29.46	30.19	32.76	1.80
422A W/POP-UP & AERATOR	42.96	43.68	46.26	1.80
WIDESPREAD - 8–12" CENTERS:				
212A W/POP-UP & AERATOR	79.89	80.61	84.09	3.60
SINGLE FAUCET:				
250A WITH AERATOR	25.06	25.41	26.70	
250AH W/HOSE END & AERATOR	27.24	27.60	28.89	

BIDET TRIM

213	3-WAY FITTING	105.30	106.38	111.61	5.40

BATH & SHOWER TRIM

3 VALVE DIVERTER, 8" CC WITH SPOUT, HEAD ARM AND FLANGE:					
D-308	DIRECT SWEAT	63.00	64.09	69.30	3.60
TD-308	W/INTEGRAL STOPS	81.00	82.08	87.30	3.60
308	UNION CONN. I.P.S. OR COP.	68.40	69.48	74.70	3.60
T-308	W/INTEGRAL STOPS	86.40	87.48	92.70	3.60
2 VALVE DIVERTER, 8" CC W/TWIN ELL, DIVERTER SPOUT, HEAD, ARM & FLANGE:					
D-208-D	DIRECT SWEAT	64.89	65.61	69.09	3.60
TD-208-D	W/INTEGRAL STOPS	82.89	83.61	87.09	3.60
208-D	UNION CONN. I.P.S. OR COP.	70.29	71.01	74.49	3.60
T-208-D	W/INTEGRAL STOPS	88.29	89.01	92.49	3.60
2 VALVE TUB FILLER, 8" CC WITH C.P. SPOUT:					
D-208	DIRECT SWEAT	39.18	39.90	43.38	3.60
TD-208	W/INTEGRAL STOPS	57.18	57.90	61.39	3.60
208	UNION CONN. I.P.S. OR COP.	44.58	45.30	48.78	3.60
T-208	W/INTEGRAL STOPS	62.58	63.30	66.78	3.60
2 VALVE SHOWER UNIT, 8" CC, SHOWER HEAD, ARM AND FLANGE:					
D-208-H	DIRECT SWEAT	43.65	44.37	47.85	3.60
TD-208-H	W/INTEGRAL STOPS	61.65	62.37	65.84	3.60
208-H	UNION CONN. I.P.S. OR COP.	49.05	49.77	53.25	3.60
T-208-H	W/INTEGRAL STOPS	67.05	67.77	71.26	3.60
SINGLE SHOWER VALVE:					
105	1/2" I.P.S. PER PAIR	38.31	39.03	42.51	3.60
105S	SCREWDRIVER STOPS P/PR.	31.86	32.58	36.06	3.60

SINK TRIM

TOP MOUNT SINK FAUCET 8" CC 1/2" I.P.S.:					
800T	LESS SPRAY W/AERATOR	37.14	37.86	40.43	1.80
802T	WITH SPRAY & AERATOR	50.64	51.37	53.95	1.80

LAUNDRY BAR & PANTRY FAUCETS

4" CENTERS WITH 6" TUBULAR SPOUT:					
114H-6	SPOUT W/HOSE END	30.69	31.41	33.98	1.80
114A-6	SPOUT W/AERATOR	31.20	31.92	34.50	1.80
4" CENTERS WITH GOOSENECK SPOUT					
115-A	WITH AERATOR	33.39	34.11	36.68	1.80

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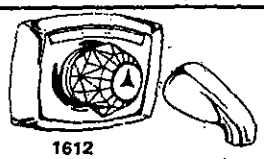
CRANE SUPPLY COMPANY

807 | **DELTA TUB TRIM** | Revised: 3-24-81 Replacing: 1-30-81 | 807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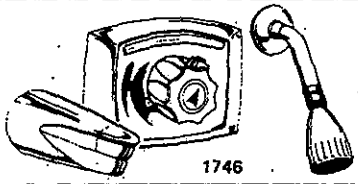
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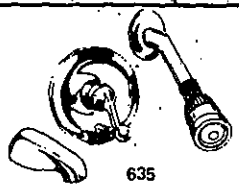
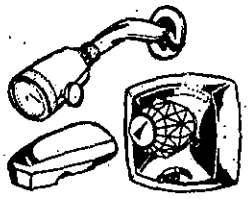

635

SINGLE HANDLE BATH VALVES

CONVENTIONAL:	VALVE ONLY		WITH METAL TUB SPOUT		WITH SHOWER ASSEMBLY		W/DIVERTER SPOUT & SHOWER ASSY.		W/PUSH BUTTON DIVERTER VALVE ONLY		TUB & SHOWER	
LEVER HANDLE:	NO.	PRICE	NO.	PRICE	NO.	PRICE	NO.	PRICE	NO.	PRICE	NO.	PRICE
CHROME	601	48.15	611	53.39	621	54.83	641	68.88	605	59.92	635	71.84
C.P. PRESSURE BAL.	603	103.21	613	108.45	623	109.89	643	119.39	607	109.44	637	121.36
CRYSTAL HANDLE:												
CHROME	602	48.15	612	53.39	622	54.83	642	68.88	606	59.92	636	71.84
C.P. PRESSURE BAL.	604	103.21	614	108.45	624	109.89	644	119.39	608	109.44	638	121.36
GOLD FINISH	602G	188.12	612G	230.57	622G	351.32	632G	400.99			636G	410.71
GOLD PRESS. BAL.					624G	406.38					638G	460.23
SCALD GUARD, VANDAL RESISTANT HANDLE:												
CHROME	1601	43.14	1611	48.38	1621	52.71	1641	66.76	1605	57.57	1635	72.38
C.P. PRESSURE BAL.	1603	92.65	1613	97.89	1623	102.22	1645	116.27	1607	107.08	1637	121.89
SCALD GUARD, CRYSTAL HANDLE:												
CHROME	1602	42.83	1612	48.07	1622	52.40	1646	66.45	1606	57.26	1636	72.07
C.P. PRESSURE BAL.	1604	92.35	1614	97.59	1624	101.92	1648	115.97	1608	106.78	1638	121.59
SCALD GUARD WITH HOT STOP BUTTON:												
CHROME	1702	51.26	1712	56.50	1722	60.83	1746	74.88				
C.P. PRESSURE BAL.	1704	100.78	1714	106.02	1724	110.35	1748	124.40				
DELTIQUE-ANTIQUE BRASS FINISH WITH PULSATING SHOWERHEAD:												
SMOOTH			912	103.89	922	120.90			936	152.73		
SMOOTH PRESS. BAL.					924	170.42			938	202.24		
SCULPTURED			812	136.47	822	154.24	846	195.48				
SAME PRESS. BAL.					824	203.76	848	245.00				

NOTE: ALL PRESSURE BALANCE UNITS HAVE COMBINATION SCREWDRIVER CHECK STOPS.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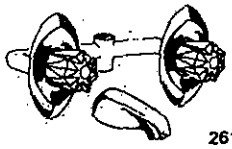
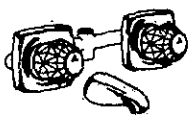

2610C

846

TWO HANDLE BATH VALVES

RIGID CASTINGS-8" CENTERS-STANDARD TRIM		
2600C	CHROME VALVE ONLY	48.15
2610C	WITH METAL TUB SPOUT	53.39
2620C	WITH SHOWER HEAD	54.83
2640C	TUB SHOWER COMB. W/DIVERTER SPOUT	68.88
RIGID CASTINGS-8" CENTERS-DELUXE TRIM:		
2602C	CHROME VALVE ONLY	56.28
2612C	WITH METAL TUB SPOUT	61.52
2622C	WITH DELUXE SHOWER HEAD	75.26
2642C	TUB SHOWER COMB. W/DIVERTER SPOUT	89.31
FOR UNIVERSAL FITTING	ADD:	6.30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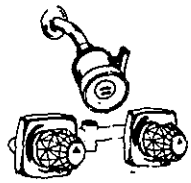
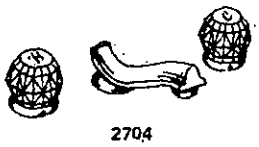

2622C

LEDGE MOUNT TUB FAUCETS

2704	CHROME WITH TUB SPOUT	67.52
2704SG	SATIN GOLD WITH TUB SPOUT	291.25
2708	CHROME WITH TUB SPOUT	67.52
ROMAN TUB FAUCETS		
2710	CHROME CRYSTAL HANDLES	126.75
2710G	GOLD CRYSTAL HANDLES	483.85
2710SG	SATIN GOLD CRYSTAL HANDLES	570.95
908	ANTIQUE BRASS, SMOKED HANDLES	202.39


2704

2710

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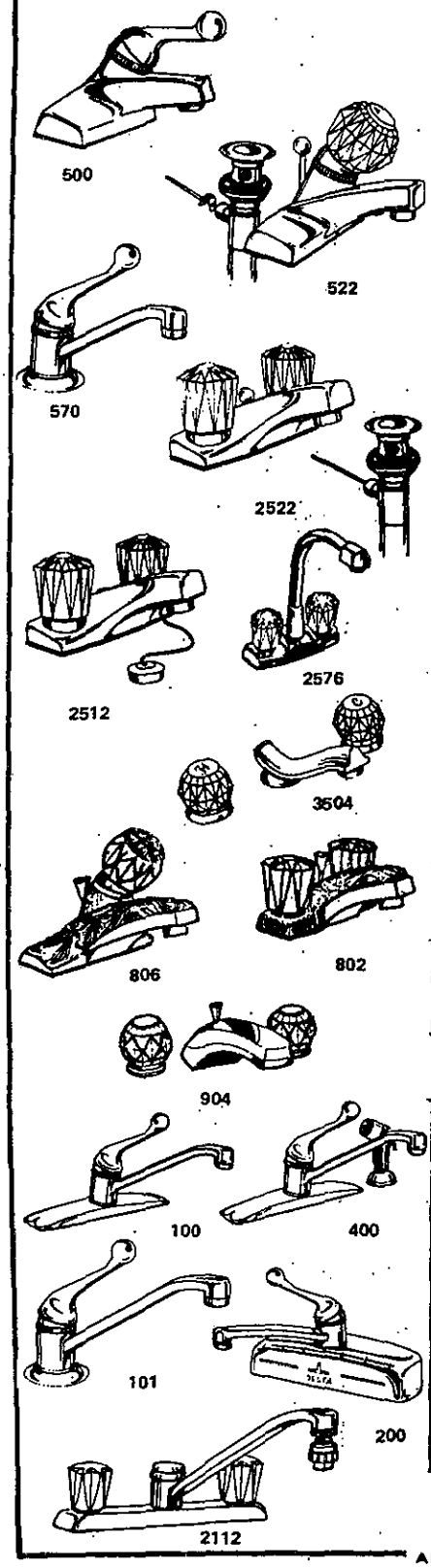
CRANE SUPPLY COMPANY

808	DELTA LAVATORY & SINK TRIM	Revised: 3-24-81 Replacing: 1-30-81	808



SINGLE HANDLE LAVATORY FAUCETS

CENTERSET FAUCETS:	LEVER HANDLES NUMBER	PRICE	CRYSTAL HANDLES NUMBER	PRICE
CHROME FAUCET ONLY	500	57.19	502	57.19
C.P. WITH POP-UP DRAIN	520	68.58	522	68.58
SAME WITH 14" TUBES	520SP	72.76	522SP	72.76
GOLD WITH POP-UP DRAIN			522-G	250.54
C.P. WITH CHAIN & STOPPER	510	58.86		
C.P. WITH GRID STRAINER	523	68.58		
SINGLE HOLE FAUCETS:				
C.P. W/4" SWING SPOUT	570	59.31		
SAME W/POP-UP DRAIN	570-P	73.82		

TWO HANDLE LAVATORY FAUCETS

4" CENTERSETS:	BLADE HANDLES		CRYSTAL HANDLES	
CHROME FAUCET ONLY	2500	34.25	2502	34.25
C.P. WITH POP-UP DRAIN	2520	50.12	2522	50.12
C.P. WITH CHAIN & STOPPER	2510	35.24	2512	35.24
C.P. W/WATERFALL & POP-UP			2576	95.31
WIDESPREAD 6" TO 16" CENTERS:				
CHROME FAUCET ONLY			3504	67.52
GOLD FAUCET ONLY			3504G	216.90
C.P. WITH POP-UP DRAIN	3545	84.83	3524	85.36
GOLD WITH POP-UP DRAIN			3524G	267.33
C.P. W/WATERFALL & POP-UP			3576	115.97
SINGLE FAUCETS:				
DELEX WITH CRYSTAL HANDLE HOT OR COLD			2302	29.85
DELEX SELF CLOSING PUSH HANDLE			701	53.54

DELTIQUE-ANTIQUE BRASS FINISH

WITH POP-UP DRAIN:	SMOOTH FINISH		SCULPTURED	
SINGLE CRYSTAL HANDLE	906	106.78	806	118.32
4" CENTERSET W/CRYSTAL HDLS.	902	86.88	802	95.84
WIDESPREAD W/CRYSTAL HANDLES	904	124.40	804	142.24

SINK FAUCETS

SINGLE LEVER DECK MOUNTED FAUCETS:		
100	C.P. F/3 HOLE SINK WITH AERATOR	61.59
110	C.P. F/3 HOLE SINK W/SPRAY ROUND AERATOR	67.21
300	C.P. F/3 HOLE SINK W/HOSE & SPRAY	79.74
400	C.P. F/4 HOLE SINK W/HOSE & SPRAY	79.74
101	C.P. F/SINGLE HOLE LESS HOSE & SPRAY	61.59
175	C.P. F/SINGLE HOLE WITH HOSE & SPRAY	79.74
172	C.P. WATERFALL WITH HOSE & SPRAY	135.64
SINGLE LEVER WALL MOUNTED FAUCETS:		
200	CHROME FAUCET ONLY WITH AERATOR	85.06
275	CHROME FAUCET W/HOSE & SPRAY	103.74

TWO HANDLE DECK MOUNTED:	CHROME HANDLES		CRYSTAL HANDLES	
CHROME WITH AERATOR	2100	44.35	2102	44.35
C.P. W/SPRAY ROUND AERATOR	2110	49.97	2112	49.97
C.P. W/HOSE & SPRAY	2400	56.73	2402	56.73
C.P. W/8" HIGH WATERFALL	2174	77.16		

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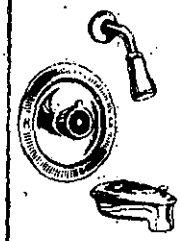
CRANE SUPPLY COMPANY

MOEN®



2215

BASIC BATH VALVES

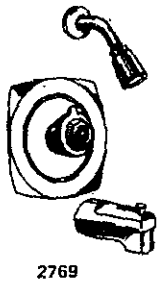
I.P.S.	C. x C.		
MOEN CHROME:			
2200	2220	VALVE ONLY	48.98
2250	2270	WITH CHECK STOPS	65.00
2400	2420	PUSH-BUTTON DIV.	70.32
2450	2470	W/P.B. DIV. & STOPS	86.42
CHATEAU CHROME:			
2600	2620	3-PORT VALVE	43.66
2650	2670	3-PORT W/STOPS	59.61
2700	2720	4-PORT VALVE	44.80
2750	2770	4-PORT W/STOPS	60.83
MOENTROL PRESSURE BALANCED: C.P.:			
3150	3170	W/CHECK STOPS	103.58
3250	3270	W/P.B. DIV. & STOPS	124.99
3151	3171	ADJUSTABLE TEMP.	129.47
BOUTIQUE SILVERTONE:			
5400	5420	DECORATIVE VALVE	61.66
5450	5470	WITH CHECK STOPS	78.37

5400

2417

BATH & SHOWER UNITS

MOEN CHROME:			
WITH SHOWER HEAD, ARM & FLANGE:			
2215	2235	W/SCULP. DIV. SPOUT	77.15
2415	2435	W/P.B. DIVERTER	97.43
2417		W/P.B. DIV. ZINC SPOUT	90.06
CHATEAU CHROME:			
2719	2739	W/DIVERTER SPOUT	67.81
2769	2789	W/DIV. SPOUT & STOPS	83.84
MOENTROL PRESSURE BALANCE CHROME:			
	3189	W/SCULP. DIV. SPOUT	127.80
	3284	DELUXE W/P.B. DIV.	165.85
	3285	W/PUSH-BUTTON DIV.	148.15



2769

SHOWER UNITS

MOEN CHROME:			
2205	2225	EASY CLEAN DELUXE	63.10
	2275	SAME W/STOPS	79.13
CHATEAU CHROME:			
2605	2625	W/EASY CLEAN HEAD	53.84
2655	2675	SAME W/STOPS	69.79
	2725	4-PORT W/EASY CLEAN	54.98
MOENTROL PRESSURE BALANCED C.P.:			
	3174	W/MOENFLO HEAD	130.01
	3175	W/EASY CLEAN HEAD	113.75

BATH FILLER UNITS

MOEN CHROME:			
2210	2230	W/SCULPTURED SPOUT	61.97

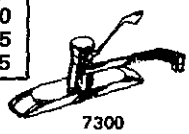
4200

4601

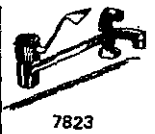
4450

4675

4263



7300



7823

7632

4901

LAVATORY FAUCETS

MOEN KNOB HANDLE:		
4200	4" CENTERSET FAUCET	76.24
4220	W/POP-UP DRAIN	96.59
4320	HI-RISE W/POP-UP DRAIN	107.98
CHATEAU KNOB HANDLE:		
4601	4" CENTERSET FAUCET	59.31
4621	W/POP-UP DRAIN	76.09
4625	SAME W/16" SUPPLIES	75.33
MOEN LEVER HANDLE:		
4400	4" CENTERSET FAUCET	94.01
4420	W/POP-UP DRAIN	114.36
4450	W/EXTENDED LEVER	96.44
4470	W/POP-UP & EXTENDED LEVER	116.79
WITH HIGH-RISE SPOUT:		
4520	W/POP-UP DRAIN	128.11
4570	W/POP-UP & EXTENDED LEVER	130.76
CHATEAU LEVER HANDLE:		
4676	4" CENTERSET FAUCET	69.71
4675	CENTERSET W/16" SUPPLIES	67.28
4696	W/POP-UP DRAIN	86.49
4695	SAME W/16" SUPPLIES	84.06
BOUTIQUE SILVERTONE:		
4263	W/POP-UP DRAIN	105.40
4283	SAME F/SINGLE HOLE	99.10

LEVER HANDLE SINK UNITS

MOEN DECK TYPE 8" C.C. CHROME:		
7300	FAUCET W/AERATOR	95.07
7305	W/SWIVEL SPRAY	101.22
7310	W/HOSE & SPRAY	114.21
MOEN WALL MOUNTED:		
7400	W/1/2" ECCENTRICS	133.50
CHATEAU DECK TYPE 8" C.C.:		
7531-A	FAUCET W/AERATOR	70.47
7536-A	W/SWIVEL SPRAY	74.12
7841-A	W/HOSE & SPRAY	89.68
CHATEAU DECK SINGLE HOLE:		
7551	FAUCET W/AERATOR	70.47
7556	W/SWIVEL SPRAY	74.27
7823	W/HOSE & SPRAY	89.00
CHALET DECK TYPE 8" C.C.:		
7631	FAUCET W/AERATOR	63.33
7633	SAME W/16" SUPPLIES	64.77
7632	W/SWIVEL SPRAY	67.13
7634	SAME W/16" SUPPLIES	68.65
7641	W/HOSE & SPRAY	81.10
7643	SAME W/16" SUPPLIES	82.70
CHALET DECK F/3 HOLE SINKS:		
7636	W/HOSE & SPRAY	81.10
7638	SAME W/16" SUPPLIES	82.70
BAR SINK FAUCET:		
4901	4" CENTERS F/2 HOLE	68.65

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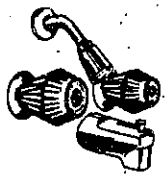
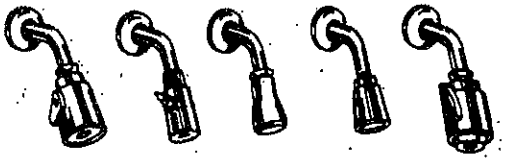
CRANE SUPPLY COMPANY


2919

2900

MOEN®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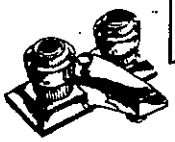
TWO HANDLE BATH UNITS

2900	BATH VALVE ONLY	46.78
2901	VALVE W/INTEGRAL STOPS	66.22
2905	W/EASY CLEAN SHOWER	56.95
2912	W/ZINC TUB FILLER	52.40
2919	COMBINATION TUB-SHOWER	69.79

4960

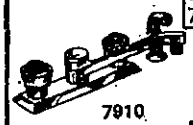
TWO HANDLE LAVATORY

4900	4" CENTERSET FAUCET	35.08
4920	CENTERSET W/POP-UP	51.87
4960	8"–16" WIDESPREAD	71.58
4962	WIDESPREAD W/POP-UP	90.21


4900

TWO HANDLE SINK FAUCETS

TOP MOUNT 8" CENTERS:		
7900	FAUCET W/CRYSTAL HANDLES	44.80
7905	W/SWIVEL SPRAY	50.65
7910	W/HOSE AND SPRAY	57.41


7910

3981

VR

ST

TR

XR

COMPONENTS FOR BATH

PREFIX:	SHOWER HEAD, ARM & FLANGE:		
AA	3925	MOENFLO DELUXE	43.66
AB	12635	SAME W/FLO CONTROL	45.03
BA	3915	MOENFLO	26.50
BB	12640	SAME W/FLO CONTROL	27.95
CA	1300	EASY CLEAN DELUXE	12.68
CB	10913	SAME W/FLO CONTROL	14.12
DA	3901	EASY CLEAN	8.73
DB	10905	SAME W/FLO CONTROL	10.18
PULSATION SHOWER UNITS:			
JA	3935	HEAD, ARM & FLANGE	47.23
JB	3936	SAME W/FLO CONTROL	49.82
PULSATION HAND SHOWERS:			
PH	3981	W/WALL BRACKETS	74.42
PI	3982	W/TRAVEL BAR	100.01
PJ	3983	W/W.B. & ARM DIVERT.	83.91
PK	3984	W/W.B. & SPOUT DIV.	97.12
SUFFIX SPOUTS:			
VR	3921	SCULPTURED	12.91
RR	3911	SAME, DIVERTER	13.97
ST	3926	DIV. CONC. BASE	12.76
TR	1145	C.P. BRASS DIVERTER	24.60
TY	91855	DIVERTER SPOUT W/HOSE TAKE OFF	27.41
XR	132	C.P. BRASS SPOUT	18.83
XZ	10170	C.P. ZINC SPOUT	5.62

TO ORDER COMPONENT PACKAGE
PREFIX–VALVE–SUFFIX

DECORATOR BATH TRIM

MOENTROL: VALVES ONLY:			
I.P.S.	CxC		
73110	73114	ANTIQUE GOLDTONE	151.50
73112	73115	ANTIQUE BRASS	151.50
73117	73118	GOLD BROCADE	189.69
MOEN SINGLE HANDLE BATH VALVE ONLY:			
72252	72253	ANTIQUE GOLDTONE	87.10
72246	72248	ANTIQUE BRASS	86.57
72254	72255	GOLD BROCADE	136.76
CHATEAU: VALVES ONLY:			
72721	72720	ANTIQUE BRASS	77.76
72723	72722	SAME W/STOPS	94.31
BOUTIQUE: VALVES ONLY:			
75515	75516	ANTIQUE GOLDTONE	77.46
75517	75518	GOLD BROCADE	91.88
TWO HANDLE BATH VALVES ONLY:			
72904		ANTIQUE BRASS	87.78
72902	72903	SAME W/INTEGRAL STP.	104.19
POP-UP BATH WASTES:			
15480		ANTIQUE GOLDTONE	122.94
15490		ANTIQUE BRASS	111.25
15485		GOLD BROCADE	160.08

73117

72721

72904

4336

DECORATOR LAVATORY TRIM

MOEN SINGLE HANDLE CENTERSETS:		
4336	ANTIQUE GOLDTONE W/POP-UP	169.34
4337	ANTIQUE BRASS W/POP-UP	146.33
4339	GOLD BROCADE W/POP-UP	248.16
CHATEAU SINGLE HANDLE CENTERSET:		
74626	ANTIQUE BRASS W/POP-UP	98.26
TWO HANDLE CENTERSETS:		
74903	ANTIQUE BRASS W/POP-UP	77.91
74904	SAME, SCULPTURED	98.26
TWO HANDLE WIDESPREAD: 8–16"		
74900	ANTIQUE BRASS W/POP-UP	126.59

DECORATOR COMPONENTS

PULSATION HEAD, ARM & FLANGE:		
FA 3946	ANTIQUE GOLDTONE	92.72
HA 3947	ANTIQUE BRASS	80.27
KA 3949	GOLD BROCADE	175.26
EASY CLEAN HEAD, ARM & FLANGE:		
DV 92497	ANTIQUE BRASS	19.74
DIVERTER BATH SPOUTS:		
TU 15416	ANTIQUE GOLDTONE	73.74
RV 16017	ANTIQUE BRASS	23.16
TX 15419	GOLD BROCADE	128.03
OVER RIM BATH SPOUTS:		
XU 15306	ANTIQUE GOLDTONE	52.09
ZV 16057	ANTIQUE BRASS	21.11
XY 15299	GOLD BROCADE	97.05

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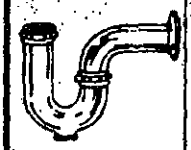
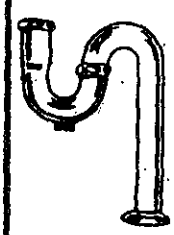
CRANE SUPPLY COMPANY



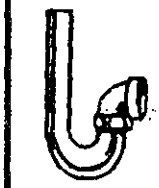
TRAPS

"P" TRAPS L/CLEANOUT:			SATIN	CHR.
700	1-1/4"	20 GAUGE	9.15	9.26
701	1-1/4"	17 GAUGE	11.42	11.60
702	1-1/2"	20 GAUGE	10.39	10.59
703	1-1/4x1-1/2	20 GAUGE	10.64	11.12
704	1-1/2"	17 GAUGE	12.64	12.99
705	1-1/4x1-1/2"	17 GAUGE	12.86	13.48
"P" TRAPS W/CLEANOUT:				
706	1-1/4"	20 GAUGE		14.57
707	1-1/4"	17 GAUGE		15.10
708	1-1/2"	20 GAUGE	15.44	15.58
710	1-1/2"	17 GAUGE	16.21	16.51
"S" TRAPS L/CLEANOUT:				
718	1-1/4"	20 GAUGE	15.87	16.02
719	1-1/4"	17 GAUGE	22.68	22.84
720	1-1/2"	20 GAUGE	17.51	18.33
722	1-1/2"	17 GAUGE	25.49	26.06
"S" TRAPS W/CLEANOUT:				
724	1-1/4"	20 GAUGE		23.20
725	1-1/4"	17 GAUGE		25.94
726	1-1/2"	20 GAUGE		26.95
728	1-1/2"	17 GAUGE		29.57
REPAIR "P" TRAPS:				
700R	1-1/4"	20 GAUGE		16.51
702R	1-1/2"	20 GAUGE	17.14	18.18
SINK "P" TRAPS:				
738	1-1/2 IPS G.J. 20 GA.		12.70	19.34
738W	1-1/2 IPS WSHR.20GA.		11.92	
740	1-1/2 IPS G.J. 17 GA.		13.65	21.11
740W	1-1/2 IPS WSHR.17GA.		12.99	
750	1-1/2 IPS 17 GAUGE		16.18	19.77
751	1-1/4x1-1/2 IPS 17 GA.			19.77
SINK P TRAPS W/CLEANOUT:				
746	1-1/2 IPS 17 GAUGE			27.42



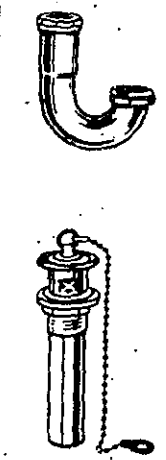
WASHING MACHINE TRAP

89	1-1/2"IPSx25½"	20GA.	19.65
89-17	AS ABOVE	17GA.	26.43
89-S	1-1/2 SWEATx25½"	20GA.	19.94
89S-17	AS ABOVE	20 GA.	26.66



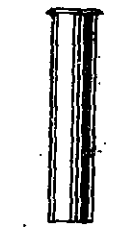
TRAP PARTS

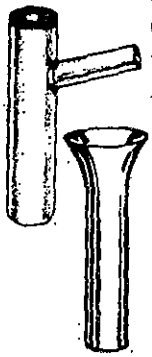
QUARTER BENDS:				
401	1-1/4"	20 GAUGE		4.87
401-17	1-1/2"	17 GAUGE		6.08
402	1-1/2"	20 GAUGE	5.43	5.61
402-17	1-1/2"	17 GAUGE	6.55	6.76
"S" TRAP J BEND:				
403	1-1/4"	20 GAUGE		11.72
404	1-1/2"	20 GAUGE	12.64	12.93
"P" TRAP J BEND:				
LESS CLEANOUT				
650	1-1/4"	20 GAUGE		7.02
651	1-1/2"	20 GAUGE	7.44	7.67
SINK TRAP J BEND:				
654	1-1/2" G.J.	20GAUGE	7.27	
654W	1-1/2"WSHR.	20GAUGE	7.27	8.71
OPTIONS:				
DF	F/DEEP FLANGE & ADD			.51
BN	F/BRASS NUT & ADD		EACH	.84



P.O. PLUGS

			CHROME
763-17	1-1/4x5"	17 GAUGE	10.82
764	1-1/4x6"	20 GAUGE	7.85
764A	1-1/4x8"	20 GAUGE	8.06
765	1-1/4x12"	20 GAUGE	8.97





TAILPIECES

FLANGED:			SATIN	CHR.
1-1/2 x 4"		20 GAUGE	2.02	2.16
1-1/2 x 6"		20 GAUGE	2.86	3.05
1-1/2 x 8"		20 GAUGE	3.73	3.90
1-1/2 x 12"		20 GAUGE	5.25	5.46
1-1/2 x 4"		17 GAUGE	2.79	2.98
1-1/2 x 6"		17 GAUGE	3.61	3.77
1-1/2 x 8"		17 GAUGE	3.77	3.99
1-1/2 x 12"		17 GAUGE	7.34	7.54
1-1/2 x 1-1/4 x 4"		20 GA.	2.16	2.31
1-1/2 x 1-1/4 x 6"		20 GA.	2.96	3.15
1-1/2 x 1-1/4 x 8"		20 GA.	3.05	3.22
EXTENSION TUBES: CHROME			SLIP	SOLD.
1-1/4 x 6"		20 GAUGE	5.27	3.26
1-1/4 x 8"		20 GAUGE	6.08	3.90
1-1/4 x 12"		20 GAUGE	7.73	5.61
1-1/2 x 6"		17 GAUGE	6.69	4.45
1-1/2 x 8"		17 GAUGE	7.13	5.05
1-1/2 x 12"		17 GAUGE	11.22	7.59
DOUBLE EXTENSION TUBES:				
1-1/4 x 12"	CHROME		9.24	5.65
1-1/2 x 12"	CHROME		9.98	6.17
THREADED TUBES:			17GA.	20GA.
1-1/4 x 6" T.O.E.	CHROME			2.98
1-1/4 x 8" T.O.E.	CHROME			3.75
1-1/4 x 12" T.O.E.	CHROME			5.17
1-1/4 x 8" T.B.E.	CHROME		5.51	3.75
1-1/4 x 12" T.B.E.	CHROME		7.70	5.13
1-1/2 x 6" T.O.E.	CHROME		6.06	3.70
1-1/2 x 10" T.O.E.	CHROME			5.13
1-1/2 x 12" T.O.E.	CHROME			6.17
1-1/2 x 8" T.B.E.	CHROME			5.27
1-1/2 x 12" T.B.E.	CHROME		9.24	6.12
BRANCH TAILPIECES:			17GA.	20GA.
1-1/2 x 4" HOSE & CLAMP				6.55
1-1/2 x 6" HOSE & CLAMP			9.18	7.37
1-1/2 x 8" HOSE & CLAMP			9.47	7.56
FUNNEL TAILPIECE:				
1-1/2x6"	SATIN FINISH			5.14

STRAINERS

BRASS:		LESS TAILPIECE	WITH TAILPIECE
3785A	2-1/2"BASKET STRNR.	13.62	14.91
774	2-1/2" FLAT STRNR.	8.24	9.52
774A	2-1/2 PLUGS & STRNR	8.24	9.52
815B	4-1/2 FLAT STRNR.	11.83	13.11
STAINLESS F/3-1/2 DRILLING:			
11	W/NEOPRENE STOPPER	5.70	6.98
14	AS ABOVE W/LOCKING CUP	6.56	7.84
18	AS ABOVE W/LOCKING CUP	12.26	13.54
767	STAINLESS BSKT. ONLY		3.71

WASTE CONNECTIONS

		BRASS	CHR.
1-1/4	S.J.x1-1/4"MIP OR SWEAT	6.27	6.84
1-1/4	S.J.x1-1/2"MIP OR SWEAT	6.41	7.41
1-1/2	S.J.x1-1/2"MIP OR SWEAT	6.41	7.41
1-1/4	S.J.x1-1/4 F.I.P.	6.41	7.41
1-1/4	S.J.x1-1/2 F.I.P.	7.41	8.12
1-1/2	S.J.x1-1/2 F.I.P.	7.41	8.12

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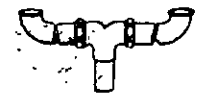
CRANE SUPPLY COMPANY

902 | **TUBULAR BRASS TRIM** | Revised: 4-29-81 Replacing: 3-11-81 | 902

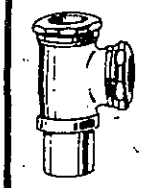
SINK WASTES

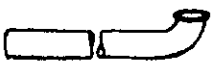
END OUTLET:		SATIN
1-1/2x16"	20 GAUGE	19.19
1-1/2x16"	17 GAUGE	25.05
1-1/2x21"	20 GAUGE	21.73
END OUTLET WITH BAFFLE:		
1-1/2x16"	20 GAUGE	21.43
1-1/2x16"	17 GAUGE	26.21
HI-LINE END OUTLET:		
1-1/2x16"	20 GAUGE	18.04
1-1/2x16"	17 GAUGE	24.21
1-1/2x21"	20 GAUGE	21.30
HI-LINE END OUTLET W/BAFFLE:		
1-1/2x16"	20 GAUGE	18.95
CENTER OUTLET:		
1-1/2x16"	20 GAUGE	24.18
1-1/2x16"	17 GAUGE	30.29
1-1/2x21"	20 GAUGE	24.53
CENTER OUTLET W/BAFFLE:		
1-1/2x16"	20 GAUGE	25.69
HI-LINE CENTER OUTLET:		
1-1/2x16"	20 GAUGE	22.39
1-1/2x16"	17 GAUGE	29.44
1-1/2x21"	20 GAUGE	24.61
HI-LINE CENTER OUTLET W/BAFFLE:		
1-1/2x16"	20 GAUGE	21.93



SINK WASTE PARTS

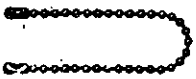
TEE WITH TAILPIECE:		
1-1/2" TEE S.J.		9.98
1-1/2" TWIN ELL S.J.		10.17
1-1/2" HI-LINE TEE		10.07
1-1/2" HI-LINE TEE NIPPLE		2.24
1-1/2" BAFFLE TEE		11.11
1-1/2" BAFFLE TWIN ELL		11.44
WASTE ARMS:		
1-1/2x7"	20 GA. FOR C.O.	7.65
1-1/2x7"	17 GA. FOR C.O.	11.06
1-1/2x9-1/2"	20 GA. FOR C.O.	8.28
1-1/2x9-1/2"	17 GA. FOR C.O.	12.12
1-1/2x15"	20 GA. FOR E.O.	9.18
1-1/2x15"	17 GA FOR E.O.	13.26
1-1/2x20"	20 GA. FOR E.O.	12.00
1-1/2x20"	17 GA. FOR E.O.	18.47
HI-LINE WASTE ARMS:		
1-1/2x7"	20 GA. FOR C.O.	7.50
1-1/2x7"	17 GA. FOR C.O.	10.62
1-1/2x9-1/2"	20 GA. FOR C.O.	8.06
1-1/2x9-1/2"	17 GA. FOR C.O.	12.74
1-1/2x15"	20 GA. FOR E.O.	8.91
1-1/2x15"	17 GA. FOR E.O.	13.28
1-1/2x20"	20 GA. FOR E.O.	11.80
1-1/2x20"	17 GA. FOR E.O.	18.47

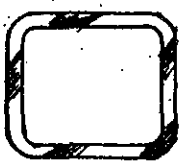


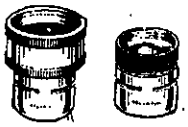


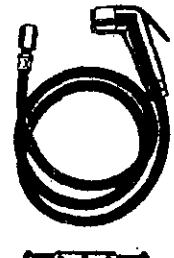
ESCUTCHEONS

		SHALLOW	DEEP	BOX
3/8"	IPS	.42	1.51	
1/2"	IPS	.42	1.51	
3/4"	IPS	.50		
1-1/4"	IPS	.72	2.45	2.59
1-1/2"	IPS	.72	2.66	2.59
3/8"	F/1/4" TUBE	.42	1.51	
1/2"	F/3/8" TUBE	.42	1.51	
5/8"	F/1/2" TUBE	.44	1.51	
7/8"	F/3/4" TUBE	.53		
1-1/4"	O.D.	.57	1.59	2.59
1-1/2"	O.D.	.57	1.67	2.59









SLIP NUTS

CHROME:	CAST	BRASS
1/2x1/2"		1.91
1-1/4x1-1/4"	.91	2.30
1-1/2x1-1/4"	1.11	2.78
1-1/2x1-3/8"		2.78
1-1/2x1-1/2"	.96	2.49
2x2"	1.59	3.18

SLIP JOINT WASHERS

	BRASS	RUBBER
1-1/4x1-1/4"	.57	.23
1-1/2x1-1/4"	.87	.45
1-1/2x1-3/8"		.45
1-1/2x1-1/2"	.87	.23
2x2"		.45

FAUCET HOLE COVERS

1-3/4"	COVER	2.67
2"	COVER	4.65
1-3/4"	COVER W/CHAIN STAY	3.30

BEAD CHAIN

NO. 8 CHROME PER FOOT	.80
NO. 8 x 11" W/"A" COUPLING	1.86
"A" COUPLING	.45
"B" COUPLING	.26

FRAMES

SINK 600 SERIES:	
24 x 21"	15.03
30 x 21"	16.20
32 x 21"	16.20
42 x 21"	18.90
LAVATORY:	
18" ROUND	14.85
19 x 16" OVAL	17.82
20 x 18" RECTANGLE	14.85

AERATORS

100K	MALE	1.83
100MK	MALE & FEMALE	1.83
108K	9/16" CRANE EMBASSY	3.39
114K	11/16" " "	3.39
115K	8-64 CRANE TEMPLE	3.39
400MK	SWIVEL DUAL THREAD	4.11

HOSE & SPRAYS

204	HOSE & SPRAY	14.40
202	HEAD ONLY	8.10
200	4' HOSE	6.96
208	HOSE GUIDE	4.44

LAVATORY BRACKETS

8127	UNIVERSAL	.45
8129	10"	2.43

ROSETTE

8125	STEEL BASIN ROSETTE	.75

FIT ALL HANDLES

10C	LEVER TYPE	P/PAIR	5.85
11C	CROSS TYPE	P/PAIR	6.66

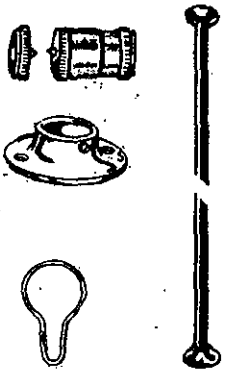
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

903 | **MISCELLANEOUS BRASS TRIM** | Revised: 1-30-81 Replacing: 10-1-80 | 903

LEG TUB BRASS

1420	LEG TUB FAUCET	30.89
305	9/16x21OFFSET SUPPLIES	27.19
316A	1/2MIP OFFSET CPLG.P/PR	15.96
202	1-3/8WASTE & OVERFLOW	39.10



SHOWER RODS & ACC.

1x5'	ALUMINUM W/FLGS.	3.75
1x6'	ALUMINUM W/FLGS.	7.56
1x5'	BRASS W/FLGS. 20 GA.	34.35
1x6'	BRASS W/FLGS. 20GA.	40.95
1x5'	BRASS CORNER 20 GA.	50.01
24"	CEILING SUPPORT	13.11
1"	WROT FLANGE	1.53
1"	CAST FLANGE	2.82
1"	ADJ.BRASS HOLDER	7.35
1"	ADJ.ALUM. HOLDER	3.30
CURTAIN PINS		

SHOWER HEAD ARMS

6"	WITH WROT FLANGE	5.43
6"	WITH CAST FLANGE	8.25
8"	WITH WROT FLANGE	6.57
8"	WITH CAST FLANGE	9.33
CAST FLANGE ONLY		2.58

BATH WASTES

222	POP-UP TYPE	36.39
222S	W/SIDE OUTLET	57.88
222H	W/BACK OUTLET	52.38

SHOWER DOORS

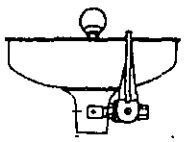
KINKEAD W/PLASTIC PANELS:	
850-RA 24" SWINGING DOOR	106.05
850-RA 27" SWINGING DOOR	108.90
850-RA 30" SWINGING DOOR	112.35

SHOWER ENCLOSURES

SHOWER UNITS:	32"	36"
SERIES 170	82.80	96.00
SERIES 370-S	127.65	134.70
BATH UNITS:		60"
SERIES 120		160.05
SERIES 320-S	149.85	149.85
SERIES 420-S	190.50	190.50

SAFETY WASH UNITS

HAWS:		
EYE & FACE FOUNTAINS:		
7060DM	STAINLESS	486.00
7760	STAINLESS	315.00
EYE WASH FOUNTAINS:		
7260	CYCOLAC PLASTIC	150.01
7460	STAINLESS	258.01
7611	STAINLESS	225.00
SHOWERS:		
8100	SGL. DRENCH UNIT	387.00
8400	PLATFORM UNIT	2700.00
8300	COMB.SHWR. & EYE	678.01



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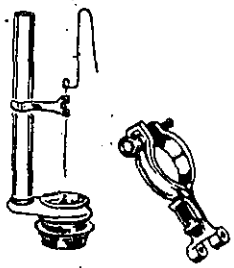

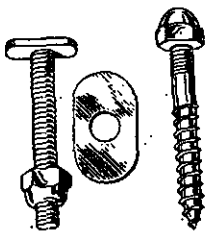

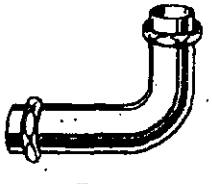

CLOSET TRIM

FLUSH VALVES W/LIFT WIRES:	
DOUGLAS TYPE	21.52
OVERFLOW TUBES:	
1 x 10-1/2" T.O.E.	4.50
1 x 1-1/8 x 10-1/2" T.O.E.	4.98
1-1/4 x 10-1/2" T.O.E.	4.98
GUIDES:	
1" SOLID	2.94
1 TO 1-1/4" ADJUSTABLE	3.30
1 TO 1-1/4" QUICK SET	4.77

BALLCOCK TRIM

5"	LOWER LIFT WIRE	.48
6"	LOWER LIFT WIRE	.58
9"	UPPER LIFT WIRE	.75
1/4x10"	REFILL TUBE	2.00
1/4x8"	FLOAT RODS	1.49
1/4x9"	FLOAT RODS	1.55
1/4x10"	FLOAT RODS	1.74
4x5"	COPPER FLOAT BALL	4.11
4x5"	PLASTIC FLOAT BALL	1.50

TANK LEVERS

SINGLE ACTING BRASS	5.07
SINGLE ACTING PLASTIC	2.94

CLOSET BOLTS & SCREWS

	1/4"	5/16"
2½"LONG BOLT COMB.	1.26	1.49
3½"LONG BOLT COMB.	1.49	1.87
2½"LONG SCREW COMB.	1.31	1.71
3½"LONG SCREW COMB.	1.71	2.27
2½"LONG SCREWS	.46	.74
3½"LONG SCREWS	.72	1.02
2½"LONG BOLTS	.72	1.02
3½"LONG BOLTS	.89	
CLOSED NUTS	.36	.48
OPEN NUTS	.36	.48
OVAL WASHERS HEAVY		.25
ROUND WASHERS HEAVY		.24

SPUDS

1x3/4" WITH WASHER	7.50
1-1/4" WITH WASHER	6.39
1-1/2" WITH WASHER	7.35
2" WITH WASHER	8.40
2x1-1/2" WITH WASHER	9.24

FLUSH ELBOWS

2 x 5 x 7" WITH NUTS	11.34
2 x 6 x 8" WITH NUTS	12.29
2 x 5 x 7"REPAIR TYPE	17.77

TANK BALLS

B251 2-5/8" TRIPLE SEAL	1.04
B252 3" TRIPLE SEAL	1.29
B254 2-5/8" TITE SEAL	1.11
B255 2-5/8" SEAL MASTER	1.26
CRANE FLAPPER VALVE	2.91
STD. FLAPPER VALVE	2.99

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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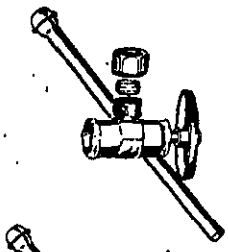
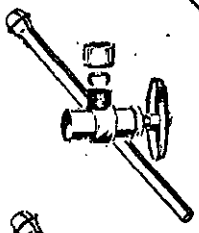
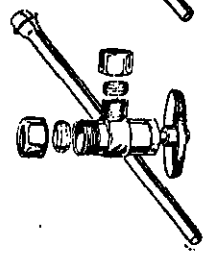
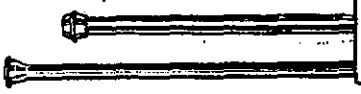
CRANE SUPPLY COMPANY







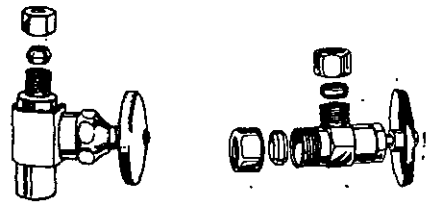


FLEXIBLE SUPPLIES

3/8 O.D. RISERS		LAVATORY PER PAIR					CLOSET PER EACH			
INLET	RISER LGTH.	ANGLE STOP	STRT. STOP	FIP ELL	FIP STRT.	MIP STRT.	ANGLE STOP	STRT. STOP	FIP ELL	FIP STRT.
3/8" I.P.S.	12"	15.02	17.29	9.45	7.69	7.69	8.01	8.90	4.96	4.79
	20"	17.92	18.90	11.69	9.73	9.73		10.46		7.28
	30"		23.26		13.23	13.23				
	36"		26.56		15.52	15.52				
1/2" I.P.S.	12"	15.67	17.29	10.05	8.14	8.14	8.14		6.05	
	20"	18.17	18.90	11.92	11.26	11.26		10.46		5.75
1/2" SWEAT	12"	15.60					8.24			
	20"	18.71								
1/2" COMP.	12"	17.19					9.05			
	20"	19.92								

TUBES & FITTINGS

		INLET RISER SIZE 3/8" O.D. NO.	3/8" O.D. PRICE	1/2" O.D. NO.	1/2" O.D. PRICE
12" LAVATORY TUBES	EACH	1812L	2.26	1912L	3.30
20"	EACH	1820L	3.20	1920L	4.78
12" CLOSET TUBES	EACH	1812C	2.23	1912C	4.04
20"	EACH	1820C	3.30	1920C	5.49
12" COPPER SWEAT SINK TUBES	EACH			6012WX	3.77
20"	EACH			6020WX	5.73
12" SINGLE LEVER SINK TUBES	EACH	2012	2.37		
20"	EACH	2020	3.47		



INLET CONNECTORS — STRAIGHT

3/8" MALE CONNECTORS	2400M	1.20	6000M	1.64
1/2" MALE CONNECTORS	2600M	1.55	6200M	1.92
3/8" FEMALE CONNECTORS	2400F	1.20	6000F	1.56
1/2" FEMALE CONNECTORS	2600F	1.40	6200F	1.79
1/2" SWEAT CONNECTORS	2600W	1.30	6200W	2.07
1/2" COMPRESSION CONNECTORS	2600CW	2.17	6200CW	3.00
3/8" MALE ELBOWS	2500M	2.07	6100M	3.00
1/2" MALE ELBOWS	2700M	2.52	6300M	3.00
3/8" FEMALE ELBOWS	2500F	2.02	6100F	2.60
1/2" FEMALE ELBOWS	2700F	2.34	6300F	3.00
1/2" SWEAT ELBOWS	2700W	2.31	6300W	2.57
1/2" COMPRESSION ELBOWS	2700CW	3.06	6300CW	3.48
3/8" IRON PIPE ANGLE STOPS	2405	4.78	6105	5.59
1/2" IRON PIPE ANGLE STOPS	2407	5.08	6107	5.95
1/2" SWEAT ANGLE STOPS	2407W	5.05	6107W	5.59
1/2" COMPRESSION ANGLE STOPS	2407CW	6.17	6107CW	6.45
3/8" IRON PIPE STRAIGHT STOPS	2409	5.58	6109	6.27
1/2" IRON PIPE STRAIGHT STOPS	2411	5.95	6111	6.27
1/2" SWEAT STRAIGHT STOPS	2411W	5.61	6111W	5.59
1/2" COMPRESSION STRAIGHT	2411CW	6.30	6111CW	7.16
1/2" SWEAT W/5" EXTENSION STOPS	2411WX	9.50		
1/2" COMPRESSION DUAL STOPS	3407CW	8.19		
MISCELLANEOUS:				
COMPRESSION NUTS	1599	.55	1499	.78
COMPRESSION SLEEVES	3000	.15	2000	.18
NOSE PIECES RUBBER	1801	.13	1802	.13

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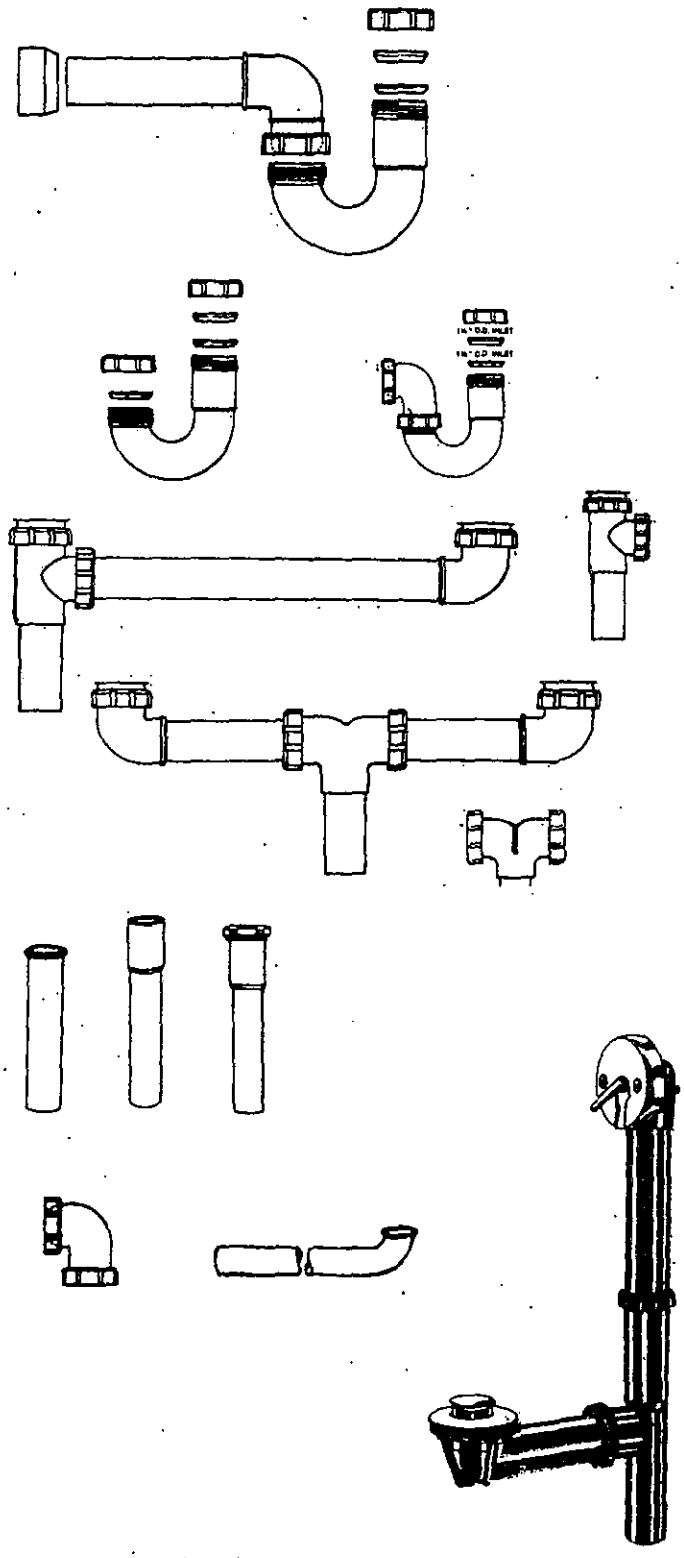
CRANE SUPPLY COMPANY

905 | **DEARBORN TUBULAR PRODUCTS** | Revised: 2-19-81 Replacing: 1-9-81 | 905



ABS OR PVC TUBULAR

TRAPS:		
9702	1-1/2" P TRAP – SOCKET OUTLET	3.60
9704	1-1/2" P TRAP – THREADED OUTLET	3.75
9720	1-1/2" S TRAP – SOCKET OUTLET	8.25
9722	1-1/2" S TRAP – THREADED OUTLET	8.19
9738	1-1/2" SCH. 40 SINK P TRAP	3.75
9702R	1-1/2" REPAIR P TRAP S.J.xS.J.	4.14
9651	1-1/2" J BEND	2.73
CONTINUOUS WASTES:		
9100	1-1/2x13" DISPOSER KIT	6.75
9108A	1-1/2x16" SLIP JOINT END OUTLET	5.31
9108B	1-1/2x21" SLIP JOINT END OUTLET	5.94
9121A	1-1/2x16" HI-LINE END OUTLET	5.46
9121B	1-1/2x21" HI-LINE END OUTLET	5.94
9114A	1-1/2x16" SLIP JOINT CENTER OUT.	6.90
9114B	1-1/2x21" SLIP JOINT CENTER OUT.	7.38
9123A	1-1/2x16" HI-LINE CENTER OUTLET	6.90
9123B	1-1/2x21" HI-LINE CENTER OUTLET	7.38
9137	1-1/2x7" SLIP WASTE ARMS	2.22
9137A	1-1/2x9-1/2" SLIP WASTE ARMS	2.43
9137C	1-1/2x15" SLIP WASTE ARMS	2.85
9137D	1-1/2x20" SLIP WASTE ARMS	3.27
9185	1-1/2" END OUTLET BAFFLE TEE S.J.	3.60
9186	1-1/2" CNTR. " BAFFLE TEE S.J.	3.54
9187	1-1/2" END OUTLET " " HI-L.	3.69
TAILPIECES:		
9799	1-1/2x4" FLANGED TAILPIECE	.96
9801	1-1/2x8" FLANGED TAILPIECE	1.20
9803	1-1/2x12" FLANGED TAILPIECE	1.62
9803E	1-1/2x16" DOUBLE FLANGE TAILPIECE	2.19
9786	1-1/2x6" EXT. TUBE SOLVENT WELD	1.08
9786A	1-1/2x8" EXT. TUBE SOLVENT WELD	1.20
9787A	1-1/2x12" EXT. TUBE SOLVENT WELD	1.62
9787E	1-1/2x16" EXT. TUBE SOLVENT WELD	2.19
9792	1-1/2x6" EXT. TUBE SLIP JOINT	2.10
9792A	1-1/2x8" EXT. TUBE SLIP JOINT	2.19
9793A	1-1/2x12" EXT. TUBE SLIP JOINT	2.64
9793E	1-1/2x16" EXT. TUBE SLIP JOINT	3.75
9141A	1-1/2x6' TUBING	5.70
ADAPTERS:		
9000	1-1/2" TUBExSCH.40 SOLV. WELD ADPT.	.66
9000A	1-1/2" TUBExF.I.P. ADPT W/NUT & WASH.	.96
9000B	1-1/2" TUBExF.I.P. ADAPTOR	.66
PARTS:		
9001	1-1/2" SLIP JOINT NUT	.26
9002	1-1/2x1-1/2" POLY WASHER	.08
9003	1-1/2x1-1/4" POLY WASHER	.12
9004	1-1/2" HI-LINE NIPPLE	.42
9005	1-1/2" CONTINUOUS WASTE ELBOW	.87
9006	1-1/2x6" QUARTER BEND	1.44
9007	1-1/2xSCH.40 F.I.P. SINK TRAP ELBOW	2.01
9008	1-1/2xSLIP REPAIR TRAP ELBOW	2.25
BATH WASTES:		
9222	POP UP WASTE	34.50
9226	TRIP LEVER WASTE	18.00
9227	UNI-LIFT WASTE	26.25

NOTE: SPECIFY ABS OR PVC WHEN ORDERING.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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CRANE SUPPLY COMPANY

906 | **CHEMICALS & RUBBER GOODS** | Revised: 5-27-81 Replacing: 4-1-81 | 906

RUBBER GOODS

3/4"	CLOSET SPUD WASHERS	.35
1-1/4"	CLOSET SPUD WASHERS	.45
1-1/2"	CLOSET SPUD WASHERS	.40
2"	CLOSET SPUD WASHERS	.46
2x1-1/4"	CLOSET SPUD WASHERS	.74
2x1-1/2"	CLOSET SPUD WASHERS	.74
TANK BALLS:		
2-5/8"	TRIPLE SEAL	1.04
3"	TRIPLE SEAL	1.29
2-5/8"	TITE SEAL	1.11
2-5/8"	SEALMASTER	1.26
CRANE FLAPPER VALVE		2.91
STD. FLAPPER VALVE		2.99
S-216	STOPPERS 1" TO 1-3/4"	.99
S-218	STOPPERS 2"	1.10
S-1089	RENEW BRASS SEAT	.39
R 201	'O' RING	.07
P-361	BALLCOCK SPLIT PACKING	.12
W 875	BALLCOCK SHANK WASHER	.15
W 601	BALLCOCK SEAT WASHER	.05
S-550	BIBB SCREW	.07
	FAUCET WASHER	.08
G-206	TANK BOLT WASHER	.08
G-601	TANK/BOWL SPONGE WSHR.	.73
W-752	TOP WASHER FOR W & O	.40
W-754	BOTTOM WASHER F/W & O	.35
W-755	FLAT WASHER F/W & O	.09
W-454	HOSE WASHER	.02
W-851	FLUSH VLV.SHANK WSHR.	.29

CLOROBEN

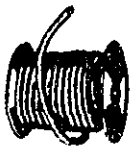
DRAIN PIPE SOLVENTS:			
39013	1 QUART	D.E.	5.55
39015	1 GALLON	D.E.	14.85
39003	1 QUART	P.T.	11.55
39005	1 GALLON	P.T.	37.65
39023	1 QUART	DRAIN SNAKE	6.30
39024	1/2 GAL.	DRAIN SNAKE	10.80
39510	1 LB.	DRAIN SOLVENT	3.00
39511	2 LB.	DRAIN SOLVENT	4.95
39300	25 LB.	SEPTIC CLEANER	51.90
39531	50 LB.	SEPTIC CLEANER	84.15
39570	12 OZ.	BACTA LIFE	9.90
39533	5 LB.	ROOT RAIDER	13.50
39561	25 LB.	ROOT RAIDER	61.05
PIPE JOINT COMPOUND:			
39505	1 LB.	BLUE SEAL	2.10
39506	5 LB.	BLUE SEAL	8.67
39505	36-1 LB.	CANS PER CASE	66.00
39506	6-5 LB.	CANS PER CASE	51.75
39606	1/2x250"	TEFLON TAPE	4.17
39516	1/2x520"	TEFLON TAPE	7.47
39515	1/2x1040"	TEFLON TAPE	13.77

RADIATOR SPECIALTY

LIQUID WRENCH:			EACH
L1-06	6 OZ. SPRAY CAN		2.55
L1-08	8 OZ. PENETRATING OIL		2.76
BOILER SOLDER SEAL:			
B2-32	1 QT. LIQUID		6.15
B1-67	1 QT. POWDER		6.15
WAX CLOSET RINGS:			
G-230	REGULAR SETTING SEAL		1.08
G-237	KANT LEAK SUPER		1.41
T-20-66	TITESEAL	1 LB.	4.56
T-55-04	TITESEAL BRUSH-ON	4 OZ.	2.31
T-55-16	TITESEAL BRUSH-ON	PINT	4.92
HAND CLEANER:			
M10-66	LAN-LIN	1 LB.	2.76
M10-74	LAN-LIN	4-1/2 LB.	11.04
M10-75	LAN-LIN	4-1/2 LB.	11.04
M10-76	LAN-LIN	5 LB.	12.93
M10-D	DISPENSER	4-1/2 LB.	20.16
HEAT PROOF GREASE:			
GR-1	2.5 OUNCE		1.41
RUST RAIDER:			
B5-32	QUART		5.91
B5-34	GALLON		18.90

STAINLESS PUTTY

1 LB.	BLACK SWAN	1.77
5 LB.	BLACK SWAN	8.25
15 LB.	BLACK SWAN	21.30
25 LB.	BLACK SWAN	31.29



SHEET PACKING

RED RUBBER:			P/SHEET
1001-J	1/16"	36 x 36"	36.00
1002-K	3/32"	36 x 36"	52.50
1003-L	1/8"	36 x 36"	72.00
ASBESTOS:			
1020-A	1/32"	50 x 50"	34.50
1021-A	1/16"	50 x 50"	69.00
1022-A	1/8"	50 x 50"	138.00
STEM PACKING:			
GRAPHITE:			P/1 LB. SPOOL
1/8"–3/16"–1/4" DIA. SPOOLS			21.00
TEFLON:			P/1/4 LB. SPOOL
1/8"–3/16"–1/4" DIA. SPOOLS			12.00

THREAD LUBRICANT

CRANE:		
1 QT. (2-1/4 LBS.)	THREAD LUB.	26.46
1/2 PT. (10 OZ.)	THREAD LUB.	9.45
KEYTITE:		
1 LB.	GRAPHITE PASTE	4.41

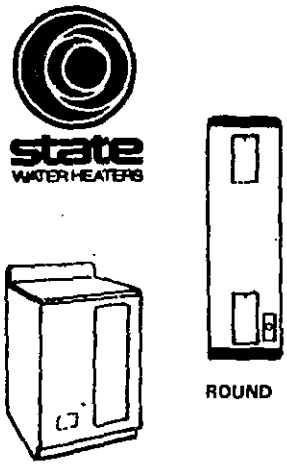
LACO:	REGULAR	JUMBO
PIPETITE STIK	.54	1.89

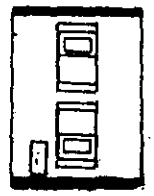
PIPE-GOOP

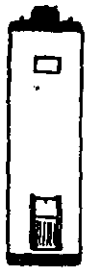
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

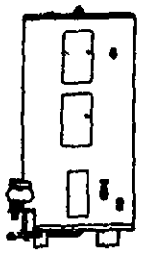
CRANE SUPPLY COMPANY

1001 | **ELECTRIC & SOLAR WATER HEATERS** | Revised: 4-9-81 Replacing: 1-1-81 | 1001




UNDER COUNTER


SUPER-SAVER


SOLARCRAFT

STANDARD COURIER

5 & 10 YEAR LIMITED WARRANTY					PRICE	PRICE
MODEL NUMBER	GAL. CAP.	NO. ELEM.	DIMENSIONS DIA.	HGT.	AX 10 YEAR	CV 5 YEAR
6-IMS-K	6	1	14"	17¼"		198.00
10-IMS-K	10	1	16"	17¼"		207.00
17-IMS-K	17	1	16"	27¾"		234.00
20-IMS-K	20	1	20"	21¾"		255.00
30-IMS-K	30	1	20"	29½"		267.00
30-2RS	30	2	20"	37¼"	382.80	264.00
4 -2RS	40	2	20"	47¼"	391.50	270.00
52-2RS	52	2	22"	50½"	465.45	321.00
TALL ROUND:						
30-2RT	30	2	18"	44¾"	382.80	264.00
4 -2RT	40	2	18"	58½"	391.50	270.00
52-2RT	52	2	20"	58½"	465.45	321.00
66-2RT	66	2	24"	52½"	669.90	462.00
82-2RT	82	2	24"	62"	774.30	534.00
120-2RT	120	2	28"	63"	1239.75	855.00
TABLE TOP: 21" WIDTH						
30-2TI	30	2	36"	25"	552.45	381.00
40-2TI	40	2	36"	25"	648.15	447.00
TABLE TOP: 24" WIDTH						
30-2T4	30	2	36"	25"	574.20	396.00
40-2T4	40	2	36"	25"	669.90	462.00
50-2T4	50	2	36"	25"	739.50	510.00
UNDER COUNTER:						
20 ILS	20	1	16"	30"	348.00	240.00
30-2LS	30	2	20"	31"	395.85	273.00
40-2LS	40	2	24"	31¼"	405.55	279.00
50-2LS	50	2	26"	31½"	478.50	330.00
DEDUCT FOR SINGLE ELEMENT HEATERS						15.00
ADD FOR 277 OR 440/480 VOLT HEATERS					PER ELEMENT	7.50

SUPER-SAVER ENERGY EFFICIENT MODELS

					SSX	SSV
30-1RT	30	1	20"	40½"	372.00	318.00
40-1RT	40	1	20"	50¼"	402.00	345.00
52-1RT	52	1	22"	52½"	468.00	402.00
66-1RT	66	1	24"	54"	627.00	540.00
82-1RT	82	1	24"	64"	723.00	624.00
120-1RT	120	1	28	65	1152.00	996.00
TABLE TOP:						
40-1T4	40	1			663.00	573.00
50-1T4	50	1			768.00	663.00
ADD FOR DOUBLE ELEMENT HEATERS					45.00	45.00

SOLARCRAFT

MODEL NUMBER	TANK CAP.	ELECTRIC ELEMENT	ELECTRIC RECOVERY	DIMENSIONS DIA.	HGT.	PRICE
SOLAR WATER HEATER SYSTEMS:						
SCX-82-ITS	82	4500W-240V	18.4 GPH	28"	55-3/4"	1758.00
SCX-120-ITS	120	4500W-240V	18.4 GPH	28"	73-5/8"	2016.00
INCLUDES STORAGE TANK WITH INTERNAL HEAT EXCHANGER, ELECTRIC ELEMENT PUMP FACTORY WIRING, T&P VALVE, PRESSURE RELIEF VALVE AND OVER PRESSURE ALARM FOR SOLAR SYSTEM, SOLAR DIFFERENTIAL CONTROLLER, SENSOR FOR SOLAR PANEL, 50 FEET OF WIRE FOR REMOTE PANEL SENSOR CONNECTION AND ROOF JACK ASSEMBLIES.						
SOLAR PANEL:						
SCX-6	126" LONG x 55-1/2" WIDE					1347.00
PANEL MOUNTING KITS:						
PMK-4	PARALLEL TO ROOF					219.00
PMK-5	TILT KIT					333.00

CONSULT OUR SALES REPRESENTATIVE FOR COMPLETE INFORMATION AND ORDERING ASSISTANCE.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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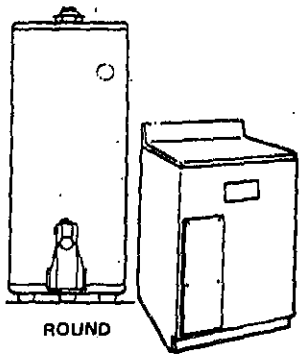
CRANE SUPPLY COMPANY

1002 | **GAS WATER HEATERS & ACCESSORIES** | Revised: 4-1-81 Replacing: 1-1-81 | 1002

state WATER HEATERS

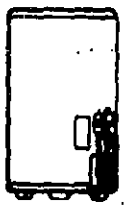


ROUND

TABLE TOP

STANDARD COURIER

MODEL NUMBER	GAL. CAP.	DIMENSIONS DIA.	HGT.	B.T.U. NAT.	INPUT PROP.	G.P.H. 100° RISE	AX 10 YEAR PRICE	CV 5 YEAR PRICE
5 & 10 YEAR LTD. WARRANTY:								
REGULAR ROUND:								
20-NRS	20	16"	44-1/4"	28,M	28,M	24	387.15	267.00
30-NRS	30	18"	48-1/2"	42,M	37,M	35	391.50	270.00
30-NRT	30	16"	59"	44,M	37,M	37	391.50	270.00
40-NRS	40	20"	50-3/4"	42,M	37,M	35	430.65	297.00
40-NRT	40	18"	59-1/2"	46,M	40,M	39	430.65	297.00
50-NRT-4	50	20"	64"	55,M	55,M	46	552.45	381.00
75-NRT	75	24"	63-1/4"	75,M	55,M	63	1174.50	810.00
100-NRT-4	100	26"	72-1/4"	75.1,M	70,M	63	1792.20	1236.00
LOWBOY, TOP VENT:								
30-NLS	30	24"	33-1/2"	30,M	30,M	25	696.00	480.00
40-NLS	40	24"	39-1/2"	33,M	33,M	28	739.50	510.00
UNDERCOUNTER, BACK VENT:								
30-NUS	30	24"	31-1/4"	30,M	30,M	25	739.50	510.00
40-NUS	40	24"	38"	33,M	33,M	28	783.00	540.00
TABLE TOP:								
30-NT4	30	24x25x36"		30,M	30,M	25	1139.70	786.00
ADD FOR FACTORY INSTALLED T&P VALVE:							11.25	11.25



UNDER COUNTER

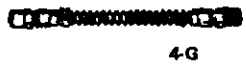
SUPER-SAVER 5 — ENERGY EFFICIENT MODELS

						FOAMITE SRX	FOAMITE SSV
30-NRT	30	18"	59"	32.5M	33	465.00	357.00
40-NRT	40	20"	61-1/4"	40.0M	41	522.00	393.00
40-NRS	SHORT			35.0M	36		393.00
50-NRT	50	22"	61-3/4"	40,M	41	654.00	495.00
75-NRT	75	26"	63-3/4"	48,M	47	1170.00	930.00

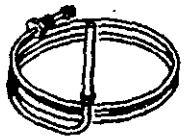
CENSIBLE — ENERGY EFFICIENT MODELS

					FIBER GLASS PRX	FIBER GLASS PRV
30-NRT	30	TALL	30,M	31	405.00	324.00
40-NRT	40	TALL	32,M	33	447.00	357.00
50-NRT	50	TALL	32,M	33	564.00	450.00
65-NRT	65	TALL	36,M	37	840.00	720.00
30-NRS	30	SHORT	20,M	21	405.00	324.00
40-NRS	40	SHORT	22,M	30	447.00	357.00

LIST MODELS ARE FOR NATURAL GAS; SUBSTITUTE LETTER "P" FOR PROPANE GAS.



4-G



TC-K

FLEXIBLE CONNECTORS

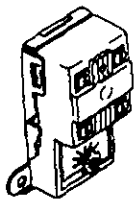
			LENGTH: 12"	18"	24"	36"
3-G	3/8" O.D. TUBING	1/2" M.I.P. x 1/2" F.I.P.	6.08	7.16	7.97	9.86
4-G	1/2" O.D. TUBING	1/2" M.I.P. x 1/2" F.I.P.	6.75	8.10	9.59	11.75
7-GFM	3/4" O.D. TUBING	3/4" M.I.P. x 3/4" F.I.P.	6.89	8.64	10.13	12.02

THERMOCOUPLES

TC-K	UNIVERSAL KIT CONNECTOR	6.56

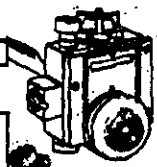
LIMEGUARD ELEMENTS

5 YR. LTD. GUARANTY, THRD. FLANGE:		
TR3800	SANDHOG (F/ALL MODELS)	
TR4500	SANDHOG (F/52 GAL. PLUS)	26.81



ELECTRIC THERMOSTATS

FOR SINGLE ELEMENT HEATERS:		
WH2-2	SINGLE POLE, 118 VOLT	20.06
WH2-4	SINGLE POLE, 220 VOLT	20.06
FOR DOUBLE ELEMENT HEATERS:		
WH4-4	UPPER W/ECO, 220 VOLT	21.94
WH2	LOWER W/ECO, 220 VOLT	11.25

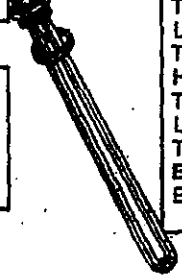


GAS THERMOSTATS

GW4.0	NAT. THERMOSTAT	68.44
GW10.0	L.P. THERMOSTAT	68.44

ELEMENTS

LOW WATT DENSITY:		
TR-LW	THREADED FLG. W/GASKET	13.50
LS-LW	ROUND FLANGE W/GASKET	12.94
TG-LW	SQUARE FLANGE W/GASKET	13.50
HIGH WATT DENSITY:		
TR-HW	THREADED FLG. W/GASKET	12.38
LS-HW	ROUND FLANGE W/GASKET	11.06
TG-HW	SQUARE FLANGE W/GASKET	12.38
ELEMENT ADAPTER KIT:		
EA-K	TO ADAPT. THREADED TO RND. OR SQUARE FLANGE	5.63



ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

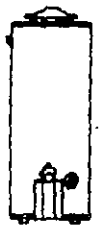
1003 | **COMMERCIAL WATER HEATERS** | Revised: 6-15-81 Replacing: 4-1-81 | 1003

SUPER SANDBLASTER ELECTRIC HEATERS

3 YEAR LIMITED WARRANTY

WITH FACTORY FUSING			PRICE				PRICE				PRICE	
K.W. INPUT	MODEL NUMBER SB5-	GAL. CAP.	SURFACE THERMO-STAT	IMMER-SION THERM.	MODEL NUMBER SB5-	GAL. CAP.	SURFACE THERMO-STAT	IMMER-SION THERM.	MODEL NUMBER SB5-	GAL CAP.	SURFACE THERMO-STAT	IMMER-SION THERM.
6	52-6-IFE	52	1227.00	1635.00	82-6-IFE	82	1617.00	2025.00	120-6-IFE	120	1947.00	2355.00
9	52-9-IFE	52	1263.00	1671.00	82-9-IFE	82	1653.00	2061.00	120-9-IFE	120	1977.00	2385.00
12	52-12-IFE	52	1314.00	1722.00	82-12-IFE	82	1710.00	2118.00	120-12-IFE	120	2022.00	2430.00
13.5	52-13.5-IFE	52	1332.00	1740.00	82-13.5-IFE	82	1737.00	2145.00	120-13.5-IFE	120	2052.00	2460.00
15	52-15-IFE	52	1356.00	1764.00	82-15-IFE	82	1764.00	2172.00	120-15-IFE	120	2082.00	2490.00
18	52-18-IFE	52	1374.00	1782.00	82-18-IFE	82	1782.00	2190.00	120-18-IFE	120	2112.00	2520.00
27	52-27-IFE	52	1905.00	2400.00	82-27-IFE	82	2295.00	2790.00	120-27-IFE	120	2580.00	3075.00
30	52-30-IFE	52	1965.00	2460.00	82-30-IFE	82	2355.00	2850.00	120-30-IFE	120	2625.00	3120.00
36	52-36-IFE	52	2025.00	2520.00	82-36-IFE	82	2415.00	2910.00	120-36-IFE	120	2685.00	3180.00
45	52-45-IFE	52		3135.00	82-45-IFE	82		3525.00	120-45-IFE	120	3240.00	3840.00
54	52-54-IFE	52		3240.00	82-54-IFE	82		3585.00	120-54-IFE	120	3300.00	3900.00
81	52-81-IFE	52		5250.00	82-81-IFE	82		5625.00	120-81-IFE	120		5895.00
FOR A.S.M.E. TANK CONSTRUCTION ADD TO THE ABOVE PRICES												825.00

NOTE: ALL MODELS WITH ASME RATED TEMPERATURE AND PRESSURE RELIEF VALVE, WHEN ORDERING SURFACE-MOUNTED THERMOSTATS DELTE "I" AND SUBSTITUTE "S" IN MODEL NUMBER.



SB75-75E

SB75-360E

SANDBLASTER GAS HEATERS

3 YEAR LIMITED WARRANTY

NUMBER	CAP. GAL.	B.T.U. NAT.	FIRST HOUR DELIVERY	REC. 100°	WITH T. & P. VALVE	WITHOUT T & P VALVE
SB-75-75E	75	75.1	113	63	1119.00	1110.00
SB-75-155E	75	155.	180	130	2019.00	1980.00
SB-80-180E	80	180.	218	162	2079.00	2040.00
SB-80-199E	80	199.	236	180	2139.00	2100.00
SB-100-199ET	100	199.	250	180	2199.00	2160.00
SB-100-199ES	100	199.	250	180	2199.00	2160.00
SB-85-250E	85	250.	284	225	2358.00	2310.00
SB-100-260ES	100	260.	304	234	2490.00	2442.00
SB-100-270ET	100	270.	313	243	2568.00	2520.00
ASME MODELS:						
SB-85-250E ASME		250.	284	225	3333.00	3285.00
SB-100-270ET ASME		270.	313	243	3588.00	3540.00
BOOSTER TYPE:						
SB-20-150E	20	150.	139	126	1743.00	1704.00
SB-25-199E	25	199.	183	168	1809.00	1770.00
SB-25-225E	25	225.	206	189	2073.00	2025.00
SB-35-310E	35	310.	284	260	2298.00	2250.00
SB-75-360E	75	360.	376	324	3198.00	3150.00
WITH INTERMITTENT IGNITION DEVICE (SAF-SWITCH):						
SB-70-500E	70	500.	467	420	4524.00	4470.00
SB-70-725E	70	725.	656	609	6081.00	6000.00

ACCESSORIES

DUAL BALANCED MANIFOLD	360.00	QUADRUPLE BALANCED MANIFOLD	990.00
TRIPLE BALANCED MANIFOLD	825.00	THERMOSTATIC MIXING VALVE	105.00

CS

SS

INSULATED UNIONS

		1/2"	3/4x1/2"	3/4"	1x3/4"	1"	1-1/4"	1-1/2"	2"
CS	F.I.P. x COPPER	5.66	5.66	5.66	9.36	9.36	14.53	22.04	31.88
SS	F.I.P. x F.I.P.	6.53	7.22	7.22		10.14	13.46	23.50	30.71

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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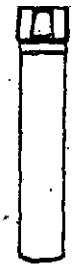
CRANE SUPPLY COMPANY

1101 **BRUNER WATER CONDITIONERS** Revised: 1-9-81 Replacing: 2-1-80 1101

HR-715


DU-715

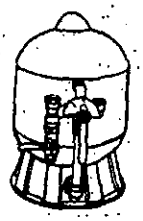
1252

R-42-LCG

WATER CONDITIONERS

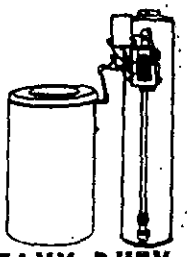
MODEL NUMBER	EXCHANGE CAPACITY IN GRAINS MAX	EXCHANGE CAPACITY IN GRAINS MIN	SALT PER RECHARGE (LBS.) MAX	SALT PER RECHARGE (LBS.) MIN	SALT STOR (LBS.)	SVC FLOW G.P.M.	PIPE SIZE (1)	DIMENSIONS FLOOR SPACE L	W	H	IRON REMOVAL P.P.M. (2)	WGT. (LBS.)	PRICE
SB-80	8,000		5.3		300	7.0	1"	18"	18"	37"	2	50	708.00
SB-150	15,000	10,500	8.5	3.5	275	9.0	1"	18"	18"	45"	5	64	795.00
SB-250	25,000	20,000	14.0	7.5	250	12.0	1"	18"	18"	45"	6	86	894.00
DB-700	15,000	10,500	8.5	3.5	200	8.0	3/4"	33"	18"	44"	4	69	747.00
DB-900	30,000	20,000	17.0	7.0	200	8.0	3/4"	35"	18"	56"	6	111	888.00
DB-1000	45,000	30,000	22.5	9.0	200	9.0	3/4"	36"	18"	62"	8	128	1032.00

SPECIFICATIONS:
16" Diameter, 28" Height Overall, 3/4" Piping, 16x22" Floor space, Service flow 8 G.P.M., Vessel wgt. 20 lb. Operating pressure 125 P.S.I. Maximum.


16FF

FILTERS

MODEL NO.	WATER PROBLEM	PRICE
WITH MEDIA:		
16FF-AC	TASTE & ODOR	585.00
16FF-AN	ACID WATER	501.00
16FF-M	HIGH IRON COMPLETE IRON REMOVAL	555.00
16FF-S	IRON (OXIDIZED), RED WATER, IRON BACTERIA OR TURBIDITY	486.00
REPLACEMENT FILTER PACKS:		
A-1830-1AC	TASTE & ODOR	147.00
A-1830-2AN	ACID	60.00
A-1830-3M	IRON REMOVAL	117.00
A-1830-4S	TURBIDITY	51.00


60BA

HEAVY DUTY 'BA' SERIES

MODEL NUMBER	EXCHANGE CAPACITY IN GRAINS MAX	EXCHANGE CAPACITY IN GRAINS MIN	SALT PER RE-CHARGE LBS. MAX	SALT PER RE-CHARGE (1) MIN	SALT STOR LBS.	SVC FLOW G.P.M. (2)	PIPE SIZE	APPROXIMATE DIMENSIONS FLOOR SPACE L	W	H	IRON REMOVAL (3)	PRICE
60-BA	60,M	40,M	30	12	300	17	1"	40"	22"	60"	10	1381.05
90-BA	90,M	60,M	45	18	300	20	1"	42"	22"	66"	10	1617.00
120-BA	120,M	80,M	60	24	300	25	1-1/4"	44"	22"	66"	10	1927.00

(1) Factory recommended setting provides two-thirds maximum capacity to obtain most efficient operation & 40% savings on salt costs.
(2) Based on operating pressure to 50 PSI.
(3) Clear water iron only. Colored waters require a filter ahead of softener.

ALL SIZE COMMERCIAL UNITS AVAILABLE. SEE OUR SALES REPRESENTATIVE.

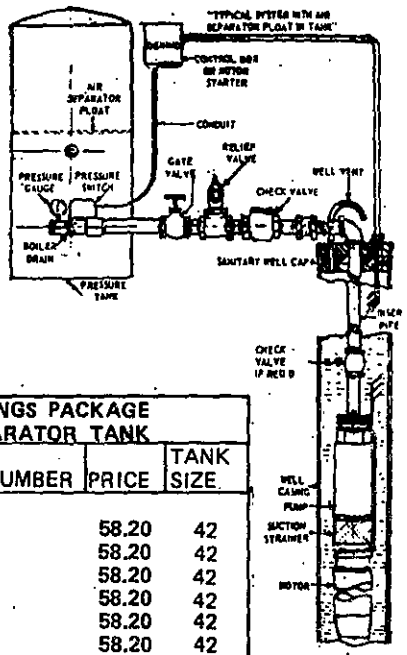
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

CRANE DEMING

SYSTEM FITTINGS PKG. NO. 2 –
FIR AIR SEPARATOR TANKS

BRASS COMBINATION
CHECK VALVE
CONTROL CENTER
PRESSURE GAUGE
SHRADER VALVE
PRESSURE SWITCH



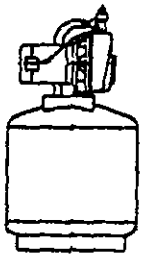
6711 SUBMERSIBLE UNITS & SYSTEMS

			UNIT WITH WATER FILLED MOTOR		SYSTEM FITTINGS PACKAGE FOR AIR SEPARATOR TANK		
UNIT NO.	H.P.	VOLTS	PRODUCT NUMBER	PRICE*	PRODUCT NUMBER	PRICE	TANK SIZE
5 G.P.M. SERIES – 1 PHASE:							
2xLN11	1/3	115	6711-401-02-015	590.73	0041990	58.20	42
2xLN11	1/3	230	6711-401-02-016	590.73	0041990	58.20	42
3xLN15	1/2	115	6711-401-03-015	666.39	0041990	58.20	42
3xLN15	1/2	230	6711-401-03-016	666.39	0041990	58.20	42
4xLN21	3/4	230	6711-401-04-008	840.99	0041990	58.20	42
5xLN26	1	230	6711-411-05-301	1115.99	0041990	58.20	42
6xLN34	1-1/2	230	6711-411-06-301	1376.43	0054226	65.48	42
8 G.P.M. SERIES – 1 PHASE:							
2ALN7	1/3	115	6711-402-02-001	574.73	0041990	58.20	42
2ALN7	1/3	230	6711-402-02-002	574.73	0041990	58.20	42
3ALN10	1/2	115	6711-402-03-001	580.55	0041990	58.20	42
3ALN10	1/2	230	6711-402-03-002	580.55	0041990	58.20	42
4ALN13	3/4	230	6711-402-04-001	724.59	0041990	58.20	42
5ALN17	1	230	6711-402-05-001	935.57	0041991	62.57	42
7ALN27	2	230	6711-412-07-001	1751.82	0041992	75.66	80
8ALN39	3	230	6711-412-08-001	2087.93	0054304	98.94	80

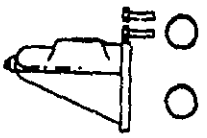
* NOTE: TANK NOT INCLUDED IN ABOVE PRICE. SEE PAGE 1203 FOR PRICES

BASIC UNIT

HORIZONTAL BASIC PACKAGE SYSTEM



TMP BASIC PACKAGE SYSTEM



SHALLOW WELL KIT

DEEP WELL KIT

4976 CONVERTIBLE JET

	1/3 H.P.		1/2 H.P.		3/4 H.P.		1 H.P.	
BASIC UNIT:	MODEL	PRICE	MODEL	PRICE	MODEL	PRICE	MODEL	PRICE
PUMP, MTR.& SWITCH	200-2-700	343.38	300-3-700	352.11	400-4-700	400.13	500-5-700	433.59
HORIZONTAL PACKAGE SYSTEM:								
W/WX-102 TANK	200-02-705	472.88	300-03-705	481.61				
VERTICAL TMP PACKAGE W/WELL-X-TROL TANK:								
10 GALLON	200-02-710	596.55	300-03-710	605.28	400-04-710	653.30	500-05-710	686.76
14 GALLON	200-02-714	622.74	300-03-714	628.56	400-04-714	676.58	500-05-714	710.04
20 GALLON	200-02-720	638.75	300-03-720	647.48	400-04-720	695.49	500-05-720	728.96
SHALLOW WELL KIT:								
HIGH PRESSURE	0055959	30.56	0055961	30.56	0055967	32.01	0055969	32.01
DEEP WELL KIT:	0055963	21.83	0055963	21.83	0055964	37.83	0055964	37.83

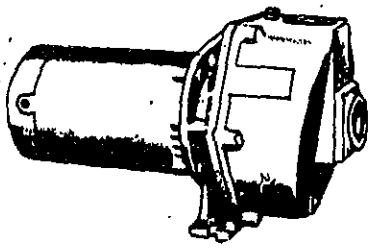
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

38

CRANE SUPPLY COMPANY

1202 | **CRANE DEMING PUMPS** | Revised: 7-1-81 Replacing: 4-1-81 | 1202

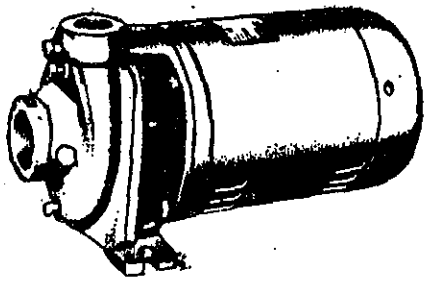
3361 SELF PRIMING CENTRIFUGAL PUMP



CAST IRON PUMP WITH STAINLESS STEEL SHAFT, FIANITE IMPELLER & DIFFUSER, BUILT-IN CHECK VALVE, 3450 R.P.M. THREADED SHAFT MOTOR.

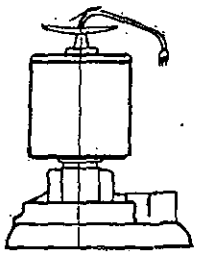
UNIT	PRODUCT NO.	H.P.	SIZE		PRICE
4-A	3361-202-05-001	1	1-1/2"	115/230/60/1	533.99
5-A	3361-200-06-001	1-1/2	2"	115/230/60/1	567.45
6-A	3361-200-07-001	2	2"	115/230/60/1	667.85

4353 MOTOR-MOUNT CENTRIFUGAL PUMPS



3500 R.P.M.			STD. IMPELLER DIA.	THREADED SHAFT MOTORS 1 PHASE, 115/230 VOLTS W/BUILT-IN OVERLOAD RELAY	
UNIT NO.	PUMP SIZE	HORSE POWER		PRODUCT NO.	PRICE
131	1"	1/3	3-3/4"	4353-100-02-001	391.40
132	1"	1/2	4-1/16"	4353-100-03-001	392.85
133	1"	3/4	4-3/8"	4353-100-04-001	467.06
134	1A	1	4-3/8"	4353-101-05-001	504.89
135	1A	1-1/2	4-5/8"	4353-101-06-001	602.37
136	1-1/2"	1/3	3-1/2"	4353-150-02-001	360.84
137	1-1/2"	1/2	4"	4353-150-03-001	414.68
138	1-1/2"	3/4	4"	4353-150-04-001	467.06
139	1-1/2"	1	4"	4353-150-05-001	496.16
140	1-1/2"	1-1/2"	4"	4353-150-06-001	602.37

SUBMERSIBLE & VERTICAL DRAINAGE PUMPS

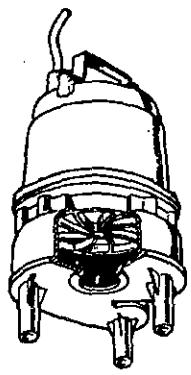


115 VOLTS 1-1/4" I.P.S.	SUMP DEPTH	HGT. FT. IN.	TOTAL HEAD IN FEET 5	10	15	20	22	24 CAPACITY IN GALLONS PER HOUR	PRICE
SUBMERSIBLE SUMP DRAINER:									
4666-125-02-001	—	15"	3060	2760	2280	1650	1140		375.39

KINKEAD SUMP PUMP SUMP

PG6ST	POLYGLAS	16-3/4 GALLONS CAPACITY, NO COVER	35.85

SUMP & SEWAGE PUMPS



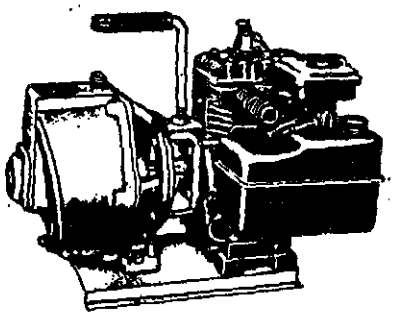
UNIT NO.	H.P.	VOLT	CORD LGTH.	PHASE	SWITCH TYPE	MAX. SOLIDS	PIPE SIZE	PRODUCT NUMBER	PRICE
4650 BASIC UNIT:									
D-30	3/10	115	10 FT.	1	FIXED LEVEL	3/4"	1-1/4"	125-01-001	219.48
D-33	1/3	115	10 FT.	1	FIXED LEVEL	3/4"	1-1/2"	160-02-001	235.47
7306 BASIC UNIT:									
D-50	1/2	115	10 FT.	1	FIXED	2"	2"	200-03-001	316.86
D-50	1/2	230	10 FT.	1	FIXED	2"	2"	200-03-002	316.86
7306 SIMPLEX SYSTEM: INCLUDES: 1 D-50 PUMP, 18 x 30" POLYETHELENE BASIN W/STEEL COVER, VALVE, NIPPLES AND LEVEL CONTROLS								200-03-101	748.55
7306 DUPLEX SYSTEM: INCLUDES: 2 D-50 PUMPS, 30 x 36" FIBERGLAS BASIN WITH STEEL COVER, VALVES, NIPPLES, ALTERNATER & LEVEL CONTROLS								200-03-201	2719.50

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

1203 | CONTRACTOR PUMPS & ACCESSORIES | Revised: 7-1-81 Replacing: 4-9-81 | 1203

CRANE | DEMING



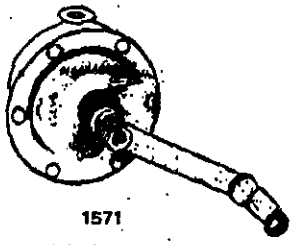
PORTABLE GASOLINE ENGINE UNIT

3309 INCLUDES PUMP WITH STAINLESS SHAFT & MECHANICAL SEAL, FIANITE IMPELLER & DIFFUSER, BUILT-IN CHECK VALVE AND 4 CYCLE GASOLINE ENGINE

UNIT NO.	PRODUCT NO.	H.P.	SIZE	PRICE
5B	3309-200-99-001	3	2"	728.96
6AB	3309-200-99-002	3	2"	672.21

ACCESSORIES:

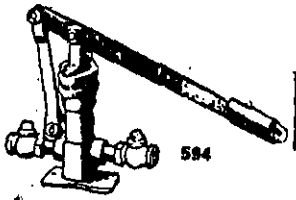
1-1/2"	C.I. SUCTION STRAINER	0003720	14.97
2"	C.I. SUCTION STRAINER	0030872	19.26
1-1/2" x 15'	3 PLY SUCTION HOSE	0058552	155.52
2" x 15'	3 PLY SUCTION HOSE	0058553	286.34



1571

ROTARY HAND PUMP

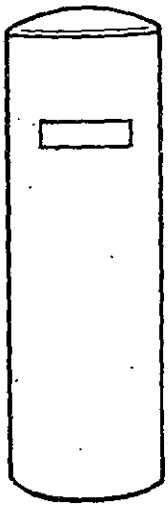
BASIC UNITS:		
1571-010-000-01	STANDARD CONSTRUCTION	172.02
1571-010-000-02	BRONZE CONSTRUCTION	314.76
1571-010-000-03	STD WITH DISCHARGE SPOUT, DRUM PIPE & DRUM RING W/SET SCREW	217.71
ACCESSORIES:		
0093435	DISCHARGE SPOUT	20.13
0093868	8' HOSE W/COUPLINGS	26.35
0093869	HOSE HANGING BRACKET	3.66
0093439	HOSE NOZZLE	9.33
0093870	DRUM RING W/SET SCREW	13.08
0083809	DRUM PIPE	25.62
0093871	PUMP MOUNTING BRACKET	9.79



594

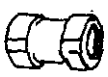
HYDRAULIC PRESSURE TEST PUMP

FIGURE NUMBER	MAXIMUM PRESSURE	SHIP. WGT.	ORDER BY PRODUCT NUMBER	PRICE
FIG. 594 FORCE PUMP	400 LB.	18	594-852-00-003	334.31



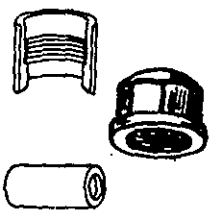
PRESSURE TANKS

	GAL.	SIZE	PRICE
GALV. HORIZONTAL & VERTICAL:			
0000065	12	12x24"	159.89
0030835	18	12x36"	172.97
0030836	30	16x36"	188.96
0000076	42	16x48"	197.68
0001470	42	20x32"	220.39
0000112	80	20x60"	377.91



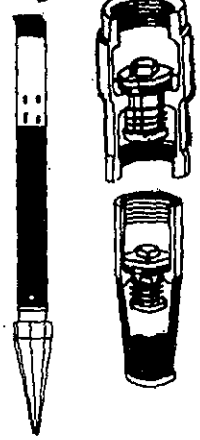
COMPRESSION COUPLINGS

SMITH BLAIR:		521 SHORT	522 LONG
1/2"	GALVANIZED	12.04	12.71
3/4"	GALVANIZED	13.16	13.73
1"	GALVANIZED	15.08	15.86
1-1/4"	GALVANIZED	18.11	19.35
1-1/2"	GALVANIZED	21.38	22.05
2"	GALVANIZED	26.44	27.79



DRIVE FITTINGS

	CPLG.	CAPS	SHOES
1-1/4"	13.86	10.30	
1-1/2"	12.66	15.18	
2"	21.09	20.22	27.06



AIR VOLUME CONTROLS

	PRICE	KIT ONLY
AV-30	14.58	7.08
AV-42	20.85	8.31
AV-80	23.64	9.84
AV-120	35.10	15.72
PRESSURE GAUGE:		
2" DIAMETER 0 TO 100 LBS.		6.84
PRESSURE SWITCH:		
DEMING 1605 NO. 1		
20 TO 65 LBS.		20.81

CHECK & FOOT VALVES

	5300 CHECK	5340 FOOT
3/4"	20.52	18.00
1"	23.82	21.33
1-1/4"	32.43	22.71
1-1/2"	42.03	37.23
2"	65.61	56.79

WELL POINTS — 60 GAUZE

SS-94	30"	36"	48"	60"
1-1/4"	66.24	75.66	90.24	114.03
1-1/2"	81.99	91.59	122.58	153.36
2"	106.68	127.89	161.55	203.13

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

40

CRANE SUPPLY COMPANY

1301 | **CAST IRON SECTIONAL BOILERS** | Revised: 6-24-81 Replacing: 4-1-80 | 1301

HBSmith

PACKAGED GAS BOILERS

MODEL NUMBER		RATINGS BTUH NATURAL GAS			PROPANE GAS			
NATURAL GAS	PROPANE GAS	A.G.A. INPUT MBH	D.O.E. HEAT. CAP.	I.B.R. NET MBH	A.G.A. INPUT MBH	D.O.E. HEAT. CAP.	I-B-R NET MBH	PRICE
SERIES SGB2 WATER BOILERS: WITH PRESSED STEEL BURNERS								
STANDARD EQUIPMENT: FACTORY ASSEMBLED & WIRED, INSULATED METAL JACKET, 100% GAS SHUT OFF, HIGH LIMIT CONTROL, CIRCULATOR, ASME RELIEF VALVE, DRAFT DIVERTER.								
TACO CIRCULATOR STANDARD:								
SGB2-4W	PSGB-4W	63.0		43.8	60.0		41.7	**1294.81**
SGB2-5W	PSGB-5W	84.0		58.4	80.0		55.7	**1383.05**
SGB2-6W	PSGB-6W	105.0		73.0	100.0		69.6	**1461.02**
SGB2-7W	PSGB-7W	126.0		87.7	120.0		83.5	**1575.94**
SGB2-8W	PSGB-8W	147.0		102.3	140.0		97.4	**1715.47**
SERIES G-200 WATER BOILERS: WITH CAST IRON BURNERS								
B&G CIRCULATORS STANDARD								
G-200-W-3	PG200-W3	75.0	58.0	50.4	70.0	55.0	47.8	**1385.10**
G-200-W-4	PG200-W4	112.0	87.0	75.7	105.0	83.0	72.2	**1592.35**
G-200-W-5	PG200-W5	149.0	116.0	100.9	140.0	110.0	95.7	**1832.44**
G-200-W-6	PG200-W6	187.0	146.0	127.0	175.0	137.0	119.1	**2025.32**
G-200-W-7	PG200-W7	224.0	175.0	152.2	210.0	165.0	143.5	**2259.25**
G-200-W-8	PG200-W8	262.0	204.0	177.4				**2507.54**
G-200-W-9	PG200-W9	299.0	233.0	202.6				**2723.00**
SERIES G-210 STEAM BOILERS: WITH CAST IRON BURNERS								
STANDARD EQUIPMENT: FACTORY ASSEMBLED & TESTED INSULATED METAL JACKET, 100% GAS SHUT OFF, LOW WATER CUT-OFF, PRESSURE LIMIT CONTROL, WATER GAUGE GLASS, PRESSURE GAUGE, ASME SAFETY VALVE 15 PSI & DRAFT DIVERTER.				SQ. FT STEAM			SQ. FT. STEAM	
G210-S-4	PG210-S-4	112.5		281	105.0		263	**1471.28**
G210-S-5	PG210-S-5	150.0		375	140.0		350	**1699.06**
G210-S-6	PG210-S-6	187.5		469	175.0		438	**1926.83**
G210-S-7	PG210-S-7	225.0		563	210.0		525	**2156.65**
G210-S-8	PG210-S-8	362.5		656				**2374.16**
G210-S-9	PG210-S-9	300.0		750				**2591.68**

GAS BOILER — BURNER UNITS

MODEL NUMBER *'S' F/STEAM *'W' F/WATER	RATINGS — NATURAL OR PROPANE A.G.A. MBH PER HR. INPUT	OUTPUT	NET I-B-R STEAM SQ.FT.	MBH/HR STEAM	WATER	STEAM CONTROL SYSTEM	PRICE	WATER CONTROL SYSTEM	PRICE
STANDARD EQUIPMENT: CAST IRON SECTIONS UNASSEMBLED, FACTORY ASSEMBLED BASE, BURNERS & GAS TRAIN, 100% SHUTOFF, INSULATED JACKET & DRAFT HOOD. — STEAM BOILERS INCLUDE PRESSURE GAUGE & ASME SAFETY VALVE (15 PSI), LIMIT CONTROL, LOW WATER CUTOFF & GAUGE GLASS. — WATER BOILERS INCLUDE ASME RELIEF VALVE (40 PSI), THERALTIMETER & LIMIT CONTROL.									
G300-4*	225.0	180.0	563	135.1	156.5	3–1	2700.43	3–21	**2499.34**
G300-5*	300.0	240.0	750	180.0	208.7	3–1	3192.91	3–21	**2989.76**
G300-6*	375.0	300.0	938	225.1	260.9	3–1	3650.51	3–21	**3445.31**
G300-7*	450.0	360.0	1125	270.1	313.0	3–5	4660.09	3–25	**4436.42**
G300-8*	525.0	420.0	1313	315.1	365.2	3–5	5220.29	3–25	**4994.57**
G300-9*	600.0	480.0	1500	360.1	417.4	3–5	5700.46	3–25	**5460.37**
ADD FOR FACTORY ASSEMBLED SECTIONS							PER SECTION		**32.83**

NOTE: FOR PROPANE GAS ADD LETTER 'P' TO MODEL NUMBER AS P300-4.

FOR OTHER SIZES, CONTACT OUR HEATING REPRESENTATIVE

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

AREA: H-2

CRANE SUPPLY COMPANY

1302	CAST IRON SECTIONAL BOILERS	Revised: 6-24-81 Replacing: 4-1-80	1302

HBSmith

SMITH-PAC 12 PACKAGED OIL BOILERS

MODEL NUMBER	D.O.E. HEATING CAP. BTUH	NET IBR BTUH	NOZZLE G.P.H.	CHIMNEY SIZE	LESS TANKLESS
WET BASE FOR WATER: STANDARD EQUIPMENT: FACTORY ASSEMBLED WITH INSULATED METAL JACKET, OIL BURNER, CIRCULATOR, COMBUSTION CHAMBER, HIGH LIMIT AND CIRCULATOR RELAY, ASME RELIEF VALVE, THERALTIMETER, LOW VOLTAGE THERMOSTAT, AND BAROMATIC DRAFT CONTROL.					
FD-12-W-3	90,000	78,300	.80	8" x 8" x 20'	1863.22
FD-12-W-4	127,000	110,400	1.15	8" x 8" x 21'	2086.88
FD-12-W-5	164,000	142,600	1.45	8" x 8" x 22'	2384.42
FD-12-W-6	201,000	174,800	1.80	8" x 8" x 23'	2663.50
FD-12-W-7	238,000	207,000	2.15	8" x 12" x 23'	2944.62
ADD FOR TWO STAGE FUEL PUMP:					36.94

1100L OIL BOILER BURNER UNITS

MODEL NUMBER STEAM	NET I-B-R RATING SQ. FT. STEAM	MBTU STEAM	MBTU WATER	D.O.E. HEAT. CAP. BTUH	BURNER CAP. GPH	CHIMNEY SIZE	WITH OIL BURNER
STANDARD EQUIPMENT: FLUSH JACKET, PRESSURE ATOMIZING BURNER FOR NO. 2 OIL, CAD CELL FLAME DETECTOR AND PRIMARY CONTROL, BURNER MOUNTING PLATE, INSULATION, BAROMETRIC DRAFT CONTROL, THERMOSTAT, AND STEEL BASE – STEAM OR WATER TRIM.							
1100L-S-4	455	109.5	127.0	146.0	1.30	8" x 8" x 15'	3082.10
1100L-S-5	580	138.8	160.9	185.0	1.65	8" x 8" x 15'	3430.94
1100L-S-6	695	167.3	193.9	223.0	2.00	8" x 8" x 16'	3787.99
1100L-S-7	815	195.0	226.1	260.0	2.30	8" x 12" x 17"	4159.40
FOR TWO STAGE FUEL PUMP						ADD	36.94
FOR FACTORY ASSEMBLED SECTIONS						ADD PER SECTION	34.88
FOR WATER BOILER INSERT "W" IN PLACE OF "S"							

201 STOKER-FIRED BOILERS

MODEL NUMBER WATER	MODEL NUMBER STEAM	GROSS OUTPUT MBH	NET RATINGS STEAM SQ. FT.	STEAM MBH	WATER MBH	COAL FIRING RATE LB./HR.	FURNACE VOLUME CU. FT.	CHIMNEY SIZE	
STANDARD EQUIPMENT: BACK SECTION ARRANGED FOR BUT LESS TANKLESS HEATER, STOKER FOUNDATION FRONT PLATE WITH RECTANGULAR OPENING 14" CAST-IRON BASE, FLUSH JACKET AND INSULATION – STEAM TRIM OR WATER TRIM.									
201-W-4	201-S-4	147.8	462	110.8	128.5	19.0	3.79	8" x 12" x 25'	3508.92
201-W-5	201-S-5	199.0	622	149.3	173.0	25.0	5.10	8" x 12" x 25'	4001.40
201-W-6	201-S-6	247.3	733	185.5	215.0	32.0	6.34	12" x 12" x 25'	4446.68
201-W-7	201-S-7	301.0	941	225.8	262.0	38.5	7.72	12" x 12" x 25'	4937.11

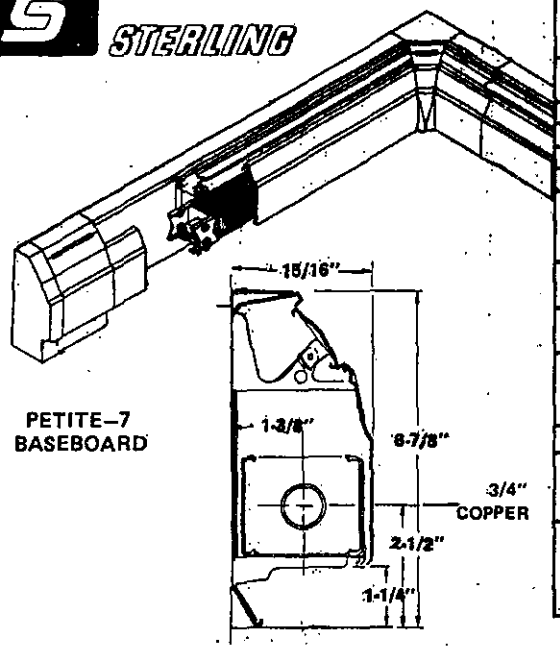
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

AREA: H-2

CRANE SUPPLY COMPANY

1401	STERLING RADIATION	Revised: 6-15-81 Replacing: 6-17-80	1401

STERLING



PETITE–7 BASEBOARD

PETITE-7 BASEBOARD

P77A 3/4" ASSY. BASEBOARD (LENGTH 3' TO 8') P/LIN.FT.	6.30
P7C ENCLOSURE ONLY (LENGTH 3' TO 8') P/LIN. FT.	3.90
7ME 3/4" ELEMENT ONLY (LENGTH 3' TO 8') P/LIN. FT.	3.46

BTUH PER LINEAL FOOT OF ACTIVE LENGTH AT OVERAGE WATER TEMPERATURES INDICATED °F

FLOW RATE	170	175	180	185	190	195	200	205	210	215	220
GPM	P77A ASSEMBLY WITH 3/4" ELEMENT										
4	540	570	600	630	670	700	730	760	800	840	870
1	510	540	570	600	630	660	690	720	760	790	820

ACCESSORIES:		NO.	EACH
END COVER	2" wide plain R.H.	P81	3.05
	2" wide plain L.H.	P82	3.05
END VALVE CVRS.W/HINGED	4" wide R.H. top hinged access doors	P83	6.74
	4" wide L.H. top hinged access doors	P84	6.74
INSIDE CORNER	Hinged 90° only	P89	3.01
	Hinged 135° only	P90	3.69
OUTSIDE CORNER	One piece 90° only	P93	7.76
	One piece 135° only	P94	7.76
WALL TRIM	4" wide	P95	3.31
SPLICING ACCESSORIES	Splicer strip (2 piece) 2"	P96	1.90
	Splicer strip (3 piece) 7"	P97	8.64
	Splicer strip (3 piece) 14"	P98	9.79
GENERAL	Plastic glide set	P101	.44
	Supply support hooks	P102	.44
	Return tube hanger	P103	.44
	Snap-in hanger bracket	P104	2.27

HI–PAK BASEBOARD

TUBE SIZE	FIN SIZE	FINS P/FT.	P/LIN.FT.
3/4" CU.	2-3/4"x3-3/4"	50-ALUM.	16.26
1" CU.	2-3/4"x3-3/4"	50-ALUM.	17.32
1-1/4" CU.	2-3/4"x3-3/4"	50-ALUM.	23.09
1" CU.	2-3/4" x 5"	40-ALUM.	21.74
1" CU.	2-3/4" x 5"	50-ALUM.	23.38
1-1/4" CU.	2-3/4" x 5"	40-ALUM.	22.89
1-1/4" CU.	2-3/4" x 5"	50-ALUM.	24.43
1" IPS	2-3/4"x3-3/4"	40-STEEL	23.28
1" IPS	2-3/4" x 5"	40-STEEL	24.05
1-1/4" IPS	2-3/4" x 5"	40-STEEL	23.28

AVAILABLE IN 2-3-4-5-6-7-8' SECTIONS

ACCESSORIES:	
HI-PAK COVER,BACKPLATE VANE DAMPER W/CARRIERS, & SLIDE SHOES; OR ROD HGR	10.77
SPLICE PLATES	1.35
3" ENDS TO FLOOR	8.85
6" ENDS TO FLOOR	9.91
6" ENDS W/ACCESS. DOOR TO FLOOR	12.60
8" VALVE COMPARTMENT	13.95
INSIDE CORNERS	7.31
OUTSIDE CORNERS	13.37
14" FILL-IN SECTION W/BACKPLATE	23.95
3" TRIM TO FLOOR	5.77
6" TRIM TO FLOOR	6.35
BRACKET	3.85
CARRIER	.27
SLIDE SHOE	1.15
ADJ. ROD HANGER	2.69
RETURN PIPE HANGER FOR 3/4" & 1"	.48
RETURN PIPE HANGER FOR 1-1/4"	2.02

STERWYN FINNED TUBE BASEBOARD

ELEMENTS	P/LIN. FT.
ST-143 1-1/4 TUBE x 3-4-5-6-8-10 FT.LGTHS	14.23
ST-144 1-1/4 TUBE x 3-4-5-6-8-10 FT.LGTHS.	15.99
STC-1435 1-1/4 TUBE x 4-5-6-8-10 FT. LGTHS.	17.74

COVER PACKAGE: (PACKAGE INCLUDES 18 GAUGE PRIME COATED FRONTS, 20 GA. PARTIAL BACK PLATE; BRACKETS & BALL BEARING HANGERS.

	SB-14	SB-20
AVAIL. IN 2',3',3'6",4',5',6',7',8'LGTH.	13.26	16.37
ADD F/FULL 20 GA. BACKPLATE	4.48	5.75
KNOB OPERATED DAMPER	4.39	4.39
URETHANE GASKET	1.27	1.27

FOR HOT WATER JOBS WHERE NO PITCH REQUIRED DEDUCT P/LIN. FT. .39

F/DELETION OF (1) BALL BEARING DED. P/LIN. FT. .68

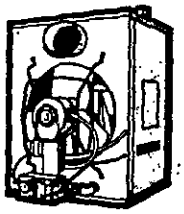
ACCESSORIES:	SB-14	SB-20
3" ENDS	10.92	15.40
WALL SLEEVE 8-3/8" WIDE	8.97	12.26
WALL SLEEVE SUPPORT	5.07	6.34
8-3/8" END W/ACCESS. DOOR	25.63	31.48
12" VALVE COMPART. (16 GA.)	33.14	36.26
INSIDE CORNER	36.06	43.86
OUTSIDE CORNER	44.84	57.51
COVER 18 GAUGE	7.80	12.48
BRACKETS	6.24	6.43
BALL BEARING HANGER BRKT.MOUNT	2.83	2.83
BALL BEARING HANGER WALL MOUNT	4.87	5.46
PARTIAL BACKPLATE PER FOOT		1.66
RIGID HANGERS		2.14

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

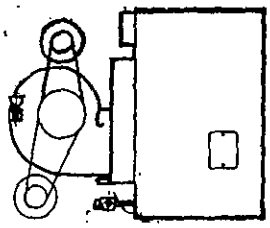
1402 | **STERLING UNIT HEATERS** | Revised: 4-1-81 Replacing: | 1402

STERLING



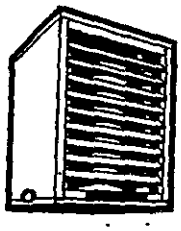
PROPELLER FAN TYPE—GAS FIRED

BASE UNIT EQUIPPED WITH HEAT FAN SWITCH:				
NATURAL OR PROPANE NUMBER	ALUMINIZED STEEL EXCHANGER	3MSS STAINLESS EXCHANGER	INPUT B.T.U./HR.	SHIPPING WEIGHT
B25P			25,000	60
B50P			50,000	98
B75P			75,000	122
CF100			100,000	141
CF125			125,000	155
CF150			150,000	218
CF175	PRICE ON APPLICATION		175,000	235
CF200			200,000	252
CF225			225,000	273
CF250			250,000	290
CF300			300,000	358
CF350			350,000	446
CF400			400,000	468



BLOWER FAN TYPE—GAS FIRED

CB50		50,000	133
CB75		75,000	155
CB100		100,000	171
CB125		125,000	195
CB150		150,000	251
CB175	PRICE ON APPLICATION	175,000	300
CB200		200,000	310
CB225		225,000	320
CB250		250,000	351
CB300		300,000	430
CB350		350,000	578
CB400		400,000	607



HORIZONTAL UNIT HEATERS—STEAM

	CAPACITIES			1 PHASE 60 CYCLE		VERT. LOUVER CASING		
MODEL NO.	BTU@ 2LB-60	EDR	H.P.	115V.	230V.	SIZE	ADD	WGT.
H34-108B	34M	142	9W	PRICE ON APPLICATION		1		43
	30M	125						
H44-112B	44M	183	9W			1		39
	40M	167						
H54-212B	54M	225	1/30			2		49
	49M	204						
H62-212B	62M	258	1/30			2		49
	55M	230						
H80-312B	80M	334	1/30			3		60
	75M	312						
H92-312B	92M	384	1/20			3		61
	77M	320						
H120-412B	120M	500	1/20			4		75
	105M	437						
H140-412B	140M	583	1/12			4		77
	120M	500						
H180-512B	180M	750	1/6			5		100
	155M	645						
H220-612B	220M	917	1/4			6		116
	185M	770						
H240-612B	240M	1000	1/4			6		120
	205M	888						
H310-712B	310M	1290	1/3			7		175
	260M	1080						
H360-712B	360M	1500	1/2			7		180
	310M	1290						

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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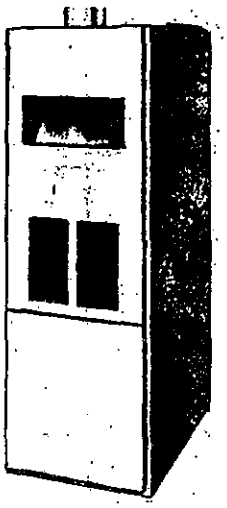
CRANE SUPPLY COMPANY

1501 | **GAS FURNACES** | Revised: 1-30-81 Replacing: 9-10-80 | 1501



ALL FURNACES
A.G.A. CERTIFIED.

AIR CONDITIONERS
A.R. I. RATED

ALL MODELS FACTORY WIRED
AND ASSEMBLED.

STANDING PILOT MODELS
FOR NATURAL OR L.P. GAS

ELECTRIC IGNITION MODELS
FOR NATURAL GAS ONLY

THERMOSTATS & SUB-BASES
NOT INCLUDED
WITH FURNACES.

SEE PAGE 1505 FOR
THERMOSTAT PRICES.

UPFLOW MODEL — BELT DRIVEN

BTU/HR INPUT	BTU/HR OUTPUT	MOTOR H.P.	COOLING TONS	MAX. CFM	STANDING PILOT NUMBER	STANDING PILOT PRICE	ELECTRIC IGNITION WIRED F/OPT. FLUE DAMPER NUMBER	ELECTRIC IGNITION WIRED F/OPT. FLUE DAMPER PRICE
HI-BOY HEATING UNITS:				.2" S.P.	G66		EG66	
75,M	60,M	1/8		690	G66-75	593.48	EG66-75	734.27
100,M	80,M	1/6		950	G66-100	660.63	EG66-100	801.42
125,M	100,M	1/4		1050	G6A-125	794.92	EG6A-125	935.71
150,M	120,M	1/3		1430	G66-150	929.21	EG66-150	1067.84
175,M	140,M	1/3		1485	G66-175	1163.14	EG66-175	1301.77
200,M	160,M	1/3		1820	G66-200	1407.90	EG66-200	1544.36
HEATING & COOLING UNITS:				.5"S.P.				
100,M	80,M	1/3	2.5–3.0	1235	G66-100-C3	734.27	EG66-100-C3	875.06
125,M	100,M	1/3	2.5–3.0	1250	G6A-125-C3	862.07	EG6A-125-C3	1002.86
125,M	100,M	1/2	3.5–4.0	1525	G6A-125-C4	927.05	EG6A-125-C4	1065.67
150,M	120,M	1/2	3.5–4.0	1610	G66-150-C4	1046.18	EG66-150-C4	1186.97
150,M	120,M	3/4	5.0	1950	G66-150-C5	1137.15	EG66-150-C5	1275.77
175,M	140,M	1/2	5.0	1930	G66-175-C5	1358.08	EG66-175-C5	1501.04
200,M	1160,M	1/2	5.0	1930	G66-200-C5	1511.81	EG66-200-C5	1652.66

UPFLOW MODEL — DIRECT DRIVE

HI-BOY HEATING UNITS:				.2"S.P.				
55,M	44,M	1/12		565	G66-55D	528.50	EG66-55D	662.80
75,M	60,M	1/12		745	G66-75D	537.17	EG66-75D	671.46
100,M	80,M	1/8		925	G66-100D	586.99	EG66-100D	729.94
125,M	100,M	1/6		1035	G6A-125D	729.94	EG6A-125D	870.73
150,M	120,M	1/3		1385	G66-150D	870.73	EG66-150D	1011.52
HEATING & COOLING UNITS:				.5"S.P.				
55,M	44,M	1/12	1.5	610	G66-55D-C1.5	591.32	EG66-55D-C1.5	732.11
55,M	44,M	*1/6	1.5–2	840	G66-55D-2C2	602.15	EG66-55D-2C2	740.77
75,M	60,M	*1/6	1.5–2	790	G66-75D-2C2	632.47	EG66-75D-2C2	758.10
75,M	60,M	*1/3	2.5	1040	G66-75D-2C2.5	645.47	EG66-75D-2C2.5	786.26
75,M	60,M	*1/3	3.5	1450	G66A-75D-2C3.5	638.97		
100,M	80,M	*1/3	2.5–3.0	1265	G66-100D-2C3	686.62	EG66-100D-2C3	825.25
100,M	80,M	*1/2	3.0–3.5	1430	G66-100D-2C3.5	749.44	EG66-100D-2C3.5	894.56
100,M	80,M	*3/4	4.0–5.0	1900	G66-100D-2C5	833.91	EG66-100D-2C5	974.70
125,M	100,M	*1/3	2.5–3.0	1280	G6A-125D-2C3	797.09	EG6A-125D-2C3	940.04
125,M	100,M	*1/2	3.0–3.5	1505	G6A-125D-2C3.5	864.23	EG6A-125D-2C3.5	1005.02
125,M	100,M	*3/4	5.0	1965	G6A-125D-2C5	911.89	EG6A-125D-2C5	1052.68
150,M	120,M	*1/2	3.5–4.0	1570	G66-150D-2C4	1013.69	EG66-150D-2C4	1152.31
150,M	120,M	*3/4	5.0	2035	G66-150D-2C5	1050.51	EG66-150D-2C5	1191.30

NOTE: *WITH 3-SPEED MOTOR, WIRED FOR 2-SPEED OPERATION.

FOR FULL LINE CATALOG ON FURNACES — SEE OUR SALES REPRESENTATIVE.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

BASEMENT MODELS — BELT DRIVE

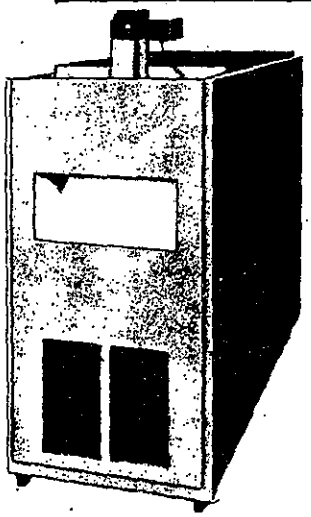
BTU/HR INPUT	BTU/HR OUTPUT	MOTOR H.P.	COOLING NOMIAL TONS	MAX. C.F.M. STATIC	STANDING PILOT NUMBER	STANDING PILOT PRICE	ELECTRIC IGNITION WIRED F/OPT. FLUE DAMPER NUMBER	ELECTRIC IGNITION WIRED F/OPT. FLUE DAMPER PRICE
HEATING UNITS:				.2				
100,M	80,M	1/6		875	G55-100	742.94	EG55-100	866.40
125,M	100,M	1/4		1140	G55-125	992.03	EG55-125	1113.32
150,M	120,M	1/3		1390	G55-150	1169.64	EG55-150	1290.94
HEATING & COOLING UNITS:				.5				
100,M	80,M	1/3	2.5–3.0	1260	G55-100-C3	851.24	EG55-100-C3	968.20
125,M	100,M	1/2	3.5–4.0	1650	G55-125-C4	1076.50	EG55-125-C4	1197.80
150,M	120,M	3/4	3.5–4.0–5.0	2000	G55-150-C5	1238.95	EG55-150-C5	1358.08

COUNTERFLOW MODELS — DIRECT DRIVE

HEATING UNITS:				.2				
55,M	44,M	1/12		525	G76-55D	582.65	EG76-55D	723.44
75,M	60,M	1/8		725	G76-75D	593.48	EG76-75D	734.27
100,M	80,M	1/8		890	G76-100D	651.97	EG76-100D	792.76
125,M	100,M	1/6		1100	G76-125D	773.26	EG76-125D	911.89
150,M	120,M	1/3		1520	G76-150D	944.38	EG76-150D	1085.17
HEATING & COOLING UNITS:				.5				
55,M	44,M	1/6	1.5–2.0	785	G76-55D-2C2	680.12	EG76-55D-2C2	816.58
75,M	60,M	1/3	2.0	880	G76-75D-2C2	710.45	EG76-75D-2C2	851.24
100,M	80,M	1/3	2.0–2.5	1170	G76-100D-2C2.5	768.93	EG76-100-2C2.5	909.72
125,M	100,M	1/3	2.5–3	1330	G76-125D-2C3	901.06	EG76-125D-2C3	1044.01
150,M	120,M	1/2	3.0–3.5	1480	G76-150D-2C3.5	1083.00	EG76-150D-2C3.5	1206.46

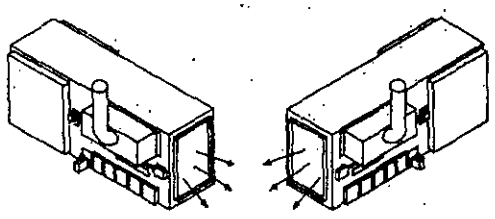
HORIZONTAL MODELS — DIRECT DRIVE

HEATING UNITS:				.2				
75,M	60,M	1/12		745	G83-75D	669.29	EG83-75D	803.59
100,M	80,M	1/8		995	G83-100D	723.44	EG83-100D	857.74
125,M	100,M	1/6		1290	G83-125D	890.23	EG83-125D	1024.52
150,M	120,M	1/3		1490	G83-150D	1076.50	EG83-150D	1210.79
HEATING & COOLING UNITS:				.5				
75,M	60,M	1/6	2.0–2.5	1090	G83-75D-2C2.5	740.77	EG83-75D-2C2.5	875.06
75,M	60,M	1/3	2.5–3.0–3.5	1418	G83-75D-2C3.5	768.93	EG83-75D-2C3.5	903.22
100,M	80,M	1/3	2.5–3.0–3.5	1470	G83-100D-2C3.5	807.92	EG83-100D-2C3.5	942.21
100,M	80,M	1/2	3.5–4.0	1620	G83-100D-2C4	823.08	EG83-100D-2C4	957.37
125,M	100,M	1/3	2.5–3.0–3.5	1575	G83-125D-2C3.5	974.70	EG83-125D-2C3.5	1108.99
125,M	100,M	1/2	3.0–3.5–4.0	1731	G83-125D-2C4	1020.19	EG83-125D-2C4	1154.48
125,M	100,M	3/4	3–4–5	2064	G83-125D-2C5	1085.17	EG83-125D-2C5	1219.46
150,M	120,M	3/4	3.5–4–5	2166	G83-150D-2C5	1212.96	EG83-150D-2C5	1347.25



AUTOMATIC FLUE DAMPER

FOR USE WITH EG SERIES, EXCEPT EG83:		
HA-104	FOR 55–75 MBTH	207.94
HA-105	FOR 100–125 MBTH	218.77
HA-106	FOR 150–175 MBTH	225.26
HA-107	FOR 200 MBTH	233.93



ALL FURNACES A.G.A. RATED

ALL MODELS FACTORY WIRED AND ASSEMBLED.

STANDING PILOT MODELS FOR NATURAL OR L.P. GAS.

ELECTRIC IGNITION MODELS FOR NATURAL GAS ONLY.

THERMOSTATS & SUB-BASES NOT INCLUDED.

SEE PAGE 1505 FOR THERMOSTAT PRICES.

CRANE SUPPLY COMPANY

1503 | **OIL FURNACES** | Revised: 1-30-81 Replacing: 9-10-80 | 1503

BASEMENT MODELS

HEATING UNITS:
(FACTORY WIRED & ASSEMBLED)

NUMBER	OUTPUT BTU/HR	C.F.M. .2	PRICE
L52-84	84,000	900	1225.96
L52-95	95,000	1000	1264.94
L52-112	112,000	1200	1388.41
L52-125	125,000	1300	1527.03
L52-140	140,000	1450	1579.01
L52-168	168,000	1830	1799.95
L52-196	196,000	2000	1862.76

HEATING & COOLING UNITS:
(FACTORY WIRED & ASSEMBLED)

NUMBER	A.C. TONS	OUTPUT BTU/HR	C.F.M. .5	PRICE
L52-84C3	3	84,M	1240	1275.77
L52-95C3	3	95,M	1240	1319.09
L52-112C4	4	112,M	1630	1446.89
L52-125C4	4	125,M	1630	1596.34
L52-125C5	5	125,M	2025	1637.50
L52-140C4	4	140,M	1725	1685.15
L52-140C5	5	140,M	1850	1763.12
L52-168C5	5	168,M	2000	1893.08
L52-196C5	5	196,M	2000	2033.87

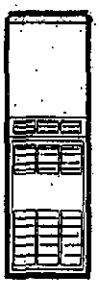
UPFLOW MODELS

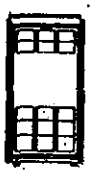
HEATING UNITS:
(FACTORY WIRED & ASSEMBLED)

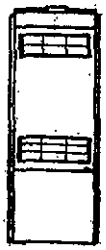
NUMBER	OUTPUT BTU/HR	C.F.M. .2	PRICE
L62-84D	84,000	860	1106.83
L62-84	84,000	920	1163.14
L62-95D	95,000	1080	1147.98
L62-95	95,000	1040	1206.46
L62-112	112,000	1260	1314.76
L62-125	125,000	1340	1407.90

HEATING & COOLING UNITS:
(FACTORY WIRED & ASSEMBLED)

NUMBER	A.C. TONS	OUTPUT FTU/HR	C.F.M. .5	PRICE
L62-84D2C3	2.5–3	84,M	1280	1147.08
L62-95D2C3	2.5–3	95,M	1280	1230.29
L62-95C3	3	95,M	1280	1264.94
L62-112C4	4	112,M	1595	1412.23
L62-125C4	4	112,M	1595	1542.19
L62-125C5	5	125,M	2010	1598.51







ALL FURNACES U.L. LISTED.

THERMOSTATS & SUB-BASES NOT INCLUDED WITH FURNACES.

SEE PAGE 1505 FOR THERMOSTAT PRICES.

COUNTERFLOW MODELS

HEATING UNITS:
(FACTORY WIRED & ASSEMBLED)

NUMBER	OUTPUT BTU/HR	C.F.M. .2	PRICE
L72-84D	84,000	1120	1197.80
L72-95D	95,000	1120	1232.45
L72-112D	112,000	1400	1332.09
L72-125D	125,000	1400	1466.38

HEATING & COOLING UNITS:
(FACTORY WIRED & ASSEMBLED)

NUMBER	A.C. TONS	OUTPUT BTU/HR	C.F.M. .5	PRICE
L72-84D2C3	3	84,M	1220	1308.26
L72-95D2C3	3	95,M	1220	1338.59
L72-112D2C4	3-3.5-4	112,M	1740	1425.23
L72-125D2C4	4	125,M	1740	1542.19

HORIZONTAL MODELS

HEATING UNITS:
(FACTORY WIRED & ASSEMBLED)

NUMBER	OUTPUT BTU/HR	C.F.M. .2	PRICE
L82-84D	84,000	1040	1106.83
L82-95D	95,000	1040	1152.31
L82-112D	112,000	1415	1251.95
L82-125D	125,000	1415	1388.41
L82-140	140,000	1450	1464.22
L82-168	168,000	1830	1769.62
L82-196	196,000	2000	1988.39

HEATING & COOLING UNITS:
(FACTORY WIRED & ASSEMBLED)

NUMBER	A.C. TONS	OUTPUT BTU/HR	C.F.M. .5	PRICE
L82-84D2C3	3	84,M	1180	1184.80
L82-95D2C3	3	95,M	1180	1241.12
L82-112D2C4	4	112,M	1720	1436.06
L82-125D2C5	5	125,M	1980	1607.17
L82-140C4	4	140,M	1745	1715.47
L82-168C5	5	168,M	2030	1949.40
L82-196C5	5	196,M	2030	2120.51

OPTIONAL EQUIPMENT

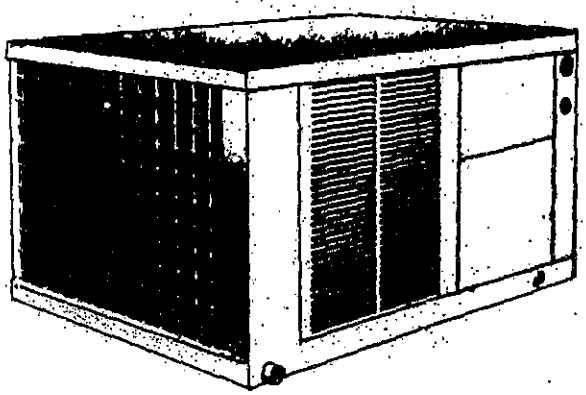
NO.	MODELS USED WITH	PRICE
RETURN AIR DROPS:		
HA-57	84, 84D & 95, 95D	86.64
HA-58	112 & 125	95.30
EXTERNAL FILTER RACKS:		
HA-53	84 THROUGH 125 W/HIGH VELOCITY FILTER)	36.82

FOR OIL FURNACES THRU 4500,000 B.T.U., SEE YOUR SUPPLY SALESMAN.

CRANE00766

CRANE SUPPLY COMPANY

1504 | **AIR CONDITIONING & ELECTRIC HEATING UNITS** | Revised: 1-30-81 Replacing: 9-10-80 | 1504

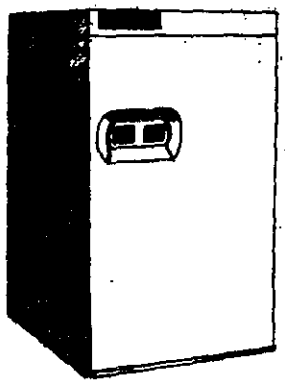


SINGLE PACKAGE COOLING

MODEL NUMBER	COOLING CAPACITY	ELECTRICAL SPECIFICATION	PRICE
C24S1	25,000	230/1/60	1646.16
CA30S1	30,000	230/1/60	2010.05
CA36S1	36,000	230/1/60	2304.62
CA42S1 OR 3	42,000	230/1/60	2640.35
CA48S1 OR 3	49,000	220/1/60	3344.30
CA60S1 OR 3	62,000	230/1/60	3807.83

OPTIONAL HEATING ELEMENTS

NO.	FOR USE WITH	K.W. 240V	B.T.U. CAPACITY	PRICE
FOR FIELD INSTALLATION:				
EL-5	C24S1	4.6	15,700	125.63
EL-10	C24S1	9.2	31,400	179.78
EN-5B	CR30S1-36S1 CA42S1	4.6	15,700	129.96
EN10B	CA30S1-36S1 CA42S1	9.2	31,400	177.61
EN-15B	CA30S1-36S1 CA42S1 OR 3	13.8	47,100	333.56
EN-20B	CA30S1-36S1 CA42S1	18.4	62,800	383.38
EN-25B	CA42S1	23.0	78,500	476.52
EN-30B	CA42S1 OR 3	27.6	94,200	573.99



ELECTRIC FURNACES FOR HEATING & COOLING

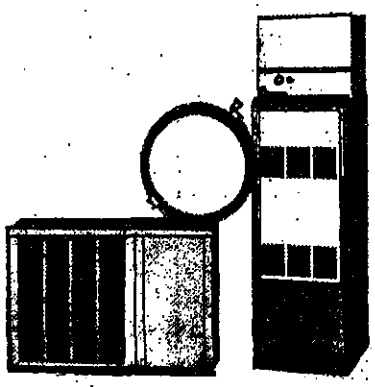
MODEL NO.	PRICE	KW @ 240V	B.T.U. HR.	C.F.M. @ .5	MOTOR & DRIVE	SHIPPING WGT.
UNITS WITH CIRCUIT BREAKERS:						
MDE24-F5D2F	392.05	5.0	17,050	590		68
MDE24-F10D2F	431.03	10.0	34,100	710	1/5-3 DIRECT	68
MDE24-F15D2F	506.84	15.0	51,150	855		68
MCE42-F10D2F	602.15	10	34,100	1517		106
MCE42-F15D2F	660.63	15	51,150	1517		106
MCE42-F20D2F	716.95	20	68,200	1517	1/3-3 DIRECT	106
MCE42-F25D2F	786.26	25	85,250	1517		106
MCE42-F30D2F	905.39	30	102,300	1517		106
MCE48-F15D2F	660.63	15	51,150	1765		106
MCE48-F20D2F	719.11	20	68,200	1765	1/2-3 DIRECT	106
MCE48-F25D2F	784.09	25	85,250	1765		106
MCE48-F30D2F	909.72	30	102,300	1765		106
MCE60-F20D2F	784.09	20	68,200	2048	3/4-2 DIRECT	106
MCE60-F25D2F	870.73	25	85,250	2048		106
MCE60-F30D2F	974.70	30	102,300	2048		106

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

48

CRANE SUPPLY COMPANY

1505	AIR CONDITIONING	Revised: 1-30-81 Replacing: 9-10-80	1505



CONDENSERS

CONDENSER MODEL NUMBER	COOL CAP. BTU/HR	ELECTRICAL SPECIFICATIONS	PRICE
FACTORY CHARGED:			
CF18P-1	18,M	230/1/60	849.07
CF24P-1	24,M	230/1/60	935.11
CF30P-1	30,M	230/1/60	1206.46
CB36PR-1	36,M	230/1/60	1436.06
CB36PR-3	36,M	208-230/3/60	1436.06
CB41PR-1	42,M	230/1/60	1691.65
CB46PR-1	48,M	230/1/60	1929.91
CB46PR-3	48,M	208-230/3/60	1929.91
CB57PR-1	60,M	230/1/60	2397.76
CB57PR-3	60,M	208-230/3/60	2397.76

ACCESSORIES

	12'	20'	30'	40'	50'
WRAPPED LINES:					
LS-45	119.13	155.95	201.44	255.59	311.90
LS-56	119.13	155.95	201.44	255.59	311.90
LS-56B	119.13	155.95	201.44	255.59	311.90
LS-67A	116.96	162.45	223.10	270.75	333.56

FACTORY CHARGED EVAPORATORS

EVAPORATOR MODEL NUMBER	EVAPORATOR UNIT PRICE	USE WITH CONDENSER	USE WITH TUBE SET
UPFLOW & DOWNFLOW COILS:			
YE231-PT	281.58	CBW18 & CF18	LS-45
		CBW24 & CF24	LS-56
UPFLOW COILS:			
YD403-PT	402.88	CBW30 & CF30	LS-56
		CB36	LS-67A
		CB41	LS-67A
YA413-PT	500.35	CB41 & CB46	LS-67A
YA583-PT.	578.32	CB57	LS-67
DOWNFLOW COILS:			
YC403-PT	426.70	CBW30 & CF30	LS-56B
		CB36	LS-67A
		CB41	LS-67A
YB413-PT	528.50	CB36	LS-67A
		CB41	LS-67A
		CB57	LS-67A
HORIZONTAL COILS:			
HPT231	272.92	CBW18 & CF18	LS-45
		CBW24 & CF24	LS-56
HPT342	348.73	CBW30 & CF30	LS-56B
		CB36	LS-67A
HPT413	437.53	CB36, CB41, CB57	LS-67A
HPT575	496.01	CB57	LS-67
COILS ONLY: (F/INSTALLATION IN EXISTING PLENUMS)			
APT301	275.08	CBW24 & CF24	LS-56
		CBW24	LS-56
		CBW36	LS-56
APT403	333.56	(SEE ABOVE F/MATCHING COMPONENTS)	
APT413	435.37	CB41 & CB46	LS-67A
APT604	617.31	—	—

THERMOSTATS

FOR USE WITH: ALL GAS, OIL & ELECTRIC FURNACES		
THERMOSTATS:		
CM-65	ROBERT SHAW	17.33
IC-30	WHITE-ROGERS	17.33
T87F	HONEYWELL	25.99
SUB-BASES:		
SB-6A	ROBERT SHAW	10.83
S23.00	WHITE ROGERS	10.83
Q539A	HONEYWELL	19.49
FOR USE WITH: C24S1 WHEN EL-5/10 ELECTRIC HEATERS ARE USED		
T87F	HONEYWELL THERMOSTAT	25.99
Q539J-1006	HONEYWELL SUB-BASE	18.41
FOR USE WITH: CA-S PACKAGE COOLING UNITS WHEN EN-B ELECTRIC HEATERS ARE USED		
T834A-1436	HONEYWELL THERMOSTAT	30.32
Q634A-1047	HONEYWELL SUB-BASE	18.41

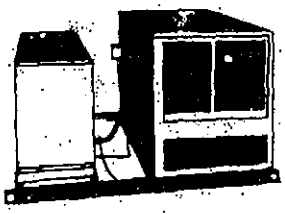
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

ROOFTOP UNITS, HUMIDIFIERS & AIR CLEANERS

Revised: 6-15-81
Replacing: 1-30-81

1506



PG-3

THIS LOW PROFILE UNIT GIVES YEAR ROUND COMFORT TO ALL TYPES OF LIGHT COMMERCIAL APPLICATIONS SUCH AS SHOPPING CENTER UNITS AND INDIVIDUAL STRUCTURES.

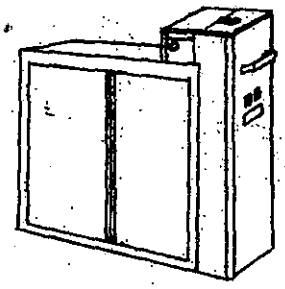
INSTALLATION OF THE COMPLETELY FACTORY CHARGED AIR CONDITIONING UNIT IS SIMPLE AND FAST. JUST PROVIDE POWER TO THE WEATHER SEALED JUNCTION BOX AND THERMOSTAT.

CONTROLS FOR HEATING:
Limit control
Fan control
Automatic solenoid gas valve 'A' and 'B' valves
Safety shutoff of gas supply
Power exhaust with safety switch
Fused auxiliary limit
Thermostat and sub-base
Spark ignition

AUTOMATIC PILOT RE-LIGHT CONTROLS FOR COOLING:
Compressor with internal protection
External high pressure switch
Low ambient control
Blower relay

HEATING/COOLING UNITS

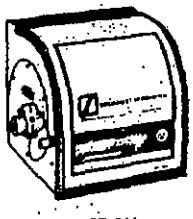
CRANE MODEL NUMBER	PRICE	AGA BTU/HR INPUT	AGA BTU/HR BONNET	COOLING CAPACITY ARI BTU/HR	ELECTRICAL CHAR.
24D-60	2328.45	60,M	45,M	26,000	230/1/60
24D-80	2369.60	80,M	60,M	26,000	230/1/60
2.5D-60	2477.90				230/1/60
2.5D-80	2532.05				230/1/60
3D-60-OH-1,3	2969.59				230/1/60
3D-80-OH-1,3	2984.75				230/1/60
3D-100-OH-1,3	2999.91				230/1/60
3.5D-60-OH-1,3	3030.23				230/1/60
3.5D-80-OH-1,3	3060.56				230/1/60
3.5D-100-OH-1,3	3090.88				230/1/60
4D-120-OH-1,3	4119.73				230/1/60
4D-140-OH-1,3	4150.06				230/1/60
5D-120-OH-1,3	4308.17				230/1/60
5D-140-OH-1,3	4368.82				230/1/60



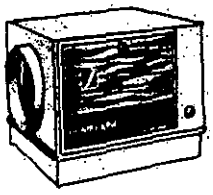
SST

ELECTRONIC AIR CLEANERS

ELECTRO-AIR:	SST-14	SST-20
SLIM TWIN	708.57	803.28
	WW-14H OR V	WW-20H OR V
WATERWASH UNIT	936.90	1119.69



45-SH



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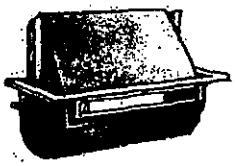


81

POWER HUMIDIFIERS

SKUTTLE:			
90-SH-1	UNIVERSAL		259.20
45-SH-1	UNIVERSAL		202.50
109-2	FIBERGLAS WITH BY-PASS		203.72
592-21	AUTO-MIST SPRAY TYPE	115V	150.86
592-22	SAME W/HUMIDISTAT	24V	150.86
81-5	DUCT TYPE W/HUMIDISTAT		230.07

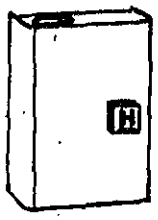
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

50.

CRANE SUPPLY COMPANY

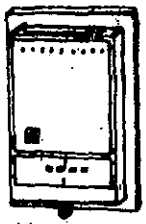
HONEYWELL CONTROLS

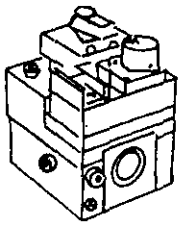
Revised: 1-17-81
Replacing: 7-28-80


C434A-1013

L4069A

Q340A


T87F


V800A

NUMBER	DESCRIPTION	PRICE
AT87A-1106	TRANS. PRIMARY 120/208/240 W/INTERNAL FUSE LINK 4x4 OR FOOT MTG. PLATE	30.75
C434A-1013	MANUAL RESET PILOTSTAT SAFETY CONTROL. BREAKS CIRC. TO CLOSE GAS VALVE ON PILOT FLAME FAILURE. USE W/30MV THERMO. COUPLE	40.66
C591A-1036	AS ABOVE BUT INTERRUPTS GAS FLOW ALSO ON PILOT FLAME FAILURE	49.63
C554A-1463	CADCELL AND HOLDER, 60 INCH LEAD LENGTH	16.17
L444A-1038	IMMERSION AQUASTAT S.P.S.T. MERC. SW. BIMETAL ACTUATED. 80–240°F. 2-1/2" INSERT CLOSED CIRCUIT ON TEMP–FALL.	55.44
L4064B-1461	COMB. FAN LIMIT CONTROL 11" INSERT 5/8" TUBE DIAM. 3/4" & 1"	44.47
L4064B-1469	5/8" TUBE 4-1/2" INSERTION W/3/4" & 1" ADAPTERS	44.47
L4068E-1047	FAN CONTROL ONLY 3" INSERTION	33.01
L4068E-1054	FAN CONTROL ONLY 7" INSERTION	35.22
L4069A-1060	LIMIT CONTROL 180–250° W/7" INS. STOP AT 200°F	26.85
L4069A-1078	LIMIT CONTROL WITH 3" INSERTION	24.76
L6006A-1145	ADJ. DIF. 3" INSERTION LESS WELL SPUD 240°F STOP W/TUBE OF. HEAT COND. COMPOUND WELL ADAPTER	66.36
L8148J-1009	AQUASTAT F/CONTROL OF BURNER & CIRC. W/HIGH LIMIT MILLIVOLT OR 24V BURNER CIRCUIT HORIZ. OR VERT. MTG.	104.27
L8148A-1017	AS ABOVE BUT LINE VOLTAGE BURNER CIRCUIT	94.61
LA409A-1107	SURFACE AQUASTAT CLOSED CKT. ON TEMP. FALL 60–200°F	35.37
LA409B-1071	SAME ONLY CLOSES ON TEMP. RISE 60–200°F	35.37
PA404A-1033	PRESSURETROL SPST. BRAKES CKT. ON PRESSURE RISE 5-9 P.S.I.	70.21
Q313A-1139	THERMOPILE GENERATOR FOR USE W/Q314 750MV 35' LEAD	27.18
Q340A-1066	THERMOCOUPLES 18"	7.47
Q340A-1074	THERMOCOUPLES 24"	7.61
Q340A-1082	THERMOCOUPLES 30"	7.69
Q340A-1090	THERMOCOUPLES 36"	7.91
Q340A-1108	THERMOCOUPLES 48"	8.98
Q539A-1014	SWITCHING SUB–BASE FIT87	21.24
Q611A-1029	SUB–BASE FIT882A TO ADAPT. TO COOLONG OR HTG/COOLING SYS 24V	20.04
R8239A-1052	FAN CENTER FOR ADD ON AIR COND. OR BOILER CONTROL SPOT. 120V, 3/4 H.P. RATING 40VA TRANSFORMER	49.25
R8184G-1138	CADCELL RELAY, 45 SECOND SAFETY SWITCH TIMING	98.37
R8182H-1005	COMB. HYDRONIC CONTROL FOR OIL BOILER, HIGH LIMIT CIRC. AND DOMESTIC WATER CONTROL BURNER MOUNTED	182.48
R8182J-1042	AS ABOVE WITHOUT DOMESTIC WATER	187.13
RA89A-1074	SWITCHING RELAY S.P.T. 120/50/60	54.08
RA832A-1066	SWITCHING RELAY D.P.S.T. 120/50/60	66.70
RA832A-1074	SWITCHING RELAY D.P.S.T. 240/50/60	66.70
T42A-1052	THERMOSTAT SILVER BRONZE 40–80°F	124.93
T87F-1859	40–90°F W/FLANGE TYPE WALL PLATE REPLACES T26	27.36
T651A-1269	LT. DUTY LINE VOLT THERMOSTAT SPDT SWITCHING CAN BE USED ON HTG., COOLING OR VENTILATING	59.23
T6051A-1016	SAME AS T651A ABOVE EXCEPT HEAVY DUTY	87.91
T882A-1047	FUEL SAVER, CHRONOTHERM, PROVIDES COMPLETELY AUTO. NIGHT SET–BACK, MORNING WARM UP TEMP. CONT. F/HOME OR COMM. BLDG.	76.20
V404B-1021	ADATROL OPERATOR, 120V FOR V800 TYPE VALVES	72.55
V800A-1070	COMB. GAS CONTROL 24V, UP TO 250,000 B.T.U. 1/2" x 3/4" WITH 3/4" x 1/2" AND 1/2" x 3/8" REDUCER BUSHING	108.72
V8202A-1018	MAIN GAS VALVE 24V 1/2" x 1/2" UP TO 330,000 B.T.U.	71.74
V8202A-1034	MAIN GAS VALVE 24V 3/4" x 3/4" UP TO 485,000 B.T.U.	83.42

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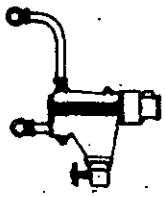
CRANE SUPPLY COMPANY

WATTS

174A

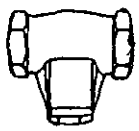
ASME RELIEF VALVES

		CAP @ 30 PSI	PRICE
174-A	3/4"	650,000	35.67
	1"	1005,000	74.58
	1-1/4"	1865,000	118.23
	1-1/2"	2020,000	163.68
	2"	3185,000	236.25
		CAP @ 75 PSI	
740	3/4x1"	1886,000	38.25
	1x1-1/4	2649,000	65.49
	1¼x1½	4285,000	99.33
	1½x2"	5910,000	138.93
	2x2-1/2	10700,000	200.13


89S

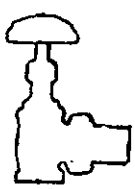
WATER FEEDERS & CUTOFFS

FEEDERS:		
142	PROCESS BOILER WTR.	159.54
142-S	SAME W/STRAINER	179.55
LOW WATER CUTOFFS:		
N-101-S	DELUXE TYPE	125.22
N-50-S	HEAVY DUTY TYPE	158.97


27

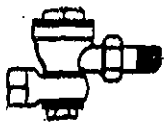
STRAINERS

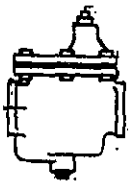
27-B	BRONZE FIP	1/8"	11.70
	BRONZE FIP	1/4"	12.39
	BRONZE FIP	3/8"	14.52
	BRONZE FIP	1/2"	18.78
777-S	BRONZE FIP	3/4"	23.07
	BRONZE FIP	1"	27.57
	BRONZE FIP	1-1/4"	34.98
	BRONZE FIP	1-1/2"	47.82
	BRONZE FIP	2"	72.90
77	IRON FIP	2-1/2"	118.23
F-27	IRON F&D	3" FLG.	265.17

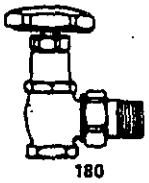

223

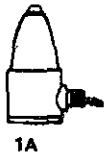
RADIATOR VALVES

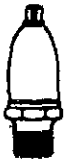
		1/2"	3/4"	1"	1-1/4"	1-1/2"
MILWAUKEE:						
STEAM VALVES:						
223	ANGLE WITH MALE UNION TAILPIECE OUTLET	24.34	26.73	33.00	51.89	57.67
WATER VALVES:						
74	ANGLE WITH MALE UNION TAILPIECE OUTLET	18.56	21.45	31.02	50.74	56.43
BALANCING VALVES:						
1350	STRAIGHT WITH SOLDER INLET AND OUTLET	9.08	10.73			


17C


601A


180


1A


4A

HOFFMAN

THERMOSTATIC TRAPS:			
8-C	ANGLE	3/4"	52.65
	STRAIGHTWAY	3/4"	60.48
17-C	ANGLE	1/2"	33.30
	SWIVEL	1/2"	44.19
	VERTICAL	1/2"	44.19
9-C	ANGLE	1"	76.32
BUCKET TRAPS:			
601-A		1/2"	75.24
		3/4"	75.24
FLOAT & THERMOSTATIC TRAPS:			
53-FT.		3/4"	91.53
54-FT		1"	109.62
56-FT		1-1/4"	134.37
57-FT		1-1/2"	185.58
58-FT		2"	351.99
ANGLE SUPPLY VALVES:			
180		1/2"	34.42
		3/4"	37.71
		1"	47.72
		1-1/4"	58.72
		1-1/2"	82.91
VENTING VALVES:			
RADIATOR:			
1-A		1/8"	18.51
2-A		1/8"	53.55
40		1/8"	10.38
70-A		1/8"	34.00
CONVECTOR:			
71-A		1/8"	35.86
MAIN:			
4-A		3/4 x 1/2"	22.43
75		3/4 x 1/2"	52.54
76		3/4 x 1/2"	70.72
WATER:			
78		3/4"	83.29
79		3/4 x 1/2"	53.21
791		1/4"	33.66
500		1/8"	9.18
UNIT HEATER:			
74		3/4 x 1/2"	56.09
VACUUM BREAKER:			
62		3/4"	44.89

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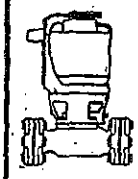
SV

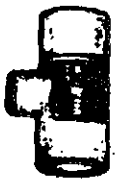
CRANE SUPPLY COMPANY

1603 | **HEATING ACCESSORIES** | Revised: 4-1-81 Replacing: 3-11-81 | 1603


BOOSTER

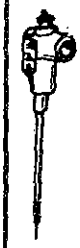
BELL & GOSSETT

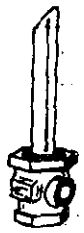
CIRCULATOR BOOSTERS: REGULAR: W/FLANGES SERIES		SIZE	IRON	BRNZ.
	100	3/4"	234.12	379.42
	100	1"	234.12	379.42
	100	1-1/4"	234.12	379.42
	100	1-1/2"	234.12	379.42
	2"	2"	411.47	677.25
	2-1/2"	2-1/2"	606.38	1067.06
LOW DELIVERY LD-3		3"	590.63	1110.38
HIGH DELIVERY HD-3		3"	795.38	1354.50
HIGH VELOCITY	1-HV	1"	350.20	550.15
	1-1/4-HV	1-1/4"	350.20	550.15
	1-1/2-HV	1-1/2"	350.20	550.15
	1-PR	1"	460.53	646.38
3-PHASE	PD-35-T	3"	842.63	1393.88


MONOFLO

MONOFLO FITTINGS:

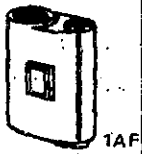
	3/4"	1"	1-1/4"	1-1/2"	2"
COP	10.32	10.32	11.58	19.37	29.22
C.I.	18.59	18.59	24.49	34.65	38.98


ATF


ABF

AIRTROL FITTINGS:

TANK FITTINGS:		
	ATF-9	36.93
	ATF-12	36.93
	ATF-16	36.93
	ATF-20	36.93
	ATF-24	36.93
	ATFL-SPEC	137.73
BOILER FITTINGS:	ABF-1	64.26
	ABF-1-1/4	64.18
	ABF-1-1/2	69.38
	ABF-2	87.96
	ABF-2-1/2	110.25
	ABF-3	123.48
	ABF-4	220.50


1AF

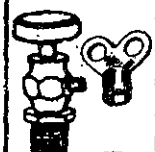
INLINE AIRTROL:	1"	1-1/4"	1-1/2"
1-AF	77.10	98.99	100.96

HYDRONIC ACCESSORIES:

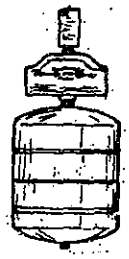
67	AUTO VENT L/OF CONN.	13.94
7	AUTO AIR VENT L/OF CONN.	26.15
AC-2	AIR CHARGER DRAINER	58.04
DT-2	DRAIN-O-TANK	17.48
17-SR	AUTO HOT WTR AIR VALVE	11.81
17-JR	AUTO HOT WTR AIR VALVE	7.88
87	AIR VENT AUTO L/OF CONN.	36.15
4-V	AIR VENT COIN OPER P/BX	70.17

67

RADIATOR AIR VALVES



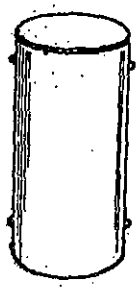
		EACH
2-K	LOOSE KEY AIR VALVE, 2 KEYS W/EACH DOZEN	1.44
2-W	WOOD WHEEL AIR VALVE, HEX BODY	2.10
3	VALVE KEY FOR 2-K	.45
4	COIN AIR VALVE	1.23
	COIN AIR VALVE W/TUBE	
5	3/16" O.D. x 21"	7.23
6	3/16" O.D. x 15"	6.96



EX-TROL EXPANSION TANKS

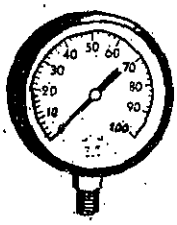
COMB. NO.	INCLUDES EX-TROL	PURGER	VENT	PRICE
1500	15	1,1-1/4	700	64.26
3000	30	1,1-1/4	700	72.54

EX-TROL NO.	DIAM. INCH.	LGTH. INCH	
15	8	11-1/2	38.34
30	11	14	46.62



WESSELS EXPANSION TANKS

WITH GAUGE GLASS TAPPINGS:		
12-E-39	18 GALLON	142.50
12-E-51	24 GALLON	160.50
14-E-47	30 GALLON	180.00
14-E-64	40 GALLON	237.00

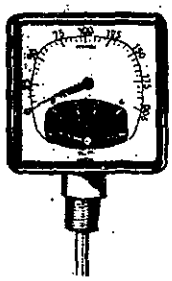

23

MARSHALLTOWN GAUGES

GENERAL PURPOSE GAUGES:

23K	PRESSURE, 15-30-60-100-160-200-300-400-600 P.S.I.
37K	COMPOUND 30 x 30"
22K	VACUUM 0 TO 30"

DIAL	2"	2-1/2"	3-1/2"	4-1/2"
23K	15.53	18.32	23.31	30.13
37K	34.07	39.62	56.32	
22K	16.27	19.19	24.57	31.45


107

HEATING SYSTEM COMBINATION PRESSURE TEMP. & ALTITUDE:
107 3-1/2" DIAL TRIDICATOR
0–60 LB – 0–70FT.
60–260°F. 52.60

INDUSTRIAL THERMOMETERS:

8857	STRAIGHT 30–240°F.	55.67
8867	ANGLE 30–240°F.	56.69

HYDRO-FLEX BASEBOARD CONN.

NO. I.D. SIZE	TOP HOOK UP	CNTR. FLEX. HOSE	BOTTOM HOOK UP	PRICE
904				
1/2"	2"COP.	7"	2"COP.	10.08
3/4"	2"COP.	7"	2"COP.	11.93
1"	2"COP.	7"	2"COP.	16.79
600				
1/2"	9"COP.	8"	SWT.CPL.	11.43
3/4"	9"COP.	8"	SWT.CPL.	12.42
1"	9"COP.	8"	SWT.CPL.	20.09
903				
1/2"	M.I.P.	7"	F.I.P.	12.53
3/4"	M.I.P.	7"	F.I.P.	16.54
1"	M.I.P.	7"	F.I.P.	24.98

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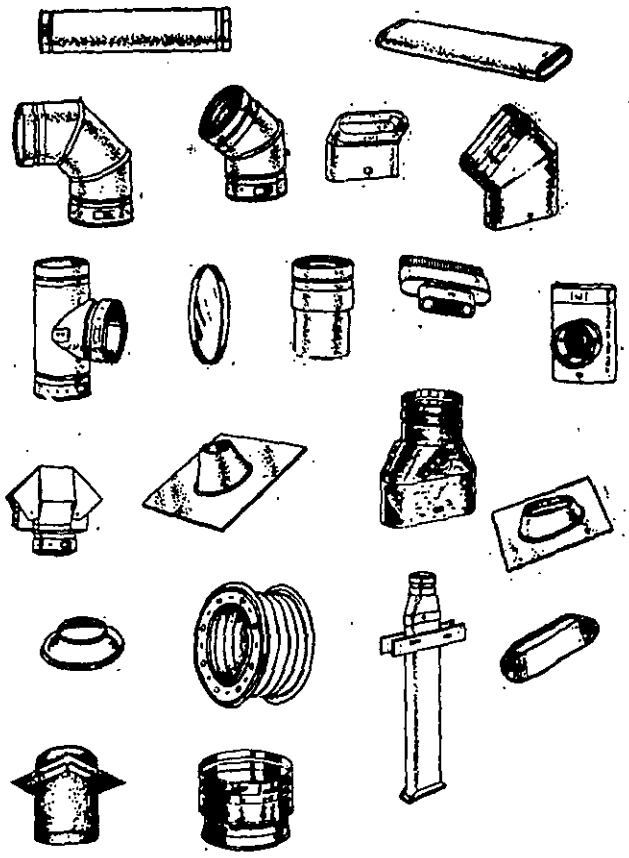
CRANE SUPPLY COMPANY

1701	GAS VENT PIPE & FITTINGS	Revised: 3-24-81 Replacing: 3-5-80	1701

ROUND GAS VENT PIPE & FITTINGS

PRICE PER EACH	3"	4"	5"	6"	7"	8"
5' LENGTH PIPE	13.97	16.67	19.95	22.80	33.49	38.33
4' LENGTH PIPE	11.20	13.97	16.53	19.24	28.36	31.49
3' LENGTH PIPE	8.69	10.69	12.68	14.54	21.80	24.08
24" LENGTH PIPE	6.27	7.84	9.69	11.12	16.53	18.38
18" LENGTH PIPE	5.42	5.99	6.70	8.41	12.11	13.54
12" LENGTH PIPE	3.85	5.42	5.99	6.70	8.84	10.69
6" LENGTH PIPE	2.42	2.71	3.56	4.28		
18" ADJ. LENGTH PIPE					12.97	14.54
12" ADJ. LENGTH PIPE	4.85	5.70	6.27	7.70		
90° ADJUSTABLE ELL	11.97	14.25	16.67	20.24	28.79	30.64
45° ADJUSTABLE ELL	6.70	8.12	9.55	11.59	16.53	17.24
TEES	13.54	15.96	18.67	21.09	26.08	28.79
TEE CAPS	1.28	1.28	1.57	1.57	2.85	3.56
INCREASERS: 1 SIZE	8.27	8.98	9.55	10.40	12.26	
2 SIZES	8.98	9.55		12.26		21.09
3 SIZES	9.55	10.40				
4 SIZES	10.40					28.07
METALCAP	6.27	6.56	9.41	11.97	16.53	20.95
DRAFT HOOD CONN.	2.28	2.57	2.71	3.42	4.56	5.56
ADJ. ROOF FLASHING	3.71	4.56	7.70	10.69	12.97	13.82
TALL CONE FLASHING	7.70	8.55	10.83	13.97	15.96	17.10
STORM COLLARS	1.28	1.28	2.57	2.71	2.85	3.28
WALL THIMBLES	4.28	5.70	5.70	6.70	9.83	9.83
PIPE COLLARS	2.00	2.00	2.00	2.00		
SUPPORT ASSEMBLY	3.71	3.85	4.56	5.70	6.70	8.27
FIRE STOP SPACER (PR)		5.42				



OVAL GAS VENT

PIPE PER EACH	4"	5" & 6"
5' LENGTH PIPE	21.52	31.35
4' LENGTH PIPE	17.10	26.08
3' LENGTH PIPE	13.54	19.95
24" LENGTH PIPE	9.83	
18" LENGTH PIPE	6.70	11.54
12" LENGTH PIPE	6.13	
6" LENGTH PIPE	3.71	
12" ADJUSTABLE LENGTH	6.56	18" 15.82
45° STANDARD ELBOW	11.12	24.51
45° FLAT ELBOW	11.12	24.51
TEES	20.66	27.65
TEE CAPS	2.71	3.71
ADAPTER: ROUND TO OVAL	7.98	13.54
ADAPTER: OVAL TO ROUND	7.98	13.54
METALCAP	9.55	
INCREASER	14.54	
ADJUSTABLE ROOF FLASH.	6.13	
STORM COLLARS	2.57	
3' WALL TEE	22.94	
4' WALL TEE	27.22	
5' WALL TEE	31.21	
3' WALL HEATER UNIT	29.07	
4' WALL HEATER UNIT	33.49	
5' WALL HEATER UNIT	38.33	
INSTALL KIT: LESS SEAL	6.13	
WITH SEAL	6.56	
SPACER (PR)	3.28	3.85
BASEPLATE: WITH SEAL	3.28	
LESS SEAL	2.71	
SEAL	.86	
BASE CAP	6.70	8.41
FIRESTOP SPACER (PR)	4.28	6.70

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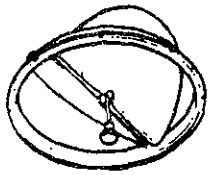
54

CRANE SUPPLY COMPANY

1702 | **HART & COOLEY REGISTERS, GRILLES & DIFFUSERS** | Revised: 3-24-81 Replacing: 3-5-80 | 1702

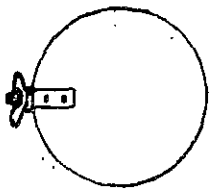


CEILING DAMPER

	ROUND 12	SQUARE 22
6"	9.94	9.94
8"	10.15	10.15
10"	11.66	11.66
12"	14.47	14.47

CEILING DIFFUSAIRE

	ROUND 16	SQUARE 24
6" W	5.83	12.64
8"	7.13	15.44
10"	8.21	18.36
12"	9.94	21.28



DAMPERS—ROUND PIPE

65	66	607	608
1.46	1.67	2.16	2.27

STEEL WARM AIR DAMPERS

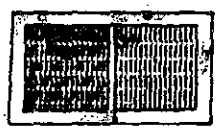
506	507	508
1.62	1.84	2.05

DAMPER KITS

69	70
.64	1.05

FLOOR REGISTER

8 x 10"	210	GS	16.09
8 x 12"			16.74
8 x 14"			18.25
10 x 12"			18.36
10 x 14"			20.95



SIDE WALL REGISTER

10 x 6"	661	W	7.34
12 x 4"			7.34
12 x 6"			7.78
14 x 4"			7.45
14 x 6"			8.42
30 x 6"			17.28

265

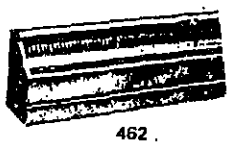
RETURN AIR GRILLES

6 x 14"	265	GS	10.80
6 x 24"			19.22
6 x 30"			22.03
8 x 14"			11.02
8 x 24"			20.74
10 x 12"			11.56
10 x 14"			12.96
10 x 24"			22.03
10 x 30"			24.30
12 x 24"			24.30
18 x 18"			27.32

401

SIDE WALL—DIFFUSAIRE

10 x 6"	401	W	7.24
12 x 6"			7.56
14 x 6"			8.32

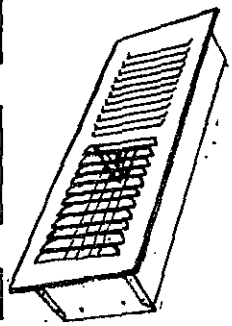


462

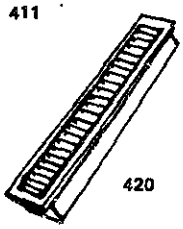
BASEBOARD DIFFUSAIRE

462W	2 FT.	13.50
464W	4 FT.	21.38

406



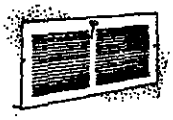
411



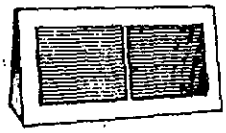
420

650

640H



651



658

DIFFUSER

18"	406	W	9.83

FLOOR DIFFUSAIRE

2-1/4 x 10"	411	GS	9.40
2-1/4 x 12"			9.83
2-1/4 x 14"			12.42
4 x 10"			9.83
4 x 12"			10.91
2-1/4 x 10"	421	GS	5.08
2-1/4 x 12"			5.18
2-1/4 x 14"			5.72
4 x 10"			6.37
4 x 12"			6.48
4 x 14"			7.13

RETURN AIR INTAKE

	407	472	474
W	9.29	10.91	16.20

TOE SPACE GRILLE

2-1/4 x 12"	420	W	3.13
2-1/4 x 14"			3.24

RETURN AIR GRILLES

16 x 16"	650H	W	11.77
20 x 18"			16.52
24 x 12"			11.23
24 x 16"			17.17
24 x 18"			18.79
24 x 20"			20.74
30 x 12"			13.82
30 x 18"			23.33

GRILLE OR INTAKE

10 x 6"	640H	W	4.32
12 x 6"			4.86
14 x 6"			5.18
24 x 6"			7.34
24 x 8"			8.75
30 x 6"			8.96
30 x 8"			10.15

SIDEWALL REGISTER

10 x 4"	651	W	7.24
10 x 6"			8.10
12 x 4"			7.99
12 x 6"			8.42

BASEBOARD INTAKE

10 x 6"	657	W	3.67
12 x 6"			4.21
14 x 6"			4.86
24 x 6"			7.02
24 x 8"			7.56
30 x 6"			7.67
30 x 8"			9.29

OUT OF WALL REGISTER

14 x 6"	658	W	7.13
24 x 6"			9.94
30 x 6"			12.10
30 x 8"			18.47

W-WHITE GS-GOLDEN SAND

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

1703 — **ROUND FURNACE PIPE, & FITTINGS** — Revised: 3-14-79 — Replacing: 8-11-78 — 1703

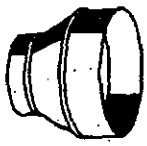
PIPE

PIPE, ROUND

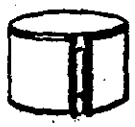
PER LENGTH: 30 GAUGE SNAPLOCK	LENGTH 2'	5'
3"	1.62	
4"	1.83	4.53
5"	2.10	5.22
6"	2.34	5.85
7"	2.70	6.72
8"	3.09	7.77
9"	3.48	8.73
10"	4.02	10.05
12"	5.10	
28 GAUGE:		
12"	5.25	
26 GAUGE:		
14"	6.72	
16"	7.71	
24 GAUGE:		
5"	3.63	
6"	3.90	
7"	4.17	
8"	4.65	
9"	5.25	
10"	6.03	
12"	7.32	
14"	9.00	

ADJ. ROUND

ADJ. TOP


REDUCER

CAP


DRAW BAND

TAKEOFFS:

COLLAR	ADJUSTABLE RND. TO RND.	ADJUSTABLE RND. TO SQ.
5"	3.42	6.63
6"	3.90	6.78
7"	5.04	7.83
8"	8.79	8.79

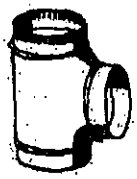
	RECTANGULAR TO ROUND TOP	SIDE
5"	5.46	5.46
6"	5.82	5.82
7"	6.45	6.45
8"	7.50	7.50

	REDUCER	PLAIN CAP
4"	4.26	2.25
5"	4.26	2.25
6"	4.26	2.25
7"	4.68	2.55
8"	4.83	2.88
9"	5.07	3.15
10"	5.46	3.42
12"	7.32	3.72

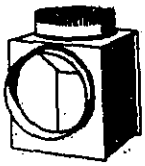
	CLEANOUT CAP	TOP COLLAR	DRAW BAND
4"	3.42	1.02	2.01
5"	3.42	1.02	2.01
6"	3.42	1.08	2.40
7"	3.75	1.23	2.61
8"	4.41	1.29	2.91
9"	4.68	1.44	3.27
10"	5.04	1.53	3.48
12"	5.31	1.65	3.75

ELBOW

ANGLE


TEE

VERT.


H TO V

TEE

FITTINGS

ELBOWS, ADJUSTABLE: 90°	24GA.	26GA.	28GA.	30GA.
3"		2.10	1.77	1.56
4"	3.30	2.25	1.98	1.86
5"	3.36	2.40	2.22	2.01
6"	3.45	2.70	2.43	2.16
7"	3.99	3.12	2.82	2.61
8"	4.32	3.72	3.27	3.06
9"	4.92	4.71	4.14	3.96
10"	5.76	5.49	4.50	4.32
12"	7.95	7.29	6.33	
14"	14.61	9.84	9.57	
45° ANGLE, ADJUSTABLE:				
3"				1.44
4"			1.65	1.44
5"	2.76	2.01	1.86	1.65
6"	2.79	2.37	2.01	1.68
7"	3.30	2.61	2.31	2.10
8"	3.54	3.12	2.73	2.40
9"	4.08	3.75	3.54	3.33
10"	4.62	4.41	3.84	3.54
12"	5.91	5.85	5.16	
14"	10.32	7.77	7.05	

TEES:	24 GAUGE	26 GAUGE
3"		6.33
4"		6.54
5"		6.72
6"	8.31	6.78
7"	8.43	7.05
8"	10.26	8.31
9"	12.24	10.11
10"	14.16	12.30
12"	17.13	15.96

DRAFT DIVERTERS

	VERT.	HORIZ.
3"	9.21	11.88
4"	9.51	14.88
5"	13.05	18.15
6"	14.88	20.49
7"	18.72	27.30
8"	28.50	33.27
9"	46.98	40.44
10"	67.17	62.40

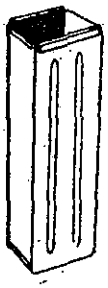
	H TO V	TEE
3"	9.51	11.28
4"	12.18	12.51
5"	14.88	14.88
6"	16.95	17.82
7"	21.03	22.56
8"	26.73	26.73
9"	38.31	34.44
10"	53.46	40.98

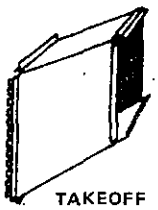
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

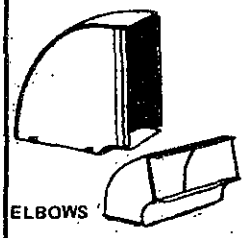
56

CRANE SUPPLY COMPANY

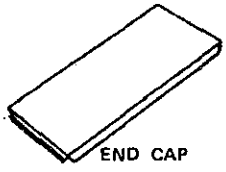
1704 — **RECTANGULAR FURNACE DUCT & FITTINGS** — Revised: 6-17-80 / Replacing: 7-12-79 — 1704

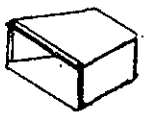

DUCT PIPE


TAKEOFF


ELBOWS

ANGLES


END CAP


INCREASER–REDUCER

RECTANGULAR DUCT

PIPE: PER LENGTH	60"	36"
8 x 8" SNAP-LOCK	14.70	8.76
10 x 8"	16.02	9.57
12 x 8"	17.34	10.41
14 x 8"	18.72	11.19
16 x 8"	20.07	11.88
18 x 8"	22.29	13.32
20 x 8"	23.67	14.10
22 x 8"	25.26	15.12
24 x 8"	26.88	15.93

TAKEOFFS:	
8 x 8"	8.58
10 x 8"	8.58
12 x 8"	8.85
14 x 8"	9.39
16 x 8"	9.84
18 x 8"	10.32
20 x 8"	10.65
22 x 8"	11.55
24 x 8"	11.73

TRANSITION TAKEOFF:

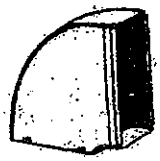
PLENUM OPEN	DUCT SIZE	
10 x 12"	14 x 8"	10.65
10 x 13"	16 x 8"	11.22
10 x 16"	20 x 8"	12.12
10 x 20"	24 x 8"	14.88

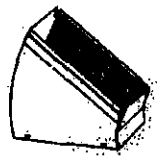
ELBOW:	90° VERT.	90° FLAT
8 x 8"	10.23	10.41
10 x 8"	11.04	11.28
12 x 8"	11.97	12.27
14 x 8"	12.36	14.01
16 x 8"	12.87	14.88
18 x 8"	13.62	16.71
20 x 8"	14.28	19.44
22 x 8"	15.24	21.84
24 x 8"	16.32	25.74

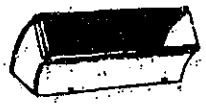
ANGLES:	45° VERT	45° FLAT
8 x 8"	8.37	7.02
10 x 8"	8.79	8.46
12 x 8"	9.03	8.94
14 x 8"	9.39	9.96
16 x 8"	9.72	11.04
18 x 8"	10.41	12.54
20 x 8"	10.86	13.98
22 x 8"	11.46	14.88
24 x 8"	12.00	16.14

END CAP:	
8 x 8"	2.16
10 x 8"	2.22
12 x 8"	2.28
14 x 8"	2.40
16 x 8"	2.52
18 x 8"	2.76
20 x 8"	2.91
22 x 8"	3.09
24 x 8"	3.33

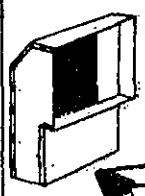
INCREASER–REDUCER:	
8 x 8"	11.46
10 x 8"	11.55
12 x 8"	12.48
14 x 8"	13.62
16 x 8"	14.70
18 x 8"	16.02
20 x 8"	16.95
22 x 8"	17.73
24 x 8"	19.44


ELBOW

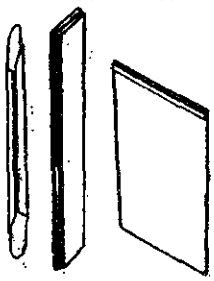

HORIZONTAL ANGLE


VERTICAL ANGLE

STRAIGHT STACK BOOT


STACK HEAD

DUCT ADAPT.


DRIVE/'S' JOIST PANNING

WALL STACK

DUCT: 24" LENGTH	PER LENGTH
10 x 3-1/4"	4.44
12 x 3-1/4"	4.83
14 x 3-1/4"	5.52

STACK FITTINGS

ELBOWS:	VERT.	HORIZ.
10x3-1/4"	7.20	4.68
12x3-1/4"	8.58	5.13
14x3-1/4"	10.17	5.85

ANGLES:		
10x3-1/4"	6.33	3.66
12x3-1/4"	7.41	4.08
14x3-1/4"	7.71	4.68

STACK BOOTS:

STACK SIZE	COLLAR SIZE	STR.	90°	45°
10x3-1/4"	6"	5.55	5.55	5.55
	7"	5.91	6.12	5.91
	8"	6.87	7.08	6.87
12x3-1/4"	6"	5.91	5.94	5.91
	7"	6.18	6.36	6.18
	8"	7.17	7.38	7.17
14x3-1/4"	6"	6.66	6.87	6.66
	7"	6.75	6.87	6.75
	8"	7.86	7.98	7.86

STACK HEADS:

SIZE	W/12"THROAT	DOUBLE 90°
10x3-1/4"	6.09	5.52
12x3-1/4"	6.84	5.85
14x3-1/4"	8.22	6.96

	END HEAD STRAIGHT
10x3-1/4"	4.53
12x3-1/4"	4.92
14x3-1/4"	5.55

DUCT ADAPTER:	2"	4"	6"
	3.99	4.23	4.56

CLIPS:	
8" DRIVE CLEAT	.24
60" 'S' CLIP	1.71
JOIST PANNING: PER 50 FT. CTN.	
16-1/2 x 29"	53.73
33 x 29"	104.55

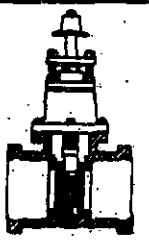
DUCT TAPE

C-520 ALUMINUM	
2" x 60 YARDS	12.54

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

CRANE SUPPLY COMPANY

1801 | **WATER SERVICE PRODUCTS** | Revised: 4-1-81 Replacing: 3-11-81 | 1801



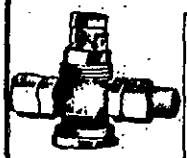
CRANE

AWWA GATE VALVES

CRANE FERROSTEEL:		3"	4"	6"	8"
2482-1/2-0	ASBESTOS PIPE ENDS		371.07	502.74	766.08
2485-0	FLANGED ENDS	305.24	371.07	502.74	766.08
2487-1/2-0	M/J ENDS LESS ACCESSORIES		371.07	502.74	766.08

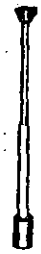
CORPORATION STOPS

A.Y. MC DONALD:		1/2"	5/8x3/4	3/4"	3/4x1"	1"	1-1/4"	1-1/2"	1½x2"	2"
4701	A.W.W.A. ST. CPLG. NUTS	20.77	23.40	23.81	32.81	37.28	92.00	112.21	170.80	186.41
4703	A.W.W.A. 1/8 BEND CPLG.		36.59	36.59	47.34	50.31				
4707	A.W.W.A. 1/4 BEND CPLG.		34.27	34.27	47.93	50.18	105.48	159.19	221.63	271.13
4704	ST. CPLG. NUT, IPT INLET	20.77		23.81		37.28	92.00	112.21		186.41



CURB STOPS

2931	STOP, I.P. x I.P.	21.02	26.80	42.39	82.76	104.45		167.29
2932	STOP & DRAIN, I.P. x I.P.	23.27	29.05	44.64	85.01	106.70		169.54
4717	MPLS PAT STOP, COP. x COP.		54.99	83.99	166.41	212.24		362.00
4718	MPLS PAT STOP & DRAIN, CxC		57.24	86.24	168.66	214.49		364.25
4723	STOP, COPPER x COPPER	36.00	40.01	65.61	112.41	152.80		252.61
4724	STOP & DRAIN, CxC		41.13	66.74				
4727	STOP MPLS PAT., CxC		42.19	72.79				



CURB BOXES

	BURY	2-1/2'	3'	3-1/2'	4'	4-1/2'	5'	5-1/2'	6'
5601	ARCH PAT PLUG COVER	44.33	46.51	49.37	52.38	54.72	57.11	59.38	63.02
5603	ARCH PAT PLUG COVER	71.53	74.36	79.94	80.71	83.68	86.94	89.82	92.21
5610	MPLS PAT PLUG COVER	54.74	56.12	58.50	60.82	61.58	62.89	65.45	69.21
5611	MPLS PAT PLUG COVER	54.74	56.12	58.50	60.82	61.58	62.89	65.45	69.21

METER STOPS

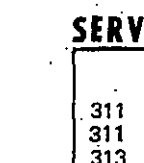
		5/8 x 3/4"	3/4"	1 x 3/4"	1"
4601	F.H. STOP COPPER INLET	31.41	31.41	40.41	47.21
4602	L.W. STOP COPPER INLET	33.01	33.01	42.01	51.01
4603	F.H. STOP COPPER INLET	26.12	26.12		44.01
4604	L.W. STOP COPPER INLET	27.92	27.92		47.00

COMPRESSION COUPLINGS

SMITH BLAIR:		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
001-521	GALVANIZED SHORT COUPLING	12.04	13.16	15.08	18.11	21.38	26.44
001-522	GALVANIZED LONG COUPLING	12.71	13.73	15.86	19.35	22.05	27.79

REPAIR CLAMPS

GALV. BOLTS:	I.P.S. O.D.	1/2" .84	3/4" 1.05	1" 1.315	1-1/4" 1.660	1-1/2" 1.900	2" 2.375	2-1/2" 2.875	3" 3.500	4" 4.500	5" 5.563	6" 6.625	8" 8.625
245	3"LONG	7.16	7.43	7.88	8.33	8.66	9.45	10.24	11.25	12.76	14.40	16.09	19.24
245	6"LONG	13.16	13.50	14.40	15.30	16.43	17.33	19.69	20.70	24.19	28.35	29.81	35.55
245	9"LONG						26.44	29.25	31.61	36.23	42.53	45.11	53.66
245	12"LONG						35.33	39.49	43.20	48.38	56.70	60.30	72.00
BELL JOINT LEAK CLAMP:													
274							89.44	111.60	122.40	129.71		142.88	197.66



SERVICE SADDLE

	IPS OD.	1-1/4" 1.39	1-1/2" 1.90	2" 2.56	2-1/2" 2.91	3" 3.54	4" 4.55	5" 5.63	6" 6.63	8" 9.63	10" 10.97	12" 13.04	12-14" 14.26
311	3/4-1 TAP	15.19	15.19	16.31	17.10	18.23	20.14	22.28	24.30	30.94	34.65	38.93	38.93
311	1¼-1½-2 TAP			21.15	22.05	24.08	27.11	30.38	33.75	44.33			
313	3/4-1 TAP	21.49	21.49	22.95	25.76	26.89	30.49	32.85	34.54	44.33	53.89	68.74	68.74
313	1¼-1½-2 TAP			23.63		34.31	37.91	41.96	42.98	55.35	69.64	85.84	85.84
331	3/4 & 1 TAP						46.69		52.76	61.09	76.28	109.69	
331	1¼&1½ TAP						53.21		58.39	78.75	83.48	119.25	
331	2 TAP						53.21		58.39	78.75	83.48	119.25	
FOR PLASTIC PIPE:													
342	3/4&1 TAP		14.85	15.19	18.00	18.23	21.60						

A FULL LINE OF A.W.W.A. VALVES, PIPE & FITTINGS AVAILABLE. SEE OUR SALES REPRESENTATIVE.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

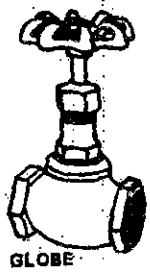
SY

CRANE SUPPLY COMPANY

1901 | **CRANE BRONZE VALVES** | Revised: 4-1-81 Replacing: 4-23-80 | 1901

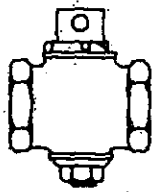
CRANE

GATE


GLOBE

SWING CHECK

LIFT CHECK


GAS SERVICE STOP

BRONZE GATE VALVES

NO.	CLASS	DESCRIPTION	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
SCREWED BONNET:												
410	100	SCREWED, WEDGE DISC. NRS	22.50	22.50	22.50	27.63	35.28	46.08	55.44	82.53		
1320	125	SOLDER, WEDGE DISC. NRS		24.39	24.39	30.78	36.45	48.33	63.00	86.85	178.20	262.71
1324	125	SOLDER, WEDGE DISC. NRS		25.83	25.83	33.93	41.40	54.18	69.48	98.28	191.25	277.20
438	125	SCREWED, WEDGE DISC NRS	25.83	25.83	25.83	33.57	4.140	54.45	69.48	96.48	191.43	277.20
428	125	SCREWED, WEDGE DISC RS	25.38	25.38	25.38	32.94	40.68	53.10	68.04	96.48	187.92	272.07
440	125	SCREWED, WEDGE DISC RS	30.60	30.60	30.60	39.33	48.78	61.38	76.41	107.82	220.95	312.12
1334	125	SOLDER, WEDGE DISC RS		25.83	25.83	33.93	41.40	54.18	69.48	98.28	191.25	277.20
431	150	SCREWED, WEDGE DISC RS	31.77	31.77	31.77	43.92	47.88	68.76	83.88	119.61	214.29	302.94
UNION BONNET:												
428-U8	125	SCREWED, WEDGE DISC RS	33.12	33.12	33.12	39.51	44.28	58.05	75.33	107.46		
424	200	SCREWED, WEDGE DISC RS	49.77	49.77	49.77	60.21	82.44	104.76	129.87	204.12	429.48	552.78
634E	300	SCREWED, WEDGE DISC RS	68.49	68.49	68.49	82.53	114.03	168.39	220.59	320.22	557.10	740.97

BRONZE GLOBE & ANGLE VALVES

NO.	CLASS	DESCRIPTION	1/8-1/4	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
SCREWED BONNET:												
1240	100	GLOBE SCREW COMP. DISC	18.08	21.24	21.24	27.63	37.98	48.24	61.74	96.12		
1310	125	GLOBE SOLDER COMP. DISC		24.84	24.84	32.76	44.10	58.05	75.33	114.21		
1	125	GLOBE SCREW BRNZ. DISC	20.34	21.69	21.69	30.60	39.87	53.37	69.48	104.49	179.01	272.52
2	125	ANGLE SCREW BRNZ. DISC	25.92	29.52	29.52	40.32	52.38	69.84	91.89	136.98		
UNION OR BOLTED BONNET:												
7	150	GLOBE SCREW COMP. DISC	33.93	37.98	40.05	55.35	75.42	102.33	131.67	204.75	376.92	539.19
14-1/2P	150	GLOBE SCREW PLUG DISC	48.24	55.53	55.53	75.69	98.82	137.07	171.00	315.99	451.08	677.52
88	200	GLOBE SCREW NEEDLE PT.	25.38	28.53	32.13	49.77						
212P	200	GLOBE SCREW PLUG DISC	53.28	53.28	56.70	75.87	95.85	133.38	187.29	289.53	490.95	759.69
70	200	GLOBE SCREW REGRINDING	28.89	35.73	35.73	46.35	67.95	93.06	115.83	176.04		
382P	300	GLOBE SCREW PLUG DISC	66.78	70.11	71.46	101.79	130.05	169.92	224.91	378.09	737.55	1103.94

BRONZE CHECK VALVES

NO.	CLASS	DESCRIPTION	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
SWING CHECK:												
1342	125	SOLDER BRNZ. DISC Y-PAT.			30.60	33.84	44.01	57.60	67.41	97.02	173.07	245.25
37	125	SCREW BRNZ. DISC Y-PAT.	27.00	27.00	28.98	33.75	44.01	57.60	67.41	96.93	172.80	244.44
36	200	SCREW BRNZ. DISC Y-PAT.	37.98	37.98	38.34	47.61	60.84	77.58	103.14	147.76	254.79	392.04
76E	300	SCREW BRNZ. DISC Y-PAT.	54.18	54.18	54.99	65.70	74.79	95.94	126.90	182.70	398.88	696.60
LIFT CHECK:												
1246	150	SCREW COMP. DISC, HORIZ. LIFT	19.80	20.70	21.69	29.52	43.38	55.26	71.28			
20	125	SCREW MTL. DISC, HORIZ. LIFT	24.39	27.09	27.09	40.05	51.39	69.46	90.54	136.98		
27	150	SCREW COMP. DISC, HORIZ. LIFT	33.84	33.84	35.73	47.34	66.87	87.57	107.73	179.46		
31	150	SCREW BALL DISC, HORIZ. LIFT			38.34	52.74	76.23					

COCKS & STOPS

NO.	CLASS	DESCRIPTION	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
BRONZE GAS SERVICE STOPS:										
270		FLAT HEAD STOP	18.36	18.36	22.14	28.98	34.74	46.80	60.12	96.30
298		LEVER HANDLE STOP WITH CHECK	21.60	21.60	25.02	30.78	44.28			
BRONZE COCKS:										
250	125	SQUARE HEAD	21.60	21.60	25.56	33.66	44.28	59.22	80.82	132.84
268	125	SQUARE HEAD W/CHECK, 3-WAY	37.08	37.08	45.72	60.12	76.50	106.38	125.28	221.58
252	125	FLAT HEAD	21.60	21.60	25.56	37.08	46.26	59.22	80.82	132.84

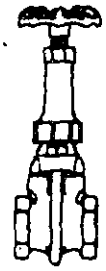
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

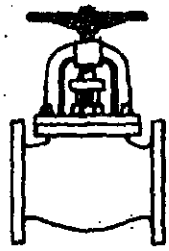
1902	CRANE IRON BODY VALVES & SEPARATORS	Revised: 4-1-81 Replacing: 3-11-81	1902

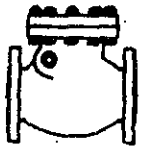
CRANE

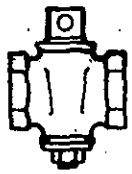
989-1/2


CLAMP GATE

GATE


GLOBE


SWING CHECK


COCK

IRON BODY CLAMP GATE VALVES

NO.	CLASS	DESCRIPTION	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
488		ALL IRON, INSIDE SCREW, RISING STEM	61.22	61.22	61.22	62.93	64.44	74.87	88.52	117.51	193.90	257.02	583.59
490		BRONZE TRIM, RISING SCREW	61.22	61.22	61.22	62.93	68.04	91.74	105.38	148.03	241.47	316.34	600.27

FERROSTEEL GATE VALVES

NO.	CLASS	DESCRIPTION	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"
BRONZE TRIM, N.R.S.:											
460	125	SCREWED ENDS	322.22	352.54	415.09	576.20					
461	125	FLANGED ENDS	223.64	231.22	272.92	361.99	600.79	600.79	1053.76	2044.97	2899.73
BRONZE TRIM O.S. & Y:											
465-1/2	125	FLANGED ENDS	231.22	252.07	282.39	396.11	634.91	634.91	1118.20	2132.16	2765.39
467	125	FLANGED ENDS		293.79	343.07	454.90		663.39	1084.17	2338.92	3294.21
7-1/2E	250	FLANGED ENDS	578.10	706.98	790.38	1175.15	1944.68	1944.68	3394.66	POA	POA

IRON BODY GLOBE VALVES

NO.	CLASS	DESCRIPTION	2"	2-1/2"	3"	4"	5"	6"	8"	10"
GLOBE YOKE BONNET:										
351	125	FLANGED WITH BRONZE DISC	415.09	466.27	534.50	803.65	1353.32	1353.32	2786.24	POA
21-E	250	FLANGED WITH BRONZE DISC	640.65	796.07	955.28	1311.62		2476.64	3610.74	

FERROSTEEL SWING CHECK VALVES

NO.	CLASS	DESCRIPTION	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"
CHECK VALVES:											
373	125	FLANGED WITH METAL DISC	153.53	187.64	212.28	324.11	561.04	561.04	1177.04	2098.21	3026.95
375	175	FLANGED WITH METAL DISC			587.57	786.59		1419.65	2604.28	4177.46	
39E	250	FLANGED WITH METAL DISC	504.18	653.91	803.65	1034.89		1707.76	2966.30		

COCKS & STOPS

NO.	CLASS	DESCRIPTION	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
IRON COCKS, WOG, SQUARE HEADS:								
320	125	SCREWED, ALL IRON	29.00	33.55	40.56	50.80	62.93	88.70
324	125	SCREWED, WITH BRONZE PLUG & WASHER	38.48	43.03	52.69	72.97	93.25	138.93
326	125	SCREWED, ALL IRON, 3-WAY		43.03	45.68	60.84	72.03	114.67
IRON GAS LINE COCKS, SQUARE HEADS:								
1228	125	SCREWED, WITH BRONZE PLUG & WASHER, BLACK	28.43	28.43	35.44	45.11	57.81	90.79

SEPARATORS

NO.	CLASS	DESCRIPTION	2"	2-1/2"	3"	4"	6"	8"
FLANGED Y-PATTERN SEDIMENT SEPARATORS:								
989-1/2	125		235.41	272.18	348.00	695.99	1391.98	1924.21

SCREWED Y-PATT. SEDIMENT SEPARATORS:			1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
988-1/2	125	IRON BODY	36.77	36.77	40.94	47.01	53.26	71.65	94.20	174.00	235.41	307.05

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

60

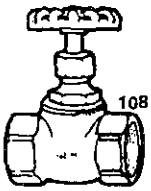
CRANE SUPPLY COMPANY

1903 | **BRONZE GEM VALVES, SPEC. & VALVE OPERATOR** | Revised: 6-24-81 Replacing: 4-1-81 | 1903

102

GEM BRONZE GATE VALVES

SCREWED BONNET:			1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
102	125	SCREWED, WEDGE DISC NRS	14.94	14.94	14.94	18.72	23.85	32.04	41.40	58.32
103	125	SCREWED, WEDGE DISC RS	15.48	15.48	15.48	19.44	24.84	33.39	43.02	60.84
104	125	SOLDER, WEDGE DISC NRS		14.94	14.94	18.72	23.85	32.04	41.40	58.32
105	125	SOLDER, WEDGE DISC RS		15.48	15.48	19.44	24.84	33.39	43.02	60.84

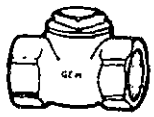

108

GEM BRONZE GLOBE VALVES

SCREWED BONNET:										
108	125	SCREWED, COMP. DISC.	16.11	17.46	17.46	24.75	32.94	44.55	58.95	87.48
109	125	SOLDER, COMP. DISC.		17.46	17.46	24.75	32.94	44.55	58.95	87.48

GEM BRONZE CHECK VALVES

LIFT CHECK:										
112	200	SCREWED, COMP. DISC	16.92	17.73	17.73	22.68	29.88	42.12	49.95	73.08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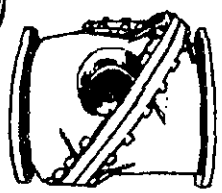
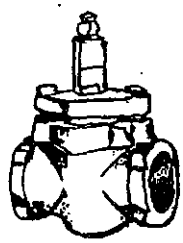

23

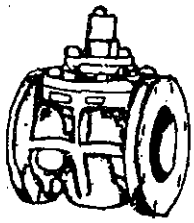
TILTING DISC CHECK VALVES

NO.	CLASS	6"	8"	10"	12"
IRON WOG:					
23	200	1775.99	2761.60	4757.45	6451.94
223	500	4253.28	5367.77	7613.82	9712.03

LUBRICATED VALVES (ROCKWELL)

NO.	CLASS	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
114	200	102.35	102.35	121.62	146.42	155.90	184.80	287.47	350.65	
115	200			146.89	175.32	184.80	217.97	325.38	396.85	499.12
142	175	81.19	81.19	95.88	105.35	111.67	127.94	172.17	217.97	298.53
143	175		121.62	121.62	134.26	140.10	159.53	210.07	262.20	356.97
214	400	115.30	115.30	135.26	165.85	178.48	224.29	330.12	393.30	
305	400						393.79	420.15	491.22	642.86


142

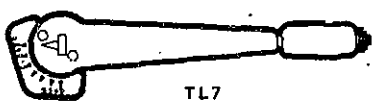

143

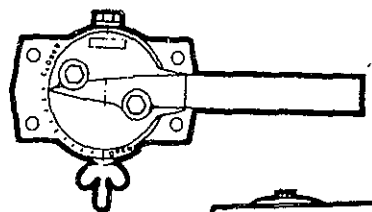
WRENCHES: STYLE:	D	E	H	J	K	L	M
SIZE 7 FOR 142-143 VALVE	9.95	12.48		16.11	20.22	24.17	31.59
SIZE 8 F/114-115-214-305	10.42	12.95	116.11	18.95	23.06	28.27	34.12

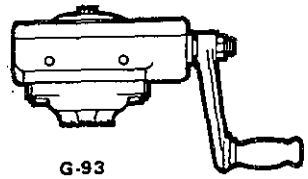
OPERATORS FOR GEM BUTTERFLY VALVES

NUMBER	VALVE	LGTH.	PRICE
THUMBSCREW OPERATORS:			
L7-2-2½	2-2½"	7"	15.56
L7-3	3"	7"	15.56
L10-4	4"	10"	20.55
L19-5	5"	10"	20.55
L10-6	6"	10"	20.55
MANUAL GEAR OPERATOR:			
G41	4 – 12"		181.35

NUMBER	VALVE	LGTH.	PRICE
TRIGGER OPERATOR:			
TL7-2-2½	2-2½"	7"	22.14
TL7-3	3"	7"	22.14
TL10-4	4"	10"	27.93
TL10-5	5"	10"	27.93
TL10-6	6"	10"	27.93
TL18-8	8"	18"	54.06
TL18-10-12	10-12"	18"	54.06


TL7


M-71


G-93

HAND OPERATORS FOR MONARCH VALVES

NO.	VALVE	DESCRIPTION	PRICE
MULTI-LOCK HAND LEVER:			
M-71	2 & 2-1/2	7" CENTERLINE TO END	25.94
M-72	3 – 6"	10" CENTERLINE TO END	36.31
M-73	8 – 10"	18" CENTERLINE TO END	46.68
M-74	12"	22" CENTERLINE TO END	81.00
SAFETY TWIST LOCK, 7-POSITION HAND LEVER:			
T92	2 – 6"	10" CENTERLINE TO END	75.41
T93	8 & 10"	18" CENTERLINE TO END	102.14
X.P. EXTRA POWER MANUEL SCREW OPERATORS:			
G-93	2 – 10"	TORQUE OF 3600 INCH LBS.	230.02
G-94	12 – 14"	TORQUE OF 13,000 INCH LBS.	368.08
G-95	16 – 24"	TORQUE OF 30,000 INCH LBS.	687.48

NOTE: THE ABOVE OPERATORS FOR FIELD MOUNTING.
SEE PAGE 1904 FOR BUTTERFLY VALVES.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

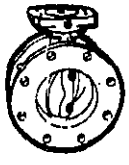
1904 | **CRANE BUTTERFLY VALVES** | Revised: 6-1-81 Replacing: 10-1-80 | 1904

CRANE

21

42F

23

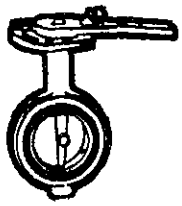

27

MONARCH INDUSTRIAL BUTTERFLY VALVES—WITHOUT OPERATOR

NUMBER	DESCRIPTION	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"
21	**FERROSTEEL WAFER TYPE BODY WITH BUNA "N" CARTRIDGE SEAT:**									
BRB	BRONZE DISC TYPE 304 STEM	149.82	163.79	172.97	230.42	308.83	407.98	592.32	811.17	1124.38
FRB	DUCTILE IRON DISC. TYPE 304 STEM	149.82	161.40	168.38	214.46	304.24	371.07	472.42	612.86	907.92
GRB	NI-RESIST 11 IRON DISC. TYPE 304 ST.	152.02	175.16	191.32	274.31	354.91	437.90	645.18	919.50	1400.89
SSB	TYPE 316 DISC. & STEM	165.98	198.00	235.01	322.59	417.15	576.16	741.94	1096.85	1623.18
MMB	MONEL DISC. & STEM	182.14	205.29	241.90	350.32	472.42	672.91	1069.12	1608.37	2564.77
23	**NODULAR IRON LUG WAFER BODY WITH BUNA "N" CARTRIDGE SEAT:**									
BRB	BRONZE DISC TYPE 304 STEM	191.32	205.29	248.78	285.68	403.39	481.79	675.31	963.19	1408.07
FRB	DUCTILE IRON DISC TYPE 304 STEM	191.32	205.29	248.78	285.68	398.80	477.00	661.34	884.78	1281.19
GRB	NI-RESIST 11 IRON DISC TYPE 304 ST.	198.10	209.87	276.51	343.54	456.26	543.84	765.08	1147.52	1624.53
SSB	TYPE 316 DISC. & STEM	207.48	237.41	290.27	371.07	477.00	571.37	769.67	1177.65	1652.26
MMB	MONEL DISC. & STEM	232.82	246.58	292.67	430.92	587.73	753.51	1235.10	1878.09	2891.95
27	**FERROSTEEL TWO FLANGE BODY WITH BUNA "N" MOLDED-IN SEAT:**									
BRB	BRONZE DISC. TYPE 304 STEM			344.94	415.36	537.45	711.02	910.32	1257.45	2261.73
FRB	DUCTILE IRON DISC TYPE 304 STEM			344.94	415.36	537.45	689.67	891.57	1140.14	2087.97
GRB	NI-RESIST 11 IRON DISC TYPE 304 ST.			363.69	452.87	607.68	816.35	1020.64	1473.31	2449.26
SSB	TYPE 316 DISC. & STEM			415.36	506.73	678.10	1001.89	1144.93	1618.74	2730.98
MMB	MONEL DISC. & STEM			434.11	523.29	687.48	1039.40	1338.65	2067.02	3852.35

QUARTERMASTER BUTTERFLY VALVES

42F	**FERROSTEEL WAFER TYPE BODY WITH BUNA "N" CARTRIDGE SEAT LESS OPERATORS:**									
BXB	ALUMINUM BRONZE DISC., EXELLOY STEM	127.28	148.23	152.62	190.92	262.74	305.04	423.34	635.41	929.27
FXB	DUCTILE IRON DISC, EXEL. STEM	118.30	125.29	139.85	177.65	220.25	275.31	360.10	508.33	707.23
SSB	TYPE 316 DISC & STEM	135.60	169.38	177.75	254.36	318.00	390.02	525.08	721.59	1249.47
44N	**LUG WAFER TYPE BODY PHENOLIC CARTRIDGE, BUNA "N" SEAT LESS OPERATORS:**									
BXB	ALUM.BRONZE DISC, EXEL. STEM	148.23	152.62	169.38	220.25	275.31	338.95	461.44	660.54	1058.55
FXB	DUCTILE IRON DISC, EXEL. STEM	127.28	148.23	161.20	203.39	254.36	305.04	402.19	533.46	825.93
SSB	TYPE 316 DISC & STEM	152.62	177.95	190.92	279.70	355.91	439.90	593.31	788.03	1425.23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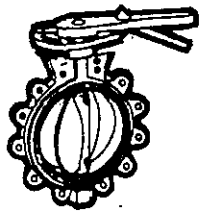

14N-TL

GEM BUTTERFLY VALVES

	FERROSTEEL BODY WITH EPT SEATS, NYLON COATED DUCTILE IRON DISC.:									
12F	WITHOUT OPERATION	99.35	115.71	129.87	158.60	206.48	264.34	345.14	455.26	660.74
12F-L	WITH THUMBSCREW LEVER HANDLE	144.71	131.07	145.24	178.75	226.63	284.69			
12F-TL	WITH SPRING LOADED TRIGGER HDL	121.10	137.46	151.62	185.93	233.81	291.67	398.20	512.12	717.60
12F-G41	WITH MANUAL GEAR OPERATOR				336.56	384.44	442.29	523.09	633.21	838.70
	DUCTILE IRON LUG WAFER BODY WITH EPT SEATS NYLON COATED DUCTILE IRON DISC.:									
14N	WITH OPERATOR	121.50	139.85	152.62	192.92	246.78	292.67	391.42	508.53	800.79
14N-L	WITH THUMBSCREW LEVER HANDLE	136.86	155.21	167.78	213.47	266.93	312.82			
14N-TL	WITH SPRING LOADED TRIGGER HDL	143.24	161.60	174.36	220.65	274.11	320.00	444.49	565.38	857.65
14N-G41	WITH MANUAL GEAR OPERATOR				371.27	424.74	470.62	569.37	686.48	978.75

NOTE: FOR PRICES ON 14" THRU 24", SEE OUR SALES REPRESENTATIVE.

SEE PAGE 1903 FOR VALVE OPERATORS.
A.W.W.A. VALVES SEE PAGE 1801.

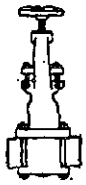
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

6-V

CRANE SUPPLY COMPANY

1905	CRANE CORROSION & STEEL VALVES	Revised: 4-1-81 Replacing: 10-1-80	1905

CRANE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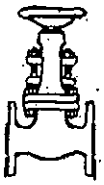
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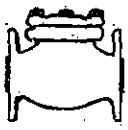
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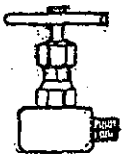
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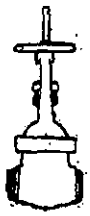

47-1/2

CORROSION RESISTANT VALVES

	CLASS	TYPE	ENDS	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
O.S. & Y GATE, BOLTED BONNET TAPERED PLUG DISC.:													
61070	150	316	T	433.92	463.20	580.32	673.92	739.68	1049.04				
61076	150	316	FRF	496.32	539.28	646.08	710.88	866.16	1005.60				
O.S. & Y GATE, BOLTED BONNET SOLID WEDGE DISC:													
L-61170	150	316L	T-SW	297.12	364.32	413.76	565.92	611.76	737.28				
61176	150	316	FRF	403.20	429.60	532.32		737.28	878.88	1186.80	1398.96	2007.12	3581.28
L63170 & 73	300	316L	T-SW	350.16	422.64	482.88	679.20	794.16	965.76				
63176	300	316	FRF	730.56	810.00	969.12		1501.44	1814.40	2700.48	2939.04	4284.72	7577.76
O.S. & Y GLOBE BOLTED BONNET PLUG TYPE DISC:													
L61370G & 73G	150	316L	T-SW	350.40	399.60	467.04	684.48	691.44	870.24				
61376G	150	316	FRF	406.80	449.28	555.36		799.44	972.72	1563.36	2171.76	2548.32	4479.36
L63370G & 73G	300	316L	T-SW	403.20	449.28	548.16	756.96	802.80	1059.12				
L63370H & 73H	300	316L	T-SW	466.80	518.88	636.00	870.72	973.92	1131.60				
SWING CHECK, Y PATTERN THREADED CAP:													
61600	150	316	T	298.32	312.72	386.88	550.56	596.40	719.76				
61606	150	316	FRF	378.48	438.48	481.20		756.96	875.52				
SWING CHECK STRAIGHTWAY PATTERN BOLTED CAP:													
L61670A & 73A	150	316L	T-SW	334.08	387.36	426.24	624.24	661.44	799.44				
61676A	150	316	FRF	403.20	426.24	555.36		799.44	965.76	1379.52	1527.84	2311.44	4132.80
L61670B & 73B	150	316L	T-SW	371.28	425.28	470.40	674.88	728.40	877.20				
61676B	150	316	FRF	443.76	465.60	610.56		877.20	1060.32	1518.24	1683.12	2541.84	4546.56

BAR STOCK VALVES

NUMBER	CLASS	DESCRIPTION	1/8"	1/4"	3/8"	1/2"	3/4"	1"
222H	3000	BAR STOCK GLOBE VALVE, FEMALE ENDS	35.59	35.59	35.59	42.43	83.04	113.50
222X	3000	BAR STOCK GLOBE VALVE, FEMALE ENDS		52.26		71.93		
222-1/2H	3000	BAR STOCK GLOBE VALVE, MALE & FEMALE		42.43		71.93		
223H	3000	BAR STOCK ANGLE VALVE, FEMALE ENDS		42.43	53.97	59.42	107.41	
223-1/2H	3000	BAR STOCK ANGLE VALVE, MALE & FEMALE		71.93		89.78		

LARGE STEEL VALVES

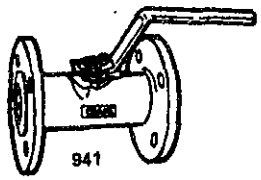
NUMBER	CLASS	DESCRIPTION	3"	4"	5"	6"	8"	10"	12"
SER. 150 CARBON STEEL (WCB) BODY & BONNET:									
47	150	XU FLANGED GATE VALVE	1380.83	1611.68	2605.61	2605.61	4082.63	6391.13	8513.66
47-1/2	150	XU BUTTWELD GATE VALVE	1410.75	1652.29	2674.01	2674.01	4191.64	6555.71	8733.83
143	150	X OR XR FLANGED GLOBE VALVE	1635.19	2370.49	3591.00	3591.00	6455.25	POA	POA
143-1/2	150	X OR XR BUTTWELD GLOBE VALVE	1635.19	2370.49	3591.00	3591.00	6455.25	POA	POA
147	150	XU FLANGED CHECK VALVE	1137.15	1618.09	2353.39	2353.39	4093.31	6658.31	9734.18
147-1/2	150	XU BUTTWELD CHECK VALVE	1137.15	1618.09	2353.39	2353.39	4093.31	6658.31	9734.18
SER. 300 CARBON STEEL (WCB):									
33	300	XU FLANGED GATE VALVE	1671.53	2314.91	4005.68	4005.68	6068.36	10272.83	13387.16
33-1/2	300	XU BUTTWELD GATE VALVE	1714.28	2368.35	4108.28	4108.28	6220.13	10537.88	13733.44
151	300	X OR XR FLANGED GLOBE VALVE	2071.24	2795.85	4907.70	4907.70	7603.09	POA	POA
151-1/2	300	X OR XR BUTTWELD GLOBE VALVE	2071.24	2795.85	4907.70	4907.70	7603.09	POA	POA
159	300	XU FLANGED CHECK VALVE	1539.00	2071.24	3847.50	3847.50	6713.89	9330.19	12812.18
159-1/2	300	XU BUTTWELD CHECK VALVE	1539.00	2071.24	3847.50	3847.50	6713.89	9330.19	12812.18

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

1906 | **CRANE BALL VALVES** | Revised: 6-1-81 Replacing: 10-1-80 | 1906

CRANE.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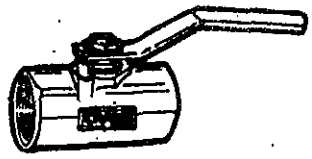
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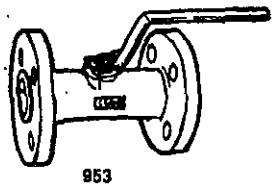
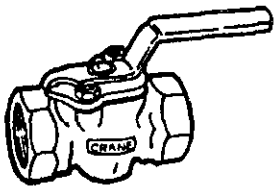

953

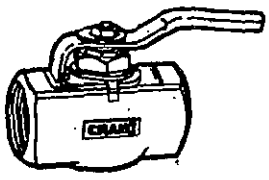
TORK SEAL END ENTRY VALVES

	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"	4"	6"	8"	10"	12"
BRONZE 125 PSI–500 WOG:												
930-TRE TFE SEATS F.I.P.	29.53	35.11	43.89	69.83	75.01	106.53						
CARBON STEEL 125 PSI STEAM–940 800 PSI WOG – 941 275 PSI WOG – 943 –720 PSI WOG:												
940-TRE TFE SEATS F.I.P.	38.50	48.68	58.25	83.79	97.76	120.20						
941-TRE TFE SEATS 150 F&D	168.08	185.54	225.44		355.11	430.92	997.50	1486.28	2563.58	4049.85	6393.98	9177.00
943-TRE TFE SEATS 300 F&D			285.29		480.80	548.63	1197.00	1745.63	3032.40	5007.45	8528.63	11970.00
STAINLESS STEEL 125 PSI STEAM – 950 800 PSI WOG – 951 275 PSI WOG – 953 720 PSI WOG:												
950-TRE TFE SEATS F.I.P.	79.40	97.76	127.48	189.53	219.45	280.30						
951-TRE TFE SEATS 150 F&D	262.34	313.22	379.05		674.31	764.09	1514.21	2262.33	4093.74	6222.41	11122.13	16213.37
953-TRE TFE SEATS 300 F&D			492.77		819.95	997.50	1945.13	2693.25	5087.25	7730.83	17655.75	23341.50


2180

GEM TOP ENTRY VALVES

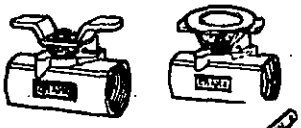
BRONZE 150 PSI @ 180° F:	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
2180 IPS	11.97	11.97	11.97	14.76	20.75	41.70	52.87	73.22
2182 CxC		11.97	11.97	14.76	20.75	41.70	52.87	73.22
PARTS KIT:								
FOR 2180 OR 2182	PRICE ON APPLICATION							


2330TF

HYDRO GEM TOP ENTRY VALVES

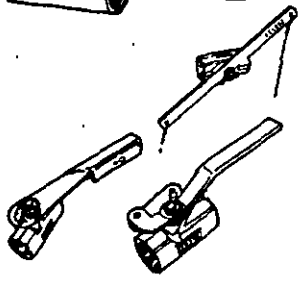
BRONZE 100 PSI @ 220° F:								
2190-H IPS	14.16	14.16	14.16	17.96	24.74	42.49	54.26	79.20
2192-H CxC		14.16	14.16	17.96	24.74	42.49	54.26	79.20
PARTS KIT:								
FOR 2190-H OR 2192-H	PRICE ON APPLICATION							

PARTS KIT: CONSISTS OF INTEGRAL BALL AND STEM, SEATS (TWO), STEM 'O' RING AND BONNET 'O' RING.



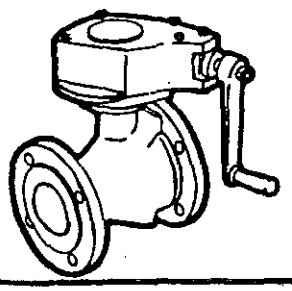
ACCESSO BOTTOM ENTRY VALVES

BRONZE 125 PSI–400 WOG:								
2330-TF TFE SEATS FIP	46.48	46.48	46.48	64.24	84.39		176.56	219.95
CARBON STEEL 125 PSI STEAM – 1/4" TO 3/4" 1000 PSI WOG – 1" TO 2" 720 PSI WOG:								
2350-TF TFE SEATS FIP	50.67	50.67	50.67	67.43	88.58		202.49	250.87
STAINLESS STEEL 125 PSI STEAM – 1/4"–3/4" 1000 PSI WOG – 1"–2" 720 PSI WOG:								
2360-TF TFE SEATS FIP	119.20	119.20	119.20	155.11	235.91		468.83	584.54



OPTIONAL ACCESSORIES

	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
BRONZE BALL & STEM	2.99	2.99	2.99	3.59	3.99	6.38	8.18	13.17
TEE HANDLE	2.79	2.79	2.79	2.99	3.79	6.78	6.78	6.78
ROUND HANDLE	3.59	3.59	3.59	4.79	4.99	7.98	7.98	8.38
6" EXTENSION STEM	20.15	20.15	20.15	21.55	24.34	25.54	25.54	27.53
CHAIN BAR HANDLE	15.76	15.76	15.76	17.36	21.55	27.53	27.53	27.53
SELF CLOSING HANDLE	31.32	31.32	31.32	35.91	35.91	42.89	42.89	42.89
LOCKING DEVICE	5.79	5.79	5.79	11.37	11.37	20.15	20.15	21.35
STAINLESS STEEL LEVER	4.79	4.79	4.79	5.99	6.18	6.58	6.58	10.97



MANUAL GEAR OPERATORS

FOR TORK SEAL VALVES: (INCLUDES MOUNTING)	3"	4"	6"	8"	10"	12"
G93 FOR 941–951 VALVE	548.63	548.63	548.63			
G93 FOR 943–953 VALVE	548.63	548.63				
G94 FOR 941–951 VALVE				807.98		
G94 FOR 943–953 VALVE			807.98			
G95 FOR 941–951 VALVE					1137.15	1137.15
G95 FOR 943–953 VALVE				1137.15	1137.15	

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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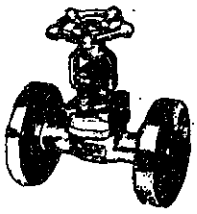
CRANE SUPPLY COMPANY

1907 | **CRANE FORGED STEEL VALVES** | Revised: 1-1-81 Replacing: | 1907

CANVIL

FORGED STEEL GATE VALVES

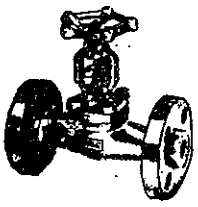


3510

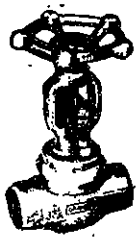
3604B

NO.	CLASS	TRIM	ENDS	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
O.S. & Y GATE VALVE - CONVENTIONAL PORT - BOLTED BONNET:											
3604	800	XW OR XU	F.I.P.	67.26	67.26	67.26	74.10	90.06	171.00	171.00	213.18
3604	800	L OR A	F.I.P.	114.00	114.00	114.00	133.38	173.28	291.84	291.84	409.26
3605	800	XW OR XU	S.W.	67.26	67.26	67.26	74.10	90.06	171.00	171.00	213.18
3605	800	L OR A	S.W.	114.00	114.00	114.00	133.38	173.28	291.84	291.84	409.26
3510	150	XW OR XU	F & D			136.80	163.02	202.92		270.18	395.58
3510	150	L OR A	F & D			235.98	270.18	296.40		421.80	628.14
3514	300	XW OR XU	F & D			153.90	172.14	214.32		338.58	458.28
3514	300	L OR A	F & D			279.30	289.56	323.76		499.32	691.98
3615	600	XW OR XU	F & D			171.00	186.96	224.58		357.96	489.06
3615	600	L OR A	F & D			288.42	297.54	330.60		491.34	699.96
O.S. & Y GATE VALVE - CONVENTIONAL PORT - WELDED BONNET:											
3604B	800	XW OR XU	F.I.P.	67.26	67.26	67.26	74.10	90.06	171.00	171.00	213.18
3604B	800	L OR A	F.I.P.	114.00	114.00	114.00	133.38	173.28	291.84	291.84	409.26
3605B	800	XW OR XU	S.W.	67.26	67.26	67.26	74.10	90.06	171.00	171.00	213.18
3605B	800	L OR A	S.W.	114.00	114.00	114.00	133.38	173.28	291.84	291.84	409.26
O.S. & Y GATE VALVE - FULL PORT - BOLTED BONNET:											
3607	800	XW OR XU	F.I.P.			78.66	99.18	176.70	186.85	223.44	
3607	800	L OR A	F.I.P.			142.96	191.52	311.22	321.48	441.18	
3611	800	XW OR XU	S.W.			78.66	99.18	176.70	186.85	223.44	
3611	800	L OR A	S.W.			142.96	191.52	311.22	321.48	441.18	

FORGED STEEL GLOBE VALVES



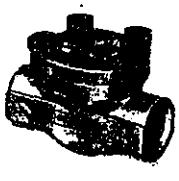
3656



3644B

O.S. & Y GLOBE VALVE - BOLTED BONNET:											
3644	800	XU	F.I.P.	77.52	77.52	77.52	88.92	110.58	229.14	229.14	295.26
3644	800	L OR A	F.I.P.	144.78	144.78	144.78	169.86	207.48	404.70	404.70	513.00
3652	800	XU	S.W.	77.52	77.52	77.52	88.92	110.58	229.14	229.14	295.26
3652	800	L OR A	S.W.	144.78	144.78	144.78	169.86	207.48	404.70	404.70	513.00
3656	300	XU	F & D			169.86	202.92	235.98		387.60	546.06
3656	300	L OR A	F & D			304.38	365.94	426.36		699.96	982.68
3656	600	XU	F & D			177.84	212.04	253.08		404.70	566.58
3656	600	L OR A	F & D			318.06	380.76	454.86		728.46	1020.30
O.S. & Y GLOBE VALVE - WELDED BONNET:											
3644B	800	XU	F.I.P.	77.52	77.52	77.52	88.92	110.58	229.14	229.14	295.26
3644B	800	L OR A	F.I.P.	144.78	144.78	144.78	169.86	207.48	404.70	404.70	513.00
3652B	800	XU	S.W.	77.52	77.52	77.52	88.92	110.58	229.14	229.14	295.26
3652B	800	L OR A	S.W.	144.78	144.78	144.78	169.86	207.48	404.70	404.70	513.00

FORGED STEEL CHECK VALVES



3674

3686

PISTON TYPE - BOLTED COVER:											
3674	800	XU	F.I.P.	66.12	66.12	66.12	79.80	93.48	182.40	182.40	254.22
3674	800	L OR A	F.I.P.	82.08	82.08	82.08	101.46	117.42	198.36	198.36	295.26
3682	800	XU	S.W.	66.12	66.12	66.12	79.80	93.48	182.40	182.40	254.22
3682	800	L OR A	S.W.	82.08	82.08	82.08	101.46	117.42	198.36	198.36	295.26
3686	300	XU	F & D			151.62	185.82	229.14		354.54	525.54
3686	300	L OR A	F & D			259.92	320.34	380.76		624.72	910.86
3686	600	XU	F & D			159.60	194.94	240.54		371.64	551.76
3686	600	L OR A	F & D			273.60	334.02	412.68		638.40	948.48

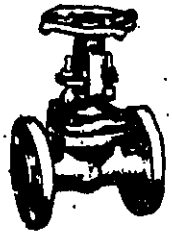
GLOBE VALVES FOR CHLORINE SERVICE

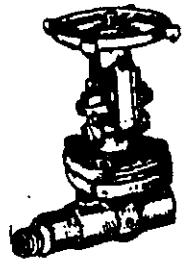
WITH HASTELLOY "C" DISC AND SEAT RING:											
1644TF			F.I.P.			313.50	363.00	528.00	828.00	828.00	1080.00
1654TF			F & D			447.00	546.00	660.00		990.00	1650.00

SPECIFY LS TRIM FOR SOUR GAS SERVICE

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY





R-P&C

SPECIALTY VALVE & CONTROLS, INC.

GATE VALVES

NO.	ENDS	TRIM	CLASS	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"
O.S. & Y GATE VALVE–CONVENTIONAL PORT–BOLTED BONNET:												
F-56	FIP	D.	—	87.99	87.99	87.99	97.47	119.13	227.43	227.43	282.93	
F-57	SW	AorM	—	148.41	148.91	148.91	174.63	230.14	388.53	388.53	544.21	
		MT	—	168.00	168.00	168.00	193.72	252.07	420.88	420.88	582.25	
F158	F&D	D.	150			186.82	222.02	269.40		358.74	526.61	936.80
	F&D	AorM	150			322.19	369.57	393.94		560.45	835.26	
	F&D	MT	150			341.28	394.08	415.87		592.81	873.30	
F308	F&D	D.	300			201.71	224.72	280.23		442.68	598.36	947.63
	F&D	AorM	300			365.51	377.70	422.37		662.51	904.31	
	F&D	MT	300			387.31	399.49	444.30		684.86	942.35	
F608	F&D	D.	600			223.37	243.68	293.76		467.04	638.97	1761.23
	F&D	AorM	600			376.34	388.53	431.85		641.68	913.78	
	F&D	MT	600			395.43	407.61	453.78		674.03	951.82	
O.S. & Y GATE VALVE–CONVENTIONAL PORT–WELDED BONNET:												
F76	FIP	D.	—				PRICE ON APPLICATION					
F77	SW	D.	—				PRICE ON APPLICATION					
INSIDE SCREW GATE VALVE–CONVENTIONAL PORT–BOLTED BONNET:												
F59	FIP	D.	—	83.93	83.93	83.93	92.06	113.72	215.25	215.25	269.40	
F60	S.W.	D.	—	83.93	83.93	83.93	92.06	113.72	215.25	215.25	269.40	
O.S. & Y GATE VALVE–FULL PORT–BOLTED BONNET:												
F-056	FIP	D.	—			87.99	135.38	240.97		304.59	464.34	
F057	SW	D.	—			87.99	135.38	240.97		304.59	464.34	

GLOBE VALVES

O.S. & Y GLOBE VALVES:												
F80	FIP	D.	—	101.53	101.53	101.53	116.42	144.85	299.18	299.18	385.82	
F81	SW	AorM	—				PRICE ON APPLICATION					
F180	F&D	D.	150			201.95	262.63	305.95		496.83	705.30	
F380	F&D	D.	300			222.02	265.34	308.66		506.30	713.43	
F680	F&D	D.	600			232.85	277.52	330.32		529.32	740.50	
FOR CHLORINE SERVICE:												
F80	FIP	TF	—	296.47	296.47	296.47	345.21	393.94	786.53	786.53	1024.79	
F680	F&D	TF	—			373.64	434.55	559.10		889.41	1107.37	
INSIDE SCREW GLOBE VALVE:												
F84	FIP	D.	—				PRICE ON APPLICATION					
F85	SW	D.	—				PRICE ON APPLICATION					

CHECK VALVES

PISTON TYPE–BOLTED BONNET:												
F90	FIP	D.	—	90.70	90.70	90.70	104.24	121.84	238.26	238.26	331.67	
F91	SW	D.	—	90.70	90.70	90.70	104.24	121.84	238.26	238.26	331.67	
F190	F&D	D.	150			197.65	242.32	299.18		462.98	686.35	
F390	F&D	D.	300			197.65	242.32	299.18		462.98	686.35	
F690	F&D	D.	600			197.65	242.32	299.18		462.98	686.35	

SAMPLING GATE VALVES

	WELDED BONNET				BOLTED BONNET			
ENDS	NO.	1/2"	3/4"	1"	NO.	1/2"	3/4"	1"
MALE x FEMALE, THREADED	F41-D				F51-D	117.78	126.58	161.10
MALE x FEMALE, SOCKET	F42-D		PRICE		F52-D	117.78	126.58	161.10
MALE THREADED x FEMALE SOCKET	F43-D		ON		F53-D	117.78	126.58	161.10
MALE SOCKET x FEMALE THREAD	F44-D		APPLICATION		F54-D	117.78	126.58	161.10
MALE COUPLET x FEMALE THREAD	F45-D				F55-D	117.78	126.58	161.10

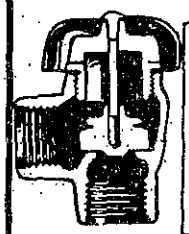
ALL RP&C VALVES AVAILABLE WITH SPECIAL TRIM. PRICE ON APPLICATION

Ref 38

CRANE SUPPLY COMPANY

1909 | **WATTS REGULATING VALVES** | Revised: 1-9-81 Replacing: 10-6-80 | 1909

WATTS



288A

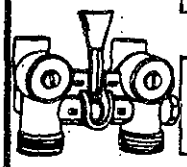
VACUUM BREAKERS

288-A	PLAIN BRASS	1/4-3/8"	16.89
		1/2"	19.23
		3/4"	22.74
		1"	35.43
		1-1/4"	58.95
		1-1/2"	69.18
		2"	107.79
		2-1/2"	310.29
		3"	412.44
288-AC	CHROME	1/4-3/8"	24.18
		1/2"	27.00
		3/4"	31.50
		1"	53.88
8	F/HOSE BIBBS	3/4F x 3/4M	14.52

36A

VACUUM RELIEF VALVE

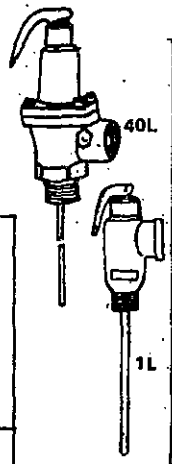
36-A	BRONZE	1/2"	15.30
36-A		3/4"	19.23



2

WASHING MACHINE VALVE

2	1/2" SWEAT PLAIN BRASS	29.91
2-T	1/2" FIP PLAIN BRASS	29.91
2-SC	1/2" SWEAT CHROME BRASS	37.02
2-TSC	1/2" FIP CHROME BRASS	37.02



40L

1L

RELIEF VALVES WATER HEATERS

ASME SELF CLOSING P&T VALVES:

		3/4"	1"	1-1/4"	1-1/2"
40-L		46.80	72.12		
40-XL		50.73	76.38		
40-XL-7			80.34		
40-XL-8		55.23			
N-240-X	SS		131.97		
N-240-X9	SS		148.38		
N-241-X	SS			144.33	
N-241-X8	SS			164.82	
340	SS				275.97
340-X-8	SS				293.07

STD. SELF CLOSING P&T VALVE:

	1/2"	3/4"
1-L	10.98	
1-XL	10.68	
1-XL-8	11.58	
10-L		10.98
100-XL		10.68
100-XL-8		11.58
44-L	20.04	20.94
44-XL	20.04	20.94

BP30

PRESSURE RELIEF VALVES

DIAPHRAGM TYPE:	1/2"	3/4"
30L (75-150)	34.32	34.32
N-30 & N-30L (5-50)	37.59	
BP-30 (10-175)	39.99	

REDUCING VALVES

		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
U-5	BRONZE 25–75 LB. FIP	72.69	85.50	131.85							
U-5-B	W/BUILT IN BY-PASS FIP	75.84	88.77	135.24	274.83	309.84	439.89				
U-5-LP	BRONZE 10–35 LB. FIP	76.83	90.90	138.03							
U5BLP	W/BUILT-IN BY-PASS FIP	80.22	94.05	141.54	287.10	324.24	458.34				
223	LESS STRAINER FIP	69.18	92.49	142.98	257.07	386.43	558.45	597.39			
223-S	WITH STRAINER FIP	88.08	126.12	180.69	312.87	457.89	668.04	742.29			

STEAM PRESSURE REGULATORS

152-A	IRON PROCESS STEAM	123.30	148.50	193.74	267.75	300.72	436.62				
252-A	BRONZE PROCESS STEAM	173.13	206.34								
127	BRONZE, HIGH CAPACITY	390.72	390.72	436.62	482.40	551.70	675.69	846.90	965.37		

70A

TEMPERING VALVES, WATER

70-A	BRONZE 120 TO 160° SWEAT	31.62	36.69								
70-AT	BRONZE 120 TO 160° FIP	36.69	45.33								
N-170	BRONZE 130 TO 180° FIP		102.15	112.62	186.87	203.97	306.69				

BACKFLOW PREVENTERS

900	W/GATE VALVES & STRAINER FIP	416.25	517.50	603.00	900.00	1120.50					
900	W/GATE VALVES L/STRAINER F&D							3150.00	3651.75	4590.00	7229.25

BACKFLOW PREVENTERS WITH DOUBLE CHECK VALVE

700	W/GATE VALVE & STRAINER FIP	244.65	284.64		612.12	735.09					
700-L	W/GATE VALVE L/STRAINER FIP	228.60	265.95		586.80	693.69					
TK-9	TEST KIT FOR BACKFLOW PREVENTERS									653.40	

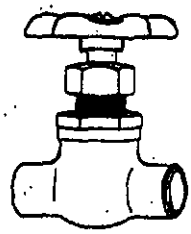
WATTS HYDRONIC HEATING ACCESSORIES SEE PAGE 1602.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

39-67

CRANE SUPPLY COMPANY

1910 | **PLUMBING VALVES** | Revised: 2-19-81 Replacing: 1-30-81 | 1910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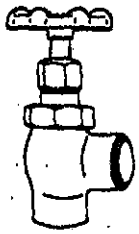
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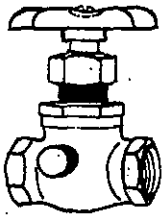
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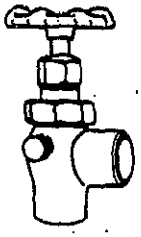
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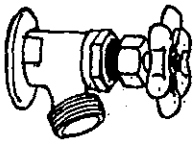
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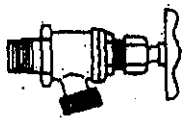
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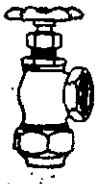
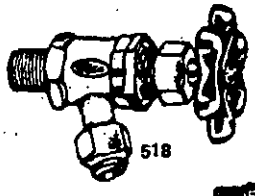

577-17

578-17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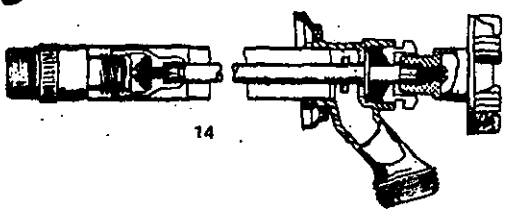
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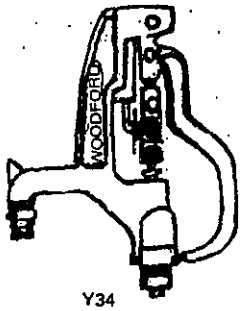
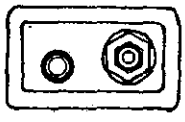


Y34


70

STOPS

STRAIGHT:			1/2	3/4
75	COMPACT	FIP	4.75	5.18
725	COMPACT	CxC	4.23	4.54
75-FF	FULL FLOW	FIP		8.10
725-FF	FULL FLOW	CxC		7.56
ANGLE:				
77	COMPAC	FIP	6.62	7.07
777	COMPAC	CxC	6.41	6.79

STOP & WASTES

STRAIGHT:				
76	COMPAC	FIP	5.17	5.62
726	COMPAC	CxC	4.32	4.90
726-FF	FULL FLOW			8.10
ANGLE:				
778	COMPAC	CxC	6.79	7.34

BOILER DRAINS

74	COMPAC	CxMxH	3.92	4.66
72	COMPAC	CxH	4.97	5.53

SILLCOCKS

STRAIGHT:				
70	COMPAC	FIPxH	6.80	7.54
760	COMPAC	CxH	6.80	
ANGLE:				
63	COMPAC	FIPxH	6.01	6.55
763	COMPAC	CxH	6.01	6.55

METER STOPS

			3/4	1
577-17	ANGLE	CxFIP	15.30	33.21
578-17	ANGLE	CxFIP	15.75	33.57

OIL TANK VALVE

581	1/2" FLARED x MIP	8.91

GARDEN VALVE

			1/2	3/4
61	BENT NOSE	FIPxH	6.88	6.88

FROST PROOF HYDRANTS

WOODFORD:	LENGTH	6"	10"	14"
14-P	1/2 F & 3/4 MIP	14.82	16.32	17.81
14-CP	1/2 MIP & 1/2" C	14.82	16.32	17.81
70-P	3/4 FIP	104.46	108.84	108.84
70-C	3/4 COPPER	104.46	108.84	108.84

YARD HYDRANTS

	BURY	2'	3'	4'	5'
Y-34	3/4 FIP	81.18	85.73	89.69	93.49

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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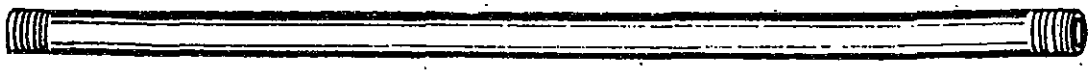
CRANE SUPPLY COMPANY

2001	STEEL PIPE	Revised: 1-1-81 Replacing: 3-24-80	2001



A—120 CONTINUOUS WELD PIPE

SCH. 40 SIZE	STANDARD WT. PER FOOT	STANDARD WALL THICK-NESS	STANDARD RANDOM T & C BLACK	STANDARD RANDOM T & C GALV.	STANDARD GROOVED BLACK	STANDARD GROOVED GALV	STANDARD P.E. BLACK	STANDARD COATED P.E. BLACK	STANDARD COATED T&C BLACK	EXTRA STRONG SCH. NO.	EXTRA STRONG WT. PER FOOT	EXTRA STRONG WALL THICK-NESS	EXTRA STRONG RANDOM P.E. OR BEV. BLACK	EXTRA STRONG RANDOM P.E. OR BEV. GALV.
1/8"	.24	.068	51.78	61.94			48.74			80	.31	.095	99.88	
1/4"	.42	.088	71.98	82.68			66.72			80	.54	.119	85.26	
3/8"	.57	.091	84.72	97.38			80.26			80	.74	.126	103.08	
1/2"	.85	.109	109.36	133.48			96.38			80	1.09	.147	117.98	
3/4"	1.13	.113	131.32	161.10			115.44			80	1.47	.154	148.34	
1"	1.68	.133	182.78	222.34			163.74			80	2.17	.179	206.06	
1-1/4"	2.28	.140	239.90	290.72			214.08			80	3.00	.191	277.86	
1-1/2"	2.73	.145	284.54	344.16			254.24			80	3.63	.200	335.82	
2"	3.68	.154	384.96	466.68			343.26			80	5.02	.218	464.72	
2-1/2"	5.82	.203	612.52	532.10			530.22			80	7.66	.276	728.60	
3"	7.62	.216	802.56	959.26			694.68			80	10.25	.300	974.68	
3-1/2"	9.20	.226		1165.36			848.22			80	12.51	.318		
4"	10.89	.237	1160.14	1382.96			1006.48			80	14.98	.337	1442.34	

A—53B SEAMLESS PIPE

SIZE	STANDARD SCH. NO.	STANDARD WT. PER FOOT	STANDARD WALL THICK-NESS	STANDARD RANDOM T & C BLACK	STANDARD RANDOM T & C GALV.	STANDARD GROOVED BLACK	STANDARD GROOVED GALV.	STANDARD P.E. BLACK	STANDARD COATED P.E. BLACK	EXTRA STRONG SCH. NO.	EXTRA STRONG WT. PER FOOT	EXTRA STRONG WALL THICK-NESS	EXTRA STRONG RANDOM P.E. OR BEV. BLACK	EXTRA STRONG RANDOM P.E. OR BEV. GALV.
2"	40	3.65	.154					597.16		80	5.02	.218	663.52	
2-1/2"	40	5.79	.203					757.20		80	7.66	.276	971.24	
3"	40	7.58	.216					996.84		80	10.25	.300	1278.00	
3-1/2"	40	9.11	.226							80	12.51	.318		
4"	40	10.79	.237					1340.44		80	14.98	.337	1797.04	
5"	40	14.81	.258		2691.42			2160.66		80	20.78	.375	2955.24	
6"	40	19.18	.280		3137.92			2447.58		80	28.57	.432	3414.86	
8"	30	24.70	.277											
8"	40	28.55	.322					3355.76		80	43.39	.500	5131.24	
10"	30	34.24	.307											
10"	40	40.48	.365					4645.16		60	54.74	.500		
12"	30	43.77	.330											
12"		49.56	.375					5820.19						
12"	40	53.56	.406					6294.20		60	65.42	.500		

A—106 SEAMLESS PIPE

SIZE	STANDARD SCH. NO.	STANDARD WT. PER FOOT	STANDARD WALL THICK-NESS	STANDARD BLACK P.E.	EXTRA STRONG SCH. NO.	EXTRA STRONG WT. PER FOOT	EXTRA STRONG WALL THICK-NESS	EXTRA STRONG BLACK P.E.	DOUBLE EXTRA STRONG SCH. NO.	DOUBLE EXTRA STRONG WT. PER FOOT	DOUBLE EXTRA STRONG WALL THICK-NESS	DOUBLE EXTRA STRONG BLACK P.E.
1/8"	40	.24	.068		80	.31	.095					
1/4"	40	.42	.088		80	.54	.119					
3/8"	40	.57	.091		80	.74	.126					
1/2"	40	.85	.109		80	1.09	.147		XXS	1.71	.294	
3/4"	40	1.13	.113		80	1.47	.154			2.44	.308	
1"	40	1.68	.133		80	2.17	.179			3.66	.358	
1-1/4"	40	2.27	.140		80	3.00	.191			5.21	.382	
1-1/2"	40	2.72	.145		80	3.63	.200		XXS	6.41	.400	

COATED PIPE TAPE

	2" x 50'	2" x 100'	4" x 100'
TAPE			
		QUART	GALLON
PRIMER			

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

AREA: NEW ORLEANS, LOUISIANA

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CRANE SUPPLY COMPANY

2002 — **STEEL NIPPLES** — Revised: 7-1-81 — Replacing: 1-30-81 — 2002

STANDARD GALVANIZED WROUGHT STEEL — PER EACH

	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2-4"	5"	6"
CLOSE	.45	.54	.58	.44	.57	.86	1.05	1.27	1.73	5.22	6.58	9.38	32.37	36.38
1-1/2"	.48	.55	.61	.47	.60									
2"	.50	.59	.64	.52	.64	.91	1.12	1.34						
2-1/2"	.55	.64	.72	.55	.70	.95	1.23	1.45	1.95					
3"	.61	.72	.81	.61	.78	1.05	1.35	1.62	2.14	5.48	6.96			
3-1/2"	.67	.80	.89	.67	.85	1.16	1.48	1.72	2.30	5.78	7.31			
4"	.74	.88	.98	.73	.93	1.31	1.62	1.95	2.53	6.00	7.73	10.43		
4-1/2"	.81	.96	1.08	.81	1.01	1.39	1.76	2.08	2.73	6.32	8.16	11.03	38.33	42.99
5"	1.03	1.26	1.34	.88	1.10	1.50	1.91	2.23	2.98	6.63	8.58	11.76	40.61	45.85
5-1/2"	1.11	1.34	1.42	.94	1.19	1.61	2.05	2.37	3.21	6.96	9.01	12.22	42.47	48.14
6"	1.19	1.43	1.50	1.01	1.28	1.76	2.20	2.51	3.40	7.26	9.43	12.80	44.57	50.80
7"	1.29	1.55	1.60	1.46	1.81	2.37	3.03	3.49	4.94	7.99	10.76	14.32	49.29	56.55
8"	1.36	1.62	1.66	1.57	1.95	2.61	3.33	3.91	5.40	8.68	11.62	15.60	53.05	61.22
9"	1.46	1.74	1.82	1.70	2.10	2.84	3.63	4.14	5.87	9.41	12.52	16.88	57.89	67.20
10"	1.55	1.84	1.92	1.84	2.44	3.03	3.91	4.56	6.33	10.10	13.48	18.11	60.85	70.96
11"	1.62	1.93	2.03	1.96	2.38	3.26	4.21	4.80	6.80	10.80	14.29	19.39	66.39	77.86
12"	1.69	2.03	2.14	2.09	2.52	3.49	4.54	5.21	7.26	11.50	15.18	20.67	70.92	83.57

STANDARD BLACK WROUGHT STEEL — PER EACH

CLOSE	.39	.47	.51	.38	.49	.75	.91	1.10	1.50	4.53	5.72	8.15	25.36	28.51
1-1/2"	.42	.48	.53	.41	.52									
2"	.44	.51	.56	.45	.56	.79	.97	1.16						
2-1/2"	.48	.55	.63	.48	.61	.82	1.07	1.26	1.69					
3"	.53	.62	.70	.53	.68	.91	1.18	1.41	1.86	4.76	6.05			
3-1/2"	.58	.69	.78	.58	.74	1.01	1.29	1.50	2.00	5.02	6.35			
4"	.65	.76	.85	.63	.81	1.14	1.41	1.69	2.20	5.21	6.72	9.06		
4-1/2"	.70	.83	.93	.70	.88	1.21	1.53	1.80	2.37	5.49	7.09	9.58	30.03	33.69
5"	.90	1.10	1.16	.76	.95	1.30	1.66	1.94	2.58	5.76	7.45	10.21	31.83	35.93
5-1/2"	.96	1.16	1.24	.82	1.03	1.40	1.78	2.06	2.79	6.05	7.83	10.62	33.28	37.72
6"	1.04	1.25	1.30	.88	1.11	1.52	1.91	2.18	2.95	6.31	8.19	11.12	34.92	39.81
7"	1.12	1.35	1.39	1.27	1.57	2.06	2.63	3.03	4.29	6.94	9.34	12.44	38.63	44.31
8"	1.18	1.41	1.48	1.36	1.69	2.26	2.89	3.40	4.69	7.54	10.09	13.55	41.58	47.97
9"	1.27	1.51	1.58	1.48	1.82	2.47	3.15	3.60	5.10	8.17	10.88	14.66	45.34	52.66
10"	1.35	1.60	1.67	1.60	1.95	2.63	3.40	3.96	5.50	8.78	11.71	15.73	47.69	55.61
11"	1.41	1.68	1.76	1.71	2.07	2.83	3.66	4.17	5.90	9.38	12.42	16.84	52.02	61.01
12"	1.47	1.76	1.86	1.82	2.19	3.03	3.94	4.53	6.31	9.99	13.18	17.96	55.58	65.49

EXTRA HEAVY BLACK WROUGHT STEEL — PER EACH

CLOSE	.61	.72	.78	.59	.76	1.16	1.41	1.70	2.32	7.01	8.84	12.59	35.87	40.31
1-1/2"	.64	.74	.82	.64	.80									
2"	.67	.79	.86	.70	.86	1.22	1.51	1.80						
2-1/2"	.74	.86	.97	.74	.94	1.27	1.65	1.95	2.62					
3"	.82	.96	1.08	.82	1.04	1.41	1.82	2.18	2.87	7.35	9.34			
3-1/2"	.90	1.07	1.20	.90	1.14	1.56	1.99	2.31	3.09	7.76	9.81			
4"	1.00	1.18	1.31	.98	1.25	1.76	2.18	2.61	3.39	8.05	10.38	14.00		
4-1/2"	1.09	1.29	1.44	1.08	1.36	1.86	2.37	2.79	3.66	8.49	10.95	14.81	42.47	47.64
5"	1.39	1.69	1.79	1.17	1.47	2.01	2.56	3.00	3.99	8.90	11.52	15.78	45.00	50.81
5-1/2"	1.49	1.79	1.91	1.26	1.59	2.16	2.76	3.19	4.31	9.34	12.09	16.40	47.06	53.35
6"	1.60	1.92	2.01	1.36	1.71	2.36	2.95	3.37	4.56	9.75	12.65	17.18	49.39	56.30
7"	1.73	2.08	2.15	1.96	2.43	3.19	4.06	4.69	6.62	10.72	14.44	19.22	54.62	62.66
8"	1.82	2.18	2.29	2.11	2.61	3.50	4.47	5.25	7.25	11.65	15.59	20.93	58.79	67.84
9"	1.96	2.34	2.44	2.29	2.81	3.81	4.87	5.56	7.87	12.62	16.81	22.65	64.12	74.47
10"	2.08	2.47	2.58	2.47	3.01	4.06	5.25	6.12	8.50	13.56	18.09	24.31	67.44	78.64
11"	2.18	2.59	2.72	2.64	3.20	4.37	5.66	6.44	9.12	14.50	19.18	26.03	73.57	86.28
12"	2.27	2.72	2.87	2.87	3.39	4.69	6.09	7.00	9.75	15.44	20.37	27.75	78.59	92.61

SCHEDULE 80 BLACK SEAMLESS NIPPLES

CLOSE	2.20	2.59	2.80	1.86	2.10	3.03	3.79	4.59	4.97	15.00	18.92	26.97	35.87	40.31
1-1/2"	2.33	2.65	2.91	1.99	2.25									
2"	2.42	2.83	3.06	2.18	2.36	3.21	3.97	4.85						
2-1/2"	2.63	3.06	3.45	2.31	2.57	3.44	4.35	5.27	5.61					
3"	2.91	3.43	3.88	2.55	2.86	3.80	4.78	5.73	6.16	15.73	20.01			
3-1/2"	3.19	3.80	4.27	2.86	3.18	4.22	5.23	6.24	6.63	16.62	21.00			
4"	3.54	4.21	4.66	3.13	3.50	4.62	5.73	6.87	7.26	17.23	22.23	29.97		
4-1/2"	3.84	4.57	5.11	3.45	3.82	5.02	6.24	7.51	7.84	18.16	23.45	31.72	42.47	47.64
5"	4.92	6.04	6.36	3.77	4.14	5.43	6.74	8.09	8.55	19.05	24.66	33.78	45.00	50.81
5-1/2"	5.26	6.38	6.79	4.09	4.46	5.81	7.26	8.60	9.24	20.01	25.90	35.12	47.06	53.35
6"	5.65	6.82	7.23	4.41	4.78	6.20	7.75	9.10	9.77	20.87	27.09	36.80	49.39	56.30

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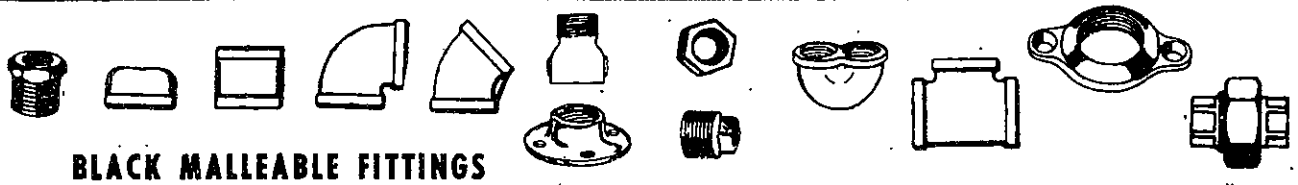
CRANE SUPPLY COMPANY

2003 | **MALLEABLE FITTINGS** | Revised: 6-15-81 Replacing: 4-29-81 | 2003



BLACK MALLEABLE FITTINGS

BUSHINGS:	1/8-3/8	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"
HEX	.97	.97	1.06	1.40	1.53	1.83	2.31	3.21	4.28	7.46	8.75	15.07	17.34
CAPS	.72	.83	1.08	1.32	1.72	2.37	3.07	6.10	8.43	15.03	15.03	27.06	51.44
COUPLINGS:													
STEEL	.76	.85	1.04	1.43	1.86	2.32	3.50	9.56	14.04	25.71	27.73	49.16	58.73
MALLEABLE	1.13	1.13	1.30	1.96	2.46	3.10	4.53	9.13	12.58		25.14		
REDUCERS	1.13	1.13	1.30	2.00	2.51	3.18	4.60	9.40	12.89	25.73	28.73	48.26	64.34
CROSSES	2.73	3.08	3.74	4.60	6.43	8.13	13.21	23.75	35.45	64.34	64.34	134.93	186.33
ELBOWS:													
90°	.96	.82	.92	1.71	2.80	3.67	5.37	11.91	18.56	31.40	31.40	74.44	91.62
90° REDUCING	1.26	1.30	1.51	1.98	3.15	4.03	5.76	12.72	20.61		35.22		
90° STREET	1.47	.95	1.46	2.37	3.60	4.41	6.62	13.44	20.53		33.37		
90° SIDE OUT	2.49	2.54	2.74	4.05	5.62	7.17	10.90						
45°	1.26	1.23	1.54	1.98	3.30	4.13	5.69	13.22	20.70	33.37	33.37	84.21	101.10
45° STREET	1.51	1.51	2.32	2.69	4.08	5.08	7.59						
EXTENSIONS	2.40	2.40	3.13	3.91									
FLOOR FLGS.		2.42	2.42	2.98	2.98	3.74	4.89						
LOCKNUTS	.55	.58	.67	.83	1.08	1.50	2.49						
PLUG, SQ. HD.	.51	.51	.77	.77	.97	1.40	1.78	3.21	4.46	7.52	7.91	13.20	18.02
RET. BEND,OP		2.94	3.57	4.36	7.04	9.70	15.29	34.04	51.59		99.03		
TEES:													
STRAIGHT	1.47	.97	1.46	2.64	4.31	5.28	7.76	15.79	20.70	37.69	41.46	86.68	116.77
REDUCING	1.51	1.68	2.27	2.91	4.68	5.46	8.55	16.98	22.71		45.84		125.57
STREET	1.76	2.09	2.51	3.37	5.37	7.17	10.61						
SIDE OUTLET	2.89	3.26	4.16	5.81	9.52	9.97	15.15						
WASTE NUTS	.92	1.10	1.28	1.47	1.86	2.49	4.64						
UNIONS:													
150 LB.	2.87	2.87	2.95	4.35	6.00	7.28	9.26	19.13	31.06				
250 LB.	3.86	4.04	4.59	6.00	8.30	10.14	12.80	26.25	42.91		83.89		

GALVANIZED MALLEABLE FITTINGS

BUSHINGS:	1/8-3/8	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"
HEX	1.42	1.51	1.58	1.91	2.45	2.90	3.36	4.78	6.31	11.13	13.24	22.28	25.97
CAPS	.85	.91	1.35	1.49	2.04	2.74	3.49	7.28	10.68	18.54	18.54	33.47	63.91
COUPLINGS:													
STEEL	.92	.99	1.28	1.86	2.20	2.79	4.23	11.50	16.94	30.42	31.38	56.53	69.41
MALLEABLE	1.32	1.32	1.44	2.23	2.99	3.54	5.10	10.90	14.81		31.50		
REDUCERS	1.26	1.26	1.46	2.28	3.00	3.62	5.22	11.23	15.10	32.27	32.27	60.78	79.76
CROSSES	3.14	3.63	4.41	5.36	7.58	9.43	15.49	29.09	43.07		79.07	161.04	236.76
ELBOWS:													
90°	1.23	.83	.99	2.00	3.13	4.09	5.94	14.63	22.79	39.45	38.62	91.90	113.74
90° REDUCING	1.42	1.39	1.81	2.17	3.64	4.62	6.44	15.67	25.41		45.53		
90° STREET	1.63	.97	1.51	2.55	3.96	4.91	7.30	16.75	25.25		41.55		
90° SIDE OUT	2.55	2.58	2.91	4.33	5.68	7.52	10.29						
45°	1.42	1.32	1.89	2.10	3.78	4.55	6.32	16.06	25.62	39.49	39.49	104.07	125.47
45° STREET	1.82	1.76	2.50	3.10	4.62	5.64	8.39						
EXTENSIONS	2.40	2.40	3.13	3.91									
FLOOR FLGS.		4.60	4.60	5.62	5.62	7.03	9.22						
LOCKNUTS	.56	.62	.76	.91	1.26	1.65	2.90						
PLUG, SQ. HD.	.91	.91	1.00	1.13	1.65	2.23	3.17	5.28	7.52	12.79	13.24	22.37	28.47
RET.BEND,OP		3.48	4.23	5.08	8.27	11.44	18.03	41.30	63.28		116.84		
TEES:													
STRAIGHT	1.62	1.05	1.51	3.00	4.75	5.94	8.52	19.46	24.65	46.44	51.11	103.90	143.38
REDUCING	1.82	1.86	2.39	3.30	5.10	6.32	9.23	20.80	28.23		56.33		154.25
STREET	2.04	2.42	3.05	4.17	6.28	8.25	12.34						
SIDE OUTLET	3.44	3.81	4.82	6.21	11.07	11.63	17.80						
WASTE NUTS	1.18	1.35	1.46	1.76	2.19	2.77	5.18						
UNIONS:													
150 LB.	3.05	3.05	3.32	4.90	6.66	8.13	10.13	22.24	36.58				
250 LB.	4.21	4.54	5.08	6.66	9.26	11.25	13.84	30.50	50.36		97.16		

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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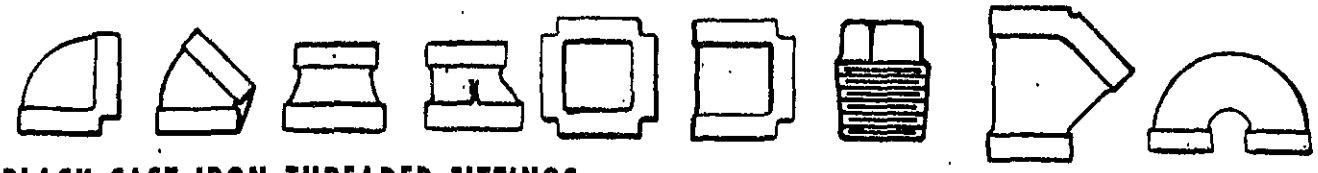
CRANE SUPPLY COMPANY

2004 | **CAST IRON & MALLEABLE FITTINGS** | Revised: 3-30-81 Replacing: 10-7-80 | 2004

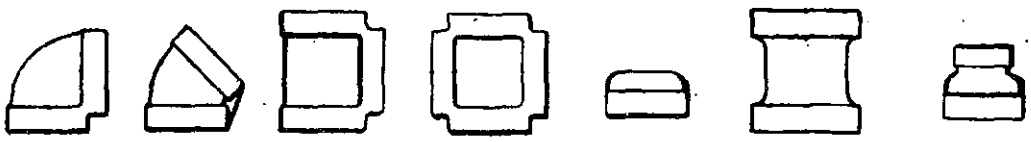


BLACK CAST IRON THREADED FITTINGS

		1/8-3/8	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"
ELBOWS:														
90°		1.23	1.23	1.53	1.90	2.69	3.73	5.71	10.80	16.33	25.62	29.47	50.93	64.84
REDUCING			1.42	1.76	2.24	2.98	4.40	6.31	11.70	19.05	27.86	32.49	56.14	74.19
45°		1.42	1.42	1.72	2.15	2.94	4.27	5.94	11.50	17.78	27.02	33.28	56.14	72.04
REDUCERS:														
CONC.				2.45	2.78	4.59	6.52	8.90	12.11	15.03		26.25	37.19	47.58
ECC.				4.81	5.57	8.90	11.25	16.44	21.19	26.25	36.53	42.49	58.02	75.54
CROSSES:				3.59	5.07	6.59	8.30	13.24	21.19	34.19		59.79	104.92	130.93
REDUCING					5.99	8.16	9.82	15.95	24.92	39.44	60.74	68.06	121.53	162.31
TEES:		1.51	1.72	2.23	2.45	4.16	5.16	7.70	13.76	20.75	35.63	39.95	71.27	87.74
REDUCING			1.91	2.45	2.76	4.48	5.75	8.13	15.29	22.92	39.76	45.81	79.69	102.38
FLOOR FLANGES		1.82	2.39	2.39	2.80	2.80	3.51	4.63						
PLUGS		.51	.51	.77	.77	.97	1.40	1.78	3.21	4.46	7.52	7.91	13.20	18.02
BUSHINGS:														
HEX		.97	.97	1.06	1.40	1.53	1.83	2.31	3.21	4.28	7.46	8.75	15.04	17.34
FACE		1.50	1.53	1.83	2.24	2.78	3.44	4.58	6.04	8.13	14.40	16.15	24.37	35.54
WYES: 45°				6.49	7.84	10.21	13.39	17.16	31.23	43.90		74.22		
RETURN BENDS:	CLOSE		3.96	4.27	5.53	7.16	9.00	14.89						
	OPEN			5.53	6.10	8.57	10.90	18.02	29.41	47.00				

250 LB. EXTRA HEAVY BLACK C.I. THREADED FITTINGS

	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
ELBOWS:								
90°	3.90	4.55	5.57	7.94	10.23	14.04	21.71	31.07
45°	4.53	5.12	6.23	8.70	11.22	15.89	25.27	36.10
TEES	5.95	6.54	7.94	10.84	14.04	19.44	30.84	46.12
REDUCING		8.96	10.66	14.24	17.90	24.44		



AAR 300 LB. EXTRA HEAVY BLACK MALLEABLE FITTINGS

	1/4-3/8	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
ELBOWS:										
90°	2.74	4.23	4.89	6.26	8.25	10.53	14.59	23.91	32.68	65.24
REDUCING	3.17	4.98	5.59	7.04	9.39	12.11	16.89	26.69	37.40	
90° STREET	3.54	5.28	6.26	7.34	9.71	12.34	19.40	33.26	42.77	
45°	3.90	5.26	5.84	6.48	9.04	11.79	17.51	27.97	36.81	71.20
45° STREET		5.94	6.54	7.59	10.30	13.68	20.75			
TEES	3.98	5.68	6.26	7.53	9.99	12.34	18.24	31.06	52.25	89.07
REDUCING		6.48	7.04	8.79	11.45	13.97	20.89	34.11	62.33	100.95
CROSSES	10.30	12.43	13.35	15.10	18.90	24.92	35.49	59.92	92.96	155.72
CAPS	2.42	2.74	3.23	4.21	5.00	6.80	9.49	14.36	19.83	
COUPLINGS	2.37	2.74	3.21	4.18	4.98	6.77	9.39	14.18	19.67	
REDUCERS	3.12	4.21	4.63	5.54	6.48	8.62	12.43	20.05	30.50	63.03

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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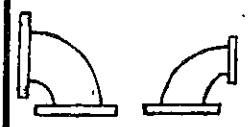
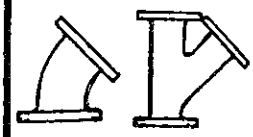
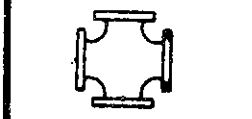
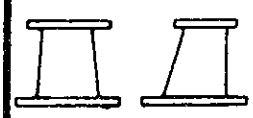
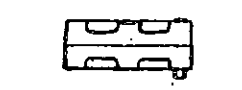
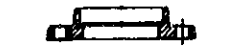
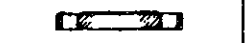
CRANE SUPPLY COMPANY

2005 | **FLANGED & DRAINAGE C.I. FITTINGS** | Revised: 3-30-81 Replacing: 10-7-80 | 2005

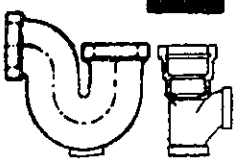








BLACK 125 LB. CAST IRON FLANGED FITTINGS

	1-1/2–2	2-1/2"	3"	3-1/2"	4"	5"	6"	8"	10"	12"
ELBOWS:										
90° STRAIGHT	55.78	60.33	66.91	87.62	87.62	118.72	137.14	216.36	408.00	584.91
REDUCING	104.72	108.19	109.06		134.65	172.56	194.07	283.98	443.36	768.65
45°	67.36	69.36	78.31	101.72	101.72	137.89	146.85	220.33	407.68	595.80
TEES:										
STRAIGHT	64.42	78.10	81.27	133.57	133.57	178.68	193.43	285.68	595.80	781.94
REDUCING		102.91	118.55		166.79	218.76	233.71	398.70	623.45	941.36
Y-BRANCH LATERAL	141.16	159.77	169.87		235.47	320.70	401.94	595.80	916.80	1393.46
CROSSES	123.54	138.16	145.63		207.83	283.30	339.46	521.66	788.39	1194.38
REDUCERS:										
CONCENTRIC		106.87	109.06	147.49	145.70	192.18	207.83	263.09	471.02	711.75
ECCENTRIC			109.06		145.70	192.18	207.83	263.09	471.32	713.44
FLG. UNIONS: 125 LB.	25.52	32.08	42.69	56.55	56.55	71.27	90.90	160.34		

BLACK 125 LB. CAST IRON FLANGES

STRT. SIZE	REDUCING SIZES	O.D. FLG.	STRAIGHT SIZE	REDUCING SIZE	BLIND	BOLTS NO.	BOLTS DIA.	BOLTS LGTH.
1"		4-1/4"	9.40		10.34	4	1/2"	1-3/4"
1-1/4"		4-5/8"	10.26		11.61	4	1/2"	1-3/4"
1-1/2"	1"	5"	10.58	15.74	11.75	4	1/2"	1-3/4"
2"	1, 1¼, 1½"	6"	11.75	17.52	13.12	4	5/8"	2"
2-1/2"	1½, 2"	7"	12.98	19.31	14.36	4	5/8"	2-1/4"
3"	1½,2,2½"	7-1/2"	17.65	27.64	19.31	4	5/8"	2-1/2"
3-1/2"	3"	8-1/2"	23.78	37.54	26.50	8	5/8"	2-1/2"
4"	1½,2,2½,3,3½"	9"	23.78	37.54	26.50	8	5/8"	2-3/4"
5"	3", 4"	10"	30.41	46.94	35.90	8	3/4"	3"
6"	2,2½,3,4,5"	11"	37.94	59.39	46.94	8	3/4"	3"
8"	3, 4, 5, 6"	13-1/2"	56.61	89.11	71.09	8	3/4"	3-1/4"
10"	6", 8"	16"	83.47	131.17	104.25	12	7/8"	3-1/2"
12"	6, 8, 10"	19"	113.71		142.51	12	7/8"	3-3/4"
14"		21"	248.75		339.70	12	1"	4-1/4"
16"		23-1/2"	362.79		543.13	16	1"	4-1/4"
18"		25"	435.42		607.64	16	1-1/8"	4-3/4"
20"		27-1/2"	518.13		718.10	20	1-1/8"	5"
24"		32"	725.43		1076.47	20	1-1/4"	5-1/2"



BLACK C.I. DRAINAGE FITTINGS

	1-1/4"	1-1/2"	2"	3"	4"	5"	6"
ELBOWS:							
90°	3.42	3.89	5.73	20.21	33.42	84.77	106.40
90° LONG TURN		4.90	7.34	24.07	42.75		
45°		3.89	5.73	20.21	33.42		97.59
45° LONG TURN		5.08		25.27			
11-1/4° OR 22°		4.28	6.49				
TEES		6.04	9.97				
TEE WYES: SHORT TURN		5.94	9.91	30.81	51.39		
REDUCING ON BRANCH 1 SIZE			11.11				
DOUBLE TY, SHORT TURN		9.97	14.84				
REDUCING ON BRANCH 1 SIZE			16.44				
45° WYES:		8.03	13.52	39.00	73.50		
REDUCING ON BRANCH 1 SIZE			14.75	43.98	79.96		
45° DOUBLE WYES		15.10					
'P' TRAPS: BATH		10.95	16.40				
WITH CLEANOUT		10.86	18.92	46.61	116.59		
COUPLINGS		6.00		21.70			
TUCKER CONNECTIONS		8.67	10.70	23.67	45.29		
TUCKER TEES		12.79	18.92				

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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CRANE SUPPLY COMPANY

2006 | **COMMERCIAL CARBON STEEL WELDING FITTINGS** Revised: 7-1-81 Replacing: 1-30-81 | 2006

90° ELL

45° ELL

TEE

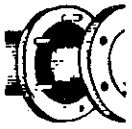
CROSS

CAP

SLIP-ON

WELD NECK

BLIND



WELDING FITTINGS — COMMERCIAL

STANDARD: CLASS 150	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"
CAPS	6.76	7.18	10.20	12.61	19.51	24.90	34.87	55.50	77.32
ELBOWS:									
90° LONG RADIUS	7.80	10.24	14.08	23.14	42.01	66.34	105.90	221.07	316.15
90° SHORT RADIUS	11.17	16.51	19.51	29.71	65.41	79.51	136.21	267.01	378.39
45°	5.32	9.00	10.84	16.73	28.36	43.12	67.65	125.35	183.37
TEES:									
STRAIGHT	19.84	28.75	36.91	48.34	81.46	99.49	187.87	291.07	515.71
REDUCING	24.67	36.24	42.59	54.57	99.18	114.95	214.51	348.01	581.64
REDUCERS, CONCENTRIC:									
REDUCING: 1 SIZE	6.49	7.62	10.44	15.07	23.70	31.21	43.59	90.00	97.23
2 SIZES	6.49	8.05	10.44	15.07	23.70	31.21	43.59	90.00	97.23
3 SIZES	6.49	8.05	10.62	15.49	23.70	43.21	53.46	108.01	152.73
REDUCERS, ECCENTRIC:									
REDUCING: 1 SIZE	11.02	12.61	13.81	19.62	36.78	41.31	77.29	107.33	153.93
2 SIZES	11.02	12.61	13.81	19.62	36.78	46.13	77.29	114.98	157.44
3 SIZES	11.02	13.04	15.94	21.31	36.78	46.13	84.88	137.55	205.50
FLANGES: (RAISED FACE)									
SLIP-ON	13.81	19.38	23.26	30.97	39.73	46.18	71.55	110.20	194.53
WELD NECK	19.11	25.12	30.13	42.01	52.06	64.50	98.25	209.85	349.78
BLIND	18.97	25.63	27.00	35.41	50.71	59.56	108.31	229.10	301.73
EXTRA HEAVY; CLASS 300									
CAPS	9.00	10.11	10.66	15.91	24.85	29.71	49.20	77.56	105.46
ELBOWS:									
90° LONG RADIUS	11.46	16.65	21.31	36.45	73.95	99.00	184.33	334.89	470.32
90° SHORT RADIUS	14.47	23.26	30.00	39.46	96.54	112.51	204.55	365.49	411.85
45°	9.60	11.22	15.70	25.05	51.91	69.00	114.66	189.30	272.52
TEES:									
STRAIGHT	30.13	33.30	48.76	72.48	114.72	132.57	268.32	434.16	639.18
REDUCING	31.75	38.86	51.18	73.99	131.58	141.46	286.21	442.21	749.34
REDUCERS, CONCENTRIC:									
REDUCING: 1 SIZE	8.78	10.63	12.85	19.09	32.32	37.54	75.34	104.70	145.66
2 SIZES	8.78	12.85	12.85	19.62	34.30	44.88	75.34	104.70	145.66
3 SIZES	9.49	12.85	12.94	21.28	35.14	44.88	82.17	131.38	180.58
REDUCERS, ECCENTRIC:									
REDUCING: 1 SIZE	14.05	18.86	20.21	28.11	51.27	56.10	105.01	165.09	272.74
2 SIZES	14.05	19.92	21.33	31.11	57.68	56.10	105.01	182.73	272.74
3 SIZES	15.76	19.92	21.57	31.79	57.68	65.25	142.80	223.16	289.12
FLANGES: (RAISED FACE)									
SLIP-ON	25.50	31.21	37.20	57.76	85.14	94.50	183.64	304.80	420.48
WELD NECK	30.55	37.69	41.02	60.00	100.51	110.56	210.01	390.01	553.50
BLIND	25.81	37.38	42.10	62.44	111.60	121.80	189.45	313.11	499.11

GASKETS FOR FLANGE JOINTS

NOMINAL PIPE SIZE	150 LB. RING I.D. x O.D.	EACH	300 LB. RING I.D. x O.D.	EACH	150 LB. FULL FACE I.D. x O.D.	EACH
1/16" CRANITE ASBESTOS GASKETS:						
1"	1-5/16 x 2-5/8"	.39	1-5/16 x 2-7/8"	.42	1-5/16 x 4-1/4"	.69
1-1/4"	1-21/32 x 3"	.42	1-21/32 x 3-1/4"	.57	1-21/32 x 4-5/8"	.78
1-1/2"	1-29/32 x 3-3/8"	.45	1-29/32 x 3-3/4"	.66	1-29/32 x 5"	.87
2"	2-3/8 x 4-1/8"	.63	2-3/8 x 4-3/8"	.72	2-3/8 x 6"	1.11
2-1/2"	2-7/8 x 4-7/8"	.84	2-7/8 x 5-1/8"	.84	2-7/8 x 7"	1.53
3"	3-1/2 x 5-5/8"	.99	3-1/2 x 5-7/8"	1.14	3-1/2 x 7-1/2"	1.71
4"	4-1/2 x 6-7/8"	1.38	4-1/2 x 7-1/8"	1.53	4-1/2 x 9"	2.19
5"	5-9/16 x 7-3/4"	1.53	5-9/16 x 8-1/2"	2.13	5-9/16 x 10"	2.52
6"	6-5/8 x 8-3/4"	1.71	6-5/8 x 9-7/8"	2.49	6-5/8 x 11"	2.91
8"	8-5/8 x 11"	2.64	8-5/8 x 12-1/8"	3.48	8-5/8 x 13-1/2"	4.02
10"	10-3/4 x 13-3/8"	3.45	10-3/4 x 14-1/4"	3.75	10-3/4 x 16"	5.01
12"	12-3/4 x 16-1/8"	4.74	12-3/4 x 16-5/8"	4.68	12-3/4 x 19"	7.14

RED RUBBER GASKETS PRICED SAME AS ASBESTOS.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

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CRANE SUPPLY COMPANY

2007 — **INDUSTRIAL CARBON STEEL WELDING FITTINGS** — Revised: 1-1-81 — Replacing: 11-12-80 — 2007

90° ELL

45° ELL

TEE

CROSS

CAP

SLIP-ON

WELD NECK

BLIND

WELDING FITTINGS — INDUSTRIAL

CLASS 150:	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"
CAPS	19.93	27.39	12.73	12.73	12.73	11.06	11.70	12.48	16.20	27.39	29.58	42.44	69.71	87.71
ELBOWS:														
90° L.R.	8.36	8.36	8.36	9.00	9.00	9.52	12.35	16.46	26.75	47.59	74.59	118.32	246.93	352.39
90° S.R.			11.57	12.86	14.15	15.43	23.79	22.51	34.08	90.03	90.03	152.40	298.38	428.27
45° L.R.	8.36	8.36	8.36	9.00	9.00	9.00	10.42	12.73	18.78	32.15	48.49	75.62	140.18	204.49
TEES:														
STRAIGHT	26.62	26.62	26.62	32.41	41.16	32.28	40.00	43.60	59.80	96.84	109.83	200.63	340.82	518.30
*REDUCING		32.28	32.28	35.75	41.28	56.85	53.12	56.46	67.86	128.61	137.61	263.65	452.71	668.77
CROSSES				136.33	136.33	154.98	200.63	200.63	270.08		514.44	824.39	1558.75	
FLANGES: (RAISED FACE)														
SLIP-ON	16.98	17.59	18.08	18.33	18.45	18.94	24.44	27.49	34.82	47.65	55.71	85.04	160.06	255.36
THREADED	19.67	20.65	21.01	21.26	22.24	22.97	29.08	32.26	42.40	56.32	68.05	116.56	199.15	304.23
WELD NECK	22.73	23.46	24.07	24.68	25.17	26.15	29.45	32.62	43.37	55.35	65.86	107.03	211.37	331.11
BLIND	17.23	17.35	17.96	19.18	19.18	19.30	26.39	28.35	38.12	52.54	59.26	101.53	206.61	293.23

CLASS 300:														
CAPS	19.93	27.39	12.86	13.25	14.02	12.09	13.50	14.40	19.29	30.22	36.01	55.69	82.31	108.29
ELBOWS:														
90° L.R.	10.42	10.42	10.42	11.96	12.86	13.12	19.03	24.44	41.41	84.37	111.89	205.78	372.97	524.73
90° S.R.			19.55	32.28	20.58	20.06	38.33	32.54	51.06	126.68	126.68	231.50	412.84	577.46
45° L.R.	10.42	10.42	10.42	11.45	11.83	10.80	14.92	18.78	28.29	63.28	79.48	129.38	208.35	312.52
TEES:														
STRAIGHT	36.53	36.53	36.53	36.53	41.80	36.14	47.97	58.39	95.81	136.33	154.33	308.66	502.87	729.22
*REDUCING					47.99	61.73	54.53	65.72	102.89		190.34	336.96	532.45	994.16
CROSSES						181.34	291.94	291.94	423.13		751.08			
FLANGES: (RAISED FACE)														
SLIP-ON	19.18	20.28	21.26	23.34	24.68	26.64	32.13	37.51	57.30	92.73	94.45	157.61	312.78	410.52
THREADED	22.97	25.78	27.61	30.79	30.79	31.40	40.69	47.65	68.79		110.08			
WELD NECK	24.07	24.80	25.54	28.22	29.57	31.52	38.12	43.25	61.82	101.90	112.53	195.48	410.52	558.36
BLIND	21.14	22.11	22.97	49.36	26.27	28.47	54.49	42.64	59.01	111.43	111.43	171.05	365.32	487.50

REDUCERS

*REDUCING TO 1/2 THE RUN SIZE.

OUTLET SIZES 3-1/2", 150 LB. ARE P.O.A.

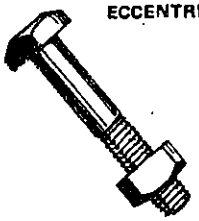
OUTLET SIZES 3/4", 1-1/4", 3-1/2", 5" 300 LB. ARE P.O.A.

CONCENTRIC

ECCENTRIC

SIZE	CONCENTRIC 150 LB.	CONCENTRIC 300 LB.	ECCENTRIC 150 LB.	ECCENTRIC 300 LB.
3/4 x 1/2"	16.98	20.96	20.96	25.72
1 x 3/4"	18.91	22.25	26.25	33.18
1 x 1/2"	19.03	22.25	30.48	33.18
1 x 3/8"	20.83	24.05	30.48	34.34
1-1/4 x 1"	16.08	19.55	24.44	26.75
1-1/4 x 3/4"	16.46	19.55	25.21	26.75
1-1/4 x 1/2"	22.51	26.24	29.58	34.72
1-1/2 x 1-1/4"	18.01	20.83	25.98	31.64
1-1/2 x 1"	18.01	20.83	27.27	31.64
1-1/2 x 3/4"	28.29	30.22	36.78	40.51
1-1/2 x 1/2"	28.29	30.22	36.78	40.51
2 x 1-1/2"	16.72	18.01	20.06	25.85
2 x 1-1/4"	16.72	18.01	23.79	25.85
2 x 1"	21.99	25.98	27.01	35.50
2 x 3/4"	24.18	27.01	30.48	36.91
2-1/2 x 2"	21.35	23.66	25.98	31.12
2-1/2 x 1-1/2"	23.02	23.66	25.98	31.12
2-1/2 x 1-1/4"	25.72	29.19	33.95	34.60
2-1/2 x 1"	27.91	32.54	36.78	38.71

SIZE	CONCENTRIC 150 LB.	CONCENTRIC 300 LB.	ECCENTRIC 150 LB.	ECCENTRIC 300 LB.
3 x 2-1/2"	18.01	22.38	24.18	29.84
3 x 2"	19.42	23.79	27.78	29.84
3 x 1-1/2"	22.89	28.68	31.64	41.03
3 x 1-1/4"	27.01	33.05	35.75	44.63
3 x 1"	31.77	40.00	41.67	53.24
4 x 3"	25.59	29.84	33.95	42.44
4 x 2-1/2"	28.68	33.05	36.40	48.87
4 x 2"	29.19	33.05	43.47	48.87
4 x 1-1/2"	34.21	42.70	45.01	52.73
4 x 1-1/4"	45.27	44.76	53.63	61.73
5 x 4"	39.61	52.99	66.88	84.63
5 x 3"	43.47	66.11	66.88	105.85
5 x 2-1/2"	46.43	72.02	85.40	119.61
5 x 2"	49.90	109.86	85.40	159.48
6 x 5"	47.59	66.11	67.57	96.07
6 x 4"	53.76	66.11	67.57	96.07
6 x 3"	67.39	88.84	83.21	115.11
6 x 2-1/2"	69.45	91.96	85.40	119.61
6 x 2"	81.41	111.89	100.70	159.48



MACHINE BOLTS W/HEX NUTS

FLANGE SIZE:	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"
FOR 150 LB. FLANGES:									
SET OF 4 BOLTS	22.08	23.04	23.04						
SET OF 8 BOLTS				46.08	76.80	76.80	78.72		
SET OF 12 BOLTS								217.44	217.44

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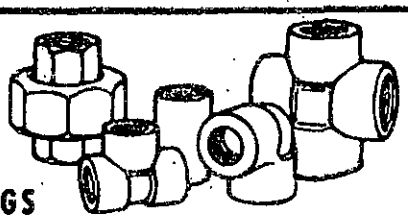
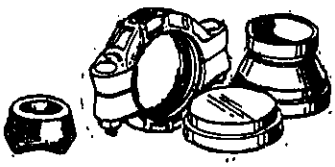
CRANE SUPPLY COMPANY

2008 | CARBON STEEL FORGED FITTINGS | Revised: 5-27-81 Replacing: 3-24-81 | 2008

Bonney Forge Division
Energy Products Group





2000 LB. THREADED FITTINGS

	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
90° ELBOWS		5.01	5.01	6.84	7.60	9.39	15.74	20.72	31.13	73.56	120.89	255.16
45° ELBOWS		6.59	6.59	7.98	8.91	10.33	16.50	20.85	34.78	98.44	168.33	
TEES		7.22	7.22	7.87	9.80	12.29	18.23	31.14	43.01	103.43	189.47	378.49
CROSSES		14.52	14.52	17.47	22.45	26.65	47.52	69.39	99.27	179.80	272.84	

3000 LB. THREADED FITTINGS

90° ELBOWS	6.95	6.95	6.95	7.42	9.38	14.49	19.70	28.45	41.89	95.67	139.96	324.43
90° STREET ELBOWS	8.77	8.77	8.77	8.77	12.04	17.01	27.15	38.01	54.28			
45° ELBOWS	7.90	7.90	7.90	8.56	10.91	14.41	19.02	31.16	40.90	98.43	168.34	318.60
TEES	9.17	9.17	9.17	9.47	12.06	18.71	30.80	43.00	59.09	119.61	194.14	378.91
CROSSES	15.31	15.31	15.31	19.02	21.39	37.49	54.78	76.53	124.90	209.89	317.03	430.44
COUPLINGS	2.74	2.74	2.74	2.74	3.29	5.65	10.56	14.26	18.03	37.42	53.19	96.63
HALF COUPLINGS	1.36	1.36	1.36	1.53	1.94	3.39	5.32	7.01	10.09	21.38	34.85	56.77
REDUCERS		3.28	3.28	4.04	5.74	7.66	11.36	14.04	21.88	57.20	99.68	124.48
CAPS	3.37	3.37	3.37	3.64	5.08	7.80	9.11	12.45	19.36	56.02	75.58	120.05

BUSHINGS AND PLUGS

HEX BUSHINGS		1.14	1.14	1.40	1.86	3.27	4.44	6.18	11.42	34.90	56.16	83.78
FLUSH BUSHINGS		3.57	3.57	3.82	4.56	4.82	6.21	8.84	14.72	43.64	70.20	96.30
HEX HEAD PLUG	1.08	1.08	1.08	1.33	1.79	2.95	4.37	6.12	12.40	30.11	53.89	78.56
SQUARE HEAD PLUG	1.16	1.16	1.16	1.40	1.90	3.22	4.70	7.05	11.81	32.76	54.81	80.50
ROUND HEAD PLUG	1.68	1.68	1.68	1.68	2.09	3.37	4.81	7.22	12.18	36.08	59.02	83.03

3000 LB. SOCKET WELD FITTINGS

90° ELBOWS	5.50	5.50	5.50	6.69	8.25	10.18	16.84	20.50	32.38	75.37	121.45	297.80
45° ELBOWS	7.40	7.40	7.40	7.79	9.55	12.99	16.53	19.57	36.66	98.43	168.34	390.52
TEES	8.28	8.28	8.28	8.28	10.96	13.39	20.30	31.48	45.18	103.43	189.80	401.09
CROSSES	16.57	16.57	16.57	16.57	20.52	21.99	37.85	55.97	74.60	160.79	232.41	466.61
LATERALS 'Y'				75.87	97.38	109.83	130.22	164.19	220.80			
COUPLINGS	3.73	3.37	3.73	3.74	4.96	5.45	9.22	11.81	17.54	33.41	47.06	89.35
HALF COUPLINGS	2.80	2.80	2.80	2.80	3.42	4.26	8.39	11.03	14.90	30.61	36.74	56.54
REDUCERS		4.39	4.39	6.76	8.65	10.36	12.50	18.00	26.45	62.91	109.64	171.55
REDUCER INSERTS			5.32	5.84	7.81	8.92	11.04	13.93	18.88	41.35	60.40	
CAPS	3.71	3.71	3.71	4.00	5.59	8.58	10.04	13.69	21.30	61.63	83.15	132.06

3000 LB. AAR UNIONS

SOCKET WELD	15.41	15.41	15.41	15.41	17.48	22.54	36.31	36.79	53.36	123.97	188.39	
THREADED	12.79	12.79	12.79	12.79	15.41	20.10	33.87	34.91	45.14	80.66	127.93	

FOR STEEL REDUCING FITTINGS ADD 100%

THREADOLETS AND WELDOLETS

OUTLET SIZE	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
STD. WELDOLET	13.10	13.10	13.10	13.10	13.72	14.27	16.09	17.89	18.81	45.23	52.69	67.18
EX. HY. WELDOLET	14.29	14.29	14.29	14.29	14.89	15.48	17.50	18.81	20.09	48.28	56.16	70.02
3000 LB. THREADOLET	7.89	7.89	7.89	7.89	9.14	10.35	14.15	15.39	17.51	57.04	65.43	129.33
3000 LB. SOCKOLET	9.34	9.34	9.34	9.34	9.41	10.78	16.11	16.83	18.88	68.36	85.73	129.33

VICTAULIC FITTINGS

	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"	10"
77 COUPLINGS	14.40	14.40	19.32	21.24	22.32	26.88	29.88	43.68	67.20	79.56	129.84	184.80
10 90° ELBOW	14.52	14.52	19.32	20.64	20.64	28.08	37.32	54.96	133.32	156.48	328.44	511.44
11 45° ELBOW	14.52	14.52	19.32	20.64	20.64	28.08	37.32	54.96	133.32	156.48	328.44	444.12
20 TEE	20.52	20.52	24.00	25.80	32.04	43.56	61.20	93.72	220.68	255.00	560.76	996.84
30 45° WYE	99.60	99.60	42.12	129.84	77.28	174.72	150.84	297.96	435.72	564.36	813.12	1147.80
33 90° TRUE WYE		89.52	110.76	125.52	141.00	167.64	200.40	262.80	376.68	466.32	672.00	991.68
35 CROSS	108.24	108.24	131.40	141.12	54.72	208.08	143.28	238.68	488.40	628.32	827.76	1207.44
60 CAP	12.60	12.60	14.40	14.52	14.52	23.04	23.04	25.08	59.40	60.74	117.48	213.36
50 REDUCER 1 SIZE				20.16	28.44		39.72	48.24	67.68	116.16	205.68	359.16
"E" OR "T" GASKET	8.28	8.28	8.64	9.48	9.48	11.64	12.60	16.08	21.24	23.04	31.80	41.16

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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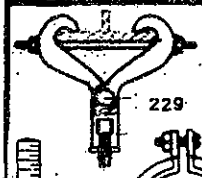
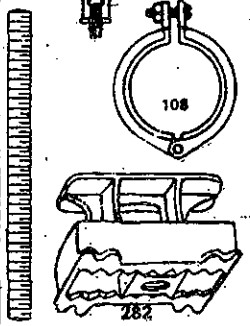
CRANE SUPPLY COMPANY

2009 | **GRINNELL HANGERS** | Revised: 4-29-81 Replacing: 3-11-81 | 2009



Grinnell



UPPER COMPONENTS

PER EACH

GRINNELL:		1/4"	3/8"	1/2"	5/8"	3/4"	7/8"
61	TOP BEAM 'C' CLAMP		3.50	4.65	8.03	10.25	
62	JR. TOP BEAM 'C' CLAMP		2.22	2.75			
88	'C' CLAMP		2.45	2.91	4.20	6.09	
229	BEAM CLAMP		16.83	18.36	19.70	22.23	25.04
282	UNIVERSAL MALL. CONCRETE INSERT		6.15	6.15	6.15	6.15	6.15
285	LIGHTWEIGHT CONCRETE INSERT	2.48	2.48	2.48	2.48		

INTERMEDIATE COMPONENTS

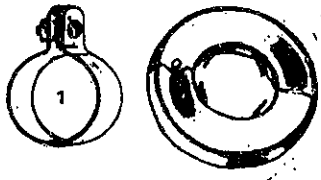
PER EACH

110-R	ROD SOCKET COUPLING		1.07	1.13	1.37	2.81	4.55	5.90
114	TURNBUCKLE ADJUSTER		2.70	2.70	3.36	5.72	7.37	
136	ROD COUPLING		1.18	1.21	1.65	1.91	2.37	3.95
146	ALL THREAD ROD	BLACK PER 100'	81.75	89.25	141.75	200.00	367.50	459.00
		PLATED PER 100'	89.25	118.50	195.00	300.00	517.50	706.50

LOWER COMPONENTS

PER EACH

		1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"
65	LIGHT DUTY CLEVIS	1.35	1.42	1.48	1.55	1.61	1.67	2.91	3.17	4.22			
CT-65	COP. TUBE CLEVIS	2.30	2.54	2.90	3.14	3.30	4.13	6.87	8.18	9.59			
260	ADJUSTABLE CLEVIS	1.42	1.42	1.50	1.71	1.88	2.25	3.44	4.26	5.25	7.14	8.34	13.67
70	ADJ. SWIVEL RING	1.89	1.92	1.98	2.27	2.33	2.58	4.23	4.64	7.53	8.75	13.47	20.24
104	ADJ. SPLIT RING		5.18	5.46	5.72	6.45	7.35	11.18	12.89	17.12	21.95	31.83	41.46
108	SPLIT RING	1.89	1.98	2.10	2.60	3.15	3.59	5.00	6.48	9.00	14.58	20.13	35.58
269	ADJUSTABLE RING	1.18	1.18	1.32	1.43	1.59	2.16	2.31	2.54	3.95	4.25	5.00	8.04
138	EXT. SPLIT CLAMP	2.87	3.08	3.29	4.05	5.88	7.88	15.72	18.69				
261	RISER CLAMP		4.47	4.52	5.67	6.11	6.23	6.54	6.98	8.82	12.81	14.76	23.87
1	C&P RING & BOLT	.80	.80	.86	.94	.96	1.19	1.44	1.98	2.52	3.72	4.56	



FLOOR & CEILING PLATE

PER EACH

	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"
I.P. SIZE	1.89	1.89	1.89	2.13	2.19	2.52	3.18	3.81	4.44
COPPER SIZE	2.19	2.19	2.19	2.54	2.67	2.91	3.63	4.38	5.07

PIPE STRAPS

PER EACH

	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
2 HOLE GALVANIZED STRAPS	.07	.07	.09	.14	.40	.43	.55
2 HOLE COPPER STRAPS	.12	.07	.09	.11	.20	.41	.53

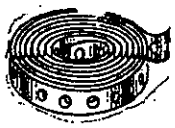
WIRE PIPE HOOKS

		GALVANIZED			COPPER PLATED		
		1/2"	3/4"	1"	1/2"	3/4"	1"
PER 100	LENGTH 4"	8.85	9.15	9.75	10.20	10.65	11.70
	6"	10.80	11.25	12.15	13.05	13.80	14.40
	8"	14.70	15.90	16.35	17.10	18.30	19.05

ANCHORS

PLASTIC KITS: WITH SCREWS & DRILL:	
K4 FOR NO. 5 – 8 SCREW	15.90
K5 FOR NO. 9 – 12 SCREW	15.30
K6 DO-IT-ALL	20.25
K9 FOR 16 SCREW	20.85

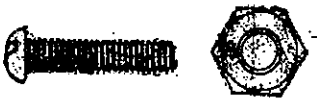
PLASTIC SIZE	PER 100	LEAD SIZE	PER 100
8 x 1"	6.15	10-24	29.25
10 x 1"	6.90	1/4-20	41.85
12 x 1"	8.25	3/8-16	88.99
14 x 1"	9.90	1/2-13	129.94



HANGER IRON—PERFORATED

PER EACH

GALVANIZED	20 GA.	3/4 x 10' COIL	1.74
	18 GA.	3/4 x 10' COIL	2.85
COPPER	20 GA.	3/4 x 10' COIL	2.09



STOVE BOLTS

PER 100

WITH HEX NUTS:	1/2"	3/4"	1"
3/16" DIAMETER	4.65	5.16	5.49
1/4" DIAMETER	7.14	8.07	8.97

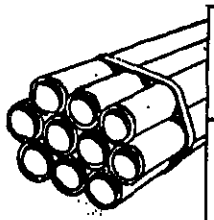
AREA: E

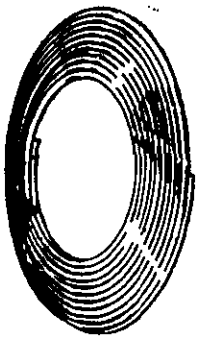
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

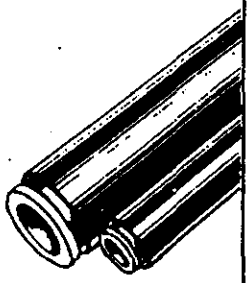
CRANE SUPPLY COMPANY

2101 | **COPPER TUBING** | Revised: 4-29-81 Replacing: 3-11-81 | 2101

WATER TUBING AND PIPE







NOMINAL SIZE	WATER TUBE TYPE K LGTH.	TYPE K COILS	WATER TUBE TYPE L LGTH.	TYPE L COILS	WATER TUBE M LGTH.	WATER TUBE DWV LGTH.	PIPE RED BRASS	A.C.R. TYPE L O.D.	A.C.R. TYPE L LGTH.
	PRICE PER FOOT								
1/4"	.566	.638	.498	.576	.473		3.61	3/8"	.552
3/8"	.975	1.10	.723	.839	.626		4.75	1/2"	.791
1/2"	1.24	1.40	1.01	1.18	.783		6.46	5/8"	1.10
5/8"	1.50	1.74	1.28	1.49	1.01			3/4"	1.37
3/4"	2.27	2.55	1.61	1.86	1.25		8.78	7/8"	1.70
1"	2.98	3.36	2.36	2.74	1.81		12.39	1-1/8"	2.52
1-1/4"	3.69	4.16	3.17	3.67	2.65	2.51	18.58	1-3/8"	3.40
1-1/2"	4.77	5.39	4.03	4.68	3.61	3.10	21.55	1-5/8"	4.32
2"	7.21	8.14	6.11	7.09	5.54	4.08	27.70	2-1/8"	6.57
2-1/2"	10.33		8.76		7.70		40.79	2-5/8"	9.31
3"	15.12		12.62		10.11	6.44	58.24	3-1/8"	13.63
3-1/2"	19.66		16.47		13.75		76.12	3-5/8"	17.79
4"	25.44		21.23		18.55	12.40	90.09	4-1/8"	22.93
5"	61.05		46.24		42.67	29.90	126.52	5-1/8"	49.94
6"	87.40		61.68		56.65	41.18	154.65	6-1/8"	66.61

NOTE: FOR CAPPED BOTH ENDS STRAIGHT LENGTH SIZES PRICE ON APPLICATION

REFRIGERATION TUBE

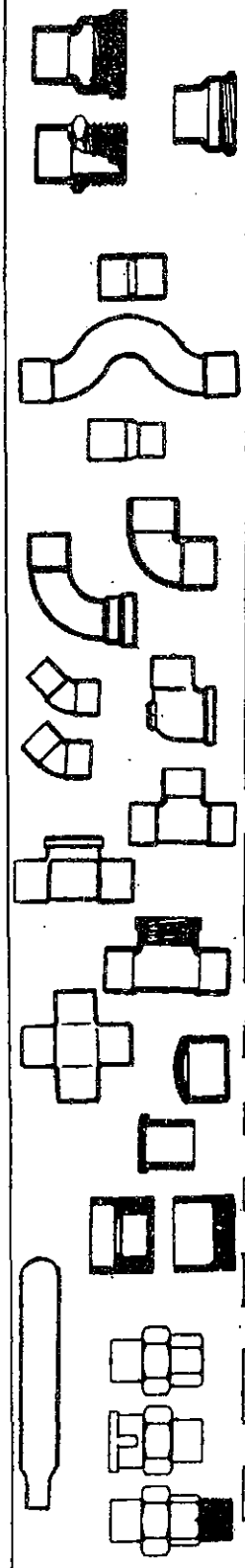
OUTSIDE DIAMETER INCHES	WALL THICKNESS	PRICE PER COIL 50' COILS	PRICE PER COIL 100' COILS
1/8"	.030	10.47	20.94
3/16"	.030	15.62	31.24
1/4"	.030	19.25	38.50
5/16"	.032	25.20	50.40
3/8"	.032	29.73	59.46
1/2"	.032	39.09	78.18
5/8"	.035	53.84	107.68
3/4"	.035	64.56	129.12
7/8"	.045	95.81	191.62
1-1/8"	.050	149.37	298.74
1-3/8"	.055	199.74	399.48

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

50

CRANE SUPPLY COMPANY

2102 — **COPPER SOLDER FITTINGS** — Revised: 5-27-81 Replacing: 1-30-81 — 2102



ADAPTERS

	1/4-3/8	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
COPPER x FEMALE	1.52	.86	1.24	2.34	4.84	5.71	7.71	15.83	19.67	48.91
REDUCING	1.33	1.16	1.90	4.40	5.28	6.63	10.19			
COPPER x MALE	2.37	.53	.78	2.24	3.45	3.67	5.72	15.68	18.73	36.05
REDUCING	2.21	1.54	1.47	3.04	4.51	5.35	9.48	29.70		
FITTING x FEMALE	1.79	1.38	1.58	3.17	5.24	6.77	8.70	43.42	39.19	90.92
REDUCING		1.74	3.24	6.05						
FITTING x MALE	2.43	2.08	2.71	3.46	8.78	10.66	17.16	35.11	63.17	112.08
REDUCING		2.02	2.81	6.38	10.03					

COUPLINGS

COPPER x COPPER	.41	.16	.31	.71	1.18	1.60	2.70	4.69	6.51	13.09
CxC LESS STOP	.36	.20	.41	.78	1.25	1.69	2.98	4.11	5.86	12.78
CROSS-OVER		3.56	14.26	32.92						

REDUCERS

CONCENTRIC C x C	.99	.30	.60	1.13	1.38	2.24	3.39	5.63	11.36	18.73
FTG.x C	.39	.30	.74	.94	1.33	2.01	3.35	5.28	9.48	18.50
ECCENTRIC C x C			2.54	3.59	6.38	11.44	16.77	30.02	42.01	74.93

ELBOWS

90° LG. TURN C x C	1.00	1.22	1.72	2.73	4.25	5.44	9.48	17.63	25.16	60.82
REDUCING	1.60	1.25	1.46	2.54	4.25	8.15	11.83			
90° LG. TURN Cx FTG.	2.05	1.25	1.94	3.01	5.17	6.61	11.28	20.46	29.39	91.70
90° CLOSE RUFF CxC	.85	.20	.47	1.08	2.02	2.68	5.14	9.88	14.19	29.86
REDUCING	1.03	1.90	1.98	2.40	4.25	6.05	7.99	29.00	35.43	46.55
90° CLOSE RUFF CxFTG.	1.07	.44	.71	1.90	2.63	3.46	8.23	13.48	18.09	36.99
45° COPPER x COPPER	1.07	.49	.89	1.68	2.26	2.79	4.45	10.27	13.56	27.51
45° COPPER x FITTING	1.54	.64	1.00	2.27	2.79	3.34	5.11	12.70	18.10	58.47
45° FITTING x FTG.	1.66	2.18	3.15	2.45						
90° DROP EAR C x C	1.46	1.54	3.81							
C x F	1.40	1.44	2.07	7.18						

TEES

COP. x COP. x COP.	1.38	.31	.82	3.07	4.44	5.69	9.17	18.34	25.71	62.23
RED. ON RUN	2.12	1.98	.88	2.98	5.53	6.24	11.13	26.18	37.93	55.33
RED. ON BRANCH	2.08	1.27	.75	2.65	4.23	5.08	7.49	21.79	21.40	37.62
COP. x COP. x FEM.	2.07	1.40	2.37	6.65	8.31	11.60	17.95	94.83	114.43	236.69
RED. ON BRANCH	2.07	1.47	2.01	4.97	7.18	10.35	17.95	21.71	27.90	
COP. x FEM. x COP.	2.63	1.50	2.54	10.11	14.42	20.61	34.49	86.21	126.18	242.96

CROSSES

C x C x C x C	2.76	3.14	6.07	10.27	13.87	20.93	39.19	77.12	135.59	205.34

CAPS

COPPER	.28	.14	.30	.61	.82	1.13	1.91	5.78	9.01	19.12

PLUGS

FITTING END	2.04	2.41	1.79	2.02	3.90	5.28	5.85	29.39	35.58	72.89

BUSHINGS

FITTING x COPPER	.33	.39	.77	1.07	1.40	1.74	5.11			
FITTING x FEMALE		.53	1.77	3.24	4.61	5.85	12.62			

UNIONS

COPPER x COPPER	4.00	1.98	2.85	4.51	6.29	8.78	14.89	71.79	92.48	
COPPER x FEMALE	5.19	5.25	7.32	14.97	27.82	35.27	60.04	102.67	156.75	
COPPER x MALE	4.69	4.44	6.80	15.60	27.82	31.35	56.74	90.92	141.86	

AIR CHAMBERS

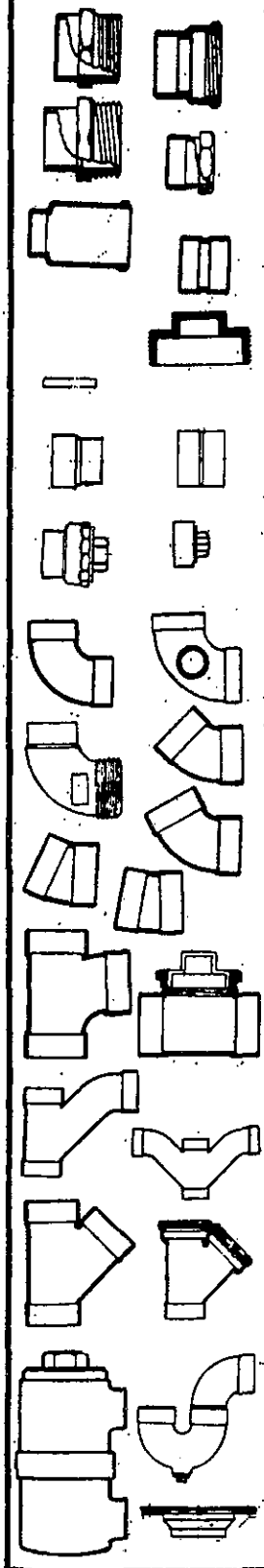
6" LONG		2.81								
12" LONG		4.06	4.50							

CAST FITTINGS PRICED WHEN WROT FITTINGS UNAVAILABLE

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

CRANE SUPPLY COMPANY

2103 — **SOLDER D.W.V. FITTINGS** — Revised: 2-19-81 Replacing: 1-30-81 — 2103



ADAPTERS

	1-1/4"	1-1/2"	1½RED	2"	2"RED	3"	3"RED	4"	4"RED
COPPER x MALE	2.63	2.57	3.68	4.15	4.22	11.68	11.21	22.57	
COPPER x FEMALE	2.73	2.74	3.37	5.14	6.05	12.62	22.89	23.90	45.14
FITTING x MALE	4.28	5.22		7.43		17.87			
FITTING x FEMALE	3.34	2.85	3.39	5.13	9.80	12.70		19.99	
COPPER x SLIP JOINT	3.48	2.99	3.67	6.14	7.10				
FITTING x SLIP JOINT	4.44	4.51	4.51	14.34					
COPPER x SPIGOT		4.53		4.33	4.51	9.25	11.83	17.09	15.60

COUPLINGS

COPPER x COPPER	.88	1.22		1.68		2.84		7.21	
REDUCING CxC			1.83		2.23		5.67		11.36

CAPS—PLUGS—BUSHING

TEST CAPS	.36	.38		.77		1.50		3.06	
CORED HEX PLUGS	2.41	2.34		3.06		7.51		17.56	
BUSHING, FTGxC EXTENDED			2.02		2.19		4.64		9.95
BUSHING, FTGxC FLUSH			2.16		3.76		11.60		20.22

CLEANOUTS

FTG x CLEANOUT W/PLUG	5.66	5.13		7.99		20.22		37.62	
AS ABOVE W/FLUSH PLUG	3.14	4.09		5.11		9.33		20.77	
C x CLEANOUT W/PLUG	5.11	5.11		8.15		19.99		39.97	

ELBOWS

90° COPPER x COPPER	2.15	2.15	3.76	4.14	6.43	10.03	16.93	28.84	25.08
90° W/SIDE INLET						16.93			
90° COPPER x FITTING	3.50	2.90		5.67		11.76		35.11	
90° COPPER x FEMALE	4.53	4.73		10.03					
90° COPPER x MALE	4.53	5.05		10.27					
45° COPPER x COPPER	1.91	1.60		3.76		7.73		19.36	
45° COPPER x FITTING	2.76	2.23		4.51		11.05		22.49	
45° COPPER x FEMALE		7.30							
45° COPPER x MALE		6.51		10.82					
60° COPPER x COPPER	3.32	3.26		6.25		12.93		26.73	
22-1/2° COPPER x COPPER	2.46	2.46		4.95		7.48		21.24	
11-1/4° COPPER x COPPER	2.41	2.41		4.91		10.03		35.11	

SANITARY TEES

COPPER x COPPER	3.56	3.28	4.28	6.07	5.11	13.25	10.42	36.99	27.43
CxFxC	7.23	7.02	7.23	15.60	12.70	27.98	26.41	53.45	
CxCxF	7.10	6.71	7.13	15.68	10.03				
DOUBLE CxCxCxC	7.10	7.76	9.33	15.68	10.42	23.98	14.34	82.29	53.45
TEST TEE W/PLUG CxC	8.78	8.62		14.58		32.60		61.13	

COMBINATION Y & 1/8 BEND

CxCxC	8.54	7.92	9.33	13.56	10.03	25.39	17.71	82.29	42.79
CxFxC		13.32		23.20	15.99				
CxCxF		14.50		24.14	16.07				
DOUBLE CxCxCxC	15.68	13.48	15.68	26.18	21.08	47.03		110.51	79.16

WYES

COPPER x COPPER	4.77	4.75	6.40	8.15	7.32	20.38	11.68	48.12	28.29
CxFxC	7.52	8.54		14.19					
CxCxF	7.92	7.92		15.68					
DOUBLE CxCxCxC	10.50	11.60	11.60	18.34	16.07	38.72	21.00	81.51	67.40

TRAPS

"P" COPPER x S.J. W/C.O.	13.25	11.76		22.26					
"P" COPPER x S.J. L/C.O.	11.05	10.74		20.93					
"P" COPPER x COPPER W/CO	11.21	10.19		19.75		47.65			
DRUM 3x6" SWIVEL		19.67	DRUM 4x8 SWIVEL						39.81

CLOSET FLANGES

WITHOUT STOP						10.58		10.35	

CAST FITTINGS PRICED WHEN WROT UNAVAILABLE.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

SV

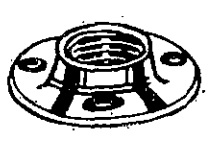
CRANE SUPPLY COMPANY

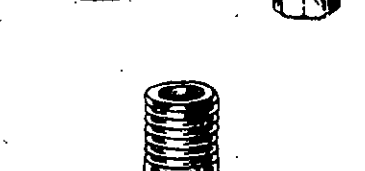
2104 | **BRASS FITTINGS & NIPPLES** | Revised: 2-12-80 Replacing: 11-1-79 | 2104

ROUGH BRASS FITTINGS

	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
ELBOWS:									
90° STRAIGHT	2.10	2.10	2.10	3.12	4.25	6.59	10.62	13.28	21.57
REDUCING SIZES		3.15	3.15	3.41	4.64	8.22	12.60	15.39	28.46
90° STREET	3.15	3.15	3.15	3.92	5.54	9.23	14.28	18.59	31.52
45°	2.30	2.30	2.30	2.88	4.25	7.26	11.58	14.48	23.54
TEES:									
STRAIGHT	2.91	2.91	2.91	3.65	5.21	9.36	13.28	18.26	29.88
REDUCING: 1 OPENING		3.50	3.50	4.37	6.26	11.19	15.93	21.92	35.82
2 OPENINGS		3.74	3.74	4.82	6.92	12.30	17.27	23.43	39.18
CROSSES	4.79	4.79	4.79	5.87	8.48	13.28	20.12	26.79	53.58
COUPLINGS	2.10	2.10	2.10	2.61	3.50	5.31	8.30	11.30	18.59
REDUCERS:									
REDUCING 1 & 2 SIZES		2.25	2.25	2.81	4.11	6.92	11.30	14.28	21.24
3 OR MORE SIZES				3.18	4.67	7.70	12.60	15.60	23.43
HEX BUSHINGS:									
REDUCING 1 & 2 SIZES		1.34	1.34	1.65	2.28	3.50	5.99	7.64	11.30
3 & 4 SIZES				1.98	2.75	4.22	7.19	9.23	13.61
CAPS	1.58	1.58	1.58	2.09	2.75	4.35	6.65	8.97	15.26
PLUGS: REGULAR	1.37	1.37	1.37	2.16	2.49	3.27	4.94	6.26	9.89
LOCKNUTS	1.01	1.01	1.01	1.65	2.00	2.96	4.53	5.54	9.30
FLOOR FLANGES	5.03	5.03	5.03	5.73	7.82	12.38	14.28	19.92	26.79
UNIONS 150 LB.	6.80	6.80	6.80	8.01	11.09	14.81	21.92	25.88	39.83

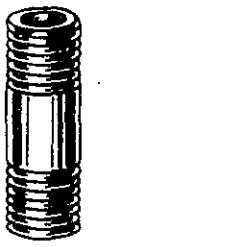
CHROMIUM PLATED FITTINGS: ADD 200% TO ABOVE PRICES.





RED BRASS NIPPLES

	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
CLOSE	.93	1.05	1.23	1.30	1.81	3.21	4.73	5.83	7.92
1-1/2"	1.02	1.17	1.41	1.55	2.10				
2"	1.12	1.32	1.57	1.86	2.35	3.81	5.36	6.34	
2-1/2"	1.22	1.48	1.83	2.20	2.76	4.42	6.21	7.42	9.30
3"	1.35	1.66	2.06	2.51	3.18	5.08	7.10	8.47	10.67
3-1/2"	1.53	1.88	2.33	2.87	3.68	5.70	8.01	9.53	12.13
4"	1.67	2.07	2.56	3.23	4.13	6.37	8.92	10.58	13.47
4-1/2"	1.85	2.31	2.85	3.67	4.70	7.04	9.89	11.79	15.06
5"	2.04	2.53	3.16	4.15	5.32	7.75	11.02	13.03	16.66
5-1/2"	2.25	2.75	3.47	4.53	5.86	8.38	12.03	14.21	18.13
6"	2.37	2.98	3.76	4.91	6.37	9.01	13.01	15.38	19.56



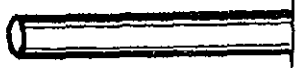
CHROMIUM PLATED BRASS NIPPLES

CLOSE	1.49	1.69	1.60	1.67	2.90	5.17	7.61	9.37	12.75
1-1/2"	1.64	1.89	1.81	2.00	3.39				
2"	1.79	2.12	2.04	2.41	3.78	6.13	8.63	10.19	
2-1/2"	1.98	2.40	2.36	2.84	4.44	7.11	9.98	11.93	14.96
3"	2.17	2.66	2.66	3.25	5.12	8.18	11.44	13.62	17.17
3-1/2"	2.46	3.04	3.00	3.71	5.93	9.18	12.90	15.34	19.52
4"	2.68	3.33	3.30	4.17	6.65	10.25	14.36	17.03	21.67
4-1/2"	2.97	3.71	3.68	4.74	7.56	11.32	15.92	18.98	24.24
5"	3.27	4.08	4.08	5.36	8.56	12.47	17.73	20.97	26.80
5-1/2"	3.63	4.42	4.48	5.85	9.44	13.49	19.36	22.85	29.17
6"	3.81	4.79	4.85	6.34	10.25	14.49	20.93	24.75	31.46

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

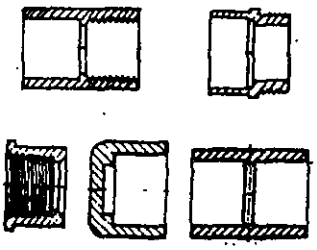
CRANE SUPPLY COMPANY

2201 | **PLASTIC PRESSURE PIPE & FITTINGS** | Revised: 5-27-81 Replacing: 4-29-81 | 2201



P.V.C. PIPE

PLAIN END: P/100'	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
PR-200	20.32	24.60	32.58	46.10	60.54	90.74			
PR-160				38.03	48.71	73.03	110.84	154.85	260.82
SCHEDULE 40	32.59	42.77	62.90	77.40	88.19	119.76	189.94	236.83	344.20
SCHEDULE 80	49.40	67.09	91.91	125.33	151.98	210.34	320.80	429.74	628.16



FITTINGS SCHEDULE 40

ADAPTERS:								
SOCKET x FEMALE	.55	.76	.98	1.67	1.97	2.28	5.21	8.51
SOCKET x MALE	.53	.58	1.02	1.20	1.73	2.58	6.36	10.18
BUSHINGS:								
SOCKET x SOCKET		.49	.78	1.27	1.38	1.74	3.78	8.90
SOCKET x THREAD		.49	.78	1.56	1.75	2.34		
CAPS: SOCKET	.48	.49	.85	1.30	1.38	1.66	3.82	8.94
COUPLINGS: SOCKET	.36	.43	.78	1.40	1.46	1.85	55.02	7.18
ELBOWS:								
90° SOCKET x SOCKET	.59	.74	1.33	1.86	2.29	3.53	10.87	16.19
90° SOCKET x THREAD	.62	.82						
45° SOCKET x SOCKET	.91	1.52	1.73	2.48	3.34	4.54	10.87	16.19
TEES:								
SOCKET x SOCKET	.72	.84	1.66	2.29	2.98	4.08	12.73	21.17
SOCKET x THREAD	.67	.91	1.80					
REDUCING		.91	1.80					

FITTINGS SCHEDULE 80

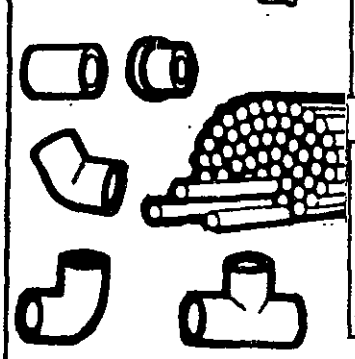
UNIONS: SOCKET	7.94	9.68	11.50	15.04	16.70	25.68		

BALL VALVES

PVC THREADED	30.24	35.47	42.78	56.86	71.99	98.49	242.03	223.26	471.55
PVC SOCKET	30.24	35.47	42.78	56.86	71.99	98.59	242.03	223.26	471.55
CPVC THREADED	42.26	52.69	63.12		106.41	146.06			
CPVC SOCKET	42.26	52.69	63.12		106.41	146.06			

POLYETHYLENE PIPE & FITTINGS

PIPE: PER 100 FEET	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
NT-80 80 LB. PSI AT 73.4°F		21.94	31.66	54.91	74.70	123.86
NT-100 100 LB. PSI AT 73.4°F	16.98	26.08	41.86	72.95	99.38	164.77
NT-125 125 LB. PSI AT 73.4°F	20.39	35.23	56.94	97.91	134.72	
U.H.M. BLACK-DIAMOND 80 LB. PSI	32.42	39.42	60.80	98.04	133.76	219.03
U.H.M. GOLDEN JET 100 LB. PSI	32.42	49.73	75.66	125.69	172.97	288.36
HIGH IMPACT FITTINGS:						
90° ELBOW INSERT X INSERT	.53	.65	.71	.80	.95	1.31
TEE INSERT x INSERT x FPT	.67	.96	1.06	1.68		
COUPLING INSERT x INSERT	.28	.30	.34	.52	.58	1.14
ADAPTER INSERT x MPT						
NYLON FITTINGS:						
90° ELBOWS INSERT x INSERT	.74	.94	.97	1.71	2.31	3.76
TEE INSERT x INSERT x INSERT	.91	.97	1.60	2.65	3.39	4.56
COUPLING INSERT x INSERT	.51	.60	.71	1.23	1.54	1.85
ADAPTER INSERT x MPT	.57	.60	.71	1.14	1.54	1.91
CLAMPS:						
IDEAL 5010 SERIES PART S.S.	1.02	1.04	1.04	1.05	1.07	1.12
IDEAL 6810 SERIES ALL S.S.	1.26	1.28	1.28	1.30	1.32	1.38



C.P.V.C. PIPE & FITTINGS

	1/2"	3/4"
PIPE: 10 FOOT LENGTHS PER 100 FEET	48.20	88.74
COUPLINGS	.34	.48
CAPS	.43	.50
BUSHINGS		.43
ADAPTER MIP	.42	.64
90° ELBOW	.29	.61
45° ELBOW	.42	.71
TEES	.44	1.01

CEMENT & CLEANERS SEE PAGE 2205.

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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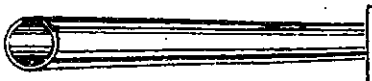
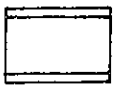
CRANE SUPPLY COMPANY

2202 — **A.B.S. & P.V.C. — D.W.V. PIPE & FITTINGS** — Revised: 7-1-81 — Replacing: 6-15-81 — 2202

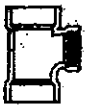


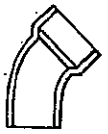
PIPE PER 100'			1-1/4"	1-1/2"	2"	3"	4"
ABS	SCHEDULE 40 PLAIN END	20' LGTHS.	75.00	82.50	110.40	225.00	322.50
PVC	SCHEDULE 40 PLAIN END	20' LGTHS.	63.00	66.00	88.50	180.00	256.50

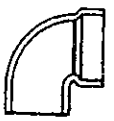
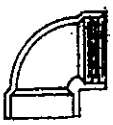
FITTINGS



PRICE	A.B.S.	YARDLEY	P.V.C.	PRICE
		COUPLINGS: (ALL HUB)		
.48	60101	1-1/4"	—	
.36	60102	1-1/2"	50102	.32
.51	60104	2"	50104	.47
1.17	60106	2x1-1/2"	50105	.90
1.12	60107	3"	50107	.98
2.40	60108	3x2"	50108	1.97
2.40	60109	3x1-1/2"	50109	1.97
2.14	60111	4"	50111	1.53
4.16	60112	4x3"	50112	3.18
4.69	60113	4x2"	50113	4.11
		REPAIR COUPLINGS: (ALL HUB)		
1.05	60121	1-1/2"	50121	.90
1.57	60123	2"	50123	1.45
2.65	60126	3"	50126	2.14
		FLUSH BUSHINGS: (SP. x HUB)		
.48	60169	1-1/2x1-1/4"	50169	.39
.39	60170	2x1-1/2"	50170	.31
.73	60171	2x1-1/4"	—	
1.33	60172	3x2"	50172	.92
2.02	60173	3x1-1/2"	50173	1.33
3.39	60175	4x3" NOT FLUSH	50175	2.72
4.99	60176	4x2"	50176	3.26
		FLUSH CLEANOUT BUSH: (SPxF.P.T.)		
1.60	60192	1-1/2x1-1/4"	50192	1.20
1.60	60194	2x1-1/2"	50194	1.20
5.68	60197	3x2"	50197	3.11
		3x1-1/2"	50198	3.66
		4x3-1/2"	50200	5.27
		MALE ADAPTERS: (SP. x M.P.T.)		
.93	60215	1-1/4"	—	
.58	60218	1-1/2"	50218	.43
.79	60220	1-1/2x1-1/4"	50220	.43
.99	60221	2"	50221	.64
2.28	60224	3"	50224	1.51
6.82	60226	4"	50226	4.79
		MALE FTG. ADAPTERS: (SP. x M.P.T.)		
.87	60232	1-1/4"	—	
.64	60235	1-1/2"	50235	.47
.79	60237	1-1/2x1-1/4"	50237	.74
1.72	60238	2"	50238	1.14
3.74	60241	3"	50241	2.96
		CAPS: (F.P.T.)		
		1-1/4"	50249	1.59
1.09	60250	1-1/2"	50250	.65
2.33	60251	2"	50251	2.18
3.70	60252	3"	50252	3.44
		TRAP ADAPTERS, FEM.: (HxSL)		
1.18	60260	1-1/4"	—	
.85	60261	1-1/2"	50261	.63
1.03	60262	1-1/2x1-1/4"	50262	.59
		TRAP ADAPTERS, MALE: (SPxSL)		
1.18	60267	1-1/4"	—	
1.03	60268	1-1/2"	50268	.59
1.13	60269	1-1/2x1-1/4"	50269	.72
		FEM. ADAPTERS: (H x F.P.T.)		
1.13	60276	1-1/4"	—	
.79	60278	1-1/2"	50278	.55
1.33	60280	2"	50280	.89
2.12	60285	3"	50285	1.84
5.07	60288	4"	50288	4.17
		FEM. CLEANOUT ADPT.: (SPxF.P.T.)		
1.15	60292	1-1/4"	—	
.73	60293	1-1/2"	50293	.47
1.09	60295	2"	50295	.72
1.85	60297	3"	50297	1.43
4.57	60298	4"	50298	3.98
6.57	60299	4x3"	—	





FITTINGS

PRICE	A.B.S.	YARDLEY	P.V.C.	PRICE
		CLEANOUT PLUGS: (M.P.T.)		
.61	60310	1-1/4"	—	.36
.55	60311	1-1/2"	50311	.36
.61	60312	2"	50312	.38
.97	60314	3"	50314	.79
2.14	60315	3-1/2"	50315	1.41
2.02	60316	4"	50316	1.57
		FIXTURE TEES: (HxHxF.P.T.)		
2.27	60349	1-1/2"	—	
4.12	60350	2x1-1/2x1"	—	
3.92	60353	2x2x1-1/2"	—	
		1/16 BENDS: (ALL HUB)		
1.48	60543	1-1/4"	—	
1.17	60544	1-1/2"	50544	.87
1.60	60546	2"	50546	1.10
3.86	60547	3"	50547	3.16
6.26	60548	4"	50548	5.75
		1/16 BEND, STREET: (SPxH)		
2.36	60555	1-1/2"	—	
3.11	60556	2"	—	
6.14	60557	3"	50557	4.02
8.93	60558	4"	50558	8.46
		1/8 BENDS: (ALL HUB)		
.89	60612	1-1/4"	50612	.83
.61	60613	1-1/2"	50613	.50
.81	60615	2"	50615	.72
2.34	60618	3"	50618	2.11
4.35	60619	4"	50619	3.80
		1/8 BENDS, STREET: (SPxH)		
1.24	60625	1-1/4"	—	
.64	60626	1-1/2"	50626	.56
.93	60628	2"	50628	.80
2.46	60630	3"	50630	1.88
5.33	60631	4"	50631	4.70
		1/6 BENDS (ALL HUB)		
2.10	60696	1-1/4"	—	
1.35	60697	1-1/2"	50697	.99
1.94	60698	2"	50698	1.32
5.68	60699	3"	50699	3.60
9.35	60700	4"	50700	6.47
		1/6 BENDS, STREET: (SPxH)		
2.41	60707	1-1/2"	—	
3.17	60708	2"	—	
7.47	60709	3"	—	
		1/4 BEND VENT: (ALL HUB)		
1.05	60770	1-1/4"	—	
.87	60771	1-1/2"	50771	.64
1.29	60773	2"	50773	.80
3.74	60776	3"	50776	2.28
8.93	60777	4"	50777	5.66
		1/4 BEND VENT, STREET: (SPxH)		
2.30	60783	1-1/4"	—	
1.25	60784	1-1/2"	50784	.90
1.70	60786	2"	50786	1.50
		1/4 BEND VENT: (HxF.P.T.)		
5.25	60802	3"	—	
			—	
		1/4 BENDS: (ALL HUB)		
.89	60839	1-1/4"	—	
.64	60840	1-1/2"	50840	.61
.87	60842	2"	50842	.75
2.79	60845	3"	50845	2.39
5.11	60847	4"	50847	3.93
		1/4 BENDS, STREET: (SPxH)		
.87	60853	1-1/2"	50853	.65
1.25	60855	2"	50855	.99
3.00	60858	3"	50858	2.36
7.80	60860	4"	50860	5.16

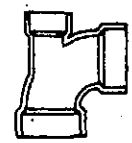
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

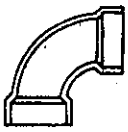
CRANE SUPPLY COMPANY

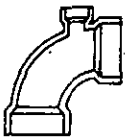
A.B.S. & P.V.C.—D.W.V. FITTINGS

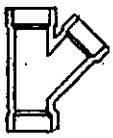
Revised: 6-9-80
Replacing: 12-1-79

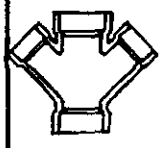
2203

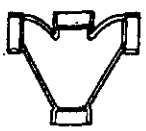




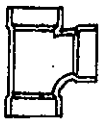


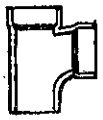


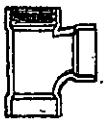


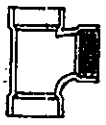


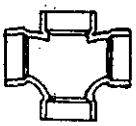
PRICE	A.B.S.	YARDLEY	P.V.C.	PRICE
		1/4 BENDS: (H x F.P.T.)		
		1-1/2"	50866	1.56
8.95	60868	3"	50868	6.18
		1/4 BENDS, W/LOW HEEL: (ALL HUB)		
6.26	60886	3 x 3 x 2"	50886	5.48
		LONGSWEEP 1/4 BENDS: (ALL HUB)		
1.48	60930	1-1/4"	—	
1.11	60931	1-1/2"	50931	.72
1.73	60933	2"	50933	1.24
3.54	60935	3"	50935	2.72
8.51	60937	4"	50937	7.51
		LONGSWEEP 1/4 BENDS: (SP. x HUB)		
2.14	60945	1-1/2"	50945	1.81
2.88	60947	2"	50947	2.63
6.30	60950	3"	50950	3.98
		LONGSWEEP 1/4 BENDS: (F.P.T. x H)		
8.84	60965	3"	—	
		LONGSWEEP 1/4 BENDS: (SLIP x HUB)		
	—	1-1/2"	51017	4.17
	—	1-1/2 x 1-1/4"	51018	4.17
		LONGSWEEP W/SIDE INL.: (ALL HUB)		
12.01	61074	3 x 3 x 2"	—	
12.83	61075	3 x 3 x 1-1/2"	—	
		LONGSWEEP W/LOW HEEL INL.: (ALL HUB)		
7.95	61086	3 x 3 x 2"	—	
7.47	61087	3 x 3 x 1-1/2"	—	
		LG. SWEEP STR. W/LOW.HEEL INLET: (SPIGOT x H x H)		
8.53	61094	3 x 3 x 2"	—	
		LONGSWEEP W/HI-HEEL INL.: (ALL HUB)		
14.40	61104	3 x 3 x 2"	—	
14.40	61105	3 x 3 x 1-1/2"	—	
		SINGLE 45° WYES: (ALL HUB)		
1.72	61123	1-1/4"	—	
1.46	61124	1-1/2"	51124	1.05
2.02	61128	2"	51128	1.55
2.27	61129	2 x 2 x 1-1/2"	51129	1.65
2.82	61132	2x1-1/2x1-1/2"	51132	1.80
4.40	61137	3"	51137	4.39
3.55	61139	3 x 3 x 2"	51139	2.89
3.59	61140	3 x 3 x 1-1/2"	51140	3.05
8.25	61145	4"	51145	6.82
7.20	61146	4 x 4 x 3"	51146	5.41
6.02	61147	4 x 4 x 2"	51147	5.48
		SINGLE 45° WYES: (HxHxF.P.T.)		
4.24	61230	1-1/2"	51230	2.57
		SINGLE 45° WYES, STREET: (SP.xHxH)		
		1-1/2"	51351	1.37
3.65	61352	2"	51352	2.28
		2 x 2 x 1-1/2"	51353	2.26
8.40	61355	3"	51355	5.27
7.35	61356	3 x 3 x 2"	51356	4.79
		3 x 3 x 1-1/2"	51357	4.79
		4"	51358	11.14
		4 x 4 x 3"	51359	11.14
		4 x 4 x 2"	51360	11.14
		DOUBLE 45° WYES: (ALL HUB)		
4.60	61369	2x2x1-1/2x1-1/2"	51369	4.31
3.74	61371	1-1/2"	—	
4.32	61372	2"	51372	3.82
11.07	61373	3"	51373	7.43
9.94	61374	3x3x2x2"	51374	6.71
7.81	61375	3x3x1-1/2x1-1/2"	51375	6.71
22.45	61377	4"	51377	14.37
18.48	61378	4x4x3x3"	51378	13.80
15.35	61379	4x4x2x2"	51379	13.80
		DBL. FIXTURE FTGS.: (ALL HUB)		
6.33	61386	2x1-1/2x1-1/2x1"	—	
14.42	61387	3x2x3x3"	—	
14.54	61388	3x3x3x3"	—	
		DBL. FIXTURE FTGS.: (SP.xHxHxH)		
15.65	61389	3"	—	

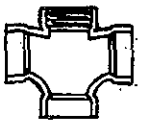


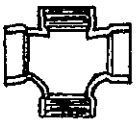


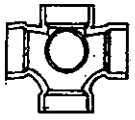












PRICE	A.B.S.	YARDLEY	P.V.C.	PRICE
		SANITARY TEES:		
1.24	61508	1-1/4"	—	
.99	61509	1-1/2"	51509	.89
1.84	61510	1-1/2x1-1/2x1-1/4	—	
2.28	61511	1-1/2x1-1/4x1-1/2	—	
2.10	61512	1-1/2x1-1/4x1-1/4	—	
1.48	61513	2"	51513	1.25
1.31	61514	2 x 2 x 1-1/2"	51514	.98
1.86	61516	2 x 1-1/2 x 2"	51516	1.48
1.31	61517	2x1-1/2x1-1/2"	51517	.92
3.64	61522	3"	51522	3.36
2.99	61524	3 x 3 x 2"	51524	2.59
2.73	61525	3 x 3 x 1-1/2"	51525	2.39
7.11	61532	4"	51532	5.48
8.48	61533	4 x 4 x 3"	—	
7.05	61534	4 x 4 x 2"	51534	6.23
		SAN. TEES, STREET: (SP.xHxH)		
1.60	61559	1-1/2"	51559	1.13
2.66	61561	2"	51561	1.73
2.52	61562	2 x 2 x 1-1/2"	51562	1.70
2.75	61564	2 x 1-1/2 x 2"	51564	1.70
2.54	61565	2x1-1/2x1-1/2"	51565	1.64
6.30	61566	3"	51566	3.83
6.23	61567	3 x 3 x 2"	51567	4.07
6.23	61568	3 x 3 x 1-1/2"	51568	4.07
14.80	61570	4"		
		SANITARY TEES: (H x F.P.T. x H)		
4.05	61576	1-1/2"	—	
7.69	61591	3 x 3 x 2"	—	
		SANITARY TEES: (H x H x F.P.T.)		
2.69	61614	1-1/2"	—	
8.76	61627	3"	—	
			—	
		DOUBLE SANITARY TEES: (ALL HUB)		
3.07	61772	1-1/2"	51772	2.42
4.22	61776	2"	51776	3.60
3.58	61777	2x2x1-1/2x1-1/2"	51777	3.07
7.44	61782	3"	51782	5.63
6.02	61783	3x3x2x2"	51783	5.41
6.93	61784	3x3x2x1-1/2"	51784	5.75
6.42	61785	3x3x1-1/2x1-1/2"	51785	5.03
18.82	61788	4"	51788	14.37
		4x4x2x2"	51789	17.31
18.61	61790	4x4x3x3"	51790	18.71
		DOUBLE SAN. TEES: (HxF.P.T.xHxH)		
9.98	61807	3x3x2x2"	—	
		DOUBLE SAN. TEES, STREET: (SPxHxHxH)		
11.49	61843	3x3x2x2"	—	
		DOUBLE SANITARY TEES: (F.P.T. x F.P.T. x H x H)		
10.63	61859	3x3x2x2"	51859	7.19
		DOUBLE SAN. TEES, W/SIDE INLET: (ALL HUB)		
12.99	61887	3x3x3x3x2"	—	
		DBL. SAN. TEES W/R & L SIDE INLETS: (ALL HUB)		
14.77	61899	3x3x3x3x2x2"	51899	19.16

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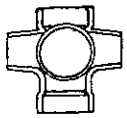
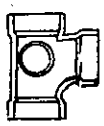
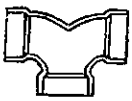
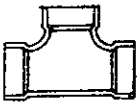
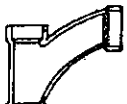
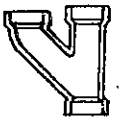
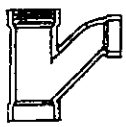
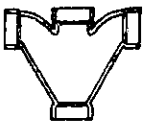
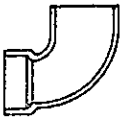
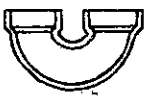
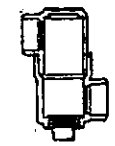
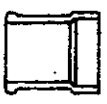
CRANE SUPPLY COMPANY

2204 | **A.B.S. & P.V.C.—D.W.V. FITTINGS** | Revised: 6-9-80 Replacing: 12-1-79 | 2204

PRICE	A.B.S.	YARDLEY	P.V.C.	PRICE
	SAN. TEES W/R & L SIDE INLETS: (ALL HUB)			
13.81	61907	3x3x3x2x2"	51907	14.54
	SAN. TEES W/LEFT SIDE INLET: (ALL HUB)			
10.36	61917	3x3x3x1-1/2"	51917	13.77
10.93	61918	3x3x3x2"	51918	12.51
		4x4x4x2"	51919	17.31
14.04	61929	3x3x2x2"	51929	16.49
	SAN. TEES W/RIGHT SIDE INLET: (ALL HUB)			
10.36	61927	3x3x3x1-1/2"	51927	13.77
10.93	61928	3x3x3x2"	51928	12.48
		3x3x2x2"	51929	16.49
14.04	61930	3x3x2x1-1/2"	51930	12.01
		4x4x4x2"	51932	18.10
	3-WAY ELBOWS: (ALL HUB)			
2.93	62029	1-1/2"	52029	2.42
4.10	62032	2"	52032	3.73
10.14	62038	3"	52038	7.43
	2-WAY CLEANOUTS: (ALL HUB)			
10.72	62054	3"	—	
19.61	62055	4"	52055	15.58
	SGL. COMB. WYE & 1/8 BENDS: (ALL HUB)			
2.36	62066	1-1/2"	52066	1.49
2.85	62070	2"	52070	2.00
3.72	62071	2 x 2 x 1-1/2"	52071	2.39
3.88	62073	2 x 1-1/2 x 2"	52073	2.39
3.57	62074	2x1-1/2x1-1/2"	52074	2.06
6.70	62079	3"	52079	5.09
4.06	62080	3 x 3 x 2"	52080	3.27
7.05	62081	3 x 3 x 1-1/2"	52081	5.27
13.51	62082	4"	52082	11.66
9.45	62088	4 x 4 x 3"	52088	8.15
8.89	62092	4 x 4 x 2"	52092	8.15
	UPRIGHT WYES: (ALL HUB)			
6.52	62100	2"	—	
13.81	62105	3 x 3 x 2"	—	
14.42	62140	3"	—	
	SGL. COMB. WYE & 1/8 BENDS: (H x F.P.T. x H)			
5.25	62109	1-1/2"	—	
8.05	62113	2"	—	
13.41	62122	3"	—	
	SGL. COMB. WYE & 1/8 BENDS: (F.P.T. x H x H)			
14.01	62180	3"	—	
	DBL. COMB. WYE & 1/8 BENDS: (ALL HUB)			
9.18	62193	2x2x1-1/2x1-1/2"	—	
18.11	62199	3"	52199	10.56
—	—	3x3x1-1/2x1-1/2"	52202	9.87
	DBL. FIXTURE FTGS.: (HxHxF.P.T.xF.P.T.)			
12.14	62275	2x1½x1½x1½"	—	
	CLOSET BENDS: (HUB x SPIGOT)			
7.23	62283	3 x 4"	—	
7.81	62284	3 x 4" W/CAP	52284	5.50
	CLOSET BENDS: (ALL HUB)			
5.68	62285	3 x 4"	52285	5.75
	SCHEDULE 80 NIPPLES: (M.P.T.)			
2.75	62313	3" x CLOSE	—	
3.15	62314	3 x 3"	—	
3.84	62316	3 x 4"	—	
5.25	62320	3 x 6"	—	
5.70	62321	3 x 7"	—	
6.75	62322	3 x 8"	—	
7.02	62323	3 x 9"	—	
7.39	62324	3 x 10"	—	
9.29	62326	3 x 12"	—	



PRICE	A.B.S.	YARDLEY	P.V.C.	PRICE
	CLOSET FLANGES:			
3.76	62310	4x3" F.P.T.	52310	2.19
3.69	62502	4x3" H W/SLOT	52502	2.87
5.28	62503	4x3" SP W/SLOT	—	
7.21	62504	4x4" H EXTEND	—	
3.68	62508	4x3" SPIGOT	52508	2.30
2.95	62512	4x4" HUB	52512	2.20
2.67	62513	4x3" HUB	52513	2.00
	HUB WITH GUSSETT:			
3.05	62514	4x4"	—	
4.22	62517	4x3"	—	
3.23	62518	4x3" M.P.T.	52518	2.12
3.07	62519	4x3" MPT W/SLOT	—	
	ADJ. CLOSET FLANGES W/METAL RING:			
6.12	26509	4x3" SPIGOT	52509	4.31
5.23	62510	4x4" HUB	52510	3.73
4.77	62511	4x3" HUB	52511	3.84
7.43	62515	4x4" SPIGOT	—	
	WALL HUNG CLOSET ADPTRS: (SP. X H)			
7.19	62516	3 x 4"	—	
	'P' TRAPS, L/CLEANOUT: (SLIP x H)			
		1-1/2"	52536	3.51
	'P' TRAPS, W/CLEANOUT: (ALL HUB)			
3.84	62557	1-1/2"	52557	2.93
6.18	62559	2"	52559	4.07
	'P' TRAPS, L/CLEANOUT: (ALL HUB)			
3.55	62563	1-1/4"	—	
2.00	62564	1-1/2"	52564	1.61
3.68	62566	2"	52566	3.16
13.27	62568	3"	52568	9.35
21.16	62570	4"	52570	18.21
	'P' TRAPS, L/CLEANOUT: H x F.P.T.)			
6.05	62575	1-1/2"	—	
	'P' TRAPS, L.A. PATTERN: (SLIP x H)			
4.54	62612	1-1/4"	—	
3.45	62616	1-1/2"	52616	2.41
3.76	62617	1-1/2 x 1-1/4"	52617	2.50
	'P' TRAPS W/UNION: (ALL HUB)			
4.38	62615	1-1/4"		
1.98	62618	1-1/2"	52618	1.63
5.46	62567	2"		
	RETURN BENDS W/CLEANOUT: (ALL HUB)			
		1-1/2"	52641	1.94
—		2"	52730	3.00
	RETURN BENDS L/CLEANOUT: (ALL HUB)			
1.81	62648	1-1/2"	52648	1.20
3.38	62657	2"	52657	2.27
	DRUM TRAPS W/CLEANOUT: (H x H)			
8.41	62666	3 x 3 x 1-1/2"	52666	8.46
	TRAY PLUG ADAPTERS: (SP.xFEM. NPSM)			
1.69	62682	1-1/2"	52682	.93
	TRAY PLUG ADAPTERS: (HxFEM. NPSM)			
1.72	62685	1-1/2"	52685	1.06
	SWIVEL STRAINER ADAPTERS: (SPxF.P.T.)			
1.21	62692	1-1/2"	—	
1.35	62693	1-1/2" LONG	52693	.91
	DUST PLUGS L/CHAIN: (M.P.T.)			
1.11	62787	3"	—	
	HUB ADAPTERS, C.I.: (C.I. SP. x H)			
2.16	62799	1-1/2 x 2" C.I.	52799	1.65
2.42	62803	2"	52803	1.88
4.74	62804	2 x 3" C.I.	52804	4.07
5.96	62806	3 x 4" C.I.	52806	4.55
4.97	62807	3"	52807	3.07
7.65	62809	4"	52809	5.75

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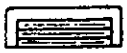
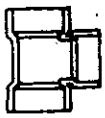
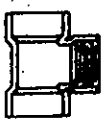
CRANE SUPPLY COMPANY

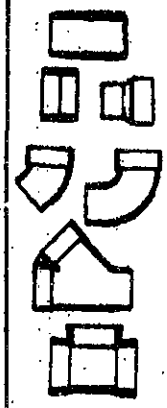
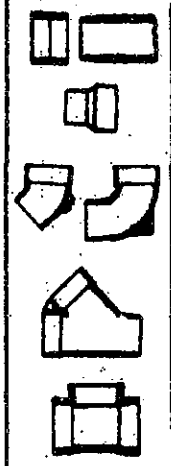
A.B.S. & P.V.C.—D.W.V. FITTINGS

Revised: 6-27-81
Replacing: 4-29-81

2205

PRICE	A.B.S.	YARDLEY	P.V.C.	PRICE
		SPIGOT ADAPTER—C.I.: (HxC.I.xH)		
4.58	62822	3"	52822	3.11
9.59	62825	4"	52825	5.92
		SPIGOT ADAPTER BITUMINOUS FIBER PIPE: (D.W.V. x H x BIT H)		
4.57	62833	3x4" BIT	—	
		NO-HUB ADAPTER: (NO HxD.W.V. H)		
1.78	62841	2x1-1/2" D.W.V.	—	
1.96	62842	2"	52842	1.76
2.79	62843	3"	52843	2.06
5.17	62844	4"	52844	2.93
		HUB ADPT.CLAY PIPE: (HxCLAY P SP)		
7.31	62865	4"	—	
		ADAPTER COUPLINGS: (ADAPTS SEWER & DRAIN SPIGOT TO D.W.V. SPIGOT)		
4.26	62884	3x4" HxH	52884	2.54
4.39	62885	3"	—	
5.48	62888	4"	—	
		PLUG: (SPIGOT)		
1.19	62904	1-1/2"	52904	1.16
1.96	62905	2"	52905	1.81
		A.B.S. SLIP JOINT NUTS:		
.35	63001	1-1/4"	—	
.42	63002	1-1/2"	53002	.23
		2"	53004	.45
		TEST CAPS: (INSERT TYPE)		
.51	63226	1-1/2"	63226	.41
.62	63227	2"	63227	.47
.76	63228	3"	63228	.58
.86	63229	4"	63229	.73
		VENT TEE: (ALL HUB)		
1.93	63303	1-1/4"	—	
1.66	63304	1-1/2"	53304	1.07
2.07	63308	2"	63308	1.75
		2x2x1-1/2"	63310	2.27
		3"	53317	4.79
		3x3x2"	53318	7.75
		3x3x1-1/2"	53320	7.75
		CLEANOUT TEE: (HxHxF.P.T.)		
2.94	63334	1-1/2"	53334	2.21
3.78	63338	2"	53338	1.97
5.69	63377	3"	53377	3.73
10.38	63381	4"	53381	6.65
		EXPANSION JOINT: (HxSP)		
		1-1/2"	53395	9.75
		2"	53396	8.70
15.57	63397	3"	53397	11.85
26.09	63399	4"	53399	18.00

PLASTIC SEWER & DRAIN

CRESLINE: (PER 100 FT.)			4"
52115	SOLID PIPE	10' LENGTH	99.34
52210	PERFORATED	10' LENGTH	99.34
YARDLEY:			
89003	COUPLING	HUBxHUB	.78
89489	ADAPTER	S&D HxCI H	2.88
89505	ADAPTER	S&D HxCLAY SPG.	3.24
89381	3x4 REDUCER	HxSPIGOT	3.60
89043	1/4 BEND	HUBxHUB	3.36
89053	1/4 BEND	HxSPIGOT	3.06
89022	1/8 BEND	HUBxHUB	2.40
89085	45° WYE	HUBxHUBxHUB	3.90
89188	TEE	HUBxHUBxHUB	3.00

FIBER PIPE

BERMICO: (PER 100 FT.)	4"
SOLID PIPE, 10' LENGTHS	122.36
PERFORATED, 10' LENGTHS	97.24
CC40B 2° TAPER COUPLING	.92
AC40B5 5° ANGLE COUPLING	1.79
TA40BTH ADAPTER, HUB x F.I.P.	2.49
SA40D ADAPTER, HUB x C.I.	2.97
CA40D ADAPTER, HUB x CLAY	6.10
PL40UP PLUG	1.78
CP40BP CAP	2.38
MOLDED FITTINGS:	
SR40D45P 1/8 BEND	3.34
SR40D90P 1/4 BEND	5.00
YY40DP WYE	7.22
TE40DP TEE	5.47

CEMENT & PRIMER

YARDLEY:			
55102	ABS CEMENT	1/2 PT	4.19
55103	ABS CEMENT	1 PT.	5.73
55104	ABS CEMENT	1 QT.	9.14
55105	ABS CEMENT	1 GAL.	28.20
CRESLINE:			
86957	PVC CEMENT	1 GAL.	38.48
WITH DOBBERTOP:			
86958	PVC CEMENT	4 OZ.	2.60
86959	PVC CEMENT	1/2 PT.	3.92
86960	PVC CEMENT	1 PINT	6.31
86962	PVC CEMENT	1 QUART	11.39
92094	CPVC CEMENT	4 OZ.	2.74
92099	CPVC CEMENT	1/2 PT.	4.22
92103	CPVC CEMENT	1 PT.	7.25

ROOF FLASHINGS

CRESLINE:			
88845	1-1/4—1-1/2	NEOPRENE	6.65
88847	2	NEOPRENE	7.00
88849	3	NEOPRENE	8.30
88851	4	NEOPRENE	10.57

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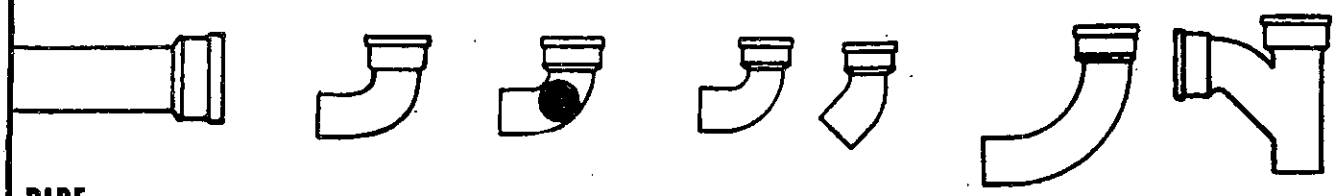
CRANE SUPPLY COMPANY

2301	SERVICE SOIL PIPE & FITTINGS	Revised: 4-1-81 Replacing: 8-1-80	2301



PIPE

PER FOOT		2"	3"	4"	5"	6"	8"	10"	12"	15"
SGL. HUB	5' LGTH.	4.00	5.01	6.77	8.70	10.13	16.02	25.81	38.10	56.21
	10' LGTH.	3.18	4.03	5.54	7.92	9.55	15.92	25.46	37.58	55.44
DBL. HUB	5'	6.70	7.09	8.70	11.97	13.94	30.21	49.55	58.70	79.85
30" PIECE	EA.	16.38	26.73	30.05						

BENDS

1/4		4.76	9.36	13.82	18.19	23.51	75.11	110.61	140.71	351.70
1/5		7.17	10.49	16.38	21.82	23.91				
1/6		5.51	9.06	11.17	17.39	24.87	60.54	143.45		
1/8		3.70	7.32	10.95	15.30	18.76	53.94	85.49	137.66	251.48
1/16		3.62	5.89	10.34	12.72	17.15	59.65	79.86	197.63	222.99
1/4 BEND:										
W/2" SIDE INLET			12.84	18.12						
W/2" HEEL INLET			11.93	16.08						
1/4 REDUCE:	1 SIZE		8.53	13.89	17.87					
	2 SIZE			9.21		21.33				
INCREASING	1/4			13.06						
DOUBLE	1/4	17.37	19.93	34.73						
LONG 1/4:	12"	11.33	15.02	17.06						
	16"	13.59	17.67	22.42						
	18"	15.02	19.48	25.67	35.42	52.08				
	24"	22.12	37.90	31.56						
3 x 4 x 12"			17.82							
3 x 4 x 14"			19.61							
3 x 4 x 16"			20.61							
3 x 4 x 18"			22.27							
LONG 1/8:	12"	14.80	15.55	20.84						
	16"	15.93	20.16	22.50						
	18"	16.16	20.76	23.18	32.36	41.70				
	24"	18.57	37.37	41.53						
LONGSWEEP:		7.10	13.89	20.46	30.75	34.86	98.21			
RED.	3 x 2"		14.12							
	4 x 3"			19.03						
SHORTSWEEP:		6.12	9.74	15.86	24.31	38.08	81.31	121.88		
RED.	1 SIZE		12.99	19.03						

COMBINATION

STRAIGHT:		12.46	18.65	25.67	46.93	59.81	145.54			
RED.	1 SIZE		13.97	19.03	44.28	52.49	97.08			
	2 SIZES			14.95	41.06	43.07				
	3 SIZES				36.23	41.06	72.77			
	4 SIZES					38.64				
W/2" SIDE INLET			20.61	30.43						
SHORT COMBINATION:			22.42	25.44						
RED. ON MAIN: 4x3x4"				25.29						

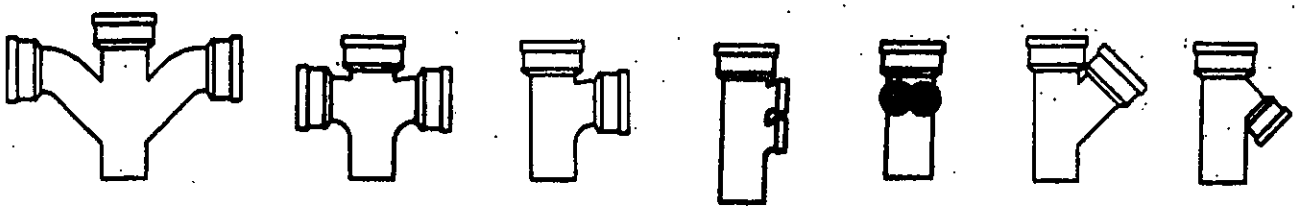
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

AREA: 46

NOTE: EXTRA HEAVY MATERIAL AVAILABLE WHEN REQUIRED

CRANE SUPPLY COMPANY

2302	SERVICE SOIL FITTINGS	Revised: 4-1-81 Replacing: 8-1-80	2302



DOUBLE COMBINATION

	2"	3"	4"	5"	6"	8"	10"	12"	15"
STRAIGHT:	20.76	27.33	35.94		124.37				
RED. 1 SIZE		23.10	31.33						
2 SIZES			21.82		70.04				

CROSSES

STRAIGHT	16.16	20.23	26.58						
SANITARY	12.08	19.93	26.73	45.97	60.78	129.44			
SANITARY TAPPED	12.08	14.12	19.40						
SANITARY: REDUCING									
1 SIZE		16.23	23.78	41.62		113.83			
2 SIZES			21.52		52.65				
3 SIZES						83.56			
4 SIZES					41.86				
W/1-2" 90° INLET		28.24	33.14						
W/2-2" 90° INLET		31.86	36.54						

TEES

STRAIGHT	10.72	16.84	20.23	35.26	44.92	103.85			
SANITARY	7.40	16.53	18.65	35.18	42.34	112.86	179.92		
RED.: 1 SIZE		13.82	17.89	33.49	35.82	95.23			
2 SIZES			16.31	25.44	34.21	79.70	141.52	231.44	
3 SIZES					31.23	72.69			
4 SIZES					29.46		128.88		
RED. ON MAIN:			21.59						
W/1-2" 90° INLET		21.14	23.41						
W/2-2" 90° INLET		24.54	27.10						
W/1-2" 45° INLET		29.82	39.86						
SAN. TAPPED TEE	11.48	12.84	16.08						
STR. CORNER TAPPED	24.69	25.67	26.65						
DOUBLE VERT. TAP.	14.72	19.18	22.20						
DOUBLE HORIZ. TAP.		16.31	18.72						
CLEANOUT TEES:									
2-WAY C.O. W/HUB		33.07	43.79						
C.O. TEE W/PLUG	12.53	16.38	19.10	31.96	40.97				

WYES

STRAIGHT	7.32	16.53	20.46	34.62	48.78	123.97	189.66	299.78	514.96
RED: 1 SIZE		10.95	18.88	29.70	44.60	76.88	163.58	255.35	503.69
2 SIZES			15.25	25.44	31.56	70.68	108.35	204.95	492.82
3 SIZES				23.83	27.85	63.43		170.98	481.07
4 SIZES					25.92	62.47	99.26		473.82
INVERTED	9.82	17.97	26.12						
UPRIGHT		21.90	31.48						
RED. ON MAIN:			23.78						

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

AREA: 46

NOTE: EXTRA HEAVY MATERIAL AVAILAVLE WHEN REQUIRED.

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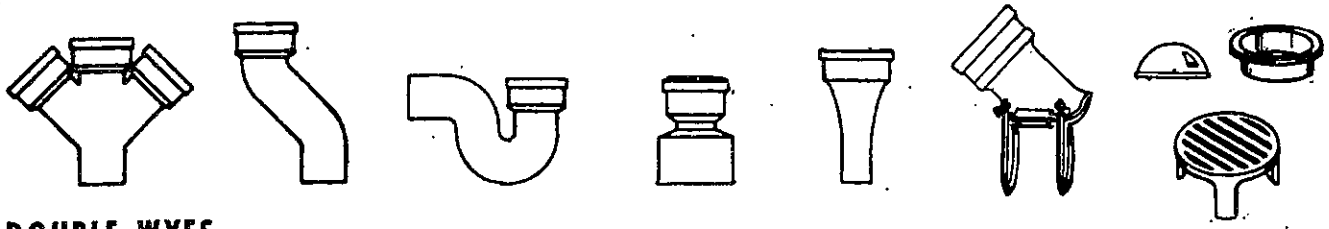
CRANE SUPPLY COMPANY

2303	SERVICE SOIL FITTINGS	Revised: 7-1-81 Replacing: 5-4-81	2303



DOUBLE WYES

	2"	3"	4"	5"	6"	8"	10"	12"	15"
STRAIGHT	13.44	22.35	30.96	49.11	65.61	177.10	249.55	359.67	912.47
RED.: 1 SIZE		19.78	24.31	43.47	58.93	123.08	202.54		
2 SIZES			23.41	34.62	57.88				
3 SIZES					44.11	122.12			
4 SIZES					40.17		129.20		

OFFSET

4"	9.29	16.16	18.12						
8"	10.49	20.69	20.69						
12"	19.48	28.99	38.51						

TRAPS

"P": REGULAR	10.80	13.44	21.59	46.85	62.95	172.59	299.70		
12" LONG	14.87								
16" LONG									
18" LONG	15.48								
24" LONG									
DEEP SEAL	12.99	24.01	35.11						
TAP. 1-1/2" INLET	13.44								
RUNNING TRAPS	13.21	18.04	34.43		79.86				
W/DOUBLE VENT		30.50	37.37		107.23				
W/SINGLE VENT		25.59	33.30		81.71				

REDUCERS

1 SIZE		6.49	6.80	10.63	13.52	29.62	35.18	77.28	143.29
2 SIZES			6.64	11.03	12.48	29.30	33.97	74.46	137.41
3 SIZES				10.14	11.35	28.98	31.48	72.21	133.07
4 SIZES					10.38	27.77	30.43		127.19

INCREASERS

1 SIZE	8.46	12.08	14.12	28.34	46.21	76.96	127.75	178.55	
2 SIZES	11.48	13.29	15.86	45.08	64.08				
3 SIZES	12.46	14.95	35.86						
4 SIZES									

MISCELLANEOUS FITTINGS

SADDLE: WYE	11.40	14.35	15.55						
TEE	7.17	7.70	10.12						
DOUBLE HUB FTG.:	6.19	9.44	10.72	14.09	16.74	48.46	85.65	122.20	188.21
SLEEVES:	5.81	7.78	10.19	12.96	24.47				
BLIND PLUGS:	2.42	3.62	4.38	6.36	8.05	20.61	28.18	37.59	76.39
GRATE: W/LEGS	2.27	3.32	6.64	9.50	10.79				
L/LEGS	2.04	2.49	4.91	7.89	10.71	19.88			
VENT CAPS:	3.85	4.98	8.91	12.96					
GASKETS:	1.97	2.65	3.34	5.22	5.47	12.14	18.73	23.95	28.22
LUBRICANT								QUART	5.99

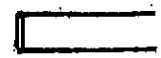
ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

AREA: 46

NOTE: EXTRA HEAVY MATERIAL AVAILABLE WHEN REQUIRED.

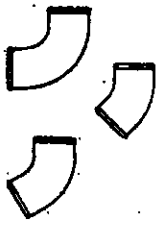
CRANE SUPPLY COMPANY

2304 — NO HUB PIPE & FITTINGS — Revised: 4-1-81 Replacing: 8-1-80 — 2304



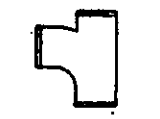
PIPE

(PER FOOT)	1-1/2"	2"	3"	4"	5"	6"	8"	10"
5' LENGTH	3.04	3.16	3.80	5.50	7.89	9.93	15.77	
10' LENGTH	2.89	3.01	3.62	5.24	7.50	9.44	15.01	24.92



BENDS

1/4	4.17	4.32	5.68	7.42	19.03	20.69	37.73	
1/5		4.17	5.15	7.04				
1/6		4.17	4.92	6.59				
1/8	3.26	3.33	4.77	6.36	12.08	14.07	32.36	62.23
1/16	3.03	3.26	4.09	5.00	9.52	14.81	18.12	
1/4 W/2" HEEL INLET			9.01	10.83				
1/4 W/2" SIDE INLET			10.30	12.04				
1/4 DOUBLE		6.29	9.09	13.18				
1/4 TAPPED	3.71	4.92						
1/4 12" LONG		5.38	11.29	18.10				
1/8 12" LONG		6.67	9.17	11.21				
SHORTSWEEP		5.45	7.35	10.76	19.53	23.34	56.19	98.80
LONGSWEEP	7.27	7.95	8.71	15.83	28.96	36.58	73.65	



TEES

SANITARY:	5.45	6.06	7.58	10.38	27.47	33.02	82.92	
REDUCING: 1 SIZE		5.98	6.51	8.94	20.11	30.62		
2 SIZES			6.44	8.26	18.70	23.34	58.92	
3 SIZES					18.37	20.19	55.44	
W/1-2" 90° SIDE IN.			12.04	14.92				
W/2-2" 90° SIDE IN.			16.59	19.54				
TAPPED SAN. TEES:								
REGULAR 1-1/2" TAP	5.00	5.08	5.98	7.58	13.41	16.05		
2" TAP		5.83	6.67	8.33		16.96		
HORIZ. TWIN TAP 1½"			9.62	10.91				
DBL. VERTICAL 1½"		9.01						
CORNER TAP 1-1/2"		9.92						
TEST & CLEANOUT TEES:								
TEST TEE L/PLUG		5.45	8.71	11.82	24.66	29.13	64.96	
SAME–REDUCING				11.67				
2-WAY CLEANOUT			25.00	33.33				

WYES

REGULAR	5.61	5.98	7.42	10.61	27.47	33.76	65.70	141.83
REDUCING: 1 SIZE			6.44	9.17	20.11	27.72	46.67	
2 SIZES				7.88	18.70	21.60	43.77	
3 SIZES					17.05	20.19	38.07	
4 SIZES						18.04	35.25	
5 SIZES							29.54	
W/1-2" SIDE INLET			11.89	15.07				
UPRIGHT		6.89	8.79	14.77	34.01			
REDUCING 1 SIZE			7.80	11.67				
2 SIZES				8.94	30.04			
DOUBLE		7.35	9.39	15.60		51.72	95.49	
REDUCING 1 SIZE			8.79	11.36	37.24			
2 SIZES				9.39		42.86		
TAPPED REG. 1-1/2"		6.14	7.20	9.47				
2"		6.82	7.58	9.92				
TAPPED DBL. 1-1/2"		7.42	8.56					
2"			10.00					

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

AREA: 46

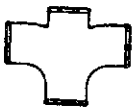
6v

CRANE SUPPLY COMPANY

2305 — NO HUB FITTINGS — Revised: 5-4-81 Replacing: 8-1-80 — 2305

COMBINATIONS

		1-1/2"	2"	3"	4"	5"	6"	8"	10"
REGULAR		5.53	6.29	8.94	14.77	36.74	44.77	89.45	
REDUCING	1 SIZE		5.91	6.89	11.51	26.65	37.40	64.55	
	2 SIZES				9.70	25.16	29.71		
	3 SIZES					21.10	26.15	50.48	
DOUBLE COMB.			8.56	12.12	26.29				
REDUCING	1 SIZE			9.62	15.45				
	2 SIZES				12.73				



SANITARY CROSS

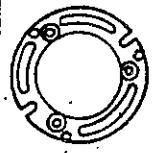
REGULAR			7.65	9.54	14.77				
REDUCING	1 SIZE			8.94	11.97				
	2 SIZES				11.06		29.71		
TAPPED	1-1/2"	7.12	7.27	7.95	9.39				
	2"		8.03	9.09	10.45				

TRAPS

REGULAR 'P'	5.45	5.61	8.86	16.29		56.19		
W/1½-2" TAP INLET	6.21	6.59						
LONG 'P' 18"		12.50						
DEEP SEAL 'P'		9.92	15.98					

SHORT REDUCER

1 SIZE		2.65	2.73	3.79	6.21	10.01	18.95	40.96
2 SIZES				3.18	5.88	9.68	18.04	32.77
3 SIZES					5.54	9.27	16.88	
4 SIZES						9.02	15.97	30.45
5 SIZES							14.81	



CLOSET COLLARS

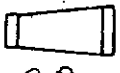
4 x 3 x 3-1/2"				4.62				
4 x 3 x 5-1/2"				6.36				
4 x 4 x 4"				5.68				

EXTENSIONS & FERRULES

12" TAP EXTENSION		7.12	9.39					
FERRULE L/PLUG		2.88	3.26	4.55	9.10	10.92	16.22	

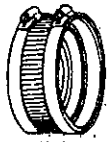
ADAPTERS & PLUGS

1-1/2"	TAPPED	2.73	2.88	3.18				
2"	TAPPED		3.11	3.26				
2-1/2"	TAPPED							
3-1/2"	TAPPED							
4"	TAPPED							
5"	TAPPED							
HUB ADAPTER			3.18	4.01	5.53			
BLIND PLUG		1.14	1.44	2.05	2.80	4.63	7.61	13.74	25.90



INCREASERS

2 x				4.32	5.76			
3 x					6.51			



COUPLINGS

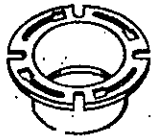
STRAIGHT	3.34	3.42	3.93	4.70	11.37	11.97	22.58	32.84
REDUCING		3.93	6.24	8.21				

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

AREA: 46

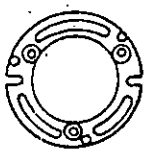
CRANE SUPPLY COMPANY

2306 | **SOIL SPECIALS** | Revised: 6-15-81 Replacing: 4-29-81 | 2306



CLOSET COLLARS

4 x 1"	SLIP TYPE	C.I.	5.31
4 x 1-1/2"	SLIP TYPE	C.I.	5.31
4 x 2"	SLIP TYPE	C.I.	6.57
4 x 2-1/2"	SLIP TYPE	C.I.	6.66
4 x 3"	SLIP TYPE	C.I.	8.97
4 x 4"	SLIP TYPE	C.I.	10.86
4 x 5"	SLIP TYPE	C.I.	12.12
4 x 6"	SLIP TYPE	C.I.	14.34
4x3x3"	REDUCING	C.I.	6.36
4 x 2"	1" OFFSET	C.I.	12.72
4 x 4"	2" OFFSET	C.I.	24.48
4"	BRASS, REGULAR		30.30
4"	BRASS, OFFSET		30.93

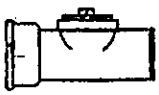


IRON BODY FERRULES

SERVICE WEIGHT:			
2"	W/1-1/2" TAP	L/PLUG	3.17
3"	W/2-1/2" TAP	L/PLUG	5.33
4"	W/3" TAP	L/PLUG	6.55
4"	W/3-1/2" TAP	L/PLUG	6.89
5"	W/4" TAP	L/PLUG	8.30
6"	W/5" TAP	L/PLUG	14.29
8"	W/6" TAP	L/PLUG	21.74
10"	W/6" TAP	L/PLUG	34.22
12"	W/6" TAP	L/PLUG	45.63
15"	W/6" TAP	L/PLUG	95.45

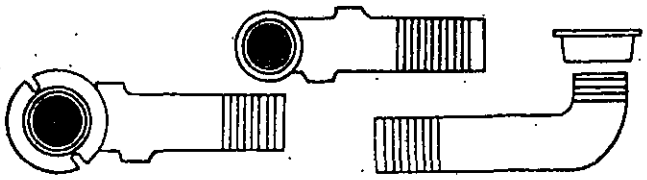
EXTENDED I.B. FERRULES

SERVICE WEIGHT:			
2 x 12"	1-1/2"	TAP	7.22
3 x 12"	3"	TAP	15.53
4 x 12"	3-1/2"	TAP	21.87



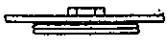
TEST TEES (L/BRASS PLUG)

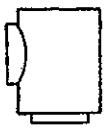
2"	WITH 2"	TAP	13.03
3"	WITH 3"	TAP	24.17
4"	WITH 4"	TAP	28.15
5"	WITH 5"	TAP	38.48
6"	WITH 6"	TAP	48.47
8"	WITH 8"	TAP	92.48
10"	WITH 10"	TAP	290.93

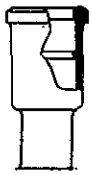


CLOSET BENDS

SIZE INCHES	SLIP PLAIN	HUB PLAIN	ADD FOR 90° TAP
3x4x12x16"	25.65		
3x4x16x16"	28.49	25.65	EA. 8.10
4x4x12"	17.15	22.28	ADD FOR 45° TAP
4x4x14"	20.59	23.96	
4x4x16"	25.65	27.41	EA. 10.13
4x4x18"	29.09	30.85	
4x6x12"	18.83		TAPPED BENDS ARE
4x6x14"	22.28		TAPPED 1-1/2" OR
4x6x18"	30.85		2" RIGHT, LEFT OR
4x8x18"	27.41		RIGHT AND LEFT,
4x10x14"	25.65		SPECIFY
4x10x18"	32.54		







DRUM TRAPS

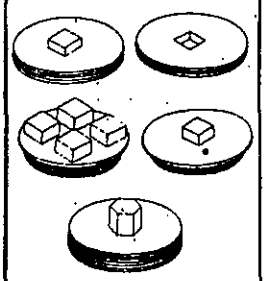
SIZE	TAP	
4x5	1-1/2 OR 2"	11.21
4x8	1-1/2 OR 2"	12.74
6 C.P. COVER		11.72
C621 CP EXT. COVER		5.01
BOLT ONLY		1.07

BACKWATER VALVES

PALMER TYPE:	
2"	50.63
4"	60.35
6"	80.33

KAFER & SISSION FITTINGS

KAFER:	2"	3"	4"
STRAIGHT	24.12	29.22	34.50
TEE 4" x	52.77	57.06	58.47
WYE 4" x	56.70	58.65	61.80
SISSION:	16.92	23.82	31.95



PLUGS ONLY FOR CLEANOUT PLUGS & TEST TEES

BRASS:		1-1/2"	2"	2-1/2"	3"	3-1/2"	4"	5"	6"	8"
9020	DETROIT, HY.SQ. HEAD	2.25	3.38	5.25	6.98	8.93	7.35	19.20	25.28	
9050	MINNEAPOLIS, LUG HD.	6.68	8.40	12.00	12.00	15.23	18.00	24.38	36.90	
9062	NEW ORLEANS, FLGD.	3.53	5.85	6.08	7.58	9.15	11.70	16.05	30.75	
9070	NEW YORK, SLD. HEX	5.40	5.93	6.60	7.58	8.48	10.20	15.38	29.63	
9080	OHIO, HIGH HEX	2.70	3.00	3.75	5.25	5.78	7.80	11.25	22.43	
9090	SOUTHERN, LOW SQ.	1.73	2.03	2.25	3.00	4.73	4.88	7.88	14.78	22.43
9091	SOUTHERN, COUNTERSK.	2.25	2.40	3.15	3.75	5.10	6.68	8.93	14.48	32.18
PLASTIC:										
60311	ABS. SQ. HEAD	.55	.61		.97	2.14	2.02		7.38	
FIT-ALL:										
8260	LEAD FIT-ALL				8.76	9.24	11.04			

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

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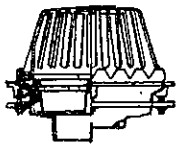
CRANE SUPPLY COMPANY

2307 | **WADE DRAINS & SPECIALTIES** | Revised: 7-26-79 Replacing: 7-1-79 | 2307

Wade

DRAINS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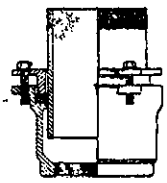
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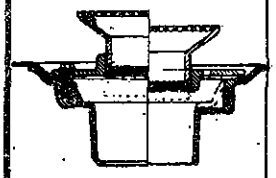
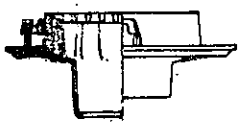
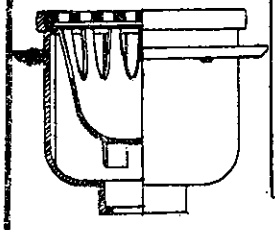
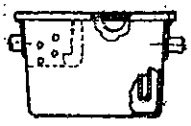

W1100

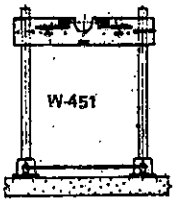

W-1430



W-3500 ROOF DRAIN:		
2–3–4"	16-3/8"	90.09
5–6"	18-1/2"	128.70
8"	19-1/2"	167.51
W-3220 ROOF DRAIN		
2"	13"	85.80
3"	13"	85.80
4"	13"	85.80
5"	13"	85.80
6"	13"	85.80
W-3900 EXPANSION JOINTS:		
2"		90.09
3"		96.53
4"		109.40
5"		158.73
6"		167.48
8"		321.75
W-1100 SHOWER DRAIN:		
2–3"	5"	65.51
3–4"	6"	79.86
3–4"	7"	93.73
3–4"	8"	115.83
W-1120 COMB. DRAIN & TRAP:		
2–3"	5"	116.99
2–3"	6"	131.34
3"	7"	144.21
3"	8"	167.31
4"	6"	176.39
4"	7"	189.26
4"	8"	212.36
W-1430 AREA DRAIN:		
2"	9-1/8"	64.35
3"	9-1/8"	64.35
4"	9-1/8"	64.35
W-1200 FLOOR DRAIN:		
2"	12-1/2"	139.43
3"	12-1/2"	139.43
4"	12-1/2"	139.43
5"	12-1/2"	139.43
6"	12-1/2"	139.43
8"	12-1/2"	139.43
W1240 FLOOR DRAIN WITH VERTICLE ADJUSTMENT:		
2"	12-1/2"	201.63
3"	12-1/2"	201.63
4"	12-1/2"	201.63
5"	12-1/2"	201.63
6"	12-1/2"	201.63
W-1210 FLOOR DRAIN WITH LOOSE BUCKET:		
2"	12-1/2"	205.92
3"	12-1/2"	187.20
4"	12-1/2"	187.20
5"	12-1/2"	187.20
6"	12-1/2"	187.20


W5107

W-411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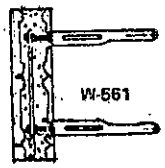
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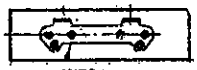
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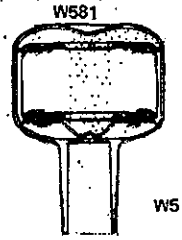
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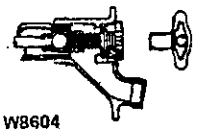
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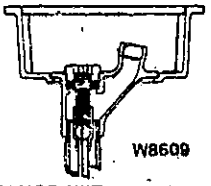
W8609

GREASE INTERCEPTORS

NO.	CAP	CONN.	
W-5107	14 LB.	2"	493.35
W-5110	20 LB.	2"	579.15
W-5115	30 LB.	2"	858.00
W-5120	40 LB.	3"	1051.05
W-5125	50 LB.	3"	1179.75
W-5135	70 LB.	3"	1458.60
W-5150	100 LB.	3"	1930.50

CARRIERS

RESIDENTIAL CLOSETS:		
W-380 NH3"	NO-HUB PIPE	102.30
W-380 P3"	PLASTIC PIPE	87.45
W-380 E3"	COPPER PIPE	87.45
W-351 NV4"	NO-HUB PIPE	184.80
COMMERCIAL CLOSET: (SINGLE ADJUSTABLE)		
W-411	W/4" IPS COUPLING	111.54
W-311	W/4" NH HORIZ FTG	199.65
W-341	W/4" NH VERT FTG	268.95
URINAL:		
W-451	W/HANGER PLATE	97.35
W-452	W/2 HANGER PLATES	108.90
LAVATORIES:		
EXPOSED ARMS:		
W-561-1	WALL TYPE	127.05
W-511-1	FLOOR TYPE	183.15
CONCEALED ARMS:		
W-571	FOR TILE WALLS	75.90
W-572	FOR BLOCK WALLS	59.40
W-521	FLOOR TYPE	128.70
STEEL WALL HANGER SUPPORTS:		
W-581-B	FOR TILE WALLS	26.40

SHOKSTOPS

W-5	3/4"	FOR 1-11 UNITS	64.35
W-10	1"	FOR 12-32 UNITS	128.70
W-20	1"	FOR 32-60 UNITS	193.05

HYDRANTS

WALL TYPE NON-FREEZE:			
W-8604	3/4 x 8"		154.44
	3/4 x 14"		167.31
	3/4 x 18"		186.62
W-8620	3/4x8"	ANTI SYPHON	195.20
	3/4x14"		208.07
	3/4x18"		227.37
W-8607	3/4x8"	W/WALL BOX	265.98
	3/4x14"	W/WALL BOX	278.85
	3/4x18"	W/WALL BOX	298.16
W-8625	3/4x8"	ANTI SYPHON	390.39
	3/4x14"	W/WALL BOX	403.26
	3/4x18"		422.57
GROUND TYPE NON-FREEZE:			
W-8609	3/4x3'	WITH BOX	343.20
	3/4x5'	WITH BOX	388.08

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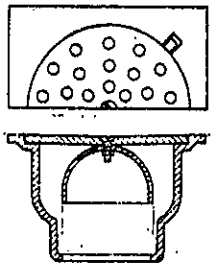
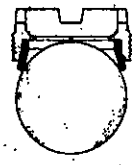
CRANE SUPPLY COMPANY



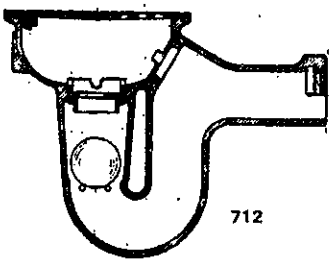
302

C.I. AREA DRAINS

HINGED COVER:		LESS BELL	WITH BELL
302-1H	6x6x2"	7.90	10.06
303-1H	9x9x3"	16.13	19.71
304-1H	12x12x4"	26.39	31.12
LOOSE COVER:			
302-1L	6x6x2"	7.76	9.92
303-1L	9x9x3"	16.00	19.58
304-1L	12x12x4"	26.33	31.05



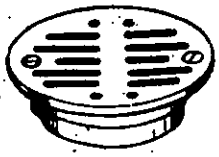
775



712

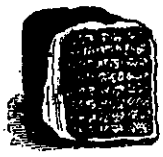
FLOOR DRAIN WITH TRAP

C.I. TOP & CONCEALED CLEANOUT LESS BACKWATER VALVE:		
712	2" SPIGOT OUTLET	29.97
713	3" SPIGOT OUTLET	45.23
714	4" SPIGOT OUTLET	67.50
775	2" BACKWATER VALVE F/ABOVE	14.24
775	3"	23.09
775	4"	23.09



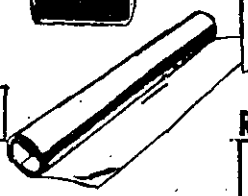
SHOWER STRAINERS

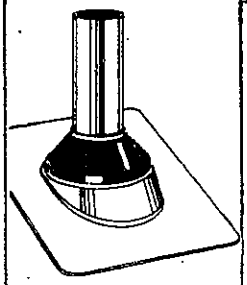
666	SS TOP 1-1/2-2 FIP	7.49
667	SS TOP 2 CAULK	10.26



OAKUM

27"	CUT TREATED		
5 LB.	BOX		10.50
50 LB.	BOX		102.00
TARRED:			
60 LB.	8 STRAND		102.00
DRY WHITE:			
27"	CUT LGTH No. 5 BAG		
		3/8" DIA.	12.30
200'	BOX	3/8" DIA.	21.45
1000'	CARTON	3/8" DIA.	109.50
160'	BOX	1/2" DIA.	21.45
800'	CARTON	1/2" DIA.	109.50





SOLDER

(SUBJECT TO MARKET CHANGES) WIRE:			P/LB. PRICE
	50/50	1 LB.	13.77
		5 LB.	13.62
		25 LB.	13.47
		50 LB.	13.17
	95/5	1 LB.	24.51
		55 LB.	24.36
BAR:	50/50	1 LB.	13.62
WIPING:	60/40	3 LB.	15.78
FLUX SOLDER		1 LB.	25.53

FLUXES

PASTE:		
NO-KORODE	1.7 OZ.	1.11
	1 LB.	6.15
LACO:		
FLUXSTIK		1.14
OATEY:		
11 LIQUID FLUX	4 OZ.	4.08

SANDCLOTH

10 YARD ROLL	9.08
25 YARD ROLL	20.10

BRUSHES

COPPER FITTINGS:		
3766	1/2"	2.97
3767	3/4"	3.54
3768	1"	3.69
3758	1-1/4"	3.69
3759	1-1/2"	3.87
ACID:		
NO. 2	1/2"	.20

LEAD GOODS

CAULKING LEAD	P/100	243.00
LEAD WOOL	5 LB.	20.55
SHEET LEAD:		
FULL ROLL	P/LB.	2.85
CUT ROLL	P/LB.	3.00

ROOF FLASHINGS

PIPE SIZE		GALV. LEAD COLLAR	REG. FLAT LEAD	ALUM. NO CAULK
1-1/4"	EACH	8.58	11.70	5.70
1-1/2"	EACH	8.58	11.70	5.70
2"	EACH	9.03	13.05	6.06
3"	EACH	10.74	14.55	6.75
4"	EACH	11.61	15.90	8.25
HI-BOOT LEAD ADJUSTABLE:		2-1/2" LBS.	3 LBS.	4 LBS.
1-1/4"		9.90	13.62	15.72
1-1/2"		10.44	14.13	16.23
2"		10.95	15.72	17.82
3"		14.13	20.82	23.85
4"		16.74	23.85	29.43

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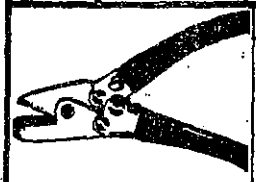
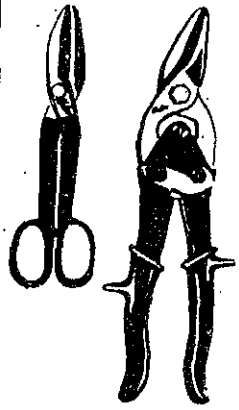
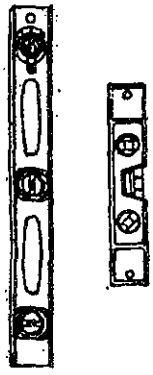
CRANE SUPPLY COMPANY

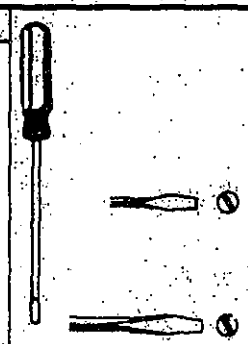
2401 | **MALCO TOOLS** | Revised: 1-30-81 Replacing: 9-2-80 | 2401

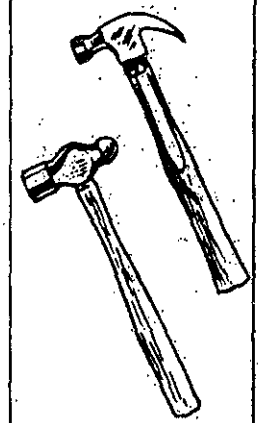


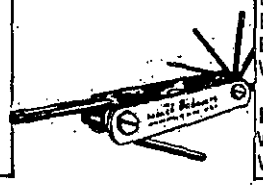




NO.	DESCRIPTION		EACH
SHEET METAL TOOLS:			
C-1	HAND CRIMPER		20.94
SC-1	SINGLE CRIMPER		13.47
SL-1	SNAP-LOCK PUNCH		40.38
SL-2	SNAP-LOCK PUNCH		23.94
N-1	HAND NOTCHER		41.97
S-2	HAND SEAMER		52.05
T-88	TAKE-OFF TOOL		28.83
M-9	REG. PATT. SNIPS		28.32
M-29	COMB. PATT. SNIPS		18.36
M-15	BULLDOG COMB. SNIPS		50.07
M-12	ANDY SNIPS		26.97
M-14	ANDY SNIPS		30.84
1-R	RIGHT HAND SNIPS		17.88
2-R	LEFT HAND SNIPS		17.88
3-R	COMBINATION SNIPS		17.88
4-R	DBL. CUT SNIPS		21.42
FOLDING TOOLS:			
(24 TO 30 GA. MILD STEEL)			
8	2-3/4 x 8"	EACH	7.77
12	2-3/4 x 12"	EACH	10.32
2-DH	DUCT HOLDER		17.58
T-99	TAP-IN SEAMER		62.88
HC-1	HOLE CUTTER		57.00
DS-1	DUCT STRETCHER		17.34
SHEETMETAL DRILLS:			
(DOUBLE ENDER)			
	DIAM.	LGTH.	
DE	7/64"	1-13/16"	2.04
DE	1/8"	2"	2.13
DE-30	NO. 30	2"	2.13
DE	9/64"	1-15/16"	2.13
DE	5/32"	2-1/16"	2.37
DE	3/16"	2-3/16"	3.27
DE	7/32"	2-3/8"	4.23
DE	1/4"	2-1/2"	5.04
12 PACK DRILLS:			
PFS	7/64"	1-13/16"	1.14
PFS	1/8"	1-7/8"	1.23
PFS	NO. 30	1-15/16"	1.38
PFS	9/64"	1-15/16"	1.41
PFS	5/32"	2-1/16"	1.53
PFS	3/16"	2-3/16"	1.98
PFS	7/32"	2-3/8"	2.49
PFS	1/4"	2-1/2"	2.82
ALUMINUM LEVELS:			
L18AT	18"	3 VIALS	20.97
L24AT	24"	3 VIALS	23.73
L48AT	48"	4 VIALS	46.77
L-3	LINE LEVEL		3.72
L-9	9" LEVEL		13.32
L-9M	9" MAG. LEVEL		17.61
BIG RED TOOL BOXES:			
1601	19 x 7 x 7-1/2"		37.11
1602	18 x 8 x 9"		43.02
1603	20 x 8-1/2 x 9-1/2"		48.69
1604	24 x 9-1/2 x 9-1/2"		83.16







NO.	DESCRIPTION		EACH
SCREWDRIVERS, SUPER STRENGTH:			
(REGULAR ROUND)			
K-41	1/4x1-1/2"	3-1/4"	3.15
K-44	1/4x4-1/2"	8"	4.71
K-56	5/16x6-1/2"	10-3/4"	5.94
K-68	3/8 x 9"	13-1/2"	7.41
K-610	3/8 x 11"	15-1/2"	8.55
(SQUARE SHANK)			
S-44	1/4x4-1/2"	8"	5.04
S-56	5/16x6-1/2"	10-3/4"	6.66
S-68	3/8 x 9"	13-1/2"	8.49
S-612	3/8 x 12"	17-1/2"	10.95
(ELECT. OR CABINET)			
	BLADE SIZE,	OVERALL	
K1/8C2	1/8 x 2"	4"	1.53
C-33	3/16x3-1/4"	6-1/2"	3.87
C-36	3/16 x 6"	9-1/4"	4.41
C-45	1/4x5-1/4"	9"	4.89
C-48	1/4x8-1/4"	12-1/4"	5.37
(PHILLIPS HEAD)			
P-33	13/16 x 3"	6-1/4"	4.14
P-42	2-1/4x4-7/8"	3-1/2"	4.41
P-44	2-1/4x4-1/2"	8-1/4"	5.25
(GIANT GRIP)			
GK-44	1/4 x 4-1/4"	8-1/2"	6.06
GK-56	5/16x6-1/2"	11"	7.23
GK-68	3/8 x 9"	14"	8.67
GK610	3/8 x 11"	16"	9.90
(SQUARE SHANK)			
GS-44	1/4x4-1/2"	8-1/2"	6.21
GS-56	5/16x6-1/2"	11"	9.30
GS-68	3/8 x 9"	14"	11.82
(GIANT GRIP STUBS)			
GP-42	1/4 x 1-7/8"	6"	5.19
GK-42	1/4 x 1-1/2"	5-3/4"	4.32
HAMMERS:			
(METAL HANDLE)			
16-SC	16 OZ. CLAW		28.05
16-CC	16 OZ. CLAW		28.05
20-SC	20 OZ. CLAW		32.04
20-CC	20 OZ. CLAW		32.04
12-BP	12 OZ. BALL PEIN		24.87
16-BP	16 OZ. BALL PEIN		26.01
RH-4	RIVETING HAMMER		31.89
RH-4B	RIVETING HAMMER		30.93
SH-3	SETTING HAMMER		33.00
SH-3B	SETTING HAMMER		32.07
(WOOD HANDLE)			
2-RW	RIVETING HAMMER		21.15
3-RW	RIVETING HAMMER		19.17
2-SW	SETTING HAMMER		21.84
3-SW	SETTING HAMMER		20.37
BP-8W	8 OZ. BALL PEIN		16.92
BP12W	12 OZ. BALL PEIN		18.27
BP-16W	16 OZ. BALL PEIN		19.11
BP20W	20 OZ. BALL PEIN		21.12
BP24W	24 OZ. BALL PEIN		23.01
WH-23	WOOD HANDLE		5.40
HEX KEY WRENCHES:			
W-1-9	9 SIZE SET		5.28
W-6	SAME, 6" LONG		11.61

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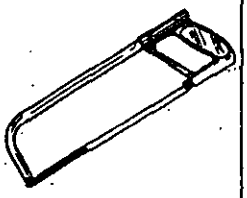
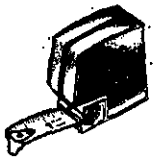
SAWS & BLADES

MALCO:				EACH
	DBL. INSULATED 0 TO 2400 SPM ADJUSTABLE TRIGGER SPEED, LIGHT WEIGHT HOUSING WITH HEAVY DUTY MOTOR.			
RS-65	SAW ONLY			384.57
RS-65 KIT	INCLUDES RS-65 SAW, BLADES, CARRY CASE, WRENCH AND HOLDER			425.04
BLADES FOR ABOVE:				
	TEETH	LGTH.	PACK	P/PACK
4-KH7	7	6"	5	8.94
3-S-6	6	4-3/4"	5	10.32
4-S-6	6	6"	5	12.48
3-HD8	8	4-3/4"	10	8.67
4-HD8	8	6"	10	10.02
3-TF18	18	4"	10	13.02
4-TF18	18	6"	10	21.15
2-MS24	24	3"	10	11.13
2-MC18	18	3"	10	10.83
3-MC18	18	4"	10	13.02
4-MC24	24	6"	10	21.15

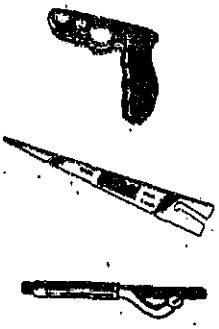
HACK SAWS:				EACH
HS-65	HEAVY DUTY			25.14
HACK SAW BLADES:				
HIGH SPEED FLEXIBLE MOLY:				
1214-F	12"	14 TEETH		1.84
1218-F	12"	18 TEETH		1.84
1224-F	12"	24 TEETH		1.84
1232-F	12"	32 TEETH		1.84
1018-F	10"	18 TEETH		1.66
1024-F	10"	24 TEETH		1.66
1032-F	10"	32 TEETH		1.66
GENERAL PURPOSE:				
1218-S	12"	18 TEETH		.68
1224-S	12"	24 TEETH		.68
1232-S	12"	32 TEETH		.68
1018-S	10"	18 TEETH		.65
1024-S	10"	24 TEETH		.65
1032-S	10"	32 TEETH		.65





TAPES & RULES

TRU-LOK:		
3-L-10	3/4 x 10' WHITE	14.88
3-L-12	3/4 x 12' WHITE	15.78
LONG TAPES:		
M-50	3/8 x 50' BLADE	17.70
M-100	3/8 x 100' BLADE	25.50
M-100RB	3/8 x 100' REFILL	17.10
FOLDING RULES:		
906	OUTSIDE READ	12.99
606-F	INSIDE READ	12.99
X-266	EXTENSION	19.41



COMPASS SAWS

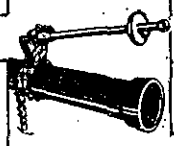
MALCO:		EACH
HANDLES ONLY:		
CH-P	PLASTIC	5.40
CH-W	WOODEN	5.52
BLADES ONLY:		
14-CS	14" PROFESSIONAL	6.67
12-CS	12" PROFESSIONAL	6.36
MINI-SAWS:		
MS-65	W/1 STANDARD BLADE	6.81

CUTTING OIL

RIDGID:	DARK	CLEAR
1 QT. THREAD OIL	7.23	8.04
1 GAL. THREAD OIL	14.37	16.08
5 GAL. THREAD OIL	61.32	70.44
30 GAL. THREAD OIL	311.25	355.86
55 GAL. THREAD OIL	479.79	548.64

SHOVELS & SPADES

RIDGID:		
170	LONG HANDLE ROUND 8-5/8 x 11-1/2"	26.49
171	LONG HANDLE SQUARE 9-3/4 x 12"	27.45
172	'D' HANDLE ROUND 8-5/8 x 11-1/2"	27.75
173	'D' HANDLE SQUARE 9-3/4 x 12"	27.75
174	'D' HANDLE DRAIN 5-1/2 x 14"	28.50
175	'D' HANDLE POST 5-1/2 x 16"	26.49



SOIL PIPE TOOLS

RIDGID:		
228	PIPE PULLER	452.82
246	PIPE CUTTER 6"	452.25
WHEELER:		
522	PIPE CHAIN 6"	167.63
590-6	PIPE CUTTER 6"	447.75

SAFETY CAPS & ACCESSORIES

C2-A	SAFETY CAP	8.55
C-A	REPLACEABLE SUSPENSION	2.46
E2-A	ELECTRICAL CAP	9.63
C-A	REPLACEABLE SUSPENSION	2.46
C-2	CHIN STRAP	2.04
H-2	BUMP CAP	5.76
H-20A	REPLACEABLE SUSPENSION	4.32

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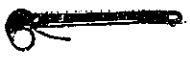
CRANE SUPPLY COMPANY

2403 | **RIDGID TOOLS** | Revised: 9-1-80 Replacing: 2-1-80 | 2403

WRENCHES

SIZE	STRT.	END	ALUM.
6"	15.87	15.87	
8"	18.57	18.57	
10"	24.54	24.54	36.24
12"	28.80	28.80	
14"	33.04	33.09	48.93
18"	46.92	46.92	60.99
24"	73.92	73.92	96.87
36"	156.15	156.15	166.62
48"	235.47		328.83

CHAIN WRENCHES:		
C-14	2" HEAVY DUTY	52.20



STRAP WRENCH:		
2	WITH 17" STRAP	30.27

SPUD WRENCH:		
12"		33.09

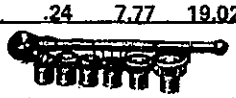
HEX WRENCH:		
11	STRAIGHT	20.13
17	STRAIGHT	42.09
25	STRAIGHT	71.22
E-110	OFFSET	26.88

ADJUSTABLE WRENCH:

WRENCH NO. CHROME	WRENCH NO. BLACK	SIZE	CAP	EACH CHROME	EACH BLACK
704	904	4"	1/2"	14.40	11.04
706	906	6"	3/4"	14.64	11.13
708	908	8"	15/16"	16.44	13.95
710	910	10"	1-1/8"	20.70	17.10
712	912	12"	1-5/16"	30.84	25.44
715	915	15"	1-11/16"	46.59	41.85

WRENCH PARTS:

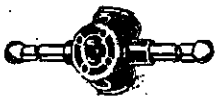
LGTH	MALL HDL	ALUM HDL	HOOK JAW	HEEL JAW	PIN ONLY	COIL & SPRING	NUT
6"	14.51		6.99	3.72	.24	2.37	2.25
8"	17.21		7.32	4.29	.24	2.37	2.25
10"	21.94	32.85	10.14	6.30	.24	2.37	2.25
12"	26.10		11.49	6.99	.24	2.37	2.37
14"	30.94	46.13	14.85	6.99	.24	3.15	2.94
18"	44.21	57.71	20.49	7.32	.24	5.97	4.29
24"	66.71	90.00	31.29	7.77	.24	6.30	5.97
36"	124.88	141.53	61.20	10.02	.24	6.75	10.02
48"	208.13	306.68	97.98	18.90	.24	7.77	19.02

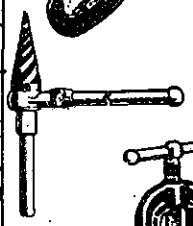


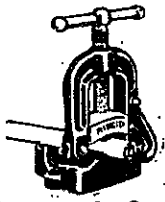
DROP HEAD RATCHET THREADERS

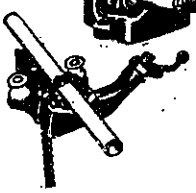
00-R	COMPLETE WITH 3/8" TO 1" DIES	263.49
111-R	COMPLETE WITH 3/8" TO 1-1/4" DIES	377.22
12-R	COMPLETE WITH 1/2" TO 2" DIES	608.85
0-R	COMPLETE WITH 1/4" TO 1" DIES	342.45
11-R	COMPLETE WITH 3/8" TO 1-1/4" DIES	401.97

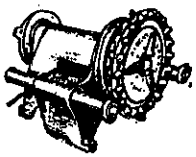
PIPE DIES ONLY			DIE HEAD COMPLETE – ALLOY DIES				
SIZE	ALLOY	S.S.	00-R	111-R	12-R	0-R	11-R
1/8"	39.03	43.20	57.27	65.13	74.94	58.74	69.42
1/4"	39.03	43.20	57.27	65.13	74.94	58.74	69.42
3/8"	39.03	43.20	57.27	65.13	74.94	58.74	69.42
1/2"	39.03	43.20	57.27	69.42	80.43	58.74	69.42
3/4"	39.03	43.20	57.27	69.42	80.43	58.74	69.42
1"	46.02	51.54	61.77	71.43	102.15	65.13	71.73
1-1/4"	46.02	51.54		71.43	102.15		71.73
1-1/2"	51.54	64.02			112.62		
2"	51.54	64.02			112.62		
RATCHET & HANDLE			47.82	49.05	62.22	62.34	77.28

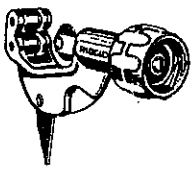


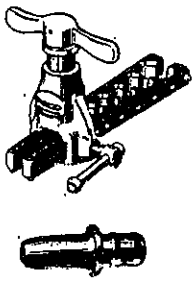












THREADERS

3-WAY PIPE THREADER:		
31-A	1/2, 3/4, 1"	197.10
1" TO 2" RATCHET THREADER:		
65-RTC	1" TO 2"	512.88
65-R	DIES ONLY	62.22

PIPE CUTTERS

1-A	1/8 – 1-1/4"	100.23
2-A	1/8 – 2"	133.65
3-S	1 – 3"	221.73
4-S	2 – 4"	335.58
6-S	4 – 6"	482.40

REAMERS

2-S	1/8 – 2"	173.94

VISES

TRISTAND W/VISE:		
40-A	YOKE 1/8 – 2-1/2"	422.88
450	CHAIN 1/8 – 5"	429.09
BENCH:		
22	YOKE 1/8 – 2-1/2"	139.38
23	YOKE 1/8 – 3"	189.57
BC-210	CHAIN 1/8 – 2-1/2"	92.13
BC-410	CHAIN 1/8 – 4"	177.63
BC-510	CHAIN 1/8 – 5"	237.84
BC-610	CHAIN 1/4 – 6"	324.45
BC-2A	CHAIN 1/8 – 2"	87.99

POWER DRIVE & ACCESS.

300	POWER DRIVE ONLY	2144.04
1206	STAND FOR ABOVE	282.24
311	CARRIAGE	293.76
312	CARR. FEED LEVER	66.36
341	REAMER 1/8 – 2"	148.08
360	CUTTER	166.08
UNIVERSAL DIE HEAD ONLY		315.48

OILER

318	WITH 1 GALLON OIL	230.97

TUBING CUTTERS

105	1/8 – 1-1/8"	34.89
205	1/4 – 2-3/8"	72.57
10	1/8 – 1"	27.45
15	3/16 – 1-1/8"	34.89
20	5/8 – 2-1/8"	63.12
30	1 – 3-1/8"	91.47
40	2 – 4-1/8"	120.93

FLARING TOOLS

457	7 SIZES	106.98
459	9 SIZES	114.75
HAMMER TYPE:		
E-37	3/8"	7.20
E-45	1/2"	7.20
E-47	3/4"	12.15
E-52	1"	15.30
E-61	1-1/4"	25.89
E-63	1-1/2"	34.65
E-64	2"	54.90

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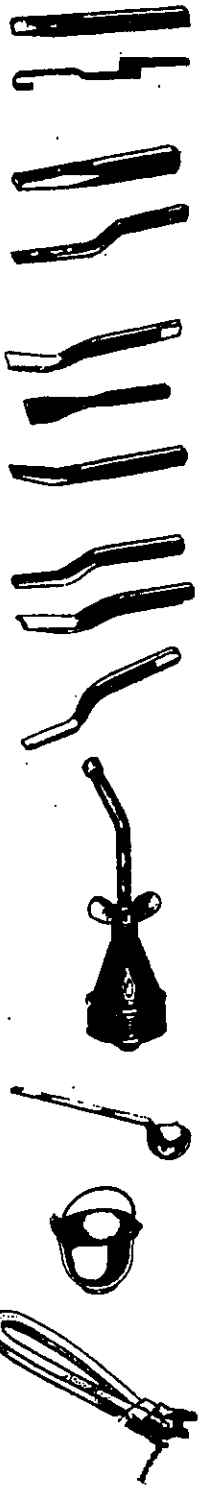


MEPHISTO CAULKING TOOLS

		EACH
11104	1/2x6½" COLD CHISEL	4.29
11105	5/8x7" COLD CHISEL	4.35
11106	3/4x7½" COLD CHISEL	5.40
30001	5/8x14" CEILING IRON	15.57
30008	5/8x6½" SHORT IRON	5.79
30009	5/8x4½" INSIDE IRON	4.95
30010	5/8x4½" OUTSIDE IRON	4.95
30026	5/8x9" PACKING IRON	5.94
30027	5/8x10" PACKING IRON	5.94
30030	5/8x14" PACKING IRON	7.89
30032	5/8x16" PACKING IRON	9.18
30013	5/8x8½" BROAD NOSE	6.81
11129	1/2x9" FLOOR CHISEL	6.15
11130	3/4x9½" FLOOR CHISEL	6.48
11131	1x10½" FLOOR CHISEL	7.62
11132	1¼x11" FLOOR CHISEL	8.49
30016	5/8x7" OUTSIDE IRON	5.79
30017	5/8x7" INSIDE IRON	5.79
30018	5/8x6½" INSIDE IRON	5.79
30019	5/8x6½" OUTSIDE IRON	5.79
30020	5/8x7" INSIDE IRON	5.94
30021	5/8x7" OUTSIDE IRON	5.94
30022	5/8x8" INSIDE IRON	5.94
30023	5/8x8" OUTSIDE IRON	5.94
30024	5/8x8" CURVED IRON	6.09
30037	7/8x8½" W.M. IRON	8.40
11153	3/4x12" BULL NOSE	8.31

TEST PLUGS

	WING NUT	RATCH. TYPE	RUBBER ONLY
2" SOIL	10.32	9.18	1.29
3" SOIL	12.84	11.40	2.10
4" SOIL	17.16	17.04	3.27
5" SOIL	22.20	21.06	3.93
6" SOIL	25.38	25.14	7.11

LEAD LADLES

	STEEL	IRON
3"		9.54
3-1/2"	12.00	
4"	13.68	11.85
5"		18.54

LEAD POTS

3432	5" CAST IRON	16.68
3433	6" CAST IRON	18.09
3434	8" CAST IRON	31.59

JOINT RUNNERS

3400	2" TO 4" PIPE	16.68
3401	2" TO 6" PIPE	15.87
3402	2" TO 8" PIPE	20.16

TURNER L.P. GAS TORCHES

HT-555 PENCIL TORCH KIT	22.65
LP175-5 DISPOSABLE TANK	5.43
PT-1600 1 LB. CYLINDER	6.09
LP624-2 SPARKER	2.85
LP625-2 FLINTS BOX OF 6	2.91
BURNER ASSEMBLIES:	
HT811 LG. PENCIL POINT	23.85
HT822 LG. BRUSH FLAME	23.85
BURNER TIPS & ORIFICES:	
HT603-2 STD. PENCIL POINT	7.95
HT604-2 STD. BRUSH FLAME	7.95
LEAK DETECTOR:	
LP777 HALIDE	43.73

SEWER TOOLS

CHICAGO SPECIALTY:		
CLOSET AUGERS:		
3502	3' HEAVY DUTY	23.40
3510	3' REGULAR	26.88
3511	3' STAIN. STEEL	60.48
SINK AUGERS:		
3584C	1/4" x 25' EZ-KLEEN	11.52
3588	3/8" x 25' EZ-KLEEN	18.36
3589	3/8" x 50' EZ-KLEEN	30.90
3595C	1/4" x 15' DRUM TYPE	16.68
SEWER RODS:		
3600F	1/16 x 1/2" x 25'	30.06
3601F	1/16 x 1/2" x 50'	42.00
3610F	1/8 x 3/4" x 50'	104.16
3612F	1/8 x 3/4" x 100'	176.40

FLASHLIGHTS & BATTERIES

BURGESS:		
FLASHLIGHTS:		
163	TUFFY 2 CELL	2.97
263	IND. 2 C MAGNET	8.94
767	INDUSTRIAL, 3 CELL	13.95
BATTERIES:		
D	HEAVY DUTY SUPER	.63
C	FLASHLIGHT	.63
A	INDUSTRIAL, 2F, 1-1/2 V	10.14
AA	PENLIGHT	.48
SEAL BEAM FLASHLIGHTS:		
RADAR FLOOD	TW-6F	86.85
RADAR SPOT	TW-4	39.00
RADAR SPOT	TW-3	42.00
TW-1	6V BATTERY F/ABOVE	10.95

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE.

70.

CRANE SUPPLY COMPANY

2405	NOTES	Revised: Replacing:	2405

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

CRANE SUPPLY COMPANY

2406	NOTES	Revised: Replacing:	2406

77

CRANE SUPPLY COMPANY

2407	NOTES	Revised: Replacing:	2407

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

TERMS AND CONDITIONS OF SALE

1. Prices stated herein are subject to change without notice and CRANE SUPPLY COMPANY may, in its discretion, reject any order at a price not then in effect.

2. In addition to the stated prices, the Buyer shall reimburse CRANE SUPPLY COMPANY for all sales, use, excise and retailers' occupational taxes which CRANE SUPPLY COMPANY must, at any time, either pay or collect in connection with the material sold hereunder.

3. The net amount of invoices shall be due and payable at the CRANE SUPPLY COMPANY office designated by the invoice within 30 days following end of month during which shipment was made. A 2% cash discount will be allowed on the invoice price if paid on or before the 10th of the calendar month following that in which shipment is made unless other terms are specified on the face of this order. Cash discount will be allowed on the total amount of the invoice before addition for transportation and before addition of any applicable taxes. In the event of default in payment when due of any indebtedness created by acceptance of this order, the seller (CRANE SUPPLY COMPANY) shall be entitled to a service charge of 1½% per month on any such indebtedness from the date of default plus reasonable attorney's fees should any attorney be employed to collect any such indebtedness after default, except in those states where such charge is prohibited by law, in which case, instead of a service charge, interest will be assessed at the highest legal rate. Material is subject to shipment in whole or in part at the option of CRANE SUPPLY COMPANY and each such shipment is subject to immediate invoicing.

4. All orders shall be subject to approval and acceptance by the applicable CRANE SUPPLY COMPANY Branch and whall be subject to the terms and conditions of payment as established by the CRANE SUPPLY COMPANY Credit Department.

5. Except to the extent otherwise specifically provided to the contrary on the face hereof, (1) material will be shipped by rail or other common carrier, or otherwise at the election of CRANE SUPPLY COMPANY f.o.b. point of shipment and (2) no delivery allowances will be made.

6. Delivery of material to the common carrier shall constitute delivery thereof to Buyer and thereafter material shall be at Buyer's risk. Claims for damage to or loss of material in transit shall be filed by Buyer direct with carrier. Delivery dates are estimated as closely as possible. CRANE SUPPLY COMPANY will use its best efforts to make delivery within the time specified but, in any event, CRANE SUPPLY COMPANY will not be liable for failure to meet delivery dates. All errors, clerical or otherwise, are subject to correction.

7. All claims for shortages or inaccurate filling of orders shall be made within 10 days after Buyer's receipt of the material.

8. (a) Buyer shall not return any material delivered by CRANE SUPPLY COMPANY without first obtaining CRANE SUPPLY COMPANY'S written consent.
(b) If Buyer seeks to terminate any part or all of any order prior to delivery. Buyer shall contact CRANE SUPPLY COMPANY in writing at once. In any event, no order or part thereof shall be subject to cancellation or termination by Buyer without CRANE SUPPLY COMPANY'S prior written consent.

9. "THIS IS NOT A CONSUMER WARRANTY. Except where the product is accompanied by a written warranty of the manufacturer, which manufacturer's warranty shall prevail, the following warranty is made in lieu of all other warranties expressed or implied, and no other warranty is made or authorized to be made: If, within one year following date of delivery, any material supplied by CRANE SUPPLY COMPANY hereunder proves defective or fails to meet the agreed specifications, Buyer shall not return it unless requested to do so, but shall immediately notify CRANE SUPPLY COMPANY stating full particulars in support of his claim, and if faulty workmanship or material is involved or if material fails to meet the agreed specifications, CRANE SUPPLY COMPANY will adjust the matter fairly and promptly. Under no circumstances shall CRANE SUPPLY COMPANY be obligated to allow claims for consequential damages or for any labor or other expenses incurred by reason of the use or sale of any material which is defective or fails to meet the agreed specifications, the sole measure of damages being the price received therefor by CRANE SUPPLY COMPANY. THIS IS NOT A CONSUMER WARRANTY."

10. The terms and conditions herein contained shall apply to any order or direction received from Buyer and no provision in any such order or direction from Buyer in any way modifying or changing said terms and conditions shall be binding upon CRANE SUPPLY COMPANY. No modifications shall be effected by CRANE SUPPLY COMPANY'S shipment of materials following receipt of Buyer's order or request for shipment which may contain provisions contrary to the terms and conditions herein contained.

11. Waiver by CRANE SUPPLY COMPANY of any breach of these provisions must be in writing to be valid; such waiver shall not be construed as a waiver of any other breach, nor shall it be applicable unless so stated, to the breach of the same provisions on any other order.

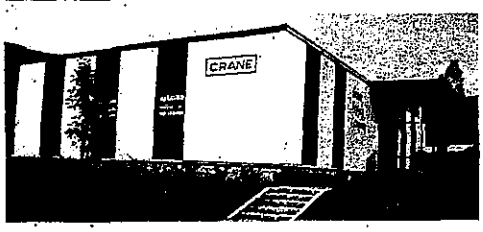
12. None of the Buyer's rights and obligations under any order shall be assigne
or groups of persons, whether by operation of law or otherwise, without C
written approval.

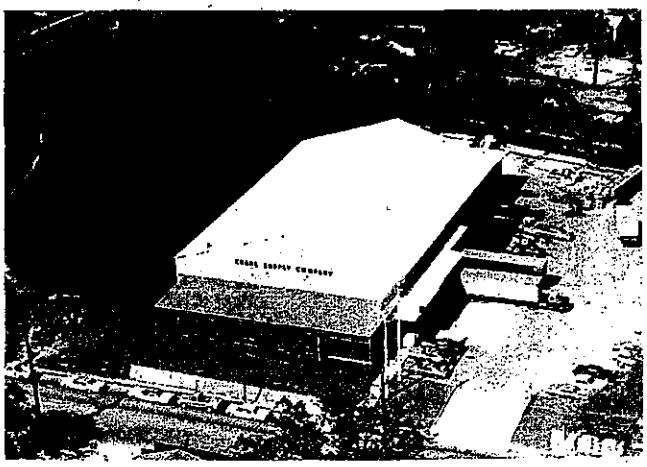
13. To the extent that it is required by Executive Order No. 11246 and by th
is hereby incorporated the provisions of paragraph (1) through (7) of Secti
rules, regulations, or orders issued persuant to such section.

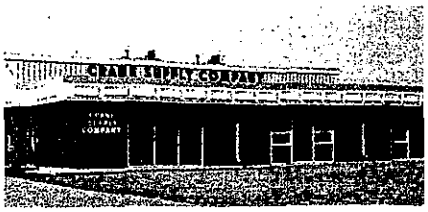
14. Possession of this book is not an offer from us to sell, nor are we re
of products herein does not necessarily mean that we stock same at

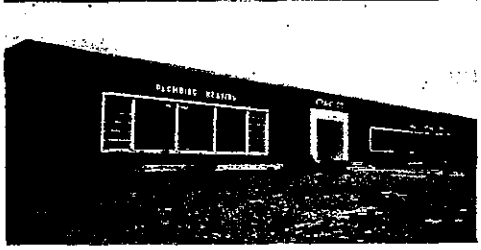
★ EXECUTIVE HEADQUARTERS

■ BRANCH LOCATIONS









300 PARK AVENUE, NEW YORK, NEW YORK 10022

LEADERS IN THE DISTRIBUTION OF PLUMBING, HEATING, AIR CONDITIONING AND INDUSTRIAL PRODUCTS

CRANE00822

BATES LABELED

CRANE-00823-899

CRANE SUPPLY COMPANY

CRANE

warm air heating and air conditioning

AMERICA'S LEADING DISTRIBUTOR OF PLUMBING, HEATING
AIR CONDITIONING AND INDUSTRIAL P

CRANE00823

CRANE SUPPLY COMPANY

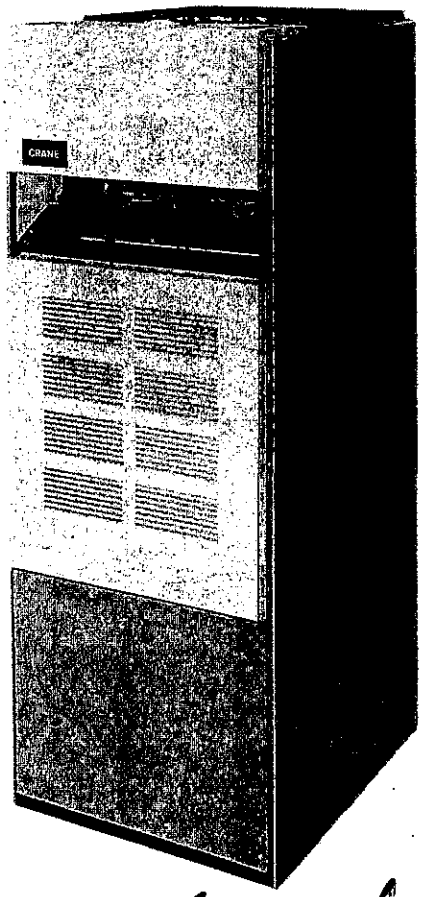
CRANE®

CASCADE SERIES

GAS FIRED UPFLOW FURNACES

(With Direct Drive Blowers)

The CASCADE SERIES is engineered to fulfill any residential heating or add-on cooling requirement. These durable compact units provide superior service with a wide range of capacities offering an ideal match between furnace and application.



DEPENDABLE, ECONOMICAL PERFORMANCE IS ASSURED WITH THESE OUTSTANDING FEATURES!

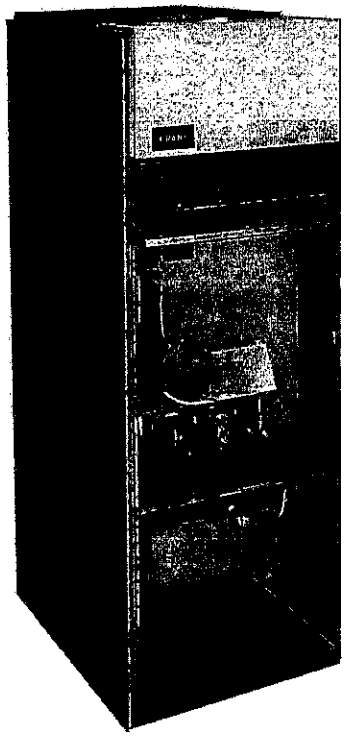
- Efficient HEAT EXCHANGER provides uniform heat transfer with maximum scrubbing action . . . lower flue temperature.
- Ultra-quiet non-linting TAPERED STEEL BURNERS, factory assembled and pre-tested before shipment, provide service-free performance.
- Finest QUALITY CONTROLS used throughout, including factory installed fan relay for automatic switch-over when ordered for heating and cooling.
- Sturdy rust-resistant COLOR-COORDINATED CABINETS feature BUILT-IN FILTER RACK and ONE-PIECE BASE PAN for a cleaner home.

Being replaced in Sept-Oct spec sheets have not been ordered

- COMPACT DESIGN plus zero clearance at rear and sides allows maximum installation flexibility.
- DIRECT DRIVE, SLIDE-OUT BLOWER ASSEMBLY with multi-speed motor provides easy access for inspection and service.
- All models readily adaptable for ADD-ON COOLING.
- ALUMINUM FOIL-FACED CABINET INSULATION provides increased sound proofing . . . reduces heat-loss.
- CERTIFIED BY AMERICAN GAS ASSOCIATION for use with natural and propane gases.

CRANE00824

CASCADE SERIES



GAS FIRED UPFLOW FURNACES WITH DIRECT DRIVE BLOWERS

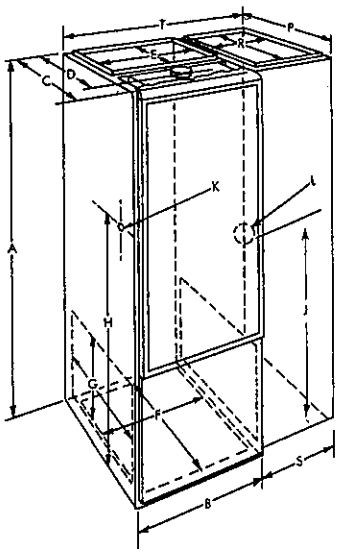
SPECIFICATIONS

HEATING MODELS

MODEL NUMBER	GB-60D	GB-80D	GB-80AD	GB-100D	GB-120D
BTU/H INPUT	60,000	80,000	80,000	100,000	120,000
BTU/H BONNET	48,000	64,000	64,000	80,000	96,000
BLOWER SIZE	9-6	9-6	9-9	9-9	9-9
MOTOR H.P.	1/12 2 SPEED	1/12 2 SPEED	1/6 3 SPEED	1/6 3 SPEED	1/6 3 SPEED
C.F.M. @ .2 E.S.P.	550	700	980*	940	1120
FILTER SIZE	16x25	16x25	16x25	16x25	16x25
FLUE DIAMETER	4"	4"	4"	5"	5"

*.3 E.S.P.

GAS PIPING – ALL MODELS – NATURAL & PROPANE GAS – 1/2"



HEATING AND COOLING MODELS

MODEL NUMBER	GB-60DC2	GB-80D-C2	GB-80AD-C3	GB-100D-C3	GB-120D-C3
BLOWER SIZE	9-6	9-6	9-9	9-9	9-9
MOTOR H.P.	1/6 3 SPEED	1/6 3 SPEED	1/3 3 SPEED	1/3 3 SPEED	1/3 3 SPEED
C.F.M. @ .5 E.S.P.	830	830	1300	1200	1200

GAS PIPING – FLUE DIAMETER – FILTER SIZES – SAME AS HEATING MODELS
RETURN AIR COMPARTMENTS OPTIONAL ON ALL MODELS

DIMENSIONS

MODEL NUMBER	A	B	C	D	E	F	G	H	J	K Elec.	L Gas	Return Air Cabinet	P	R	S	T
GB-60D GB-80D	54	14	27	23	15x12W	23x10	23x14H	33½	26	3¼	5½	AF-5	23½	22x13½W	15	29
GB-80AD GB-100D GB-120D	54	20	27	23	15x18W	23x14	23x14H	33½	26	3¼	5½	AF-5	23½	22x13½W	15	35

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WAC-1-10M-873

CRANE00825

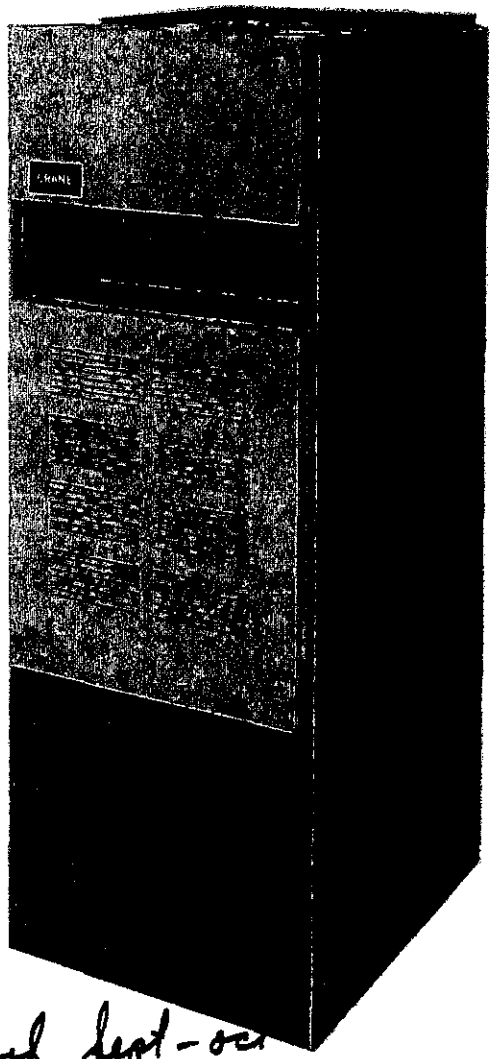
DELUXE

NEWPORT SERIES

CRANE SUPPLY COMPANY

CRANE®

GAS FIRED UPFLOW FURNACES



The DELUXE NEWPORT Series is designed for those who demand the very best. Engineered to fulfill both residential and light commercial applications, the NEWPORT will provide years of clean, quiet heating comfort. These units are available in a wide range of capacities and adapt easily for year-round comfort conditioning.

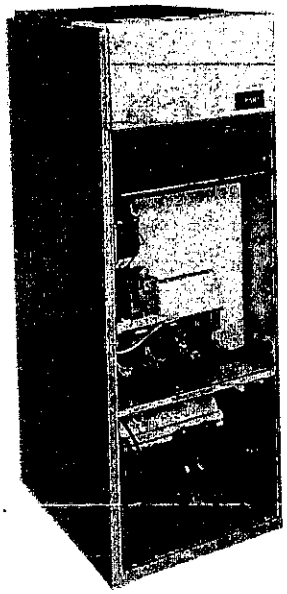
DEPENDABLE, ECONOMICAL PERFORMANCE IS ASSURED WITH THESE OUTSTANDING FEATURES!

- Efficient HEAT EXCHANGER design provides uniform heat transfer with maximum scrubbing action . . . lower flue temperature.
- Ultra-quiet non-linting TAPERED STEEL BURNERS, factory assembled and pre-tested before shipment, provide service-free performance.
- Finest QUALITY CONTROLS used throughout, including factory installed fan relay for automatic switch-over when ordered for heating and cooling.
- Sturdy rust-resistant COLOR-COORDINATED CABINETS feature BUILT-IN FILTER RACK and BASE PAN for a cleaner home.

Being replaced last-oct

- COMPACT DESIGN plus zero clearance at rear and sides allows maximum installation flexibility.
- BELT DRIVE, SLIDE-OUT BLOWER ASSEMBLY with split phase motor provides easy access for inspection and maintenance.
- DIRECT DRIVE, SLIDE-OUT BLOWER ASSEMBLY with multi-speed motor provides easy access for inspection and service.
- All models readily adaptable for ADD-ON COOLING.
- ALUMINUM FOIL-FACED CABINET INSULATION provides increased sound proofing . . . reduces heat loss.
- CERTIFIED BY AMERICAN GAS ASSOCIATION for use with natural and propane gases.

spec sheets not



DELUXE NEWPORT SERIES

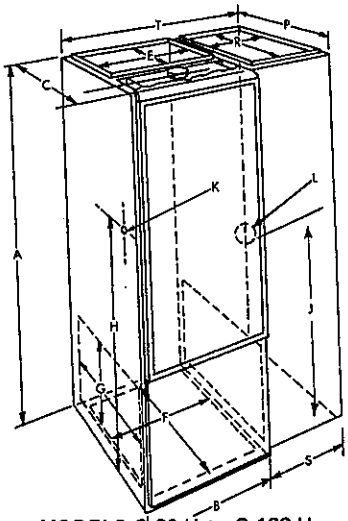
BELT DRIVE BLOWER MODELS

HEATING MODELS

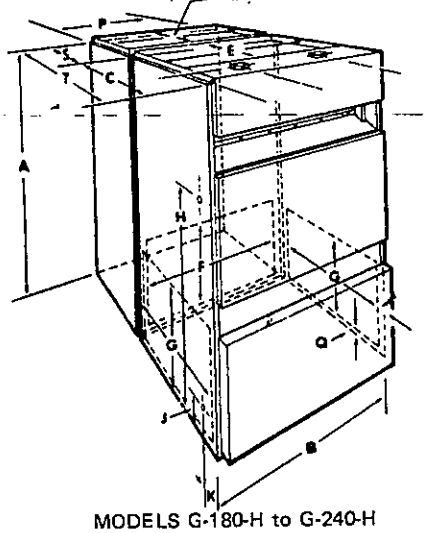
MODEL NUMBER	GH-80	GH-80A	GH-100	GH-120	GH-140	GH-160	G-180-H	G-200-H	G-240-H
BTU/H INPUT	80,000	80,000	100,000	120,000	140,000	160,000	180,000	200,000	240,000
BTU/H BONNET	64,000	64,000	80,000	96,000	112,000	128,000	144,000	160,000	192,000
BLOWER SIZE	9"	9"	9"	9"	12"	12"	(2) 10"	(2) 10"	(2) 10"
MOTOR H.P.	1/8	1/4	1/8	1/6	1/4	1/3	1/4	1/3	1/2
FILTER SIZE – SIDE	16 x 25	16 x 25	16 x 25	16 x 25	18 x 25	18 x 25	(2) 20 x 25	(2) 20 x 25	(2) 20 x 25
FILTER SIZE – REAR	–	–	–	–	–	–	(2) 16 x 25	(2) 16 x 25	–
C.F.M. @ .2 E.S.P.	700	980	850	1060	1240	1460	1600	1740	2040
FLUE DIAMETER	4"	4"	5"	5"	6"	6"	(2) 5"	(2) 5"	(2) 5"

HEATING AND COOLING MODELS

Model Number	GH-80-C2	GH-80A-C3	GH-100-C3	GH-120-C3	GH-140-C4	GH-140-C5	GH-160-C4	GH-160-C5	G-180H-5	G-240H-5	G240H-5	G-240H-5
BLOWER SIZE	9"	9"	9"	9"	12"	12"	12"	12"	(2) 10"	(2) 10"	(2) 10"	(2) 10"
MOTOR H.P.	1/4	1/3	1/3	1/3	1/2	3/4	1/2	3/4	3/4	1	1	1
C.F.M. @.5 E.S.P.	780	1230	1230	1230	1650	2085	1650	2085	2000	2540	2540	2540



MODELS G-80-H to G-160-H



MODELS G-180-H to G-240-H

DIRECT DRIVE BLOWER MODELS

HEATING MODELS

MODEL NUMBER	GH-60D	GH-80D	GH-80DA	GH-100D	GH-120D
BTU/H INPUT	60,000	80,000	80,000	100,000	120,000
BTU/H BONNET	48,000	64,000	64,000	80,000	96,000
BLOWER SIZE	9"	9"	9"	9"	9"
MOTOR H.P.	1/12 2 SPEED	1/12 2 SPEED	1/6 3 SPEED	1/6 3 SPEED	1/6 3 SPEED
C.F.M. @ .2 E.S.P.	550	700	980	940	1120
FILTER SIZE	16x25	16x25	16x25	16x25	16x25
FLUE DIAMETER	4"	4"	4"	5"	5"

HEATING AND COOLING MODELS

MODEL NUMBER	GH-60D-C2	GH-80D-C2	GH-80AD-C3	GH-100D-C3	GH-100-C4	GH-120D-C3	GH-120D-C4
BLOWER SIZE	9"	9"	9"	9"	10"	9"	10"
MOTOR H.P.	1/6 3 SPEED	1/6 3 SPEED	1/3 3 SPEED	1/3 3 SPEED	1/2 3 SPEED	1/3 3 SPEED	1/2 3 SPEED
C.F.M. @ .5 E.S.P.	830	830	1300	1200	1530	1200	1530
FILTER SIZE	16x25	16x25	16x25	16x25	16x25	16x25	16x25
FLUE DIA.	4"	4"	4"	5"	5"	5"	5"

DIMENSIONS

MODEL NUMBER	A	B	C	E	F	G	Elec. H	Gas J	P	R	S
GH-60, 80	54	14	27	15x12W	23x10W	23x14H	33½	26	23½	22x13½W	15
GH-80A 100, 120	54	20	27	15x18W	23x14W	23x14H	33½	26	23½	22x13½W	15
GH-140, 160	56	26	27	15x24W	23x16W	23x16H	35½	28	23½	22x13½W	15
GH-180 200,240	54	34	27	15x32W	–	23x14H	33½	26	34	32 x 15	20

CRANE SUPPLY COMPANY

CRANE®

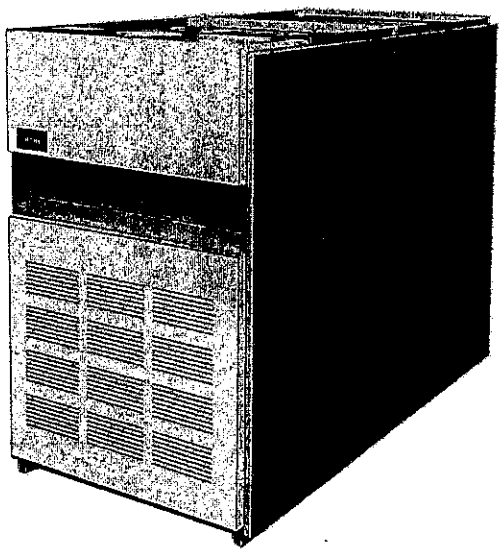
NEWPORT SERIES

GAS FIRED BASEMENT FURNACES

NEWPORT Basement Furnaces are engineered to fulfill most residential requirements. Low 38½ inch height permits installation in shallow areas with adequate headroom for air conditioning evaporator cabinet or electronic air cleaner. Available in a wide range of inputs and blower capacities; these durable units adapt easily for year-round comfort conditioning.

NO CHANCE

DEPENDABLE, ECONOMICAL PERFORMANCE IS ASSURED WITH THESE OUTSTANDING FEATURES!



- Efficient HEAT EXCHANGER design provides uniform heat transfer with maximum scrubbing action . . . lower flue temperature.
- Ultra-quiet non-linting TAPERED STEEL BURNERS, factory assembled and pre-tested before shipment, provide service-free performance.
- Finest QUALITY CONTROLS used throughout, including factory installed fan relay for automatic switch-over when ordered for heating and cooling.
- Sturdy rust-resistant COLOR COORDINATED CABINETS feature BUILT-IN FILTER RACK and BASE PAN with steel channels and adjustable bolts for level installation.

- BELT DRIVE BLOWER ASSEMBLY with split-phase motor provides easy access for inspection and maintenance.

NOTE: Model GL-100D equipped with Direct Drive Blower assembly and three-speed motor.

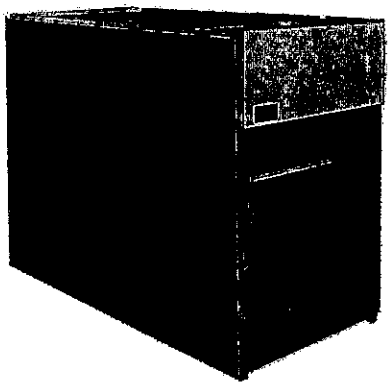
- All models readily adaptable for ADD-ON COOLING.
- ALUMINUM FOIL-FACED CABINET INSTALLATION provides increased sound-proofing and reduces heat loss.
- CERTIFIED BY AMERICAN GAS ASSOCIATION for use with natural and propane gas.

CRANE00828

NEWPORT SERIES

GAS FIRED BASEMENT FURNACES

SPECIFICATIONS

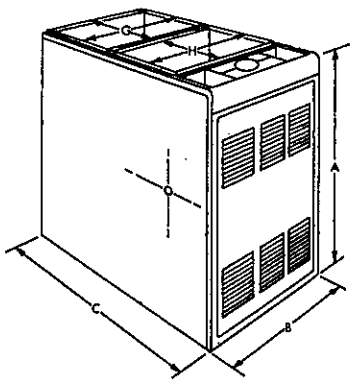


HEATING MODELS

MODEL NUMBER	GL-100D	GL-100	GL-120	GL-140	GL-160
BTU/H INPUT	100,000	100,000	120,000	140,000	160,000
BTU/H BONNET	80,000	80,000	96,000	112,000	128,000
BLOWER SIZE	9–9	9–9	9–9	12–12	12–12
MOTOR H.P.	1/6 3 SPEED	1/6	1/6	1/4	1/3
FILTER SIZE	20 x 20	20 x 20	20 x 20	20 x 25	20 x 25
C.F.M. @ .2 E.S.P.	925	880	1050	1200	1400
FLUE DIA.	5"	5"	5"	6"	6"

HEATING AND COOLING MODELS

MODEL NUMBER	GL-100-3	GL-120-3	GL-140-4	GL-140-5	GL-160-4	GL-160-5
BLOWER SIZE	9–9	9–9	12–12	12–12	12–12	12–12
MOTOR H.P.	1/3	1/3	1/2	3/4	1/2	3/4
C.F.M. @ .5 E.S.P.	1200	1200	1650	2070	1650	2070



DIMENSIONS

MODEL NUMBER	A	B	C	G	H
100, 120	38½	20	43½	13 x 18W	15 x 18W
140, 160	38½	26	47½	17 x 24W	15 x 24W

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300 PARK AVENUE, N.Y., N.Y. 10022

CRANE00829
WAC-3-10M-873

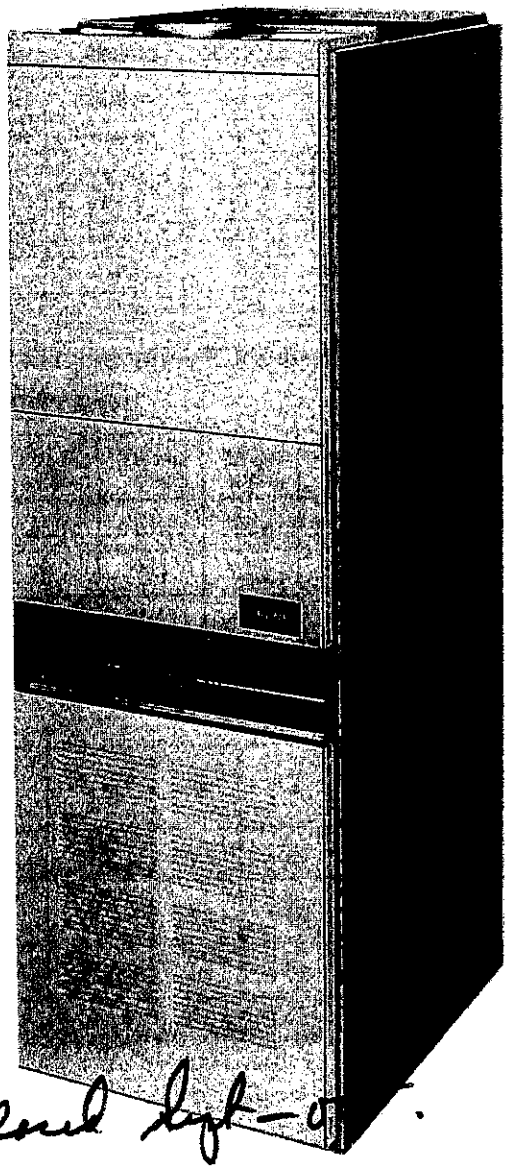
CRANE SUPPLY COMPANY

CRANE®

NEWPORT SERIES

GAS FIRED COUNTERFLOW FURNACES

The NEWPORT Counterflow Furnace is designed especially for slab or crawl space applications. Available in a wide range of inputs and blower capacities, these compact units adapt easily for year-round comfort conditioning.



DEPENDABLE, ECONOMICAL PERFORMANCE IS ASSURED WITH THESE OUTSTANDING FEATURES!

- Efficient HEAT EXCHANGER provides uniform heat transfer with maximum scrubbing action . . . lower flue temperature.
- Ultra-quiet non-linting TAPERED STEEL BURNERS, factory assembled and pre-tested before shipment, provide service-free performance.
- Finest QUALITY CONTROLS used throughout, including factory installed fan relay for automatic switch-over when ordered for heating and cooling.
- SECONDARY LIMIT CONTROL provided in blower compartment for added safety.
- Sturdy rust-resistant COLOR-COORDINATED CABINETS feature built-in FILTER RACK for a cleaner home.
- BASES available for furnace mounting on combustible floors.

Being replaced by light-d

- COMPACT DESIGN plus zero clearance at rear and sides allows maximum installation flexibility . . . ideal for closets.
- SLIDE OUT BLOWER ASSEMBLY provides easy access for inspection and maintenance.
- All models readily adaptable for ADD-ON COOLING.
- ALUMINUM FOIL-FACED CABINET INSULATION provides increased sound proofing and reduces heat loss.
- CERTIFIED BY AMERICAN GAS ASSOCIATION for use with natural and propane gas.

CRANE00830

new type. sheets not.

NEWPORT SERIES

GAS FIRED COUNTERFLOW FURNACES

SPECIFICATIONS

HEATING MODELS

MODEL NUMBER	GC-60D	GC-80D	GC-100D	GC-120D	GC-80A	GC-100	GC-120	GC-140	GC-160
BTU/H INPUT	60,000	80,000	100,000	120,000	80,000	100,000	120,000	140,000	160,000
BTU/H BONNET	48,000	64,000	80,000	96,000	64,000	80,000	96,000	112,000	128,000
BLOWER SIZE	9–6	9–6	9–9	9–9	9–9	9–9	9–9	12–12	12–12
MOTOR H.P.	1/12	1/12	1/6	1/6	1/6	1/6	1/6	1/4	1/3
FILTER SIZE	14 x 20	14 x 20	20 x 20	20 x 20	(2)16 x 20*	(2)16 x 20*	(2)16 x 20*	(2)16 x 20*	(2)16 x 20*
C.F.M. @ .2 E.S.P.	550	670	980	1130	940	870	1020	1270	1420
FLUE DIA.	4"	4"	5"	5"	4"	5"	5"	6"	6"

*PART OF OPTIONAL FILTER CABINET (BUILT IN FILTER RACKS NOT AVAILABLE).

HEATING AND COOLING MODELS

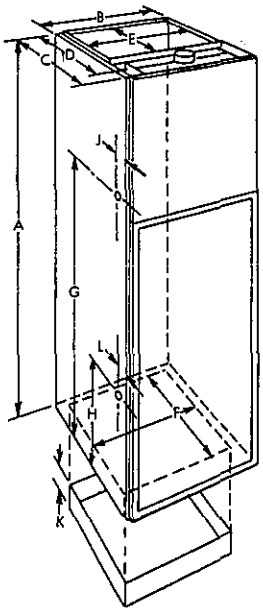
MODEL NUMBER	GC-60-D2C2	GC-80-D2C2	GC-100-D2C3	GC-120-D2C3	GC-80AC3	GC-100C3	GC-120C3	GC-140C4	GC-140C5	GC-160C4	GC-160C5
BLOWER SIZE	9–6	9–6	10-9	10–9	9–9	9–9	9–9	12–12	12–12	12–12	12–12
MOTOR H.P.	1/6	1/6	1/3	1/3	1/3	1/3	1/3	1/2	3/4	1/2	3/4
CFM @ .5 E.S.P.	775	775	1230	1230	1200	1200	1200	1620	1980	1620	1980

FILTER SIZES – SAME AS HEATING MODELS

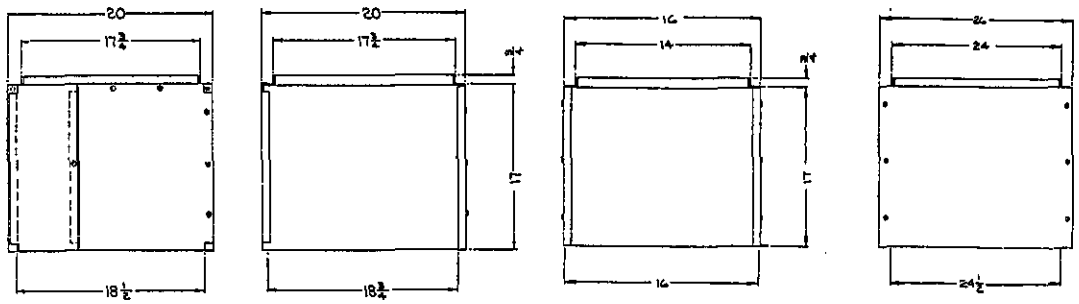
DIMENSIONS

MODEL NUMBER	A	B	C	E	F	G ELEC	H GAS SUPPLY	J	K	L
GC-60 & 80	56	14	27	18 x 12W	16¼ x 10¼W	42	9 5/8	3 5/16	1	5 1/2
GC-80A, 100 & 120	56	20	27	18 x 18W	16¼ x 16¼W	42	9 5/8	3 5/16	1	5 1/2
G-140 & 160	60	26	27	16 x 24W	16¼ x 22¼W	46	9 5/8	4 5/8	1¾	5 1/2

NOTE – FLOOR OPENING FOR SUB BASE ON COMBUSTIBLE FLOORING –
13Wx19 FOR 60 & 80 – 19x19 FOR 80A, 100 & 120 – 26¼Wx19¼ FOR 140 & 160



SUB BASES



AF53 FOR 80A, 100 & 120

AF57 FOR 140 & 160

CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

CRANE00831

WAC-4-10M-873

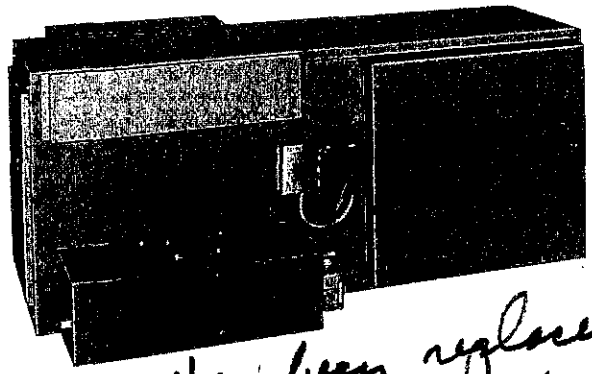
CRANE SUPPLY COMPANY

CRANE®

NEWPORT SERIES

GAS FIRED HORIZONTAL FURNACES

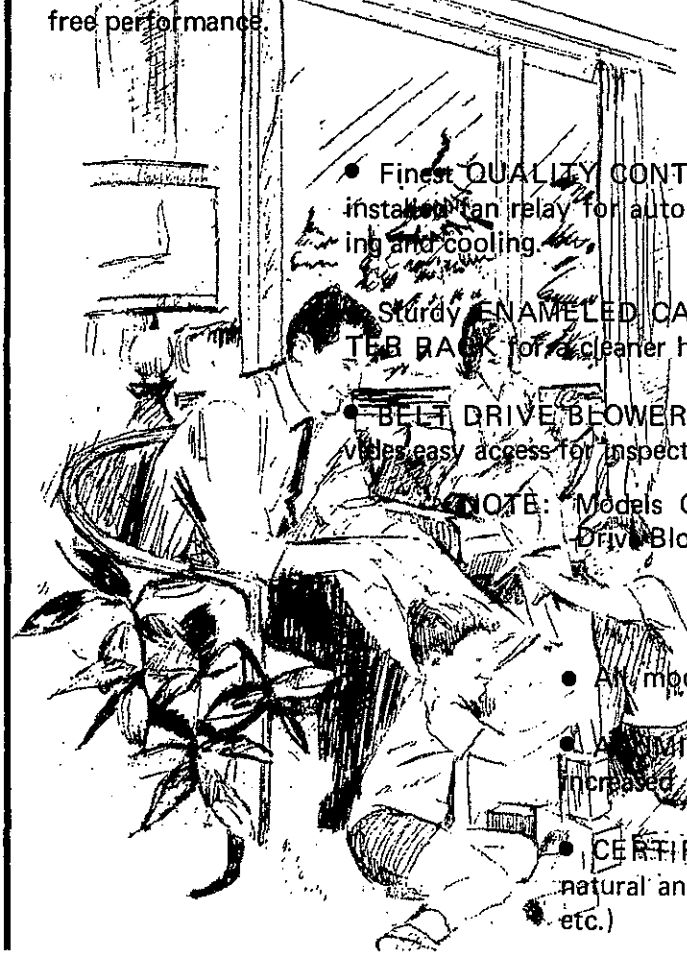
Compact design and installation flexibility keynote the NEWPORT Horizontal Furnace. Ideal for attic or crawl space, these durable units are engineered for residential, commercial or industrial use. A wide range of input and blower capacities offer an ideal match between furnace and application.



- DEPENDABLE, ECONOMICAL
- PERFORMANCE IS ASSURED WITH THESE OUTSTANDING FEATURES!

Has been replaced new spec sheet at printer

- Efficient HEAT EXCHANGER provides uniform heat transfer with maximum scrubbing action . . . lower flue temperature.
- CAST IRON, SLOTTED, PORT-TYPE BURNERS, factory assembled and pre-tested before shipment to provide non-linting service-free performance.



- Finest QUALITY CONTROLS used throughout, including factory installed fan relay for automatic switch-over when ordered for heating and cooling.
- Sturdy ENAMELED CABINET PANELS feature BUILT-IN FILTER RACK for a cleaner home.
- BELT DRIVE BLOWER ASSEMBLY with split phase motor provides easy access for inspection and maintenance.

NOTE: Models G-80-SD to G-120-SD equipped with Direct Drive Blower assembly and multi-speed motor.

- All models readily adaptable for ADD-ON COOLING.
- ALUMINUM FOIL-FACED CABINET INSULATION provides increased sound proofing . . . reduces heat loss.
- CERTIFIED BY AMERICAN GAS ASSOCIATION for use with natural and Propane Gas.

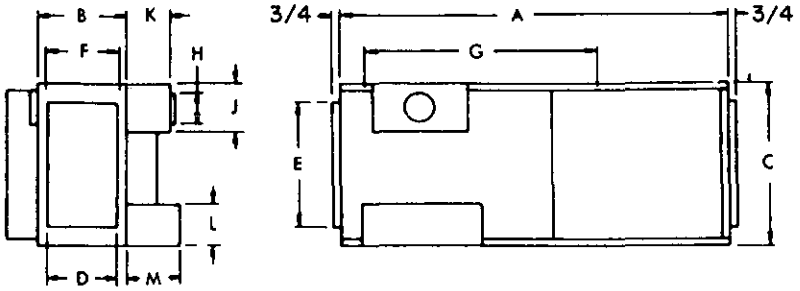
etc.)

CRANE00832

CRANE SUPPLY COMPANY

CRANE®

NEWPORT SERIES



Units shipped for air passage right to left with diverter on rear. Burners may be moved to other side, making air passage left to right. Diverter may be installed at front or rear of the unit.

DIMENSIONS

UNIT NUMBER	LENGTH A	WIDTH B	HEIGHT C	PLENUM OPENINGS WIDTH D	PLENUM OPENINGS HEIGHT E	HANGER SPACING F G	DIA. H	FLUE HOOD HEIGHT J	HOOD DEPTH K	CONTROL COVER HEIGHT L	CONTROL COVER DEPTH M	PIPE SIZES NAT. PROP.	PIPE SIZES MIX. GAS
G-80-SD G-80-S	52	12½	22¼	10	18	10¼ x 36	5	7½	7	7	8	½	½
G-100-SD G-100-S	52	14¾	22¼	12	18	12½ x 36	5	7½	7	7	8	½	½
G-120-SD G-120-S	55	17	24¼	14	20	14¾ x 36	6	9	7	7½	8	½	½
G-140-S	55	19¼	24¼	16	20	17 x 36	6	9	7	7½	8	½	½ HW ¾ STD
G-160-S	55	21½	24¼	18	20	19¼ x 36	6	9	7¾	7½	8	½ HW ¾ STD	½ HW ¾ STD

SPECIFICATIONS

UNIT NUMBER	A.G.A. RATING BUT/HR INPUT	A.G.A. RATING BUT/HR BONNET	BLOWER	DRIVE	MOTOR H.P.	FILTERS	C.F.M. @ 85° Rise	STATIC PRESSURE
G-80-SD	80,000	64,000	9-7	Direct**	1/12	16 x 20	660*	.12*IN.
G-80-S	80,000	64,000	9-7	3¼ x 7	1/8	16 x 20	660*	.12*IN.
G-100-SD	100,000	80,000	9-9	Direct**	1/12	20 x 20	825*	.15*IN.
G-100-S	100,000	80,000	9-9	3¼ x 7	1/8	20 x 20	825*	.15*IN.
G-120-SD	120,000	96,000	9-9	Direct	1/6	2-14 x 20	990	.2 IN.
G-120-S	120,000	96,000	9-9	3¼ x 6	1/6	2-14 x 20	990	.2 IN.
G-140-S	140,000	112,000	10-10	3¼ x 6	¼	2-14 x 20	1150	.2 IN.
G-160-S	160,000	128,000	10-10	3¼ x 6	⅓	1-20 x 25	1325	.2 IN.

*A.G.A. TEST CONDITIONS. ALL UNITS WILL DELIVER ABOVE C.F.M. AT .2 IN. S.P.
**BLOWER EQUIPPED WITH ADJUSTABLE AIR VOLUME CONTROL TO OBTAIN HIGHER RISES.
C.F.M. AND RISE FIGURES BASED ON AIR VOLUME CONTROL REMOVED.

ALTERNATE MOTORS and DRIVES for cooling unit combinations

UNIT NUMBER	MAX. TONS COOLING	BLOWER	DRIVE	MOTOR	C.F.M. @ 0.5 STATIC
G-80-SD-C2	2	9-7	Direct*	1/6	695-780-850
G-80-S-C2.5	2 1/2	9-7	3 1/4 x 5	1/4	680-1030
G-100-SD-C3	3	10-8	Direct*	1/3	900-1160-1350
G-100-S-C3	3	9-9	3 1/4 x 5	1/3	950-1290
G-120-SD-3.5	3 1/2	10-8	Direct	1/3	915-1230-1435
G-120-S-C3	3	9-9	3 1/4 x 5	1/3	1035-1285
G-120-S-C4	4	9-9	4 x 5	1/2	1285-1700
G-140-S-C4	4	10-10	3 1/4 x 5	1/2	1140-1750
G-140-S-C5	5	10-10	4 x 6	3/4	1600-1950
G-160-S-C5	5	10-10	4 x 6	3/4	1620-1980

* 2 SPEED OPERATION — WIRED AT FACTORY.

CRANE SUPPLY COMPANY

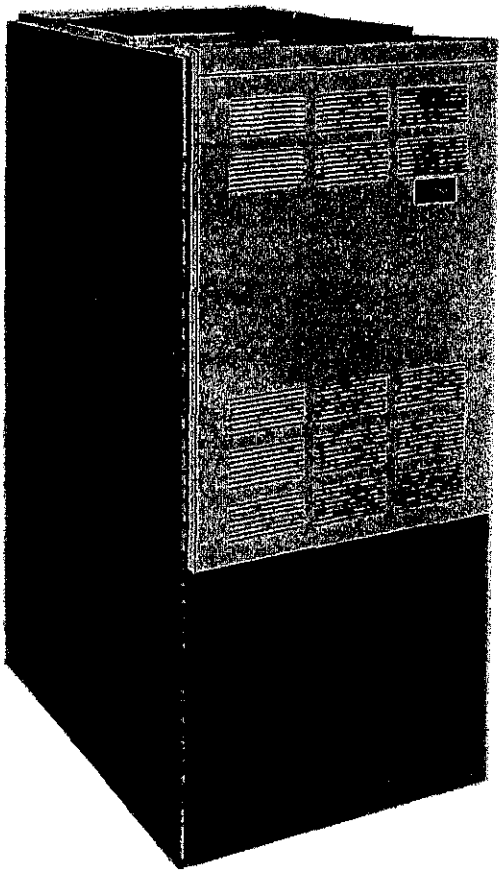
CRANE®

SIERRA SERIES

OIL FIRED UPFLOW FURNACES

The durable SIERRA Upflow Furnace is engineered to provide years of trouble-free heating for residential applications. Ideal for basements and closets, these units are available with a wide range of bonnet outputs and adapt easily for year-round comfort conditioning.

DEPENDABLE, ECONOMICAL PERFORMANCE IS ASSURED WITH THESE OUTSTANDING FEATURES!



- CYLINDRICAL HEAT EXCHANGER OF HEAVY GAUGE STEEL with wrap around radiator, eliminates expansion and contraction sounds . . . provides high efficiency and low flue temperatures.
- "CERAMIFLEX®" CHAMBER of sturdy, light weight sound absorbent material provides fast high temperature reflection for cleaner combustion.
- HIGH-PRESSURE, ATOMIZING OIL BURNER, designed for quiet operation, ease of accessibility and service.
- QUALITY CONTROLS used throughout, including cadmium sulfide cell flame detection.
- Sturdy rust-resistant COLOR-COORDINATED CABINETS feature BUILT-IN FILTER RACK and BASE PAN for a cleaner home.

- COMPACT DESIGN allows maximum installation flexibility.
- SLIDE-OUT BLOWER ASSEMBLY provides easy access for inspection and maintenance.

  NOTE: Models O-84-HD and O-95-HD equipped with Direct Drive Blower assembly and multi speed motor.
- All models readily adaptable for ADD-ON COOLING.
- ALUMINUM FOIL-FACED CABINET INSULATION provides increased sound proofing . . . reduces heat loss.
- Listed by UNDERWRITERS' LABORATORIES, INC.

CRANE00834

SIERRA SERIES

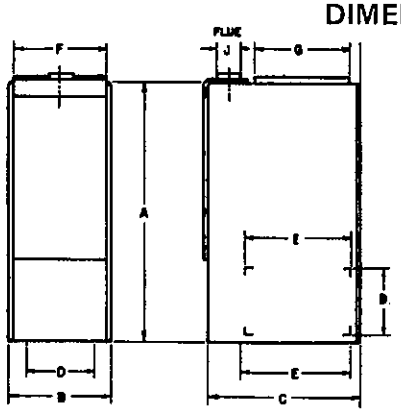
OIL FIRED UPFLOW FURNACES

MODEL NUMBER	OH-84D	OH-84	OH-95D	OH-95	OH-112	OH-125
BTU/H BONNET OUTPUT	84,000	84,000	95,000	95,000	112,000	125,000
BLOWER SIZE	10-8	10-8	10-8	10-8	10-10	10-10
MOTOR H.P.	1/6 3 SPEED	1/6	1/6 3 SPEED	1/6	1/4	1/4
C.F.M.@.2 E.S.P.	860	920	1080	1040	1260	1340
OIL NOZZLE	.75-80°H	.75-80°H	.85-80°H	.85-80°H	1.00-80°H	1.10-80°H
FILTER SIZE	16x25	16x25	16x25	16x25	20x25	20x25

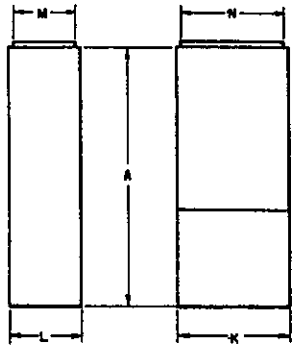
MODEL NUMBER	OH-84D2C3	OH-84C3	OH-95D2C3	OH-95C3	OH-112C4	OH-112C5	OH-125C4	OH-125C5
BLOWER SIZE	10-8	10-8	10-8	10-8	12-9	12-9	12-9	12-9
MOTOR H.P.	1/3 3 SPEED	1/3	1/3 3 SPEED	1/3	1/2	3/4	1/2	3/4
C.F.M. @.5 E.S.P.	1280	1180	1280	1180	1410	1850	1410	1850

FILTER SIZE – SAME AS HEATING MODELS

DIMENSIONS



FURNACE



RETURN AIR DROP

MODEL	A	B	C	D	E	F	G	J	K	L	M	N	AIR DROP
O-84H O-95H	56	20	32½	14	22	18	16	6	25	15	13½	22	AF-44
O-112H O-125H	58¾	24	36½	18	25	22	19	6	26½	21 1/8	19	25	AF-2

LISTED BY UNDERWRITERS' LABORATORIES, INC. FOR CLOSE INSTALLATION. ALL MODELS WITH 2" MINIMUM CLEARANCE EACH SIDE AND 1" IN REAR. ALL MODELS WITH 8" CLEARANCE IN FRONT.

CRANE®

CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

CRANE00835

WAC-6-10M-873

CRANE SUPPLY COMPANY

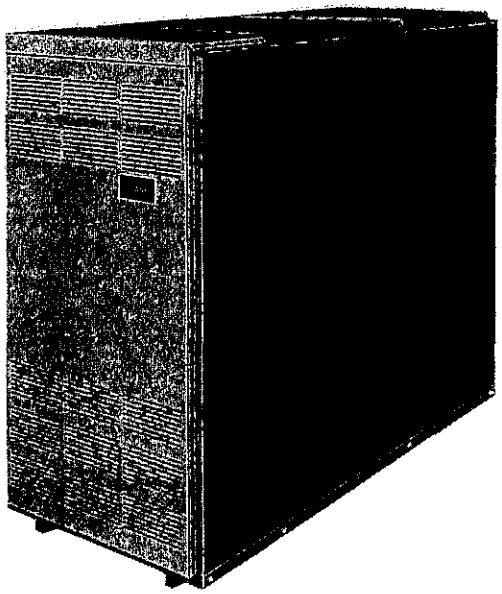
CRANE®

SIERRA SERIES

OIL FIRED BASEMENT FURNACES

SIERRA Basement Furnaces are engineered to fulfill most residential requirements. Low height permits installation in shallow areas with adequate headroom for air conditioning evaporator cabinet or electronic air cleaner. Available in a wide range of capacities, these durable units adapt easily for year-round comfort conditioning.

DEPENDABLE, ECONOMICAL PERFORMANCE IS ASSURED WITH THESE OUTSTANDING FEATURES!



- CYLINDRICAL HEAT EXCHANGER OF HEAVY GAUGE STEEL with wrap around radiator eliminates expansion and contraction sounds . . . provides high efficiency and low flue temperatures.
- "CERAMIFLEX®" CHAMBER of sturdy light weight sound absorbent material provides fast high temperature reflection for cleaner combustion.
- HIGH PRESSURE ATOMIZING OIL BURNER, designed for quiet operation, ease of accessibility and service.
- QUALITY CONTROLS used throughout, including cadmium sulfide cell flame detection.
- Sturdy rust resistant COLOR COORDINATED CABINETS feature BUILT-IN FILTER RACK and BASE PAN with steel channels.

- BELT DRIVE BLOWER ASSEMBLY with split-phase motor provides easy access for inspection and maintenance.

NOTE: Model 84D and 95D with direct drive blower assembly and multi-speed motor.

- All models readily adaptable for ADD-ON COOLING.
- ALUMINUM FOIL FACED CABINET INSULATION provides increased sound-proofing and reduces heat loss.
- Listed by UNDERWRITERS' LABORATORIES, INC.

CRANE00836

CRANE SUPPLY COMPANY

CRANE®

SIERRA SERIES

OIL FIRED BASEMENT FURNACES

"D" models are new improved furnaces

SPECIFICATIONS

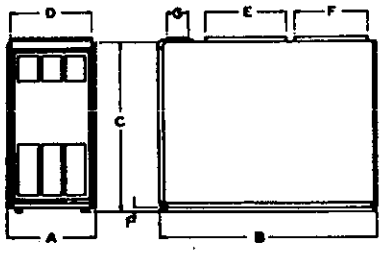
HEATING MODELS

MODEL NUMBER	OL-84D	OL-84	OL-95D	OL-95	OL-112	OL-125
BTU/H BONNET	48,000	84,000	95,000	95,000	112,000	125,000
BLOWER SIZE	10-8	10-8	10-8	10-8	10-10	10-10
MOTOR H.P.	1/6	1/6	1/6	1/6	1/4	1/4
MOTOR @ .2 E.S.P.	1040	900	1040	1000	1200	1300
OIL NOZZLE	.75 80°	.75 80°	.85 80°	.85 80°	1.00 80°	1.10 80°
FILTER SIZE	20 x 20	20 x 20	20 x 20	20 x 20	20 x 25	20 x 25

HEATING AND COOLING MODELS

MODEL NUMBER	OL-84D2C3	OL-84C3	OL-95D2C3	OL-95C3	OL-112C4	OL-112C5	OL-125C4	OL-125C5
BTU/H BONNET	84,000	84,000	95,000	95,000	112,000	112,000	125,000	125,000
BLOWER SIZE	10-8	10-8	10-8	10-8	12-9	12-9	12-9	12-9
MOTOR H.P.	1/3	1/3	1/3	1/3	1/2	3/4	1/2	3/4
C.F.M. @ .5 E.S.P.	1320	1240	1320	1240	1680	2025	1680	2025

FILTER SIZE—SAME AS HEATING MODELS



DIMENSIONS

MODEL	A	B	C	D	E	F	G
84,95	20	50	39¼	18	16	15	6
112,125	24	57½	39¼	22	19	19	6

CRANE® CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

CRANE00837

WAC-7-10M-873

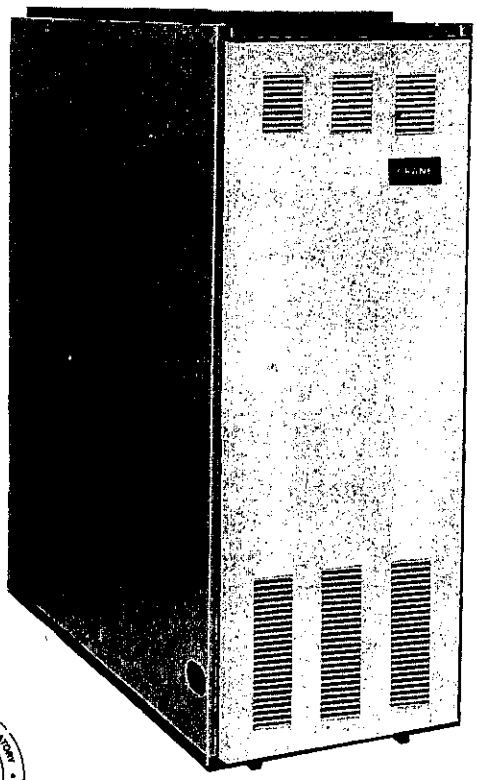
CRANE SUPPLY COMPANY

CRANE®

SIERRA SERIES

OIL FIRED BASEMENT FURNACES

DEPENDABLE, ECONOMICAL PERFORMANCE IS ASSURED WITH THESE OUTSTANDING FEATURES!



- CYLINDRICAL HEAT EXCHANGER OF HEAVY GAUGE STEEL with wrap around radiator eliminates expansion and contraction sounds . . . provides high efficiency and low flue temperatures.
- "CERAMIFLEX®" CHAMBER of sturdy light weight sound absorbent material provides fast high temperature reflection for cleaner combustion.
- HIGH-PRESSURE ATOMIZING OIL BURNER, designed for quiet operation, ease of accessibility and service.
- QUALITY CONTROLS used throughout; including cadmium sulfide cell flame detection.
- Sturdy rust-resistant COLOR COORDINATED CABINETS feature BUILT-IN FILTER RACK and BASE PAN with steel channels.

- A/C MODELS have FAN RELAY mounted and wired.
- BELT DRIVE BLOWER ASSEMBLY with split-phase motor provides easy access for inspection and maintenance.
- 140 shipped in one carton. Larger 168 and 195 in two cartons for ease of handling.
- All models readily adaptable for ADD-ON COOLING.
- ALUMINUM FOIL-FACED CABINET INSULATION provides increased sound-proofing and reduces heat loss.
- Listed by UNDERWRITERS' LABORATORIES, INC.

CRANE SUPPLY COMPANY

CRANE®

SIERRA SERIES

OIL FIRED BASEMENT FURNACES

SPECIFICATIONS

HEATING MODELS

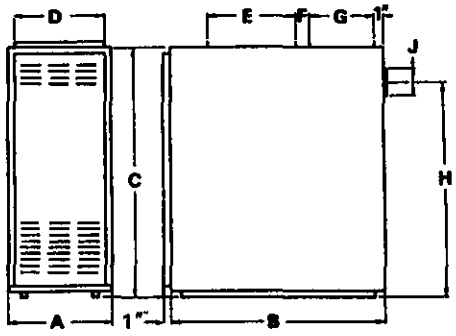
Model Number	Nozzle Size	Bonnet Capacity	Temp. Rise	C.F.M. @ .2 Static	Motor H.P.	Drive	Blower Size	Filter
OL-140	1.25	140,000	85°	1450	1/3	3¼ x 7-42	12-9	1-15 x 20 1-20 x 20
OL-168*	1.50	168,000	85°	1830	1/2	3¼ x 6-41	12-12	2-20 x 25
OL-196*	1.75	196,000	85°	2000	1/2	3¼ x 6-41	12-12	2-20 x 25

*Assembled & shipped in two cartons

AIR CONDITIONING MODELS

Model Number	Max. A/C Tons	Static Pressure @ .5	Motor H.P.	Drive	Blower Size	Transition Kit Required
OL-140C4	4	1725	1/2	3¼ x 6-41	12-9	AC-30
OL-140C5	5	1850	3/4	3¼ x 5-39	12-9	AC-30
OL-168C5	5	2000	3/4	3¼ x 6-41	12-12	AC-9**
OL-196C5	5	2000	3/4	3¼ x 6-41	12-12	AC-9**

**AC-9 fits U-481 and U-601



DIMENSIONS

Model	A	B	C	DxE	DxG	F	H	J
140	22"	48"	54"	20"x20"	20"x16"	2½"	45"	7"
168	26"	56"	56"	24"x22"	24"x22"	2"	47"	7"
196	26"	56"	56"	24"x22"	24"x22"	2	47"	7"

CRANE® CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

SIERRA SERIES

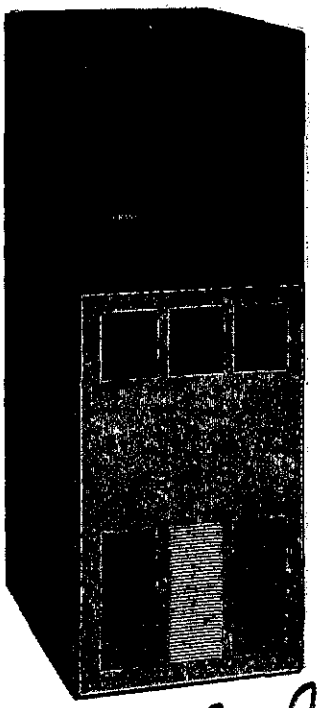
CRANE SUPPLY COMPANY

CRANE®

OIL FIRED COUNTERFLOW FURNACES

The Sierra Counterflow Furnace is designed especially for slab or crawl space applications. Available in a wide range of inputs and blower capacities, these compact units adapt easily for year-round comfort conditioning.

DEPENDABLE, ECONOMICAL PERFORMANCE IS ASSURED WITH THESE OUTSTANDING FEATURES!



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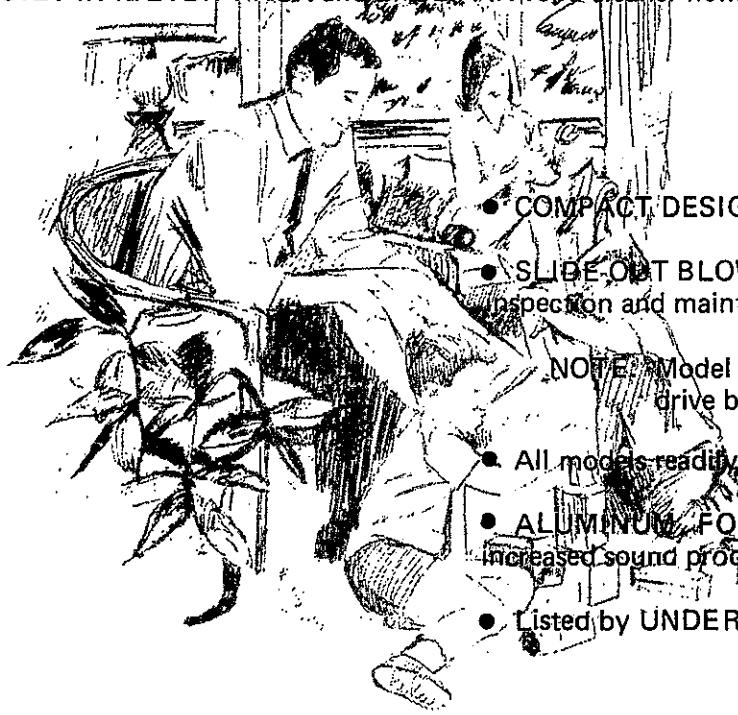
- "CERAMIFLEX®" CHAMBER of sturdy, light weight sound absorbent material provides fast high temperature reflection for cleaner combustion.
- HIGH-PRESSURE, ATOMIZING OIL BURNER, designed for quiet operation, ease of accessibility and service.
- QUALITY CONTROLS used throughout, including cadmium sulfide cell flame detection.
- SECONDARY LIMIT CONTROL provided in blower compartment for added safety.
- Sturdy rust-resistant COLOR COORDINATED CABINETS feature BUILT-IN-FILTER RACK and BASE PAN for a cleaner home.



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- COMPACT DESIGN allows maximum installation flexibility.
- SLIDE-OUT BLOWER ASSEMBLY provides easy access for inspection and maintenance.

NOTE: Model O-84-CD equipped with direct drive blower assembly and multi-speed motor.

- All models readily adaptable for ADD-ON COOLING.
- ALUMINUM FOIL-FACED CABINET INSULATION provides increased sound proofing . . . reduces heat loss.
- Listed by UNDERWRITERS' LABORATORIES, INC.

CRANE — CRANE SUPPLY COMPANY

SPECIFICATIONS

Model Number	Bonnet Capacity	Temp. Rise	C.F.M. @ .2 Static	Motor H.P.	Drive	Blower Size	Filter
O-84-CD	84,000	86°	880	1/6.	Direct	9-9	(2) 10 x 20**
O-84-C	84,000	87°	850	1/6	3¼ - 7	10-8	(2) 16 x 20*
O-112-C	112,000	78°	1330	1/4	3¼ - 9	13-12	(2) 16 x 25*
O-125-C	125,000	75°	1545	1/3	3¼ - 8	13-12	(2) 16 x 25*

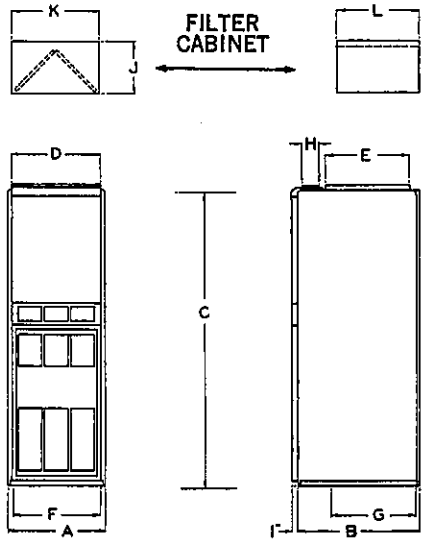
*PART OF FILTER CABINET **INTERNAL FILTER RACK & FILTERS
NOTE: ADEQUATE COMBUSTION AIR MUST BE PROVIDED. FOR SPECIFIC REFERENCES SEE INSTALLATION INSTRUCTIONS PACKED WITH FURNACE.

AIR CONDITIONING FURNACE SPECIFICATIONS

Model Number	A.C. Ton	External Static Pressure		Motor			Blower Size
		.4	.5	Speed	H.P.	Type	
O-84-CD-C3	2 Ton	885	810	Med.	1/3	P.S.C.	9-9
	2½-3 Ton	1200	1100	High			

Model Number	Max A.C. Tons	External Static Pressure		Motor H.P.	Drive	Blower Size
		.4	.5			
O-84-C-C3	3	1300	1200	⅓	3¼-5	10-8
O-112-C-C3	3		1250	⅓	3¼-7**	13-12
O-112-C-C4	4	1738	1600	½	3¼-7	13-12
O-112-C-C5	5	2120	2030	¾	3¼-6	13-12
O-125-C-C4	4	1738	1600	½	3¼-7	13-12
O-125-C-C5	5	1738	1600	¾	3¼-6	13-12

**VARIABLE PULLEY — 2 TURNS OPEN.



Model No.	A	B	C	D	E	F	G	H	J	K	L	Filter Cabinet	Sub Base	Sub Base Floor Opening
O-84-CD	21½	31¼	58½	20	20	19⅞	20⅛	6	—	—	—	—	AF-19	21¼ x 21¼
O-84-C	21½	31¼	58½	20	20	19⅞	20⅛	6	17	20⅜	20-3/16	AF-20	AF-19	21¼ x 21¼
O-112-C O-125-C	26½	36½	58½	25	25	24⅞	25⅛	7	17	25⅜	25-3/16	AF-17	AF-25	26¼ x 26¼

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

CRANE00841

WAC-8-10M-873

SIERRA SERIES

CRANE®
CRANE SUPPLY COMPANY

OIL FIRED HORIZONTAL FURNACES

SPECIFICATIONS

HEATING MODELS

MODEL NUMBER	O-84-SD	O-112-S	O-125-S
BTU/H BONNET OUTPUT	84,000	112,000	125,000
BLOWER SIZE	9-9	10-9	13-12
BLOWER DRIVE	DIRECT	3¼-7"	3¼-8"
MOTOR TYPE	1/6 3 SPEED	1/4	1/3
C.F.M. @ .2 E.S.P.	860	1340	1620
OIL NOZZLE	.75-80 H	.75	1.10-80 H
FILTER SIZE	20x20	25x25	25x25

HEATING AND COOLING MODELS

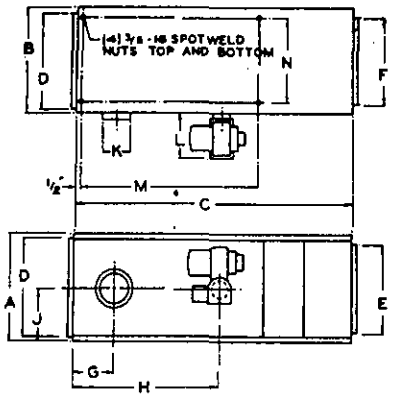
MODEL NUMBER	O-84-SD-3	O-112-S-3	O-112-S-4	O-125-S-4	O-125-S-5
BLOWER SIZE	9-9	10-9	10-9	13-12	13-12
BLOWER PULLEY	—	6"	6"	7"	6"
MOTOR H.P.	1/3 3 SPEED	1/3	1/2	1/2	3/4
C.F.M. @ .5 E.S.P.	1155	1220	1220	1540	1575

FLUE DIAMETER — OIL NOZZLE — FILTER SIZE SAME AS HEATING MODELS.

FACTORY INSTALLED CERAMIFLEX COMBUSTION CHAMBER ON MODELS O-84-S, O-112-S, and O-125-S.

O-84-SD, O-112-S AND O-125-S ASSEMBLED FOR LEFT DISCHARGE. CAN BE CHANGED TO RIGHT DISCHARGE IN FIELD BY ROTATING FURNACE & BURNER.

DIMENSIONS



MODELS O-84-SD, O-112-S & O-125-S

MODEL	A	B	C	D	E	F	G	H	H	K	L	M	N
O-84-SD	21½	21	58½	20x20	18	18	8½	30½	10¾	6	9	47¼	17¾
O-112-S O-125-S	26½	27	61½	25x25	24	23	8½	30½	13¾	7	9	37¼	21¼

CRANE® CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

CRANE00842

SPECIFICATIONS

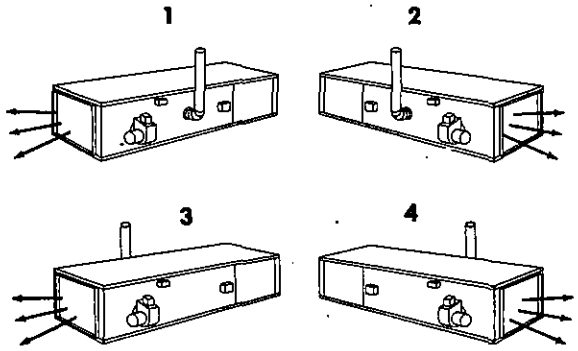
Model Number	Nozzle Size	Bonnet Capacity	Temp. Rise	C.F.M. @.2 Static	Motor H.P.	Drive	Blower Size	Filter
OS-140*	1.25	140,000	85°	1450	1/3	3¼ x 5-37	10-10	2-10 x 20 1-15 x 20
OS-168**	1.50	168,000	85°	1830	3/4	3¼ x 6-44	12-12	3-16 x 25
OS-196**	1.75	196,000	85°	2000	3/4	3¼ x 6-44	12-12	3-16 x 25

*Unit shipped in two cartons.
**Unit shipped in three cartons.

AIR CONDITIONING FURNACE SPECIFICATIONS

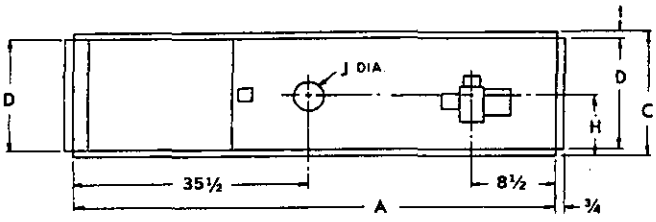
Model Number	A.C. Ton	External Static Pressure @ .5	Motor H.P.	Drive	Blower Size
OS-140C3.5	3½	1430	1/2	3¼ x 5-39	10-10
OS-140C4	4	1745	3/4	4 x 5-39	10-10
OS-168C5	5	2030	3/4	3¼ x 5-42	12-12
OS-196C5	5	2030	3/4	3¼ x 5-42	12-12

- Cerafelt combustion chamber with corbel top.
- Burner opening front and rear.
- Exclusive square to round durable heat exchanger for smooth air flow and maximum heat transfer.
- Large capacity blower provides air deliveries needed for cooling.
- Slide-out filters may be serviced from either side.
- Baked enamel casing with fully insulated heating compartment. Knockouts are provided for simplified suspension.

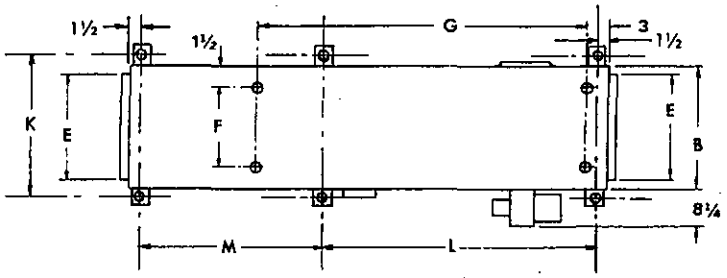


SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

OS-140 CAN BE INSTALLED IN ARRANGEMENT 1, 2, 3, AND 4. OS-169 AND 196 CAN BE INSTALLED IN ARRANGEMENT 1 AND 2 ONLY.



SIDE VIEW



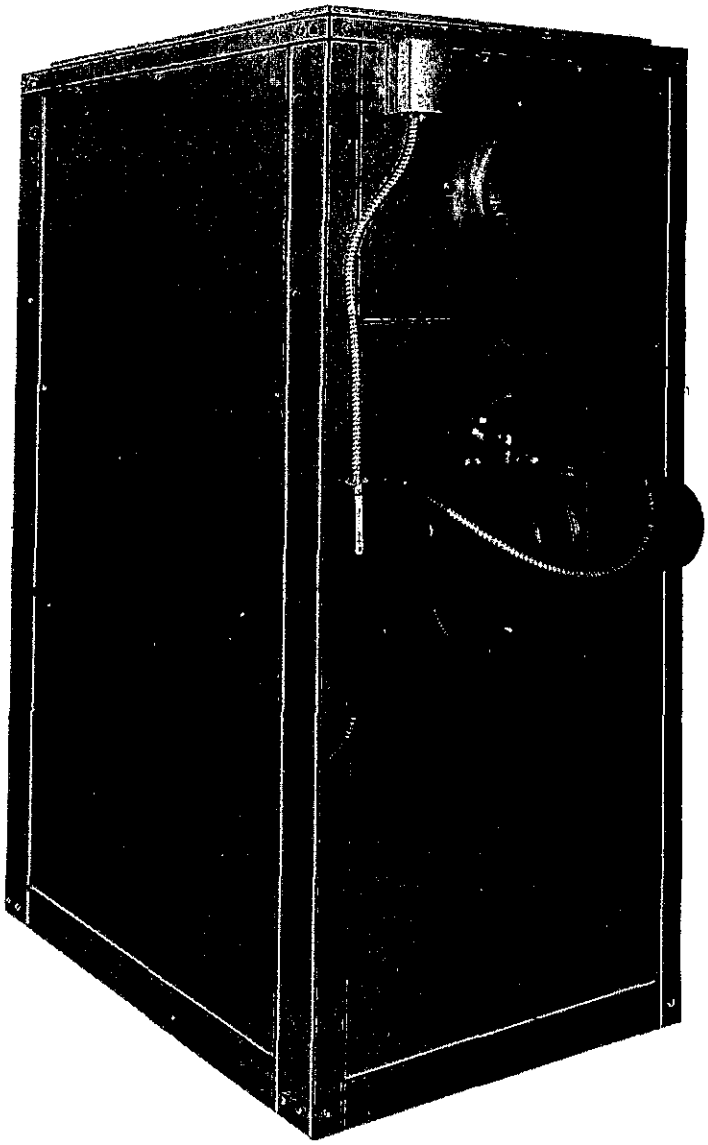
TOP VIEW

DIMENSIONS

Model	A	B	C	D	E	F	G	K	L	M	H	J	Support Attachment
140	68	22½	22	20	20	19½	46	—	—	—	11	6	3/8 Nut
168	90	26½	26	24	22	—	—	28	50½	36½	13	7	7/16 Hole
196	90	26½	26	24	22	—	—	28	50½	36½	13	7	7/16 Hole

CRANE®

-CRANE SUPPLY COMPANY-



O SERIES

OIL FIRED FURNACE

•UPFLOW

•HORIZONTAL

- **CABINET** — Finished in baked enamel. All panels are removable for servicing and cleaning. Ridged corner posts with angle iron constructed base. Extra heavy foil faced glass wool liners for a quieter, cooler cabinet.

- **HEAT EXCHANGER** — Stainless steel heat exchanger with a 5-year warranty. Rugged secondary flue travel, corrosion resistant aluminized steel tubes. The heat exchanger is accessible from front of unit for cleaning without removing the burner, electrical wiring or controls.

- **FLEXIBILITY** — May be installed for upflow or horizontal air delivery. (Units are assembled for vertical installation.) For horizontal installation, the burner must be rotated 90 . Return air ducts may be brought in from any of three sides of blower compartment. Optional filter rack is designed for direct attachment to either side or end of furnace, depending on application. Direction of air flow on horizontal installation can be either right to left, or left to right.

- **UPFLOW OR HORIZONTAL INSTALLATION** All models are shipped from the factory completely wired, tested, and ready to install.

- **BLOWER** — Twin blowers mounted on rails can be pulled out from either side of unit for servicing and cleaning. The motor, pulley and belts can be serviced from either side or front of the unit by removing one panel.

- **DEPENDABILITY** — Each unit is designed and built for dependability. Your assurance of the best in commercial heating.

CRANE

STANDARD HEATING SPECIFICATIONS

Model Number	Nozzle Size	Bonnet Capacity	External Static Pressure				Motor H. P.	Drive	Motor Pulley Setting
			.20	.30	.40	.50			
O-225	2.0 70°B	225,000	3400 62°	3120 68°	2650 80°		½	3¼ x 7	CLOSED
O-275	2.5 70°B	275,000	4080 63°	3825 68°	3600 71°	3200 80°	¾	3¼ x 6	CLOSED
O-350	3.0 70°B	350,000	4600 71°	4080 79°			¾	4 x 10¾	3 - TURNS OPEN
O-450	4.0 70°B	450,000	5200 80°	4880 86°			1	4 x 9¼	4½ - TURNS OPEN

ALTERNATE DRIVES SPECIFICATIONS

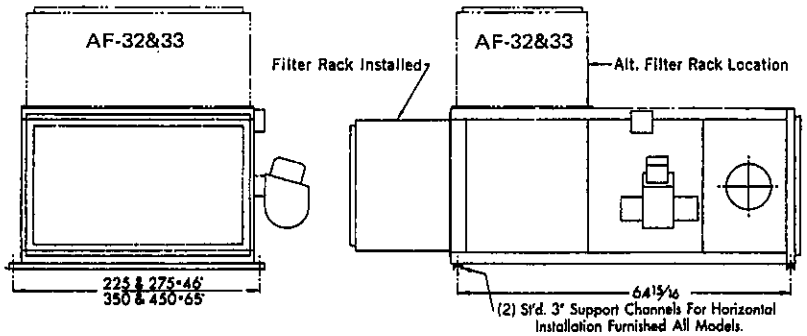
Model Number	C.F.M. @ External Static Pressure							Motor H. P.	Drive O. D.	Motor Pulley Setting
	.40	.50	.60	.70	.80	.90	1.0			
O-225C8	3600	3200	2825					¾	3¼ x 6	CLOSED
O-225C9		3900	3700	3300	2950			1	4 x 6	2½ - TURNS OPEN
O-225C10		4380	4200	3980	3580	3100	2600	1½	4 x 11¾	5 - TURNS OPEN
O-275C9		3900	3700	3300				1	4 x 6	2½ - TURNS OPEN
O-275C10		4380	4200	3980	3580			1½	4 x 11¾	5 - TURNS OPEN
O-350C10	5040	4480	3840					1	4 x 9¼	3 - TURNS OPEN
O-350C12	* 5480	* 5020	* 4600	5120	4560	4040		1½	4 x 15¾	3 - TURNS OPEN
O-350C15		* 6250	* 5800	* 5350	5900	5600	5050	2	4 x 13¾	3 - TURNS OPEN
O-450C12	* 5480	* 5020	* 4600	5120	4560			1½	4 x 15¾	3 - TURNS OPEN
O-450C15		* 6250	* 5800	* 5350	5900	5600	5050	2	4 x 13¾	3 - TURNS OPEN

*MOTOR PULLEY 6 - TURNS OPEN.
NOTE: 1½ AND 2 H.P. MOTORS ARE 3450 R.P.M. ALL OTHERS ARE 1725 R.P.M.

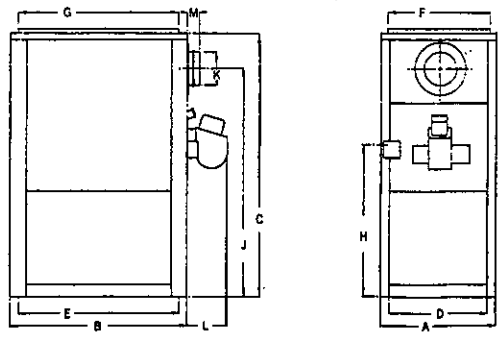
DIMENSIONS

	Width	Length	Height	Return Air Opg.		Warm Air Opg.		Elec. Box		Flue Dia.			Duct Size	
Model	A	B	C	D	E	F	G	H	J	K	L	M		
O-225-275	29	44	66	25	40	26	40	37	56	8	10	3	AF-32	23" x 40"
O-350-450	29	63	66	25	59	26	59	37	56	9	10	3	AF-33	23" x 59"

HORIZONTAL INSTALLATION



UPFLOW INSTALLATION



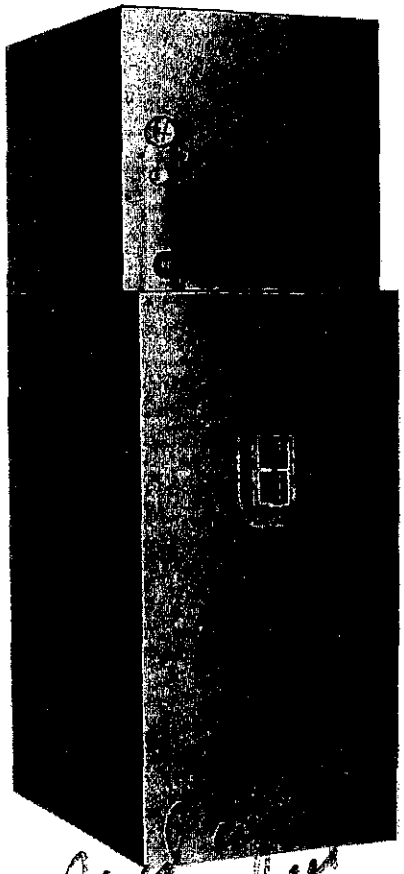
CRANE®

CRANE SUPPLY COMPANY

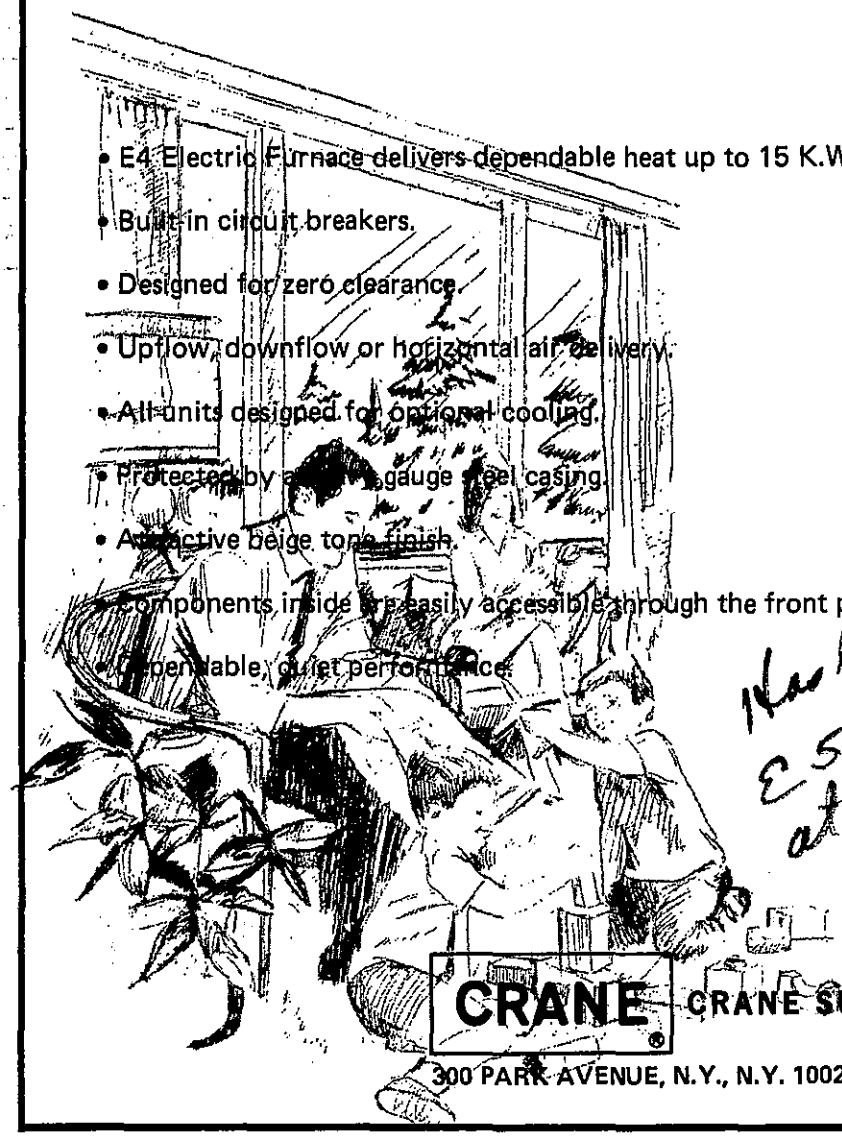
E SERIES ELECTRIC FURNACE

THE ELECTRIC FURNACE DESIGNED FOR:

VERSATILE APPLICATION
EASY INSTALLATION
QUIET OPERATION
ATTRACTIVE APPEARANCE
ECONOMICAL USE



E4 FURNACE WITH UD-23 COIL



- E4 Electric Furnace delivers dependable heat up to 15 K.W.
- Built in circuit breakers.
- Designed for zero clearance.
- Upflow, downflow or horizontal air delivery.
- All units designed for optional cooling.
- Protected by a [illegible] gauge steel casing.
- Attractive beige tone finish.
- Components inside are easily accessible through the front panels.
- Dependable, quiet performance.

Has been replaced by E5 - new spec sheet at printer

CRANE® CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

CRANE00846

E4 ELECTRIC FURNACE

Electrical Specifications & B.T.U. Output

AVAILABLE VOLTAGE	ELECTRICAL SPECIFICATIONS	E4-F5	E4-F10	E4-F15
240V	K.W.	5	10	15
	B.T.U. Output per hour	17,050	34,100	51,150
	Amps	20.8	41.7	62.5
	Wire Size	10	6	4
230V	K.W.	4.59	9.18	13.8
	B.T.U. Ouput per hour	15,650	31,300	46,950
	Amps	19.9	39.9	59.8
	Wire Size	10	6	4
220V	K.W.	4.2	8.4	12.6
	B.T.U. Output per hour	14,300	28,650	42,950
	Amps	19.1	38.2	57.2
	Wire Size	10	6	4
210V	K.W.	3.75	7.5	11.3
	B.T.U. Output per hour	12,750	25,550	38,400
	Amps	18	36.1	54.1
	Wire Size	10	6	4

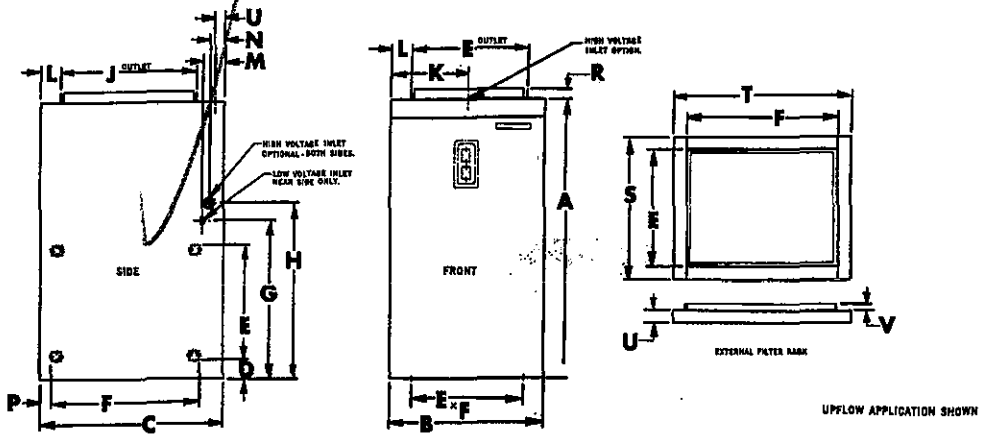
All units contain Circuit Breakers. Wire size based on copper conductors; 75°C insulation rating. Blower — all units 9" x 7". Motor — 1/5 h.p., direct drive, 230V, 3-speed.

C.F.M. @ Indicated Voltage

AVAILABLE VOLTAGE	HEATING C.F.M. @ .2						COOLING C.F.M. @ .5			
	E4-F5		E4-F10		E4-F15		1½ TONS		2 TONS	
	Motor Speed	C.F.M.	Motor Speed	C.F.M.	Motor Speed	C.F.M.	Motor Speed	C.F.M.	Motor Speed	C.F.M.
240 V	low	650	med.	825	high	1045	med.	710	high	855
230 V	low	605	med.	770	high	1010	med.	685	high	835
220 V	low	565	med.	735	high	980	med.	655	high	815
210 V	low	500	med.	665	high	935	med.	590	high	795

Cooling Specifications

EVAPORATOR	CONDENSER	REQUIRED C.F.M.	STATIC PRESSURE	A.R.I. CAPACITY	LINE SET
UD-23	R & F 18	600	.16	17,500	26998
	R & F 24	800	.29	23,000	26998
H-24	R & F 18	600	.12	17,500	26995
	R & F 24	800	.22	24,000	26995



A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U	V
30	14 1/2	20 1/2	2	11 7/16	17 7/8	16 3/4	22 3/4	15 7/8	7 1/4	1 5/16	3	1 3/4	1	1/2	14 1/8	20 1/8	1 1/8	3/4

CRANE

CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

CRANE00847

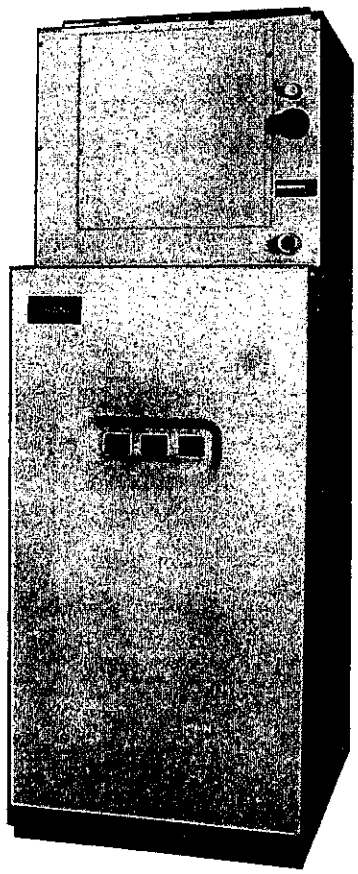
CRANE®

CRANE SUPPLY COMPANY

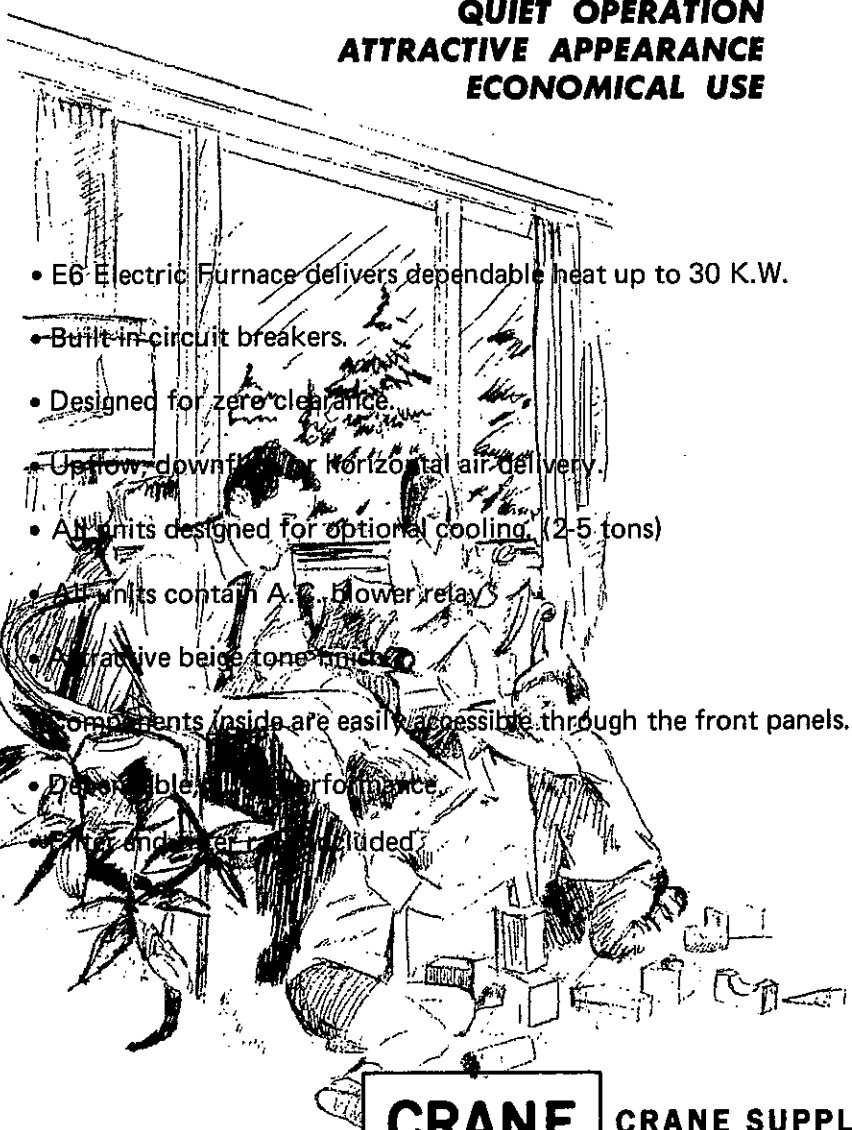
E SERIES ELECTRIC FURNACE

THE ELECTRIC FURNACE DESIGNED FOR:

VERSATILE APPLICATION
EASY INSTALLATION
QUIET OPERATION
ATTRACTIVE APPEARANCE
ECONOMICAL USE



E6 FURNACE WITH U-421 COIL



- E6 Electric Furnace delivers dependable heat up to 30 K.W.
- Built-in circuit breakers.
- Designed for zero clearance.
- Upflow-downflow or horizontal air delivery.
- All units designed for optional cooling. (2-5 tons)
- All units contain A. C. blower relays.
- Attractive beige tone finish.
- Components inside are easily accessible through the front panels.
- Dependable, quiet performance.
- Filter and filter rack included.

OK

CRANE® CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

CRANE00848

E6 ELECTRIC FURNACE

ELECTRICAL RATINGS AND SPECIFICATIONS

Furnace Size	240V			230V			220V			210V			Wire Size* All Voltage
	KW	Amps	B.T.U. Out	KW	Amps	B.T.U. Out	KW	Amps	B.T.U. Out	KW	Amps	B.T.U. Out	
E6-F10	10	41.7	34,100	9.18	39.9	31,300	8.4	38.2	28,650	7.5	36.1	25,550	6
E6-F15	15	62.5	51,150	13.8	59.8	46,950	12.6	57.2	42,950	11.3	54.1	38,400	4
E6-F20	20	83.3	68,200	18.4	79.8	62,600	16.8	76.4	57,300	15	72.2	51,100	2
E6-F25	25	104.2	85,250	22.98	99.7	78,250	21	95.4	71,600	18.8	90.2	63,950	1/0
E6-F30	30	125	102,300	27.6	119.6	93,900	25.2	114.4	85,900	22.6	108.2	76,800	2/0

*Wire Size based on copper conductors, 75°C insulation rating.

CFM PERFORMANCE

		CFM E6-(KW)D2C3.5				CFM E6-(KW)D2C4				CFM E6-(KW)D2C5			
Motor		1/3 H.P. Direct				1/2 H.P. Direct				3/4 H.P. Direct			
Blower		10 x 8				10 x 8				12 x 8			
Available Voltage		240V	230V	220V	210V	240V	230V	220V	210V	240V	230V	220V	210V
Low Speed	.2 ES	973	893	830	760	1243	1134	1044	948	1914	1812	1721	1595
	.5 ES	954	882	821	738	1242	1155	1067	978	1815	1722	1640	1555
Med. Speed	.2 ES	1299	1217	1136	1040	1560	1458	1358	1228	NO MED. SPEED			
	.5 ES	1268	1200	1120	1031	1500	1420	1342	1228				
High Speed	.2 ES	1607	1518	1430	1320	1955	1850	1780	1662	2196	2140	2069	1962
	.5 ES	1517	1463	1396	1297	1765	1692	1638	1564	2048	2003	1945	1854

COOLING APPLICATION DATA

E6 Furnace	Evaporator Number	Condenser	A.R.I. Capacity	C.F.M.	Static Pressure	Tubing Set	Tubing Suction	Size Liquid	Stub Kit No.
E6-C3.5	U-421	R1-30	30,000	1100	.25	28521	3/4	5/16	AC87-2
		R1-36	36,000	1200	.30	28522	3/4	3/8	AC87-3
		R1-42	40,000	1200	.30	28524	7/8	3/8	AC87-3
	D-421	R1-30	30,000	1100	.25	28521	3/4	5/16	AC87-2
		R1-36	36,000	1200	.30	28522	3/4	3/8	AC87-3
		R1-42	40,000	1200	.30	28524	7/8	3/8	AC87-3
	H-36	R1-30	30,000	1100	.21	26995	3/4	5/16	AC87-1
		R1-36	35,000	1200	.17	28523	3/4	3/8	AC87-2
	H-481	R1-42	43,000	1500	.16	28524	7/8	3/8	AC87-3
E6-C4	U-482	R1-42	43,000	1400	.30	28524	7/8	3/8	AC87-3
		R1-48	47,000						
	H-481	R1-48	47,000	1600	.19	28524	7/8	3/8	AC87-3
E6-C5	U-602	R1-60	56,000	1800	.30	28524-20' max 28525*	7/8 3/4 (2)	3/8 1/2	AC87-3 See Note
	H-601	R1-60	56,000	2000	.20	28525*	3/4 (2)	1/2	AC87-4

*AC86 Adaptor Kit to be used with dual suction lines.
For line lengths greater than 20', AC87-3 may be used with one 1-1/8" diameter suction line and 1/2" diameter liquid line.

FURNACE DIMENSIONS

Cabinet Height	39"
Cabinet Width	20"
Cabinet Depth	24"
Supply Opening	13-7/8 x 15-7/8"W
Return Openings	17-7/8 x 17-7/8"
Filter Size	20 x 20"
Base to 240V Inlet	36-3/4"

MATCHING COOLING COIL DIMENSIONS

MODEL NO.	Upflow			Counter-flow	Horizontal		
	U-421	U-482	U-602	D-421	H-36	H-481	H-601
Condensate Drain Size	¾" IPS	¾" IPS	7/8" OD	¾" IPS	¾" IPS	¾" IPS	¾" IPS
Cabinet—Height	17½"	20½"	23¼"	20"	22"	22"	25"
Width	20"	20"	24"	20"	26"	34"	32"
Depth	19"	19"	18¾"	19-5/8"	7"	7"	8½"
Outlet Opening	15x18W	15¾x17¾W	15x22W	14x16W	20x24W	20x32W	22x30W
Inlet Opening	16x18¾W	16x18W	16x22¾W	14x16W	20x24W	20x32W	22x30W

CRANE SUPPLY COMPANY
300 PARK AVENUE, N.Y., N.Y. 10022

E5 ELECTRIC FURNACE

ELECTRICAL RATINGS AND SPECIFICATIONS

Furnace	240V			230V			220V			210V			Wire Size* All Voltage
	KW	Amps	B.T.U. Out	KW	Amps	B.T.U. Out	KW	Amps	B.T.U. Out	KW	Amps	B.T.U. Out	
E5-5	5	20.8	17,050	4.59	19.9	15,650	4.2	19.1	14,300	3.75	18	12,750	10
E5-10	10	41.7	34,100	9.18	39.9	31,300	8.4	38.2	28,650	7.5	36.1	25,550	6
E5-15	15	62.5	51,150	13.8	59.8	46,950	12.6	57.2	42,950	11.3	54.1	38,400	4
E5-20	20	83.3	68,200	18.4	79.8	62,600	16.8	76.4	57,300	15	72.2	51,100	2

* These models do not contain fuses
All models comply with National Electric Code Requirements.

*Wire Size based on copper conductors, 75°C insulation rating.

CFM PERFORMANCE

		CFM-E5-(K.W)C2				CFM-E5(KW)C2.5			
Motor		1/5 H.P. Direct				0.3 H.P. Direct			
Blower		9 x 7				9 x 7			
Available Voltage		240V	230V	220V	210V	240V	230V	220V	210V
Low Speed	.2-ES	650	605	565	500	762	700	660	585
	.5-ES	590	595	525	465	755	688	650	575
Med. Speed	.2-ES	825	770	735	665	935	873	825	755
	.5-ES	710	685	655	590	920	873	810	740
High Speed	.2-ES	1045	1010	980	935	1165	1119	1045	960
	.5-ES	855	835	815	795	1125	1025	1020	935

CENTER

COOLING APPLICATION DATA

5-FURNACE	EVAPORATOR NUMBER	CONDENSER	A.R.I. CAPACITY	STATIC PRESSURE	LINE SET	STUB KIT	REQUIRED C.F.M
5-D2C2	UD-231	R1-18	17,500	.16	B29502-26998	AC-87-1	600
	H-231*	R1-18	17,000	.20	B29502-26998	AC-87-1	600
	UD-231	R1-24	23,000	.29	B29503-26995	AC-87-1	800
	H-231*	R1-24	23,000	.30	B29503-26995	AC-87-1	750
5-D2-C2.5	UD-30	R1-30	30,000	.17	B29504-26995	AC-87-1	1050
	H-36*	R1-30	30,000	.19	B29504-26995	AC-87-1	1050

* Transition between furnace and coil to be field fabricated. All units contain fan relay

call Ralph Dunbar

FURNACE DIMENSIONS

E5	DIMENSION
Cabinet Height	27½"
Cabinet Width	16"
Cabinet Depth	20½"
Supply Opening	16" x 14" W.
Return Openings	18" x 12" H.
Filter Size	14" x 20" x 1"
Base to 240V Inlet	25½"

MATCHING COOLING COIL DIMENSIONS

MODEL NO.	UPFLOW/DOWNFLOW		HORIZONTAL	
	UD-231	UD-30	H-231	H-36
Condensate Drain Size	3/4 IPS	3/4 IPS.	—	3/4 I.P.S.
Cabinet—Height	14¼	14¼	—	22
Width	16	16	—	26
Depth	18¼	19⅞	—	7¼
Outlet Opening	16 x 14 W	16 x 14 W	—	24 x 20 H
Inlet Opening	16 x 14 W	16 x 14 W	—	24 x 20 H

Dennis you need to get new dimension

Furnace may be installed with airflow vertical, horizontal or counterflow with 0 in. clearance to combustible materials at sides, rear, front, top, bottom, plenum and ductwork. In counterflow position, furnace may be mounted direct on combustible flooring.

CRANE®

CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

UNITS BEAR UNDERWRITERS' LABORATORIES

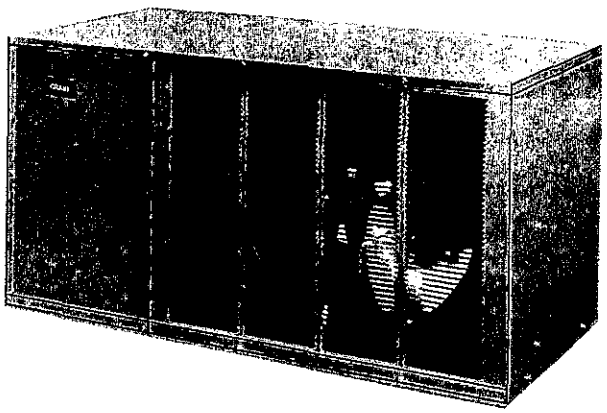
CRANE00850

CRANE®

—CRANE SUPPLY COMPANY—

PRECHARGED - REMOTE CONDENSING SYSTEMS

- **1½ thru 5 ton**
- **Pull thru design**
- **Isolated compressor compartment**
- **2-speed condenser fan**



the 3-3½-4-5 ton must to be replaced in Sept-Oct. See sheet not ordered

COMPRESSOR – Hermetic, dynamically balanced, internally spring-mounted.

CONDENSER COIL – Copper tubes with full rippled aluminum fins for maximum heat transfer.

REFRIGERANT CIRCUIT – Filter dryer factory installed. Clean dehydrated copper tubing brazed, pressure and electronically leak tested.

AXIAL FLOW FAN – Driven by direct connected motor for high air delivery with low sound level and power consumption.

CONTROL PANEL – Factory installed, pre-wired, and easily accessible.

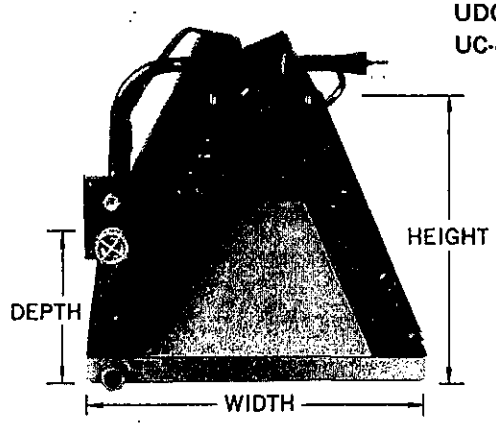
CONTROLS – Heavy duty contactor. High pressure protection inherently designed in compressor on 1½, 2, 2½, 3 ton units. Manual Reset High Pressure Switch installed at factory on 3½, 4, and 5 ton units.

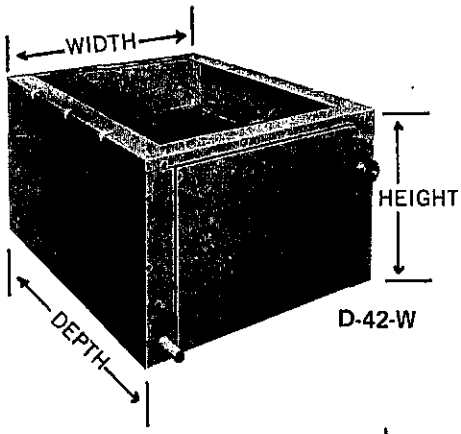
CABINET – Design requires minimum yard space with trim appearance.

DIMENSIONS – COIL ONLY

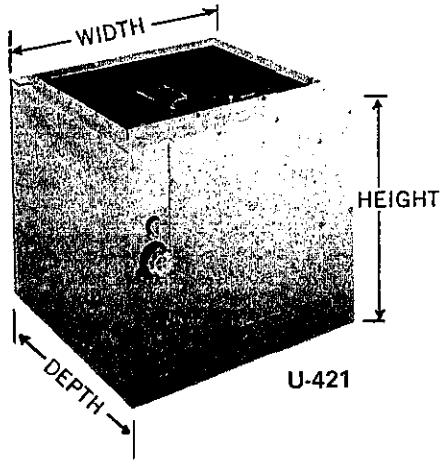
Model No.	Condensate Drain Size	Width	Depth	Height	Inlet Opening
UDC-24	¾" I.P.S.	13	18	13¾	8¼ Wide 13½ Deep
UDC-30	¾" I.P.S.	15	19½	13	9½ Wide 16½ Deep
UDC-421	¾" I.P.S.	19	18¾	16-5/8	12-5/16 Wide 15-13/16 Deep
UC-481	7/8 O.D.	25-5/8	18½	22	19-1/8 Wide 14-3/4 Deep
UC-601	7/8 O.D.	27	19	18	23 Wide 12½ Deep

UDC-24
UDC-30
UDC-42
UC-48

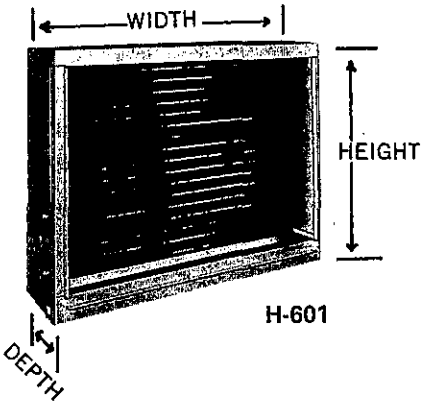




D-42-W



U-421



H-601

SPECIFICATIONS

MODEL NO.	UPFLOW						COUNTERFLOW		HORIZONTAL			
	UD-23	UD-24	UD-30	U-421	U-481	U-601	D-421	D-421-W	H-23	H-36	H-481	H-601
Condensate Drain Size	7/8 O.D.	7/8 O.D.	7/8 O.D.	¾" I.P.S.	7/8 O.D.	¾" I.P.S.	¾" I.P.S.	7/8 O.D.	¾" I.P.S.	¾" I.P.S.	¾" I.P.S.	¾" I.P.S.
Cabinet—Height	15	15¾	–	17½	22-7/8	20	20	15-1/8	18-7/8	22	22	25
Width	14½	12¾	–	20	26	27½	20	23-1/4	21	26	34	32
Depth	18¼	18¾	–	19	18-3/4	19-5/8	19-5/8	27-5/8	8-3/4	7	7	8½
Outlet Opening (Inches)	15-7/8x117/8W	15x12W	–	15x18W	15x24W	15¾x24¾W	14x16W	24¼x21¼W	16x16W	20x24W	20x32W	22x30W
Inlet Opening (Inches)	16x12W	15½x12W	–	16x18¾W	16x24¾W	16x25¼W	14x16W	24x18-1/8W	16x16W	20x24W	20x32W	22x30W

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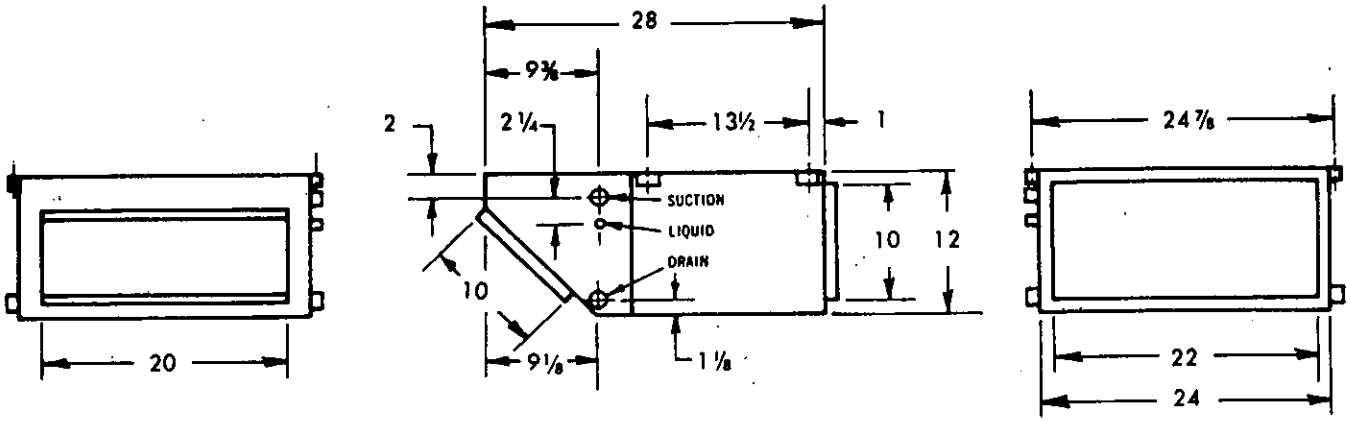
HVBC

VERTICAL OR HORIZONTAL BLOWER COIL



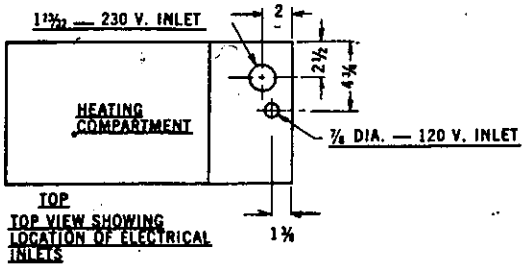
OK

SPECIFICATIONS

Unit Number	Condensing Unit	Tubing Kit	A.R.I.* Cert. Cap. B.T.U./Hr.	C.F.M.	Blower	Motor And Drive 115V	Drive	Drain
HVBC-24 (contains coil)	F-18-1C or R118-1C	26999	18,000	600	10-6	1/6 H.P. (2 Speed)	Direct	¾"
	F-24-1C or R124-1C	26995	†23,000	800				

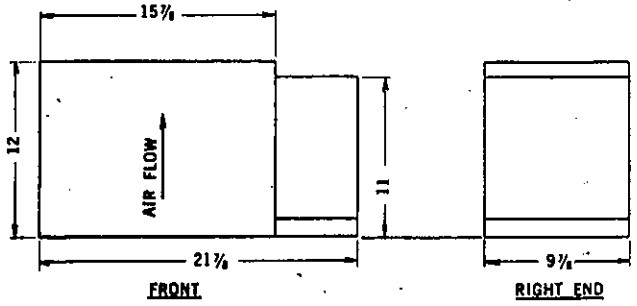
*CERTIFIED IN ACCORDANCE WITH ARI STANDARD 210 WHEN USED WITH COMPONENTS DESIGNATED BY MANUFACTURER
†DEDUCT 1000 B.T.U. WHEN USED WITH F-24-1C CONDENSING UNIT.

OPTIONAL ELECTRIC HEATING ELEMENTS WITH CABINETS FOR USE WITH HVBC



Element Number	For Use With	Kilowatts @ 240 Volts	B.T.U.* Capacity
EB5	HVBC-24	4.6	15,700
EB10	HVBC-24	9.2	31,400
EB15	HVBC-24	13.8	47,100
EB20	HVBC-24	18.4	62,800

*Rated in accordance with A.R.I. standard 210-66.

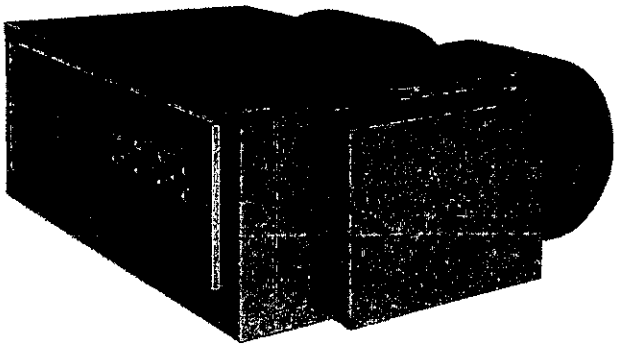


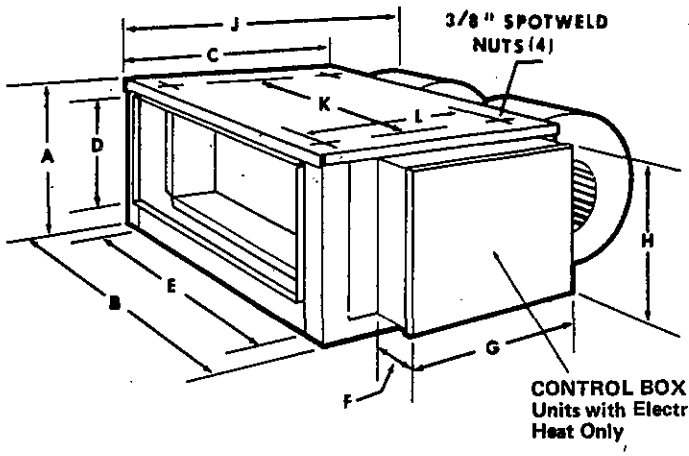
A.R.I. CERTIFIED. Certification applies only when used with proper components as designated by mfgr.

The EB Series electric heating elements are mounted in a casing that fits in the space between the blower outlet and supply ductwork. This unit will be shipped separately and can be field mounted with four screws. Relay and contactors are mounted on panel and wired to elements.

BC - HORIZONTAL AIR HANDLING UNITS

WITH OR WITHOUT ELECTRIC HEATING ELEMENTS

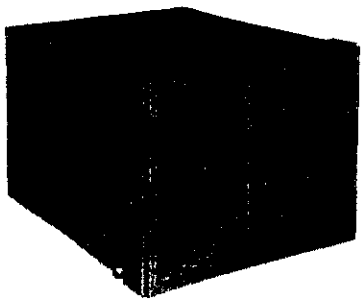


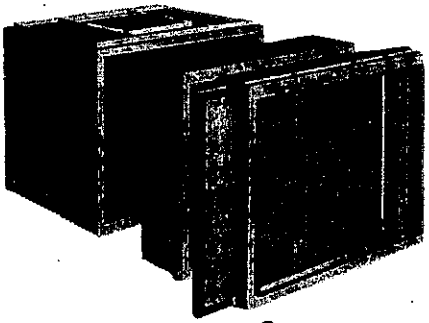


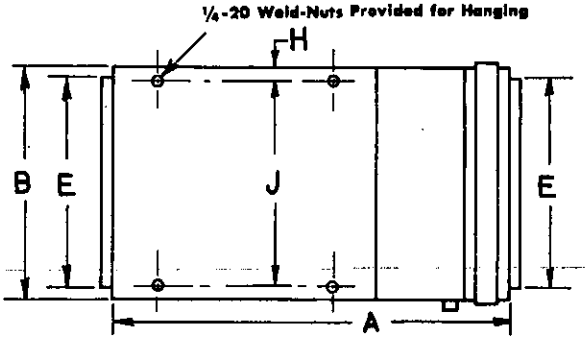
EVAPORATOR SECTION (MODEL)	BC-18/5 or 10	BC-24/10 or 15
Net Face Area - Sq. Ft.	1.44	2.19
No. Rows of Tubes	3	3
Fins Per Inch	12	14
Fin Depth - Inches	2.60	1.81
Condensate Drain - O.D. In.	⅞	⅞
Auxiliary Drain - O.D. In.	⅞	⅞
Refrigerant Connections	QUICK CONNECTS	
Filter Size - Inches	9x22½x½	10x25½x½
Blower Data		
Wheel Dia. - Inches	5½	6¼
Motor H.P.	1/6	1/6
Motor Type	Sh. P.	Sh. P.
Motor R.P.M.	1550	1550
C.F.M. @ 10 E.S.P.	650	800
C.F.M. @ 20 E.S.P.	570	720
Nameplate Amps.	6.8	6.8
Voltage/Phase/Cycles	115/1/60	115/1/60
Approximate Shipping Weight	70	85

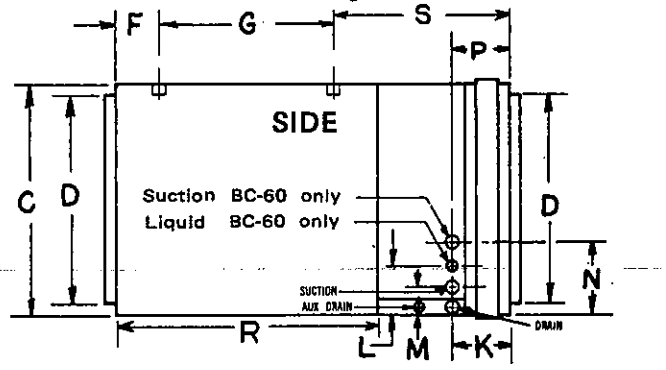
DIMENSIONS (INCHES)

MODEL NUMBER	A	B	C	D	E	F	G	H	J	K	L
BC-18/5	9½	25½	15½	7	22	3¼	10½	8	23¾	24	14
BC-24/10	10⅝	28½	18½	8	25	3¼	10½	8	28¾	27	18









TOP VIEW

DIMENSIONS

SIDE VIEW

Model Number	Length	Width	Height	Duct Connection		Hanger Locations				Line Locations							Filter Size
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	
BC-36	33 3/8	26	22	20	24	3	16	½	25	5 5/16	5	3	OMIT	6	22	7 1/8	20x25
BC-48	33 3/8	34	22	20	32	3	16	½	33	5 5/16	6¼	4	OMIT	6	22	7 1/8	(2)16x20
BC-60	37 3/4	32	25	22	30	3½	18	½	31	5 5/16	7¼	4¼	9½	5⅞	25	8 7/16	(2)16x25

CRANE00854

CRANE SUPPLY COMPANY

WAC-13-10M-873

must be used with new type's

CRANE SUPPLY COMPANY

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APPLICATION DATA

Condenser Model No.	Evaporator Model No.	Capacity	C.F.M.	Static Pressure	Tubing Set	Tubing Size		Compression Fitting Adapter Kit
						Suction	Liquid	
R1 & F1-18	UD-24	17,500	600	.20	26998	5/8	1/4	AC62-1
	UDC-24	17,500	600	.16	26998	5/8	1/4	AC62-1
	UD-23	17,500	600	.16	26998	5/8	1/4	AC62-1
	BC-18	16,500	600	.30	26998	5/8	1/4	AC62-1
	H-23	17,500	600	.12	26998	5/8	1/4	AC62-1
	HVBC-24	16,500	600	.20	26998	5/8	1/4	AC62-1
R1 & F1-24	HVBC-24	22,000	800	.20	26995	5/8	1/4	AC62-3
	UD-24	23,000	750	.30	26995	3/4	5/16	AC62-3
	UDC-24	23,000	800	.29	26995	3/4	5/16	AC62-3
	UD-23	23,000	750	.29	26995	3/4	5/16	AC62-3
	H-23	23,000	800	.22	26995	3/4	5/16	AC62-3
	BC-24	23,000	800	.20	26995	3/4	5/16	AC62-3
	H-36	24,000	850	.12	26995	3/4	5/16	AC62-3
	BC-36	24,000	850	.20	26995	3/4	5/16	AC62-3
	U-421	24,000	850	.16	28521	3/4	5/16	AC62-8
	D-421-W	24,000	850	.19	28521	3/4	5/16	AC62-8
	UDC-421	24,000	850	.16	28521	3/4	5/16	AC62-8
	D-421	24,000	850	.16	28521	3/4	5/16	AC62-8
R1 & F1-30	U-421	30,000	1100	.25	28521	3/4	5/16	AC62-8
	D-421-W	30,000	1100	.28	28521	3/4	5/16	AC62-8
	UDC-421	30,000	1100	.25	28521	3/4	5/16	AC62-8
	D-421	30,000	1100	.25	28521	3/4	5/16	AC62-8
	H-36	30,000	1100	.21	26995	3/4	5/16	AC62-3
	BC-36	30,000	1100	.20	26995	3/4	5/16	AC62-3
	VBC-36	29,000	1100	.20	26995	3/4	5/16	AC62-3
R1-36-1C	U-421	36,000	1200	.30	28522	3/4	3/8	AC62-9
	D-421-W	36,000	1200	.30	28522	3/4	3/8	AC62-9
	UDC-421	36,000	1200	.30	28522	3/4	3/8	AC62-9
	D-421	36,000	1200	.30	28522	3/4	3/8	AC62-9
	H-36	35,000	1200	.17	28523	3/4	3/8	AC62-10
	BC-36	35,000	1200	.20	28523	3/4	3/8	AC62-10
	VBC-36	35,000	1200	.20	28523	3/4	3/8	AC62-10
R1-42-1C	U-421	40,000	1400	.30	28524	7/8	3/8	AC62-11
	D-421-W	40,000	1400	.30	28524	7/8	3/8	AC62-11
	UDC-421	40,000	1400	.30	28524	7/8	3/8	AC62-11
	D-421	40,000	1400	.30	28524	7/8	3/8	AC62-11
	U-481	44,000	1600	.29	28524	7/8	3/8	AC62-11
	UC-481	44,000	1600	.29	28524	7/8	3/8	AC62-11
	H-481	43,000	1500	.16	28524	7/8	3/8	AC62-11
	BC-481	43,000	1400	.20	28524	7/8	3/8	AC62-11
	VBC-481	41,000	1350	.20	28524	7/8	3/8	AC62-11
R1-48-1C	U-481	48,000	1600	.29	28524	7/8	3/8	AC62-11
	UC-481	48,000	1600	.29	28524	7/8	3/8	AC62-11
	H-481	47,000	1600	.19	28524	7/8	3/8	AC62-11
	BC-481	47,000	1500	.20	28524	7/8	3/8	AC62-11
R1-60-1C	U-601	57,000	2000	.26	28525†	3/4 (2)	1/2	AC62-12 *
	UC-601	57,000	2000	.26	28525†	3/4 (2)	1/2	AC62-12 *
	H-601	56,000	2000	.20	28525†	3/4 (2)	1/2	AC62-12 *
	BC-601	56,000	1900	.20	28525†	3/4 (2)	1/2	AC62-12 *

†28524 (Single Suction Line) Line Sets may be used in lieu of 28525 for applications of 20 Ft. or less. In this case use only the bottom suction line couplings at the evaporator and condenser.

*AC62-11 (Single Suction Line 7/8 O.D. and 3/8 O.D. Liquid Line) may be used in lieu of AC62-12 for installation requiring tubing lengths of 20 feet or less. In this case use only bottom Suction Line couplings at Evaporator and Condenser.

FURNACE AND EVAPORATOR APPLICATION CHART

EVAPORATOR MODEL NUMBERS	UD-24	U-421	U-481	U-601
GAS BASEMENT MODELS				
100D	—	*	—	—
100, 120	—	*	—	—
140, 160	—	AC-53	*	*
GAS UPFLOW MODELS				
60D	*	—	—	—
80D	*	—	—	—
A-80D	—	*	—	—
A-100D	—	*	—	—
120D2	—	*	*	—
A-80	—	*	—	—
100,120	—	*	—	—
140,160	—	AC-53	*	*
180, 200, 240	—	†AC-18	AC-8	AC-8
OIL BASEMENT MODELS				
O-84D, 84	—	AC-54	—	—
O-112, 125	—	AC-9	AC-9	AC-9
OL-84D, 84	—	*	—	—
OL-95D, 95	—	*	—	—
OL-112, 125	—	AC-78	AC-78	AC-78
OL-140	—	—	AC-30	AC-30
OL-168 & 196	—	—	AC-9	AC-9
OIL UPFLOW MODELS				
O-84D, 84	—	AC-54	AC-30	—
O-95D, 95	—	AC-54	AC-30	—
O-112	—	AC-9	AC-9	AC-9
O-125	—	AC-9	AC-9	AC-9
OH-84D, 84	—	*	*	—
OH-95D, 95	—	*	*	—
OH-112	—	AC-78	AC-78	AC-78
OH-125	—	AC-78	AC-78	AC-78
ELECTRIC FURNACE				
E3-(KW)D2C3.5	UPFLOW AND COUNTERFLOW INSTALLATION — D-421 MATCHES UNIT HORIZONTAL INSTALLATION — H-36 or H-481 IN DUCT WORK			
E3-(KW)D2C4	U-481 UPFLOW INSTALLATION ONLY			
E4-(KW)D2C2	UD-23 FOR UPFLOW OR COUNTERFLOW INSTALLATION H-23 FOR HORIZONTAL INSTALLATION IN DUCT WORK			

KEY * = EVAPORATOR CABINET MATCHES FURNACE
— = EVAPORATOR NOT RECOMMENDED FOR USE WITH FURNACE
AC = TRANSITION KIT REQUIRED TO ADAPT EVAPORATOR TO FURNACE

COUNTERFLOW APPLICATIONS

EVAPORATOR	FURNACE MATCHED WITH
UD-24	60D, and 80D
D-421	A-80, 100D, 100, 120D, and 120
D-421-W	140 and 160, 84C, 84D, 112* and 125*

*INSTALLER PROVIDES TWO SMALL FILLER PIECES

HORIZONTAL FLOW APPLICATIONS

IN GAS AND OIL HORIZONTAL UNITS, THE INSTALLER MUST INSTALL THE H-36, H-481 AND H-601 EVAPORATORS IN DUCT WORK. SEE AIR CONDITIONING SPEC SHEET FOR DETAILED DESCRIPTION.

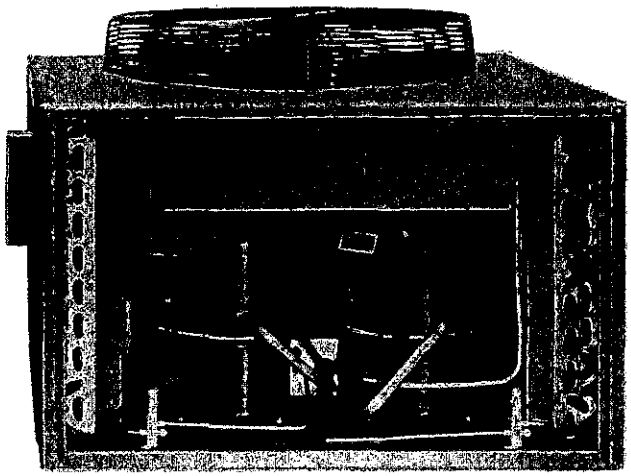
CRANE®
CRANE SUPPLY COMPANY
300 PARK AVENUE; N.Y., N.Y. 10022

CRANE®

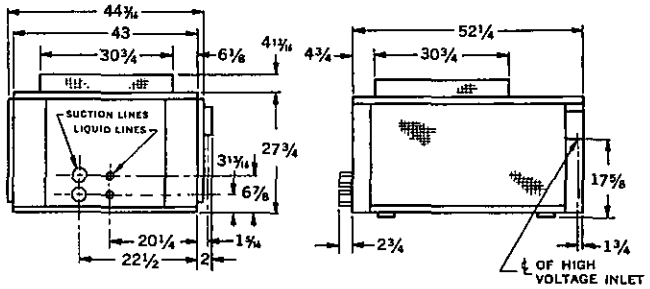
-CRANE SUPPLY COMPANY-

TWIN COMPRESSORS
extend unit life

Twin compressors inside the condensing unit have two stage thermostat control and special circuitry that starts either one or both compressors, depending on cooling demand. For long life, compressors start alternately with each cooling cycle. Compressors have independent refrigeration circuits with each circuit connected to its own condenser coil. Condenser air is controlled for extremely low ambient operation.



A.R.I. CERTIFIED
Certification applies only when used with proper components as designated by mfgr.



OK

AN INDEPENDENT LABORATORY TESTING FOR PUBLIC SAFETY UL

SPECIFICATIONS FOR FIELD CHARGED CONDENSING UNITS

UNIT MODEL NUMBER		R-90-1C	R-90-3C
COOLING CAPACITY — B.T.U./HR.		90,000	90,000
POWER CONSUMPTION — WATTS		6350/6350	6350/6350
COMPRESSOR (2 USED)			
	PHASE	SINGLE	THREE
	VOLTAGE	230	208/240
	FULL LOAD AMPS	28/28	17.5/17.5
	LOCKED ROTOR AMPS	125/125	100/100
FUSE SIZE MAX.		90	50
FUSE SIZE MIN. (TIME DELAY)		80	45
FIELD WIRE		#4	#6
CONDENSER FAN MOTOR 230v/60cy/Ph			
	HORSEPOWER	1/2	1/2
	FULL LOAD AMPS	3.9	3.9
	LOCKED ROTOR AMPS	9.7	9.7
CONDENSER FAN		26″	26″
CONDENSER AIR VOLUME c.f.m.		6000	6000
SUCTION LINE (SWEAT FITTING) ◄		(2) 7/8″	(2) 7/8″
LIQUID LINE (SWEAT FITTING) ◄		(2) 3/8″	(2) 3/8″

◄ IF REFRIGERANT LINES EXCEED 20 FEET IN LENGTH, INCREASE LIQUID LINE SIZE TO ½ INCH O.D. AND SUCTION LINE SIZE TO 1⅛ INCH O.D.

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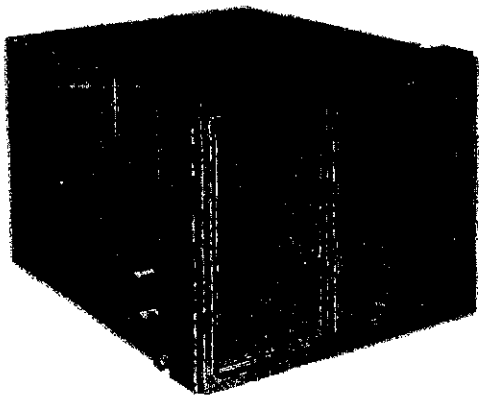
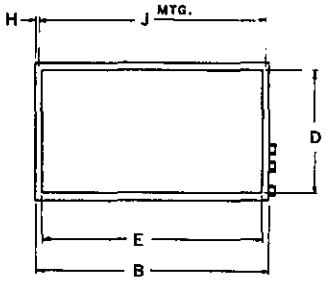
300 PARK AVENUE. N.Y.. N.Y. 10022

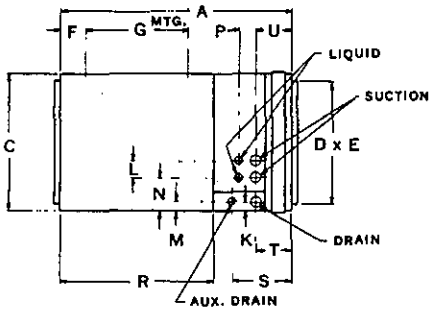
CRANE00857

CRANE

BC-90 BLOWER COIL UNIT







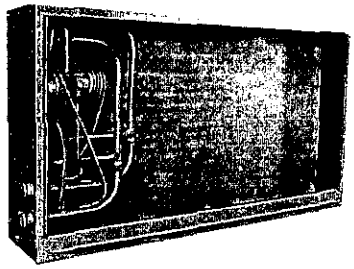
DIMENSIONS

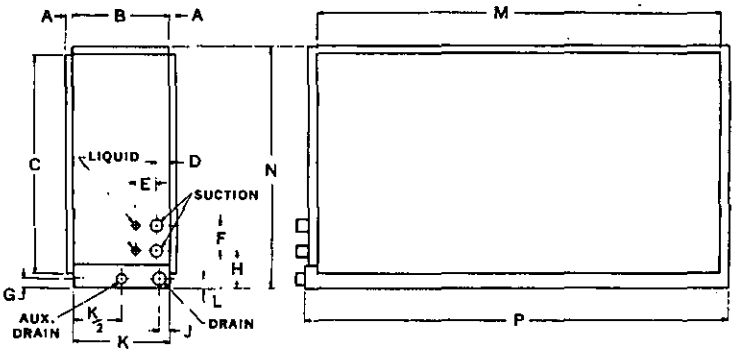
MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	S	T	U
BC-90	40¾	46	26	23⅞	43⅞	3	20	½	45	1-1/16	2¾	1-3/16	4	2¼	26	9½	5⅜	5-13/16

SPECIFICATIONS

MODEL	BLOWER	MOTOR H.P.	DRIVE	FILTER SIZE	VOLTS	C.F.M. @ .20" EXT.
BC-90	12 x 12	1	3¼ x 10-51	(2) 20 x 25	115/230	3,000

H-90 HORIZONTAL COIL





DIMENSIONS

MODEL	A	B	C	D	E	F	G	H	J	K	L	M	N	DRAIN	P	R
H-90	¾	10-5/16	23-15/16	1½	2¼	2¾	13/16	4	1⅛	10-15/32	45-27/32	43-27/32	26	¾	46	1-1/6

PERFORMANCE — CONDENSING UNIT AND COIL

CONDENSING UNIT	COIL	EVAP. C.F.M.	AIR FRICTION (WET)	A.R.I. CAPACITY	K.W.
R-90-1C & 3C	H-90	3,000	.25	90,000	12.1*

RATED IN ACCORDANCE WITH A.R.I. STANDARD 210

*BOTH COMPRESSORS OPERATING

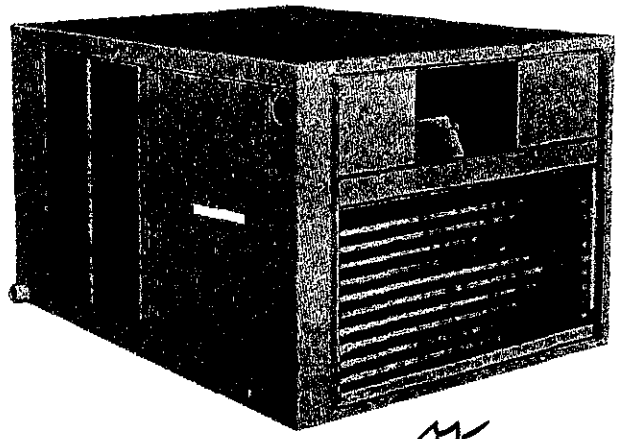
CRANE®

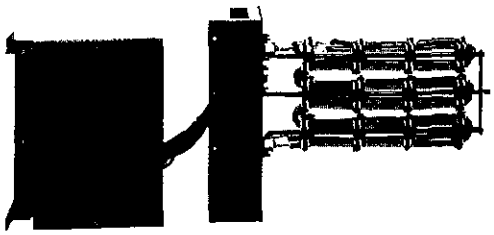
-CRANE SUPPLY COMPANY-

PC SERIES
SELF-CONTAINED COOLING

the system designed for:

- VERSATILE APPLICATION
- ATTRACTIVE APPEARANCE
- ECONOMICAL USE
- EASY INSTALLATION
- QUIET OPERATION





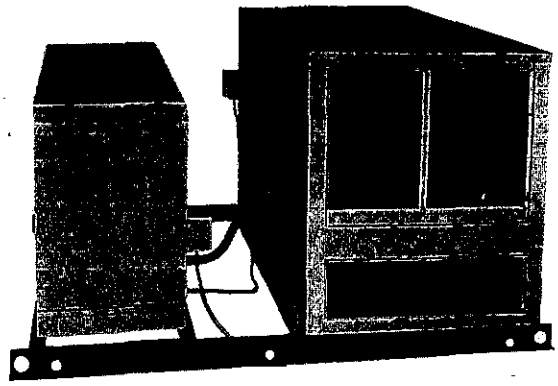
OPTIONAL ELECTRIC HEAT STRIP
15,700 TO 94,200 B.T.U./HR.

Here's compact efficient single package cooling. This self-contained cooling unit is installed quickly because there are no refrigerant lines or connections to be made. Installation may be either on the roof or any other exterior location that is convenient. The durable zinc coated steel cabinet is protected with weather resistant paint. A large centrifugal blower handles indoor air with generous sized duct connections provided for supply and return air. Outdoor air is moved by a quiet propeller fan. All controls and wiring connections are readily accessible for fast installation and easy inspection and servicing. Standard one year warranty on the entire unit, and an additional four year protection plan on the compressor. Units bear U.L. Label and are A.R.I. Certified.

CRANE® CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

PG1-180C57 ROOFTOP
HEATING AND COOLING



PG1

OUTSIDE HEATING AND COOLING UNITS

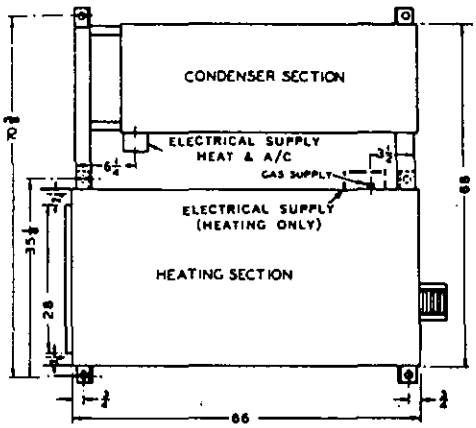
Unit Number	AGA BTU/HR. Input	AGA BTU/HR. Bonnet	Temp. Rise @ 5" ESP	Condensing Unit	ARI BTU/HR. Cooling
PG1-180C57-1 PG1-180C57-3	180,000	135,000	64°	C57R1 C57R3	57,000

LOW AMBIENT CONTROLS STANDARD ALL MODELS
STANDARD EQUIPMENT FOR NATURAL, PROPANE OR MIXED GAS
¾ HP 230/60/1 1750 R.P.M. Motor
10 x 10 Blower
½" Gas Connection (natural or propane)
2 — 16 x 20 High Velocity Filters

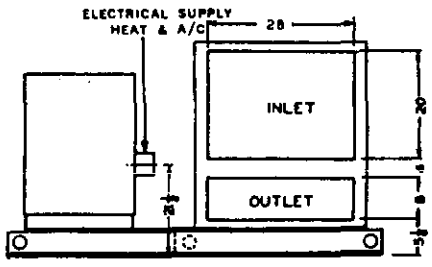
COOLING SECTION

Condensing Unit No.	C57-1	C57-3
Cooling Capacity BTU/HR.	57,000	57,000
Phase	Single	Three
Compressor R.P.M.	3450	3450
Voltage	230*	208/220 ■
Full Load Amps	35	22
Locked Rotor Amps	135	110
Fuse Size Max.	80A	50A
Fuse Size Min. (Time Delay)	50A	40A
Field Wire	#6	#8
Condenser Coil — Length	44½	
Height	25	
Face Area (Sq. Ft.)	7.7	
Condenser Fan Motor HP 230V/60Cy/1ph	1/5 (2 Used)	
RPM	1100	
Full-load Amps	1.7/1.7	
Locked Rotor Amps	3.3/3.3	
Condenser Fan	18" (2 Used)	
Condenser Air Volume c.f.m.	4000	
Total Refrigerant Charge	F22/120 oz.	
EVAPORATOR COIL NO.	**Q5HV**	
Face Area (Sq. Ft.)	4.4	
C.F.M. Air on Cooling	1900	
Static Pressure - Cooling	.25	

PG1 HEATING/COOLING
(INCLUDES 180C HEATING ONLY)



TOP VIEW



SIDE VIEW

* MINIMUM VOLTAGE TO BE APPLIED — 207V.
■ MINIMUM VOLTAGE TO BE APPLIED — 187V.
NOTE: Modulating Damper Available 180C

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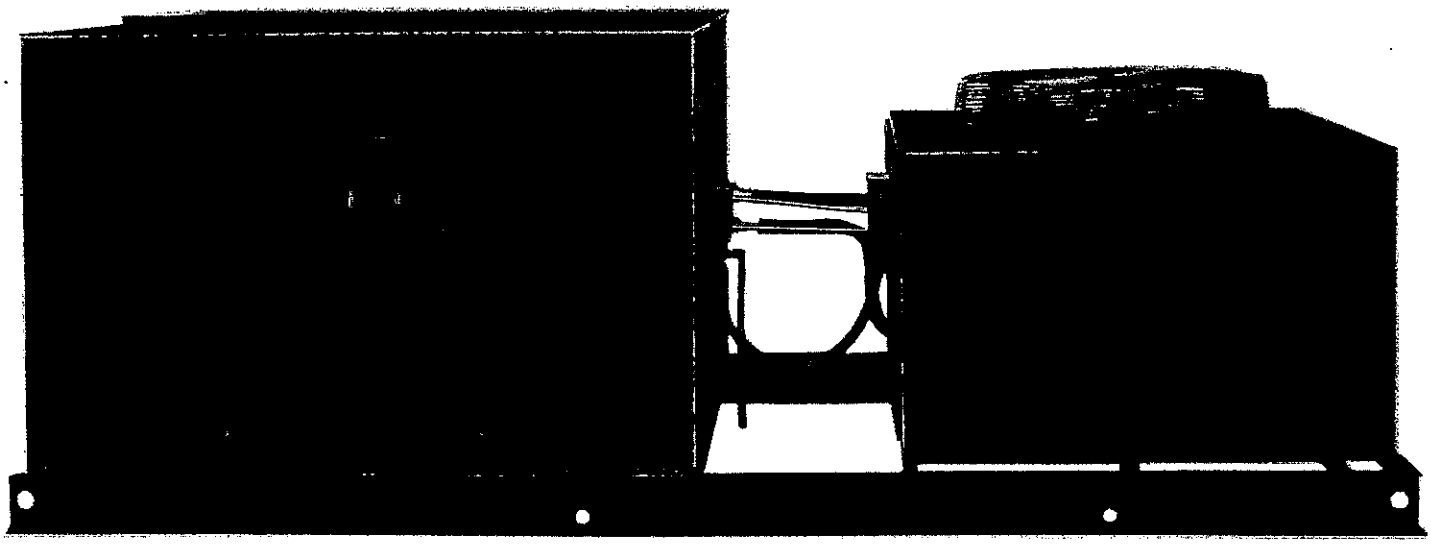
300 PARK AVENUE; N.Y., N.Y. 10022

WAC-16-10M-873

CRANE®

CRANE SUPPLY COMPANY

Roof Top Heating & Cooling Units



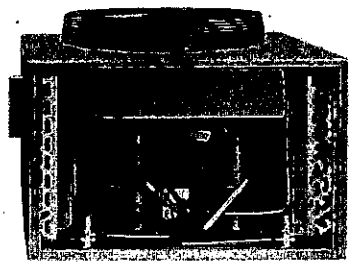
Gas Heating and Electric Cooling

OK

STAINLESS STEEL BURNER

Stainless steel burner uses natural, mixed or propane gases for a clean, efficient blue flame. There's no lint or clogging. Life is long; maintenance low.

DUAL COMPRESSORS



To save electricity and to lengthen condensing unit life, twin compressors inside the condensing unit are controlled by a two stage thermostat. Special control circuitry operates either one or both of the compressors depending on cooling demand. To equalize wear, compressors start alternately with each cooling cycle. Compressors have independent refrigeration circuits, with each circuit connected to it's own condenser coil. Condenser air is controlled for extremely low ambient operation. The evaporator coil is also individually circuited for maximum humidity control.

POWER VENT

A self-contained venting system gives positive venting without exhaust stacks or hoods that might be visible from the street.

LOW SILHOUETTE

Roof-hugging design does not disturb architectural designs. Nonobtrusive units eliminate clutter and give a clean, organized appearance from adjacent buildings.

AUTOMATIC IGNITION

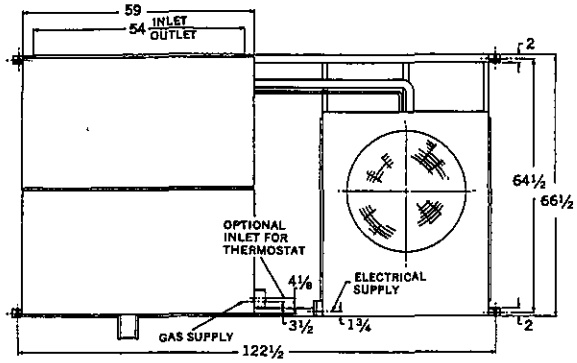
This feature makes seasonal shut-downs a thing of the past. If for any reason the pilot goes out, it relights itself instantly.

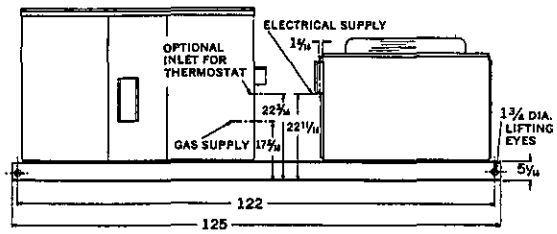
For complete all-season comfort, the combination unit is ideal for every building where economical heating and cooling is a must.

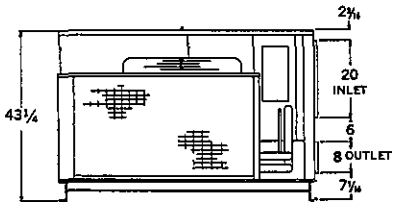
CRANE®

CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022







Rooftop
Heating & Cooling Unit
PG1-325C90

HEATING SECTION

MODEL NUMBER	PG1-325
Heating Capacity A.G.A. BTU/HR. Input	325,000
Bonnet Capacity A.G.A. BTU/HR.	243,000
C.F.M.	3000-4000 @ 0.5" Static
Air Rise	75° - 56°
Blower	(2) 10x10
Blower Motor H.P. 230v/60cy/1ph	1½
Drive	4x10 — 51
Gas Connection	¾"
Filter Size	(2) 20x25 (1) 16x25 High Velocity

NOTE: 325 available with 2 HP. motor

Approved for Natural or Propane Gas

COOLING SECTION

UNIT MODEL NUMBER	R-90-1C	R-90-3C
Cooling Capacity BTU/HR Power Consumption	90,000 6350/6350	90,000 6350/6350
Compressor (2 Used) Phase Voltage Full Load Amps. Locked Rotor Amps.	 Single 230 28/28 125/125	 Three 208/240 17.5/17.5 100/100
Fuse Size (Max.)	100	70
Fuse Size (Min.) Time Delay	80	55
Field Wire (Min.) *	#3	#6
Condenser Fan Motor 230v/60cy/1ph Horsepower Full load amps Locked rotor amps.	 ½ 3.9 9.7	 ½ 3.9 9.7
Condenser Fan	26"	26"
Condenser Air Volume C.F.M.	6000	6000
Suction Line (Sweat Fitting)	⅞"	⅞"
Liquid Line (Sweat Fitting)	⅜"	⅜"

*Based on copper wire

Heating Section Bears A.G.A. Label

Cooling Section A.R.I. Certified. Certification applies only when used with proper components as designed by Mfgr.

Cooling Section Bears U.L. Label

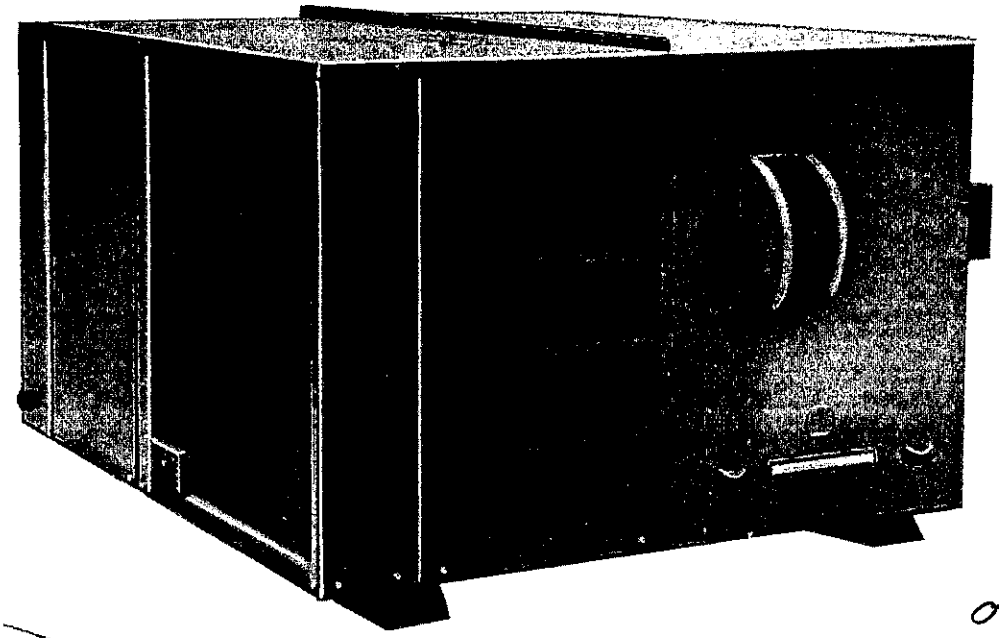
CRANE00862

WAC-17-10M-873

CRANE®

-CRANE SUPPLY COMPANY

PG3 Self-Contained Outdoor Heating and Cooling Units



- Optional Damper Kit for Using Low Temperature Outdoor Air for Cooling
- Optional High Static Drives Available
- Pilot Spark Ignition
- Power Exhaust
- Low Profile

Save on Cooling Costs with the Modulating Damper System (CA 107)

For Use With PG3-80D24,30,36 - PG3-100D24,30,36 - PG3-125D36

When outdoor temperature falls below 60°, the optional Modulating Damper System goes to work to save on cooling expense. The system blends cool outdoor air with inside air thus reducing the workload of the compressor, extend its life and lowers operating costs.

The system mounts at the return air inlet of the SBC year 'round heating and cooling unit, or on any combination heating and cooling unit with up to 1250 CFM return air.

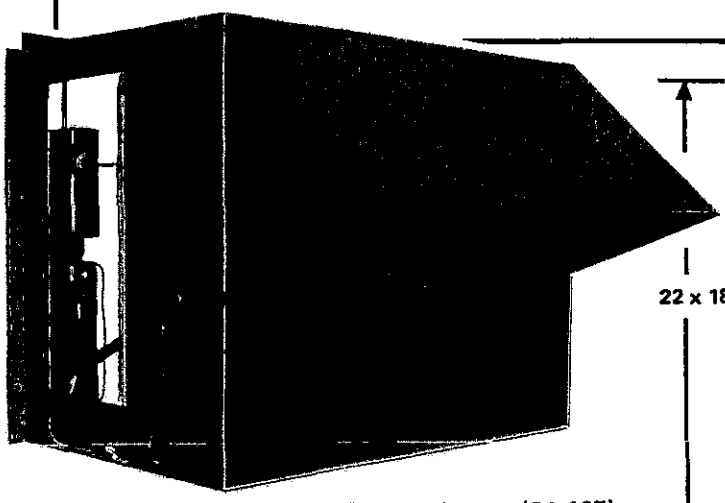
Because the unit is factory wired and assembled, it's added quickly and conveniently. The weatherproof steel casing houses all the components:

- Opposed blade dampers
- An infinite position electric motor to operate the dampers
- Prewired temperature controls

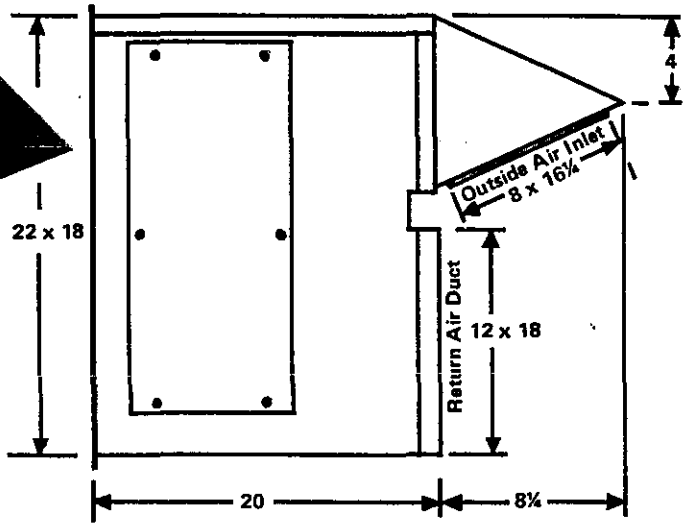
Birds, paper and other outside matter are kept from entering the unit by a wire mesh screen.

Applications Suitable for the Modulating Damper System

- LABORATORIES
- SCHOOL ROOMS AND LABS
- INDUSTRIAL AREAS
- RESTAURANTS AND KITCHENS
- SHOPPING CENTERS
- OFFICES



Modulating Damper System (CA 107)



CRANE SUPPLY COMPANY

CRANE®

CRANE00864

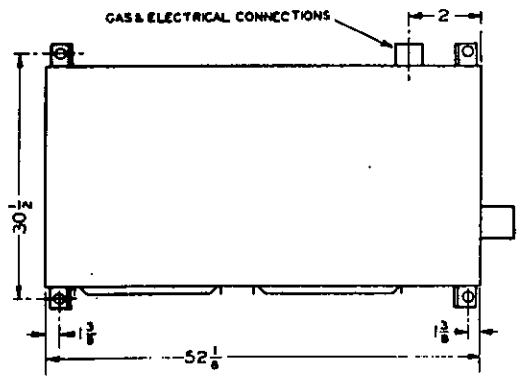
300 PARK AVENUE, N.Y., N.Y. 10022

WAC-18-10M-873

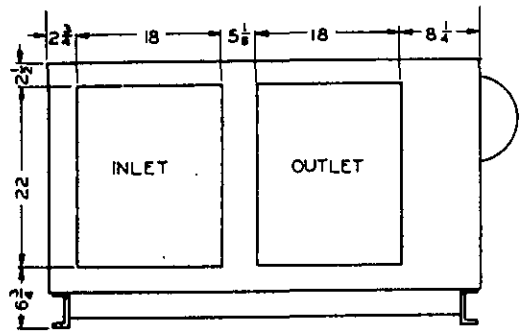
CRANE®

CRANE SUPPLY COMPANY

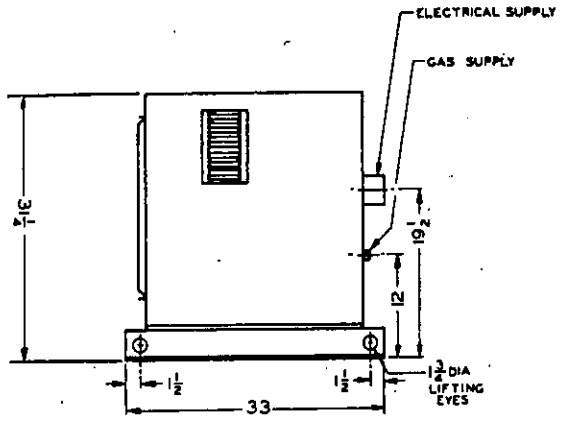
PG1 ROOF TOP HEATING UNIT



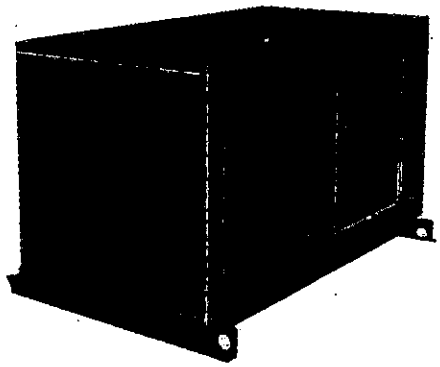
80, 100, 125



80, 100, 125



80, 100, 125

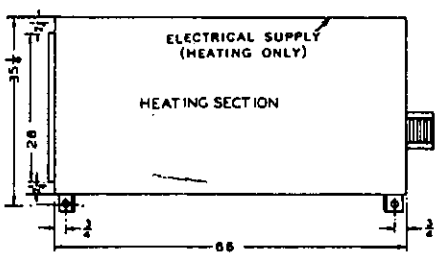


unit illustrated
80,000, 100,000 or 125,000 btu/hr — heating

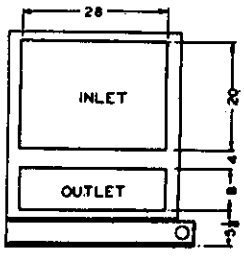
01(

STAINLESS STEEL BURNER

POWERED VENT / LOW SILHOUETTE
AUTOMATIC IGNITION



TOP VIEW



SIDE VIEW

140,160,180

CRANE®
CRANE SUPPLY COMPANY
300 PARK AVENUE, N.Y., N.Y. 10022

SPECIFICATIONS

Model Number	PG1-80D	PG1-100D	PG1-125D
Heating Cap BTU Input	80,000	100,000	125,000
Bonnet BTU/Hr	60,000	75,000	93,750
Blower	10 x 8	10 x 8	10 x 10
Air Rise	45°-75°	45°-75°	45°-75°
Blower Motor	1/3 H.P.—230/60/1	1/3 H.P.—230/60/1	1/3 H.P.—230/60/1
Drive	Direct	Direct	Direct
Field Wire Size	#14	#14	#14
Fuse Size (Time Delay)	15 Amp	15 Amp	15 Amp
Fuse Size (Max)	15 Amp	15 Amp	15 Amp
Filters	20 x 25	20 x 25	20 x 25
Gas Connection	½"	½"	½"

	PG1-80 – 100 D			PG1-125 D		
Motor Speed	CFM @ .2 Static	CFM @ .4 Static	CFM @ .6 Static	CFM @ .2 Static	CFM @ .4 Static	CFM @ .6 Static
Low	950	930	890	—	—	—
Med	1250	1230	1175	1290	1240	1110
High	1500	1435	1340	1570	1500	1340

Model Number	PG1-140	PG1-160	PG1-180
Heating Cap BTU Input	140,000	160,000	180,000
Bonnet BTU/Hr	105,000	120,000	135,000
Blower	10 x 10	10 x 10	10 x 10
Air Rise	45°-75°	45°-75°	45°-75°
Blower Motor	¾ H. P.—230/60/1	¾ H. P.—230/60/1	¾ H. P.—230/60/1
Drive	4 x 6-39	4 x 6-39	4 x 6-39
Field Wire Size	#14	#14	#14
Fuse Size (Time Delay)	15 Amp	15 Amp	15 Amp
Fuse Size (Max)	20 Amp	20 Amp	20 Amp
Filters	(2) 16 x 20	(2) 16 x 20	(2) 16 x 20
Gas Connection Natural & Propane	½"	½"	½"
Mixed	½"	½"	½"

PG1–140–160–180

¾ H. P. MOTOR

Motor Pulley Turns Open	CFM @ .2 Static	CFM @ .4 Static	CFM @ .6 Static
0	—	—	—
1	—	2070	1910
2	2140	2010	1815
3	2080	1940	1730
4	2000	1840	1630
5	1910	1730	—
6	1820	1630	—
7	1720	—	

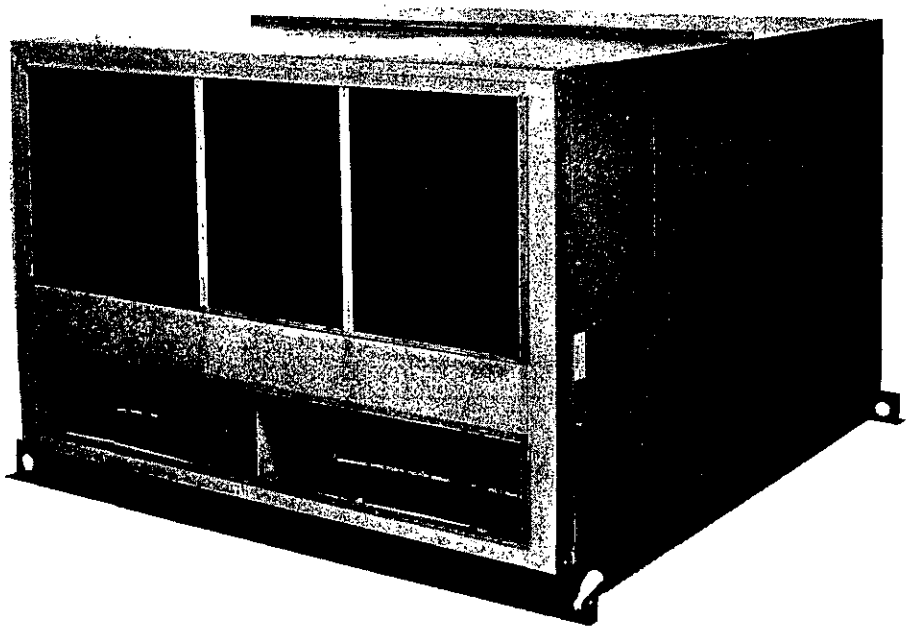
Units bear AGA label

CRANE00866

CRANE®

-CRANE SUPPLY COMPANY-

PG1 ROOF TOP HEATING UNIT



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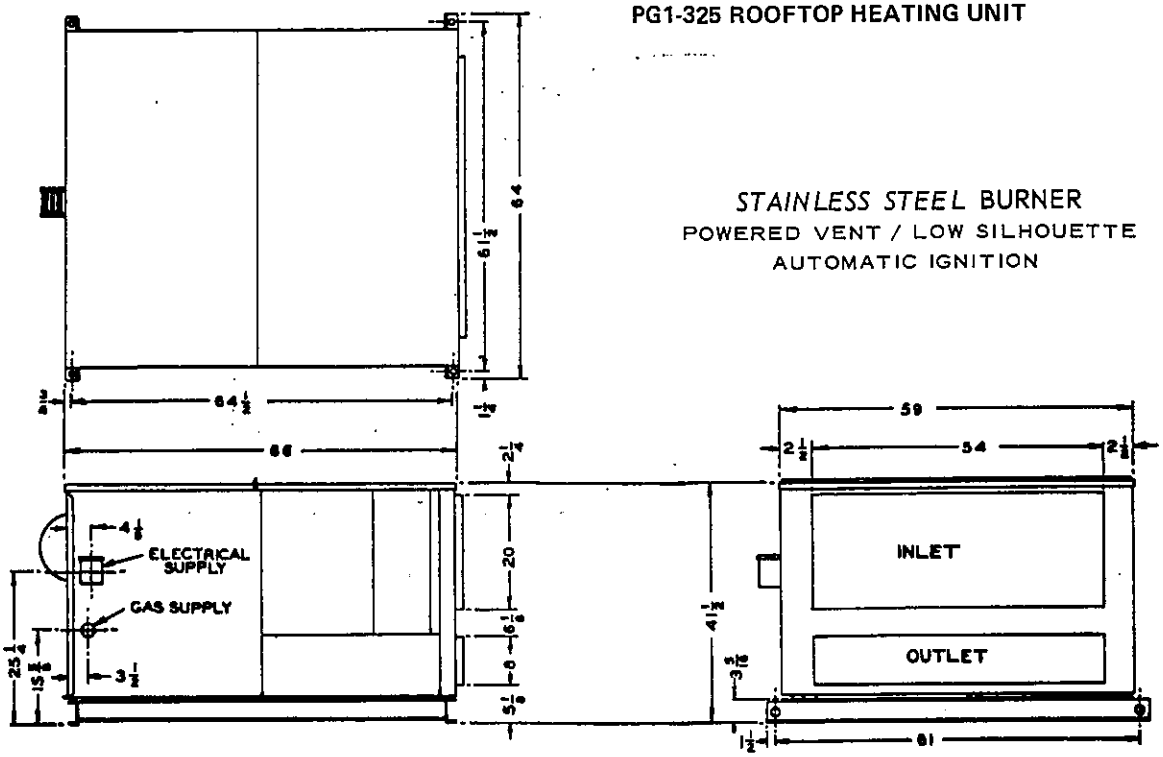
PG1-325 ROOFTOP HEATING UNIT



STAINLESS STEEL BURNER
POWERED VENT / LOW SILHOUETTE
AUTOMATIC IGNITION

CRANE®

CRANE SUPPLY COMPANY

300 PARK AVENUE, N.Y., N.Y. 10022

CRANE00867

CRANE

PERFORMANCE

MODEL NUMBER	PG1-325
Heating Cap BTU/Hr. Input	325,000
Bonnet BTU/Hr	243,750
Blower	10 x 10 -- Twin
CFM	3000-4000 @ 0.5" Static
Air Rise	75° - 56°
Blower Motor	1½ H.P. – 230/60/1
RPM	3400
Drive	4 x 10-51
Wire Size	# 14
Fuse Size (Time Delay)	15 Amp
Fuse Size (Max)	25 Amp
Filters	2 - 20 x 25) 1 - 16 x 25) High Velocity
Gas Connection	3/4"

Approved for natural or propane gas

NOTE: PG1-325 available with optional 2 HP Motor

Units bear AGA label

BLOWER CAPACITIES

1½ & 2 HP Motors

4 x 10 Drive

Motor Pulley Turns Open	PG1-325 with 1½ HP Motor			PG1-325 with 2 HP Motor				
	@ .20" Static	@ .40" Static	@ .60" Static	@ .20" Static	@ .40" Static	@ .60" Static	@ .80" Static	@ 1.0" Static
0	–	–	–	–	–	4250	4050	3300
1	–	–	–	–	4400	4160	3920	3680
2	–	–	–	4580	4250	3960	3640	3850
3	–	3950	3580					
4	4040	3800	3440					
5	3900	3600	3200					
6	3700	3360	2920					
7	3560	3060	2560					

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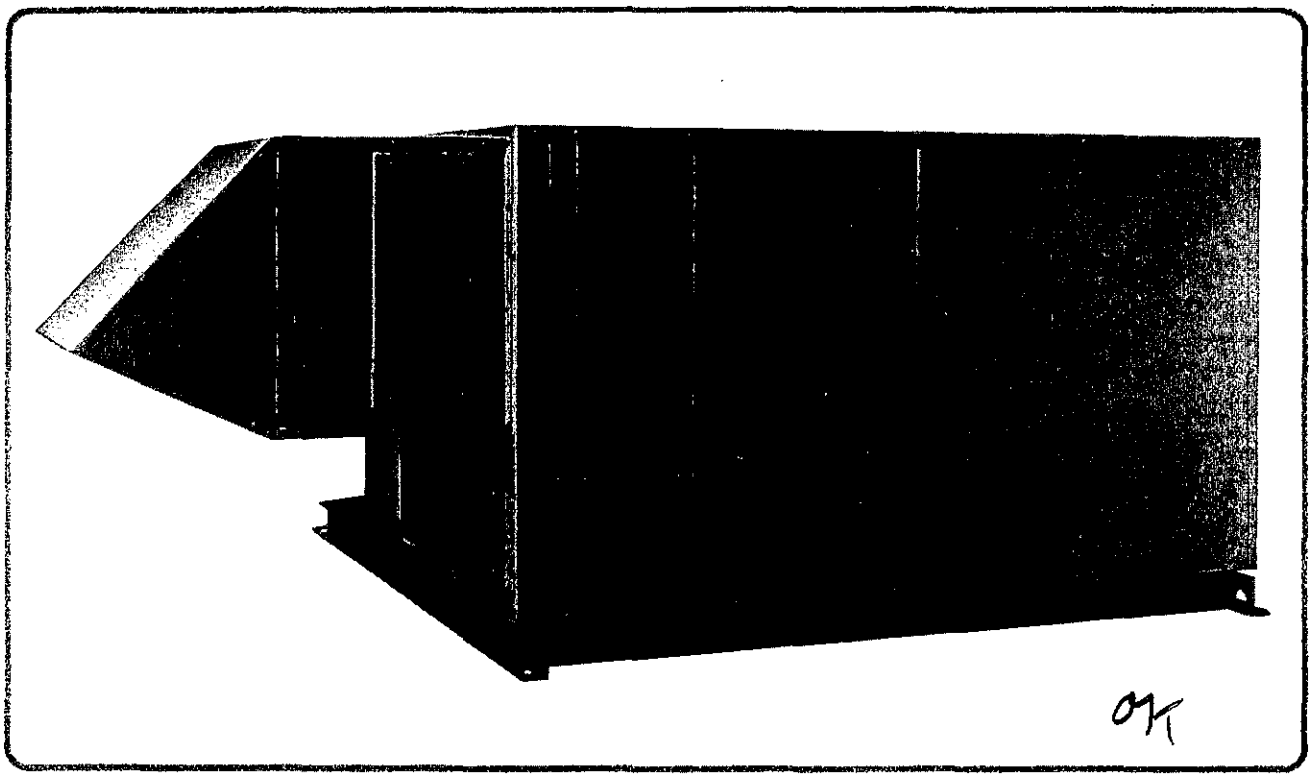
-CRANE SUPPLY COMPANY-

PG2 Roof Top Make-Up Air Unit

STEP UP TO CONDITIONED AIR HEATING-COOLING



Modulating Gas Valve

The Honeywell V5155A self-contained modulating gas valve snaps open to a minimum flame when the unit comes on. As the outside temperature decreases, the valve opens further in proportion to the temperature change. This permits a constant temperature for the make-up air.

Prevents Air Infiltration

Make-up air provides positive inside pressure and eliminates cold drafts through windows and doors.

Eliminates Odors and Stale Air

Make-up air adds to the efficiency of exhaust blowers by providing better air circulation throughout the building and provides positive ventilation.

Optional Fresh Air Damper

The HA28 or HA29 electrically operated air damper opens when the unit comes on. When the unit is turned off, the damper closes and prevents infiltration of outside air.

Power Vent

A self-contained power system gives positive heat exchanger venting without exhaust stacks or hoods that may be visible from the street.

Automatic Pilot Relight

This feature makes seasonal shut-downs a thing of the past.

DESIGN CERTIFIED · COMPLIES WITH NATIONAL SAFETY STANDARDS · AMERICAN GAS ASSOCIATION INC.

General

Model PG2 is a gas-fired make-up air unit utilizing a Honeywell modulating gas valve in addition to the regular gas valve. As the temperature of the inlet air to the unit rises or falls the modulating valve will lower or raise the BTU input proportionately (see specifications).

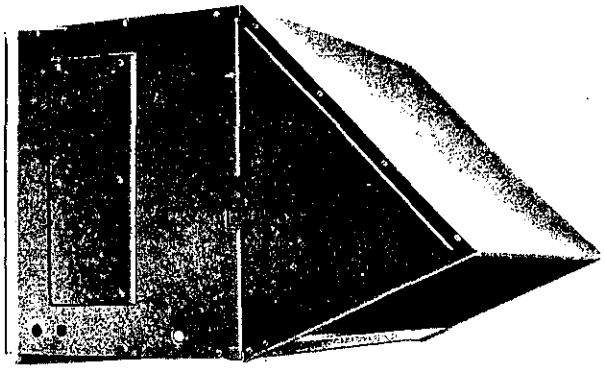
The use of the optional HA28 or HA29 dampers provides means for closing the intake side of the PG2 unit during the off cycle thus preventing infiltration through the unit.

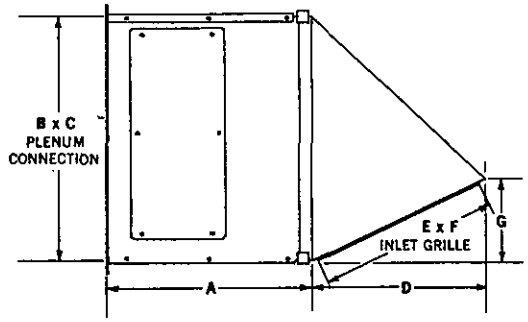
A make-up air system is used to bring tempered outside air into a building to compensate for the loss of inside air due to exfiltration and the use of exhaust fans. Make-up air is not used for heating the building and make-up system is generally not considered as a part of the regular heating system.

PG2 models can easily be installed on a roof or alongside a building at ground level. These units are designed for outdoor use.

OPTIONAL HA28 OR HA29 DAMPER

100% Make-Up Air
Motorized Damper System





MODEL NUMBER	FOR USE WITH	A	B	C	D	E	F	G
HA-28	140, 160 & 180	17	21⅛	28	14¾	12¼	26¼	6¼
HA-29	325	17	21⅛	54	14¾	12¼	52¼	6¼

SIZING FOR MAKE-UP AIR

Usually a make-up air unit is sized to bring in approximately ten percent more air than is being exhausted. To determine which PG2 model to use two factors must be considered.

1. C.F.M. requirement
2. Temperature rise through unit

Example: If it has been determined that the building exhaust and exfiltration load totals 2000 CFM then a 10 percent oversizing would bring the CFM total to 2200.

Assuming that outdoor air is required to be raised from 0° to 60° F then the temperature rise becomes 60°. If the static pressure of the make-up air system does not exceed .20 then the blower capacity chart shows the PG2-180 model will deliver 2140 CFM with a 62° temperature rise. Model PG2-180 would be selected for use.

Whenever air requirements exceed capacities as shown in the tables use one or more units as needed.

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CABINET DIMENSIONS

Model	Cabinet H	W	D	Supply	Return	Flue
60-80	54	14	27	15 x 12 w	23 x 14 h	4"
A80	54	20	27	15 x 18 w	23 x 14 h	4"
80-100-120	54	20	27	15 x 18 w	23 x 14 h	5"

DESIGN CERTIFIED BY A. G. A.

UPFLOW MODELS

HEATING UNITS

Model Number	Unit Price	Input B.T.U./Hr.	Output B.T.U./Hr.	C.F.M. .2	Motor	Ship. Wt. Approx.
GB-60D	146.00	60,000	48,000	550	1/12 - Direct	143
GB-80D	148.00	80,000	64,000	700	1/12 - Direct	155
GBA-80D	160.00	80,000	64,000	980	1/6 - Direct	178
GB-100D	163.00	100,000	80,000	940	1/6 - Direct	196
GB-120D	200.00	120,000	96,000	1120	1/6 - Direct	200

Heating models include heating thermostat.

HEATING AND COOLING UNITS

Model Number	Unit Price	Input B.T.U./Hr.	Output B.T.U./Hr.	C.F.M. .5	Max. A/C Capacity	Motor	Ship. Wt. Approx.
GB-60D2C2	166.00	60,000	48,000	830	2	1/6 - Direct	143
GB-80D2C2	169.00	80,000	64,000	830	2	1/6 - Direct	155
GBA-80D2C3	186.00	80,000	64,000	1220 1360	3½	1/3 - Direct	178
GB-100D2C3	191.00	100,000	80,000	1200	3½	1/3 - Direct	196
GB-120D2C3	223.00	120,000	96,000	1200	3½	1/3 - Direct	200

A.C. MODELS INCLUDE FAN RELAY
&Heating-Cooling Thermostat

OPTIONAL EQUIPMENT

Item	Models Used With	Unit Price
AF-5	RETURN AIR DROP All Units	21.00
AF-26	EXTERNAL FILTER RACK All Units	6.30

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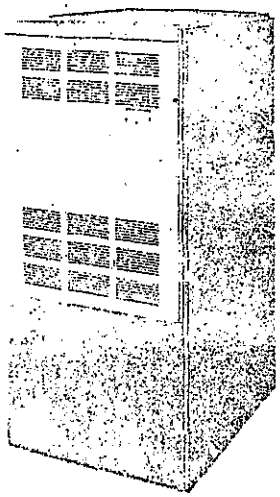
GAS FURNACES



CABINET DIMENSIONS

Model	Cabinet H	W	D	Supply	Return	Flue
80	54	14	27	15 x 12 w	23 x 14 h	4"
A80	54	20	27	15 x 18 w	23 x 14 h	4"
100-120	54	20	27	15 x 18 w	23 x 14 h	5"
140-160	56	26	27	15 x 24 w	23 x 16 h	6"

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UPFLOW MODELS

HEATING UNITS

Model Number	Unit Price	Input B.T.U./Hr.	Output B.T.U./Hr.	C.F.M. .2	Motor-Drive-Belt	Ship. Wt. Approx.
GH-80D	163.00	80,000	64,000	700	1/12 - Direct	155
GHA-80 (20" w.)	179.00	80,000	64,000	980	1/4 - 3 1/4 x 6 -36	178
GH-80	172.00	80,000	64,000	700	1/6 - 3 1/4 x 7 -37	155
GH-100D	177.00	100,000	80,000	940	1/6-Direct	196
GH-100	192.00	100,000	80,000	850	1/6 - 3 1/4 x 7 - 37	196
GH-120D	207.00	120,000	96,000	1120	1/6-Direct	200
GH-120	228.00	120,000	96,000	1060	1/6 - 3 1/4 x 6 - 36	200
GH-140	261.00	140,000	112,000	1240	1/4 - 3 1/4 x 8 - 40	267
GH-160	297.00	160,000	128,000	1460	1/3 - 3 1/4 x 8 - 40	267

Heating models include heating thermostat.

HEATING AND COOLING UNITS

Model Number	Unit Price	Input B.T.U./Hr.	Output B.T.U./Hr.	C.F.M. .5	Max. A/C Capacity	Motor-Drive-Belt	Ship. Wt. Approx.
GH-80D2C2	185.00	80,000	64,000	830	2	1/6-Direct	155
GHA-80C3 (20" w)	195.00	80,000	64,000	1230	3½	1/3 - 3 1/4 x 5-34	178
GH-80C2	189.00	80,000	64,000	780	2	1/4 - 3 1/4 x 5-34	155
GH-100C3	224.00	100,000	80,000	1230	3½	1/3 - 3 1/4 x 5-34	196
GH-100D2C3	211.00	100,000	80,000	1200	3½	1/3-Direct.	196
GH-120C3	249.00	120,000	96,000	1230	3½	1/3 - 3 1/4 x 5-34	200
GH-120D2C3	238.00	120,000	96,000	1200	3½	1/3-Direct	200
GH-120D2C4	246.00	120,000	96,000	1530	4	1/2-Direct	200
GH-140C4	287.00	140,000	112,000	1650	4	1/2 - 4 x 8 - 42	267
GH-140C5	320.00	140,000	112,000	2085	5	3/4 - 4 x 7 - 40	267
GH-160C4	328.00	160,000	128,000	1650	4	1/2 - 4 x 8 - 42	267
GH-160C5	340.00	160,000	128,000	2085	5	3/4 - 4 x 7 - 40	267

A.C. MODELS INCLUDE FAN RELAY
&Heating-Cooling Thermostat

OPTIONAL EQUIPMENT

Item	Models Used With	Unit Price
AF-5		21.00
AF-44		23.00
AF-26	EXTERNAL FILTER RACKS 60 thru 120	6.50
AF-27	140 & 160 (with high velocity filter)	9.50
AC-53	TRANSITION KITS Reduces plenum on 140 & 160 to fit U-421	9.50

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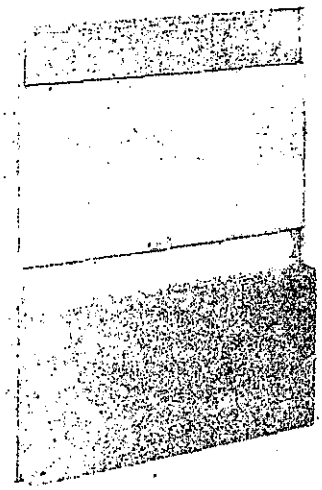

CABINET DIMENSIONS

Model	Cabinet			Supply	Return	Flue
	H	W	D			
180 200-240	54	34	27	15 x 32 w	(2) 23 x 14 h	(2) 5"

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UPFLOW MODELS

HEATING UNITS

Model Number	Unit Price	Input BTU/Hr.	Output BTU/Hr.	C.F.M. .2	Motor-Drive-Belt	Ship. Wt. Approx.
GH-180	$389.00	180,000	144,000	1600	1/4 - 3 1/4 x 7 - 38	374
GH-200	426.00	200,000	160,000	1740	1/3 - 3 1/4 x 7 - 38	380
GH-240	498.00	240,000	192,000	2040	1/2 - 4 x 8 - 42	388

Heating Models include heating thermostat.

HEATING AND COOLING UNITS

Model Number	Unit Price	Input BTU/Hr.	Output BTU/Hr.	CFM .5	Max. A/C Capacity	Motor-Drive Belt	Ship. Wt. Approx.
GH-180C5	426.00	180,000	144,000	2000	5	3/4–4x7–40	374
GH-180C6	452.00	180,000	144,000	2540	6	1–4x6–38	374
GH-200C5	460.00	200,000	160,000	2000	5	3/4–4x7–40	380
GH-200C6	484.00	200,000	160,000	2540	6	1–4x6–38	380
GH-240C5	522.00	240,000	192,000	2000	5	3/4–4x7–40	388
GH-240C6	548.00	240,000	192,000	2540	6	1–4x6–38	388

A.C. MODELS INCLUDE FAN RELAY
&Heating Cooling Thermostat

OPTIONAL EQUIPMENT

Item	Models Used With	Unit Price
AF-60	RETURN AIR DROP — Rear (with filters) All models	33.00
AF-16	FILTER RACKS 2 Racks, (with filters) one for each side — All models	12.00
AF-23	Rear, External, (with filters) — All models	12.00
AC-8	TRANSITION KITS For four or five tons of cooling — To adapt ( ) U-601	9.50
AC-18	For six tons of cooling — To adapt (2) U-421	14.00

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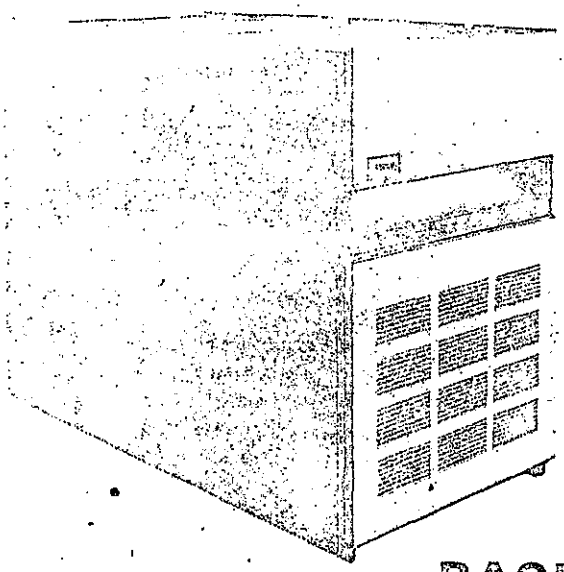
GAS FURNACES



CABINET DIMENSIONS

Model	Cabinet			Supply	Return	Flue
	H	W	D			
100-120	38½	20	43½	15 x 18 w	13 x 18 w	5"
140-160	38½	26	47½	17 x 24 w	17 x 24 w	6"

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BASEMENT MODELS

HEATING UNITS

Model Number	Unit Price	Input B.T.U./Hr.	Output B.T.U./Hr.	C.F.M. .2	Motor-Drive-Belt	Ship. Wt. Approx.
GL-100	$223.00	100,000	80,000	880	1/6 - 3 1/4 x 7 - 37	215
GL-120	271.00	120,000	96,000	1050	1/6 - 3 1/4 x 6 - 35	225
GL-140	312.00	140,000	112,000	1200	1/4 - 3 1/4 x 8 - 44	280
GL-160	352.00	160,000	128,000	1400	1/3 - 3 1/4 x 7 - 42	280

Heating Models include Heating Thermostat.

HEATING AND COOLING UNITS

Model Number	Unit Price	Input B.T.U./Hr.	Output B.T.U./Hr.	C.F.M. .5	Max. A/C Capacity	Motor-Drive Belt	Ship. Wt. Approx.
GL-100C3	255.00	100,000	80,000	1200	3	1/3-4x5-34	215
GL-120C3	298.00	120,000	96,000	1200	3	1/3-4x5-34	225
GL-140C4	337.00	140,000	112,000	1650	4	1/2-4x8-46	280
GL-140C5	352.00	140,000	112,000	2070	5	3/4-4x7-44	280
GL-160C4	368.00	160,000	120,000	1650	4	1/2-4x8-46	288
GL-160C5	375.00	160,000	128,000	2070	5	3/4-4x7-44	288

A.C. MODELS INCLUDE FAN RELAY
&Heating Cooling Thermostat

OPTIONAL EQUIPMENT

Item	Model Used With	Unit Price
AC-53	TRANSITION KITS Adapts 140 & 160 to U-421	9.50

GAS FURNACES

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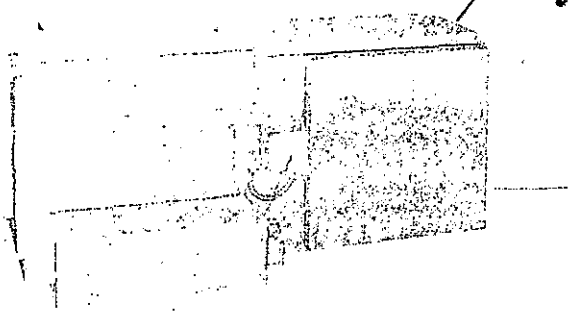

CABINET DIMENSIONS

Model	Cabinet L	Cabinet W	Cabinet H	Supply	Return	Flue
75	60	14	23	12 x 20 H	12 x 20 H	4"
100	60	16	23	14 x 20 H	14 x 20 H	5"
125	60	18	23	16 x 20 H	16 x 20 H	5"
150	60	22	23	20 x 20 H	20 x 20 H	6"

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HORIZONTAL MODELS

HEATING UNITS

Model Number	Unit Price	Input B.T.U./Hr.	Output B.T.U./Hr.	C.F.M. .2	Motor-Drive-Belt	Ship. Wt. Approx.
GS-75D	189.00	75,000	60,000	745	1/12-Direct	180
GS-100D	202.00	100,000	80,000	995	1/8-Direct	205
GS-125D	242.00	125,000	100,000	1290	1/6-Direct	220
GS-150D	305.00	150,000	120,000	1490	1/3-Direct	260
[redacted]	221.00	120,000	96,000	990	1/6-3-1/4-x-6-38	250
[redacted]	230.00	140,000	112,000	1150	1/4-3-1/4-x-7-42	275
[redacted]	180.00	160,000	128,000	1325	1/3-3-1/4-x-6-40	295

Heating Models include Heating Thermostat.

Filter & Filter Rack incl.- All Models

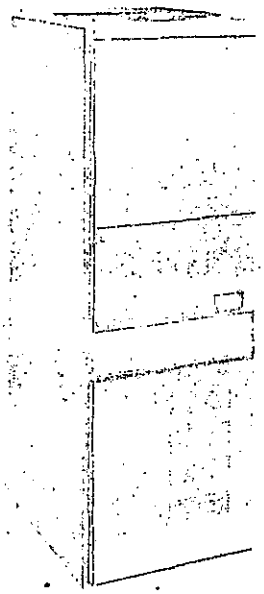
HEATING AND COOLING UNITS

Model Number	Unit Price	Input BTU/HR.	Output BTU/HR.	C.F.M. .5	Max. A/C Capacity	Motor-Drive Belt	Ship Wt. Approx.
GS-75D2C2.5	205.00	75,000	60,000	1090	2½	1/6-Direct	180
GS-75D2C3.5	212.00	75,000	60,000	1418	3½	1/3-Direct	180
GS-100D2C3.5	224.00	100,000	80,000	1470	3½	1/3-Direct	205
GS-100D2C4	228.00	100,000	80,000	1620	4	1/2-Direct	205
GS-125D2C3.5	264.00	125,000	100,000	1575	3½	1/3-Direct	220
GS-125D2C4	275.00	125,000	100,000	1731	4	1/2-Direct	220
GS-125D2C5	295.00	125,000	100,000	2064	5	3/4-Direct	220
GS-150D2C4	320.00	150,000	120,000	1662	4	1/3-Direct	260
GS-150D2C5	340.00	150,000	120,000	2166	5	3/4-Direct	260
G-160-S-S4	320.00	160,000	128,000	1795	4	1/2-3¼x5-39	310
G-160-S-C5	332.00	160,000	128,000	1980	5	3/4-4x6-42	310

A.C. MODELS INCLUDE FAN RELAY
&Heating Cooling Thermostat

THERMOSTATS FOR ALL GAS FURNACES

ITEM	DESCRIPTION	UNIT PRICE
T87F1800	Thermostat (Honeywell) with adjustable heater	7.47
0539A1006	Sub-Base (Honeywell) use with T87F	7.31
1C30-322 E6	Thermostat (White-Rodgers)	5.79
S23-1E-2	Sub-Base (White-Rodgers) use with 1C30-322-E6	7.79
T834A	Thermostat (Honeywell)	7.31
0534A	Sub-Base (Honeywell)	8.32



CABINET DIMENSIONS

Model	Cabinet H	W	D	Supply	Return	Flue
80	56	14	27	16¼x10¼w	18 x 12 w	4"
80A	56	20	27	16¼x16¼	18 x 18	4"
100-120	56	20	27	16¼x16¼	18 x 18	5"
140-160	60	26	27	16¼x22¼w	16 x 24 w	6"

DESIGN CERTIFIED BY A. G. A.

COUNTERFLOW MODELS

HEATING UNITS

Model Number	Unit Price	Input B.T.U./Hr.	Output B.T.U./Hr.	C.F.M. .2	Motor-Drive-Belt	Ship. Wt. Approx.
GC-80D	165.00	80,000	64,000	670	1/12 - Direct	158
GC-100D	184.00	100,000	80,000	980	1/6 - Direct	206
GC-100*	203.00	100,000	80,000	870	1/6 - 3 1/4 x 7 - 38	206
GC-120D	212.00	120,000	96,000	1130	1/6 - Direct	208
GC-120*	225.00	120,000	96,000	1020	1/6 - 3 1/4 x 6 - 36	208
GC-140*	261.00	140,000	112,000	1270	1/4 - 3 1/4 x 8 - 42	275
GC-160*	289.00	160,000	128,000	1420	1/3 - 3 1/4 x 7 - 41	275

Heating models include heating thermostat.

HEATING AND COOLING UNITS

Model Number	Unit Price	Input B.T.U./hr.	Output B.T.U./Hr.	C.F.M. .5	Max. A/C Capacity	Motor-Drive-Belt	Ship.Wt. Approx.
GC-80D2C2	197.00	80,000	64,000	775	2	1/6- Direct	158
GC-100D2C3	216.00	100,000	80,000	1230	3	1/3 - Direct	206
GC-100C3*	233.00	100,000	80,000	1200	3	1/3 - 4 x 5 - 35	206
GC-120D2C3	$242.00	120,000	96,000	1230	3	1/3 - Direct	208
GC-120C3*	256.00	120,000	96,000	1200	3	1/3 - 4 x 5 - 35	208
GC-140C4*	348.00	140,000	112,000	1620	4	1/2 - 4 x 7 - 42	275
GC-140C5*	374.00	140,000	112,000	1980	5	3/4 - 4 x 6 - 40	275
GC-160C4*	359.00	160,000	128,000	1620	4	1/2 - 4 x 7 - 42	275
GC-160C5*	387.00	160,000	128,000	1980	5	3/4 - 4 x 6 - 40	275

*Less Filter—for Filter information on Belt Drive units - see below "Optional Equipment".

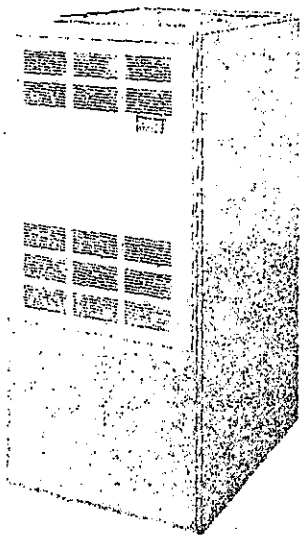
A.C. MODELS INCLUDE FAN RELAY
&Heating-Cooling Thermostat

OPTIONAL EQUIPMENT — COUNTERFLOW MODELS

Item	Models Used With	Unit Price
	SUB BASES Use when unit is installed on combustible floor	
AF-50	80	7.50
AF-51	[illegible], 100, 120	10.50
AF-56	140 & 160	12.50
	FILTER CABINET (For Belt Drive Only)— Filter incl.	
AF-53	[illegible], 100 & 120	12.50
AF-57	140 & 160	14.50
	EVAPORATOR REFRIGERANT LINE COVER	
AC-60	80 when using UD-24	7.50
AC-61	100, 120 when using D-421	7.50

OIL FURNACES

CRANE® CRANE SUPPLY COMPANY



CABINET DIMENSIONS

Model	Cabinet			Supply	Return	Flue
	H	W	D			
84-95	56	20	32½	16 x 18 w	22 x 14 h	6"
112-125	58¾	24	36½	19 x 22 w	25 x 18 h	6"

ALL OIL FURNACES U. L. LISTED & LABELED

UPFLOW MODELS

HEATING UNITS

Model Number	Unit Price	Output B.T.U./Hr.	C.F.M. .2	Motor-Drive-Belt	Ship. Wt. Approx.
OH-84D	316.00	84,000	860	1/6-Direct	245
OH-84	332.00	84,000	920	1/6 - 3-1/4 x 7 - 39	245
OH-95D	338.00	95,000	1080	1/6-Direct	247
OH-95	352.00	95,000	1040	1/4 - 3-1/4 x 7 - 39	247
OH-112	375.00	112,000	1260	1/4 - 3-1/4 x 8 - 41	293
OH-125	403.00	125,000	1340	1/3 - 3-1/4 x 7 - 39	294

Heating Models include Heating Thermostat.

HEATING & COOLING UNITS

Model Number	Unit Price	Output B.T.U./Hr.	CFM @.5	Max. A/C Capacity	Motor-Drive-Belt	Ship. Wt. Approx.
OH-84DC3.5	330.00	84,000	1280	3.5	1/3 - Direct	245
OH-84C3.5	349.00	84,000	1280	3.5	1/3 - 4 x 6 - 39	245
OH-95DC3.5	351.00	95,000	1280	3.5	1/3 - Direct	247
OH-95C3.5	363.00	95,000	1280	3.5	1/3 - 4 x 6 - 39	247
OH-112C4	406.00	112,000	1535	4	1/2 - 4 x 6 - 39	293
OH-125C4	442.00	125,000	1535	4	1/2 - 4 x 6 - 39	294
OH-125C5	456.00	125,000	2010	5	3/4 - 4 x 7 - 43	294

A.C. MODELS INCLUDE FAN RELAY & Heating Cooling Thermostat

OPTIONAL EQUIPMENT

Item	Models Used With	Unit Price
AF-44	RETURN AIR DUCTS 84 and 95	23.00
AF-2	112 and 125	26.00
AC-78	TRANSITION KITS Matches 112 and 125 to U-421, U-481 & U-601	8.50
AF-27	EXTERNAL FILTER RACKS OH-84 through 125 (with high velocity filter)	9.50

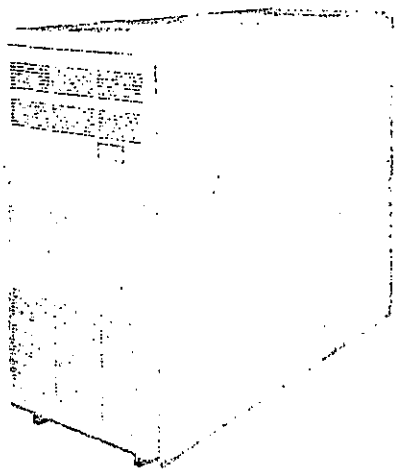
CRANE00878

CRANE® CRANE SUPPLY COMPANY

OIL FURNACES

CABINET DIMENSIONS

Model	Cabinet H	Cabinet W	Cabinet D	Supply	Return	Flue
84-95	39¼	20	50	16 x 18 w	15 x 18 w	6"
112-125	57½	24	57½	19 x 22 w	19 x 22 w	6"
140	54	22	48	20 x 20	16 x 20 w	7"
168-196	56	26	56	22 x 24 w	22 x 24 w	7"



ALL OIL FURNACES U. L. LISTED + LABELED

BASEMENT MODELS

HEATING UNITS

Model Number	Unit Price	Output B.T.U./Hr.	C.F.M. .2	Motor-Drive-Belt	Ship. Wt. Approx.
OL-84	$366.00	84,000	900	1/6 - 3 1/4 x 7 - 37	250
OL-95	379.00	95,000	1000	1/6 - 3 1/4 x 7 - 40	261
OL-112	400.00	112,000	1200	1/4 - 3 1/4 x 8 45	299
OL-125	442.00	125,000	1300	1/3 - 3 1/4 x 7 43	292
OL-140	454.00	140,000	1450	1/3 - 3 1/4 x 7 - 41	326
OL-168	521.00	168,000	1830	1/2 - 3 1/4 x 6 - 41	270
OL-196	566.00	196,000	2000	1/2 - 3 1/4 x 6 - 41	270

Heating Models include Heating Thermostat.

HEATING & COOLING UNITS

Model Number	Unit Price	Output B.T.U./Hr.	C.F.M. .5	Max. A/C Capacity	Motor-Drive-Belt	Ship. Wt. Approx.
OL-84C3	369.00	84,000	1240	3½	1/3 - 4 x 6 - 33	250
OL-95C3	382.00	95,000	1240	3½	1/3 - 4 x 6 - 38	261
OL-112C4	417.00	112,000	1630	4	1/2 - 4 x 6 - 39	299
OL-112C5	452.00	112,000	2025	5	3/4 - 4 x 7 - 41	299
OL-125C4	462.00	125,000	1630	4	1/2 - 4 x 6 - 39	292
OL-125C5	472.00	125,000	2025	5	3/4 - 4 x 7 - 41	292
OL-140C4	488.00	140,000	1725	4	1/2 - 3 1/4 x 6-41	326
OL-140C5	495.00	140,000	1850	5	3/4 - 3 1/4 x 5-39	326
OL-168C5	547.00	168,000	2000	5	3/4 - 3 1/4 x 6-41	270
OL-196C5	592.00	196,000	2000	5	3/4 - 3 1/4 x 6-41	270

NOTE:168 and 196 shipped in two cartons.

A.C. MODELS INCLUDE FAN RELAY & Heating-Cooling Thermostat

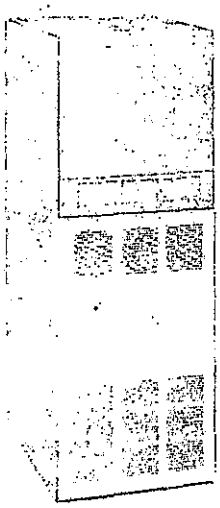
OPTIONAL EQUIPMENT

Item	Models Used With	Unit Price
	TRANSITION KITS	
AC-9	Adapts 168 & 196 to U-601	
AC-30	140 to U-481 & U-601	
AC-78	112 & 125 to U-421, U-481, & U-601	

CRANE00879

OIL FURNACES

CRANE® CRANE SUPPLY COMPANY



CABINET DIMENSIONS

Model	Cabinet H	Cabinet W	Cabinet D	Supply	Return	Flue
84	58½	21½	31¼	20-1/8x19-7/8w	20x20	6"
112-125	58½	26½	36½	25-1/8x24-7/8w	25x25	7"

ALL OIL FURNACES U. L. LISTED - LABLED

COUNTERFLOW MODELS

HEATING UNITS

Model Number	Unit Price	Output BTU/Hr.	C.F.M. .2	Motor-Drive	Ship. Wt. Approx.
OC-84D	$342.00	84,000	1120	1/6-Direct	275
OC-95D	352.00	95,000	1120	1/6-Direct	275
OC-112D	382.00	112,000	1400	1/3-Direct	352
OC-125D	419.00	125,000	1400	1/3-Direct	348

Heating Models include Heating Thermostat.

Filter + filter rack included all models

HEATING & COOLING UNITS

Model Number	Unit Price	Output BTU/Hr.	C.F.M. .5	Max. A/C Capacity	Motor-Drive	Ship. Wt. Approx.
OC-84D2C3	372.00	84,000	1220	3	1/3-Direct	275
OC-95D2C3	385.00	95,000	1220	3	1/3-Direct	275
OC-112D2C3.5	390.00	112,000	1485	3.5	1/[illegible] Direct	352
OC-112D2C4	409.00	112,000	1740	4	1[illegible]-Direct	352
OC-125D2C3.5	434.00	125,000	1485	03.5	3-Direct	348
OC-125D2C4	441.00	125,000	1740.	04	1/2-Direct	348

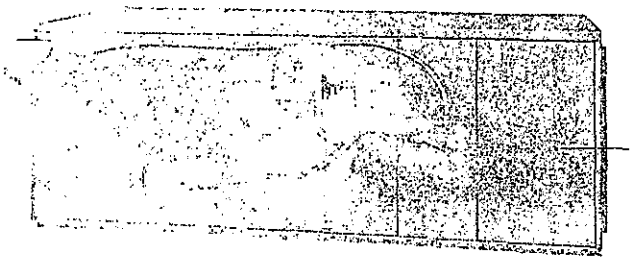
A.C. Models include fan relay w. &Heating & Cooling Thermostat

OPTIONAL EQUIPMENT

Item	Models Used With	Unit Price
AC-100	transition Kit matches 84 + 95 to D-421	$7.00
	SUB Base (Use when installing on combustible floor)	
AF-88	84 + 95	11.00
AF-89	112 & 125	11.00

CRANE® CRANE SUPPLY COMPANY

OIL FURNACES



CABINET DIMENSIONS

Model	Cabinet H	Cabinet W	Cabinet D	Supply	Return	Flue
84	21½	58½	21	20 x 20	18 x 18	6"
112-125	26½	61½	27	25 x 25	24 x 23 w	7"
140	22	68	24½	20 x 20	20 x 20	7"
168-196	26	90	26½	24 x 22 w	24 x 22 w	7"

ALL OIL FURNACES U. L. LISTED + Labled

HORIZONTAL MODELS

HEATING UNITS

Model Number	Unit Price	Output BTU/Hr.	C.F.M. .2	Motor-Drive-Belt	Ship. Wt. Approx.
OS-84D *	313.00	84,000	1040	1/6-Direct	249
OS-95D *	328.00	95,000	1040	1/6-Direct	249
OS-112D *	354.00	112,000	1415	1/3-Direct	312
OS-125D *	393.00	125,000	1415	1/3-Direct	332
OS-140 †	414.00	140,000	1450	1/3 - 3-1/4 x 5 - 37	224
OS-168 ♦	501.00	168,000	1830	3/4 - 3-1/4 x 6 - 44	230
OS-196 ♦	563.00	196,000	2000	3/4 - 3-1/4 x 6 - 44	226

Heating Models include
Heating Thermostat.

HEATING & COOLING UNITS

Model Number	Unit Price	Output BTU/Hr.	C.F.M. .5	Max. A/C Capacity	Motor-Drive-Belt	Ship. Wt. Approx.
OS-84D2C3 *	335.00	84,000	1180	3	1/3-Direct	249
OS-95D2C3 *	350.00	95,000	1180	3	1/3-Direct	249
OS-112D2C4 *	406.00	112,000	1720	4	1/2-Direct	312
OS-125D2C4 *	445.00	125,000	1720	4	1/2-Direct	332
OS-125D2C5 *	456.00	125,000	1980	5	3/4-Direct	332
OS-140C4 †	487.00	140,000	1745	4	3/4 - 4 x 5 - 39	224
OS-168C5 ♦	553.00	168,000	2030	5	3/4 - 3-1/4 x 5 - 42	230
OS-196C5 ♦	600.00	196,000	2030	5	3/4 - 3-1/4 x 5 - 42	226

♦ Unit shipped in three cartons.
† Shipped in two cartons.

* Shipped less filter + filter rack - see option below

A.C. Models include fan relay
&Heating & Cooling Thermostat OPTIONAL EQUIPMENT

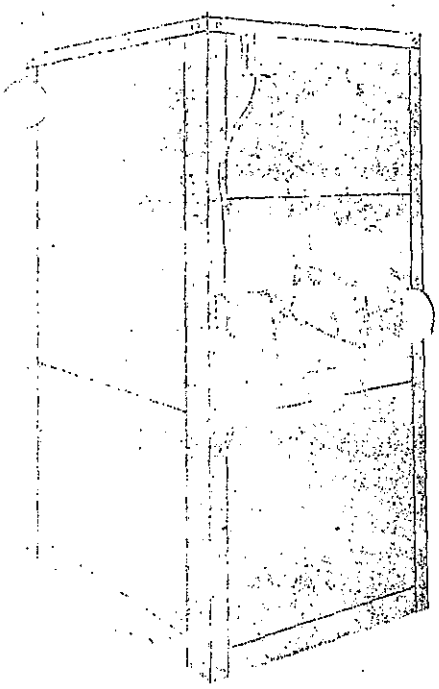
ITEM	DESCRIPTION	PRICE
DE-82	Filter + filter rack - 84 + 95	7.50
DE-27	" " " " - 112 + 125	9.50

THERMOSTATS FOR ALL OIL FURNACES

ITEM	DESCRIPTION	UNIT PRICE
T87F-1800	Thermostat (Honeywell) with adjustable heater	9.49
0539A1006	Sub-Base (Honeywell) use with T87F	7.31
1C30-322 E6	Thermostat (White-Rodgers)	5.70
S23-1E-2	Sub-Base (White-Rodgers) use with 1C30-322 E6	7.70
T834A	Thermostat (Honeywell)	7.31
0634A	Sub-Base (Honeywell)	8.33

OIL FURNACES

CRANE SUPPLY COMPANY



UPFLOW OR HORIZONTAL

HEATING UNITS

Model Number	Unit Price	Output BTU/Hr.	Motor-Drive-Belt	Ship. Wt. Approx.
O-225	$822.00	225,000	1/2–3 1/4x7–48	566
O-275	873.00	275,000	3/4–3 1/4x6–47	576
O-350	1,124.00	350,000	3/4–4.15x10.75–55	717
O-450	1,219.00	450,000	1–4.15x9.25–52	718

HEATING AND COOLING UNITS

Model Number	Unit Price	Output BTU/HR.	Max. A/C Capacity	Motor-Drive-Belt	Ship. Wt. Approx.
O-225C8	849.00	225,000	7 1/2	3/4–3 1/4x6–47	566
O-225C9	895.00	225,000	9	1–4x6–48	566
O-225C10	923.00	225,000	10	1-1/2–4.15x11.75–58	586
O-275C9	935.00	275,000	9	1–4x6–48	576
O-275C10	953.00	275,000	10	1-1/2–4.15x11.75–58	576
O-350C10	1,181.00	350,000	10	1–4.15x9.25–52	717
O-350C12	1,219.00	350,000	12	1-1/2–4.15x15.75–64	717
O-350C15	1,316.00	350,000	15	2–4.15x13.75–61	717
O-450C12	1,266.00	450,000	12	1-1/2–4.15x15.75–64	718
O-450C15	1,363.00	450,000	15	2–4.15x13.75–61	718

Electrical Specifications – All models factory wired to connect 230/1/60 with neutral to field wiring. Oil Burner requires 115/1/60.

Blower Motor may be field converted to 1/60 by changing connections at motor.

NOTE: 230/3/60 available – allow 8 weeks le- time. Add $45.00 to Unit Price.

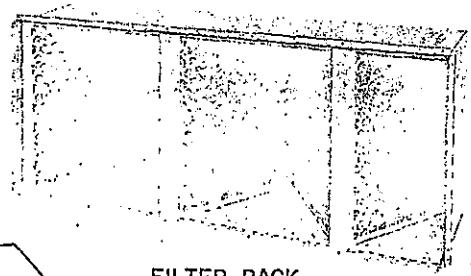
All units factory wired and assembled – complete with burner and barometric control.

Installation may be either upflow or horizontal. (Units shipped for upflow installation).

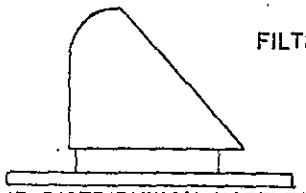
ALL OIL FURNACES U. L. LISTED

FAN RELAY & THERMOSTAT NOT INCLUDED.

ACCESSORY EQUIPMENT



FILTER RACK



AIR DISTRIBUTION NOZZLES

Item	Unit Price
AIR DISTRIBUTION NOZZLES 225 & 275 – AF-34 350 & 450 – AF-35	61.00 72.00
FILTER RACK 225 & 275 – AF-32 350 & 450 – AF-33	50.00 68.00
BLOWER COMPARTMENT GRILL 225 & 275 – AF-28 350 & 450 – AF-29	13.00 20.00

CRANE00882

CRANE® CRANE SUPPLY COMPANY

ELECTRIC FURNACES

E5 & E6 SERIES

ELECTRIC FURNACES FOR HEATING & COOLING

Model Number	UNIT PRICE	KW@ 240V	BTU Hr.	C.F.M. .5	Motor & Drive	Ship Wt.
E5-5D2C2	107.00	5	17,050	590	1/5 - 3 Direct	68
E5-10D2C2	120.00	10	34,100	710	1/5 - 3 Direct	68
E5-15D2C2	149.00	15	51,150	855	1/5 - 3 Direct	68
E5-5D2C2.5	114.00	5	17,050	755	.3 - 3 Direct	68
E5-10D2C2.5	127.00	10	34,100	755	.3 - 3 Direct	68
E5-15D2C2.5	156.00	15	51,150	920	.3 - 3 Direct	68
E5-20D2C2.5	173.00	20	68,200	1125	.3 - 3 Direct	68
E5F5D2C2	117.00	5	17,050	590	1/5 - 3 Direct	68
E5F10D2C2	129.00	10	34,100	710	1/5 - 3 Direct	68
E5F15D2C2	153.00	15	51,150	855	1/5 - 3 Direct	68
E5F5D2C2.5	124.00	5	17,050	755	.3 - 3 Direct	68
E5F10D2C2.5	137.00	10	34,100	755	.3 - 3 Direct	68
E5F15D2C2.5	161.00	15	51,150	920	.3 - 3 Direct	68
E5F20D2C2.5	179.00	20	68,200	1125	.3 - 3 Direct	68
E6-F10D2C3.5	175.00	10	34,100	1517	1/3-3 Direct	106
E6-F15D2C3.5	198.00	15	51,150	1517	1/3-3 Direct	106
E6-F20D2C3.5	215.00	20	68,200	1517	1/3-3 Direct	106
E6-F25D2C3.5	235.00	25	85,250	1517	1/3-3 Direct	106
E6-F30D2C3.5	271.00	30	102,300	1517	1/3-3 Direct	106
E6-F10D2C4	181.00	10	34,100	1765	1/2-3 Direct	106
E6-F15D2C4	200.00	15	51,150	1765	1/2-3 Direct	106
E6-F20D2C4	216.00	20	68,200	1765	1/2-3 Direct	106
E6-F25D2C4	236.00	25	85,250	1765	1/2-3 Direct	106
E6-F30D2C4	272.00	30	102,300	1765	1/2-3 Direct	106
E6-F10D2C5	201.00	10	34,100	2048	3/4-2 Direct	106
E6-F15D2C5	218.00	15	51,150	2048	3/4-2 Direct	106
E6-F20D2C5	236.00	20	68,200	2048	3/4-2 Direct	106
E6-F25D2C5	256.00	25	85,250	2048	3/4-2 Direct	106
E6-F30D2C5	292.00	30	102,300	2048	3/4-2 Direct	106

ALL UNITS INCLUDE FAN RELAY * THERMOSTAT NOT INCLUDED

"F" designates Circuit Breakers included.

OPTIONAL COOLING COIL + CABINET	
COIL + CABINET	WITH USED WITH
UD-251 & UD-301	ALL E5
UD-361 & UD-601	ALL E6

OPTIONAL ACCESSORIES

Item	Description	PRICE
T87F1800	Thermostat (Honeywell T87F with adjustable heater)	94
Q539A1006	Sub-Base (Honeywell Q539A) use with T87F	7.21
1C30-322-E6	Thermostat (White-Rodgers)	55
S23-1E-2	Sub-Base (White-Rodgers) use with 1C30-322-E6	
T834A	Thermostat (Honeywell)	731
Q634A	Sub-Base (Honeywell) use with T834A	
AF-78	Wall Mount Brackets E16 -- All Models	
AF-82	Wall Mount Brackets E15 -- All Models	
AF-80	Optional Staging Relay Kit, (T.I. controls) for E16 -- All Models	

COOLING

FACTORY CHARGED AIR CONDITIONERS

CRANE

CRANE SUPPLY COMPANY

In this Series, the entire refrigeration system consisting of the air cooled condensing unit, tubing set and evaporator are designed as matched components, only for use together. With proper selection of components a broad range of cooling capacities are available. The entire refrigeration system is factory built with each component equipped with self sealing couplings and charged with precisely the correct amount of refrigerant.

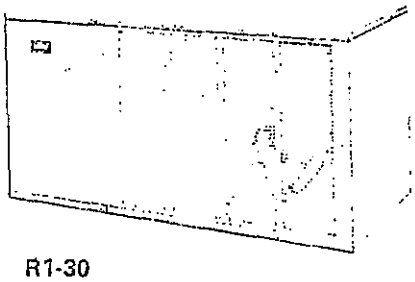
CONDENSERS

~~Warranty—Included in all units~~

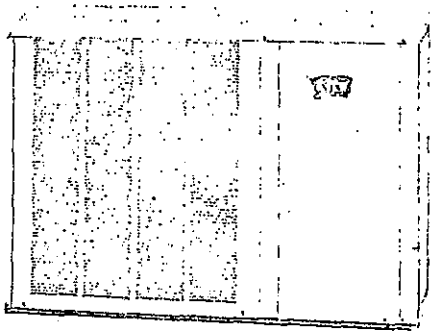
Condenser Model Number	Unit Price*	Cooling Capacity BTU/Hr.	Electrical Specifications	Ship. Wt. Approx.
R1-18-1C	$218.00	18,000	230/1/60	130
F1-18-1C	245.00	18,000	230/1/60	145
R1-24-1C	240.00	24,000	230/1/60	150
F1-24-1C	268.00	24,000	230/1/60	170
R1-30-1C	314.00	30,000	230/1/60	162
F1-30-1C	340.00	30,000	230/1/60	181
R1-36-1C	418.00	36,000	230/1/60	214
R1-36-3C	418.00	36,000	208-230/3/60	214
R1-42-1C	475.00	42,000	230/1/60	254
R1-48-1C	564.00	48,000	230/1/60	262
R1-48-3C	564.00	48,000	208-230/3/60	262
R1-60-1C	682.00	60,000	230/1/60	290
R1-60-3C	682.00	60,000	208-230/3/60	

*Price does not include Thermostat or Sub-Base.

24 thru 60 have 2 speed condenser fan motors



R1-30



R1-36

AC-30A	FAN RELAY PANEL	$13.00
AC-82	LOW AMBIENT KIT R1-60	$23.00
CA-92	WALL SLEEVE for F1-18, F1-24, F1-30	$24.00
CA137	PROTECTIVE GRILL for R1-18, R1-24, R1-30	$6.50
AC-49	START KIT * for all T & W 3, 3½, 4, and 5 ton	$19.50
AC-55	START KIT * for all T, W, & C 1½, 2 and 2½ ton	$14.50
AC-32 AC-33 AC-58	CRANKCASE HEATERS* for 2-2½ or 3 ton (T - W) for 3½-4 or 5 ton (T - W) for 1½-2-2½ ton (C)	$6.50 $6.50 $6.50
AC-56	"Y" Suction Line Adaptor Kit for connecting C62-57CP to twin suction lines	$16.00

STUB KIT	
Part No.	Price
AC-87-1	$22.00
AC-87-2	$22.00
AC-87-3	$23.00
AC-87-4	$30.00

*T – Tecumseh Compressor
W – Americold Compressor
C – Copeland Compressor

COOLING

FACTORY CHARGED AIR CONDITIONERS

CRANE

CRANE SUPPLY COMPANY

In this Series, the entire refrigeration system consisting of the air cooled condensing unit, tubing set and evaporator designed as matched components, only for use together. With proper selection of components a broad range of cooling capacities are available. The entire refrigeration system is factory built with each component equipped with self-sealing couplings and charged with precisely the correct amount of refrigerant (except R-90).

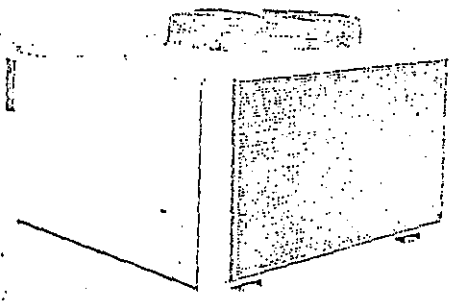
Warranty — included in all units

make Range

Top Discharge Condensers

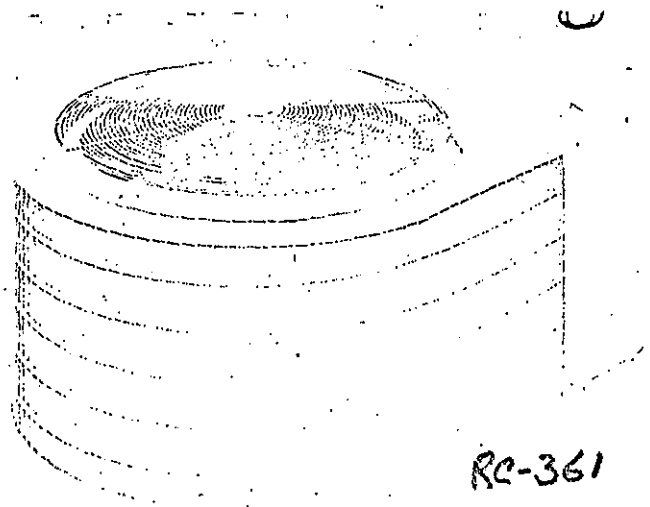
Condenser Model Number	Unit Price*	Cooling Capacity BTU/Hr.	Electrical Specifications	Ship. Wt. Approx.
RC-361	509.00	36,000	230/1/60	230
RC-421	568.00	42,000	230/1/60	254
RC-423	568.00	42,000	230/3/60	289
RC-481	650.00	48,000	230/1/60	270
RC-483	650.00	48,000	230/3/60	270
RC-601	790.00	60,000	230/1/60	315
RC-603	790.00	60,000	230/3/60	315
R-90-1C Field Pipe	1,288.00	90,000	230/1/60	680 660
R-90-3C Field Pipe	1,288.00	90,000	208-240/3/60	680 660

*Price does not include Thermostat or Sub-Base.



R-90-1C FIELD PIPE

Line Number	LINE SETS			
	15 ft.	20 ft.	30 ft.	40 ft.
B29500	$45.00	$53	$70	$87.00
B29501	—	—	122	146
B29502	44.00	50	64	78
B29503	44.00	50	64	78
B29504	44.00	50	64	78
B29505	44.00	50	64	78
	15 ft.	20 ft.	30 ft.	40 ft.
26998	$34	$41	$55	$66
26995	35	43	59	69
28521	38	47	61	72
28522	39	48	62	74
28523	38	45	58	70
28524	41	55	66	80
28525	65	83	102	120



RC-361

STUB KIT	
Part No.	Price
AC-87-1	$22.00
AC-87-2	0.2
C-87-3	
97-4	

ITEM	START KIT	PRICE
AC-115	USED WITH RC-361	
AC-116	USED WITH RC-421	
AC-117	USED WITH RC-481-601	

Use (2) AC-47 start kit on the R-90 (see previous page)

*28524 Single Suction Line–Line Sets may be used in lieu of 28525 for applications of 20 ft. or less. In this case use only the bottom suction line couplings at the evaporator and condenser.

CRANE00885

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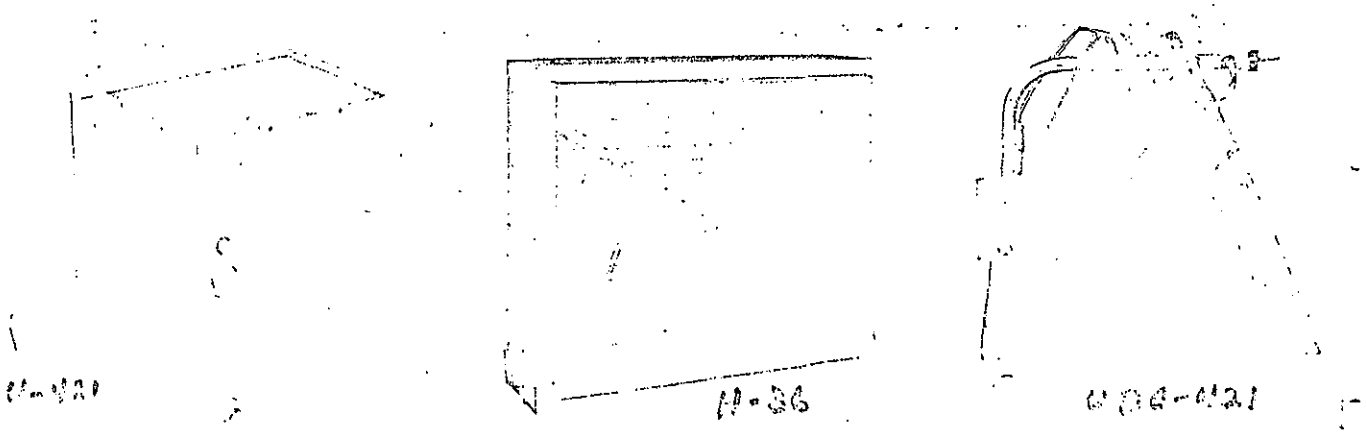
EVAPORATORS

Evaporator Model No.	Evaporator Unit Price	Shipping Weight	Condenser Used With	Line Set Used With BENDABLE	Line Set Used With COPPER	STUB KIT
UPFLOW & DOWNFLOW COILS						
UD-24	84.00	32	R1 & F1-18 R1 & F1-24	B29502 B29503	26998 26995	AC-87-1
UD-24	82.00	32	R1 & F18 R1-24 & F1-24	B29502 B29503	26998 26995	
UD-30	99.00	40	R1-24 + F1 24 R1-30 + F1 30	B29503 B29504	26995 26995	
U-421	$113.00	50	R1 + F1-24 + 30 R1 + RC-36 R1 + RC-42	B29505 B29500 B29500	28521 28522 28524	AC-87-2 AC-87-3
U-481	150.00	75	R1 + RC-42 + 48	B29500	28524	AC-87-1
U-482	150.00	75	R1 + RC-42 + 48	B29500	28524	
U-601	170.00	102	R1 + RC 60	B29501	28525	
U-602	170.00	102	R1 + RC-60	B29501	28525	
D-421	122.00	60	R1 + F1-24 + 30 R1 + RC-36 R1 + RC-42	B29505 B29500 B29500	28521 28522 28524	AC-87-2 AC-87-3
D-421-W	145.00	60	R1 + F1-24 + 30 R1 + RC-36 R1 + RC-42	B29505 B29500 B29500	28521 28522 28524	AC-87-2 AC-87-3
HORIZONTAL COILS						
H-23	88.00	44	R1 & F1-18 R1 & F1-24	B29502 B29503	26998 26995	AC-87-1
H-36	106.00	67	F1 + R1-24 F1 & R1 + 30 R1 + RC-36	B29503 B29504 B29505	26995 26995 28523	AC-87-2
H-481	122.00	60	R1 + RC-42 + 48	B29500	28524	AC-87-3
H-601	145.00	92	R1 + RC-60	B29501	28525†	
H-90	244.00	140	R-90	FIELD PIPE	Field Pipe	
COIL ONLY (For installation in existing plenums)				CABINET ONLY to MATCH		
UDC-24	69.00	28	SAME UD-24 for SPRC.	AC-95	16.00	
UDC-30	82.00	35	" UD-30 " "	AC-94	19.00	
UDC-421	95.00	46	" U-421 " "	AC-104	25.00	
UC-481	12[illegible]	46	" U-481 " "	AC-105	32.00	
UC-601	145.00	48	" U-601 " "	AC-107	33.00	

† TWO SUCTION LINES AND ONE LIQUID.

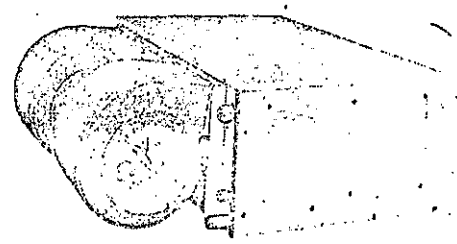
• U-602 HAS SINGLE SUCTION LINE. AC-86 "Y" ADAPTOR KIT REQUIRED TO CONNECT TWIN SUCTION LINES TO THE SINGLE SUCTION LINE COUPLING ON EVAPORATOR.



BLOWER COIL UNITS

CRANE® CRANE SUPPLY COMPANY

COM-PAC ELECT



HEATING & COOLING

Blower Coil Units: Same as BC Series evaporator with electric heater elements added. Includes "Twin Blowers" for minimum overhead space requirements, enameled cabinet, weld nuts for suspension, provisions for reversing service controls from left to right and includes transformer and fan sequencing relay. Factory wired and assembled.
A.R.I. & U.L. LISTED.

Heat-Cool BC units include thermostat & fan relay - A.C. only models DO NOT

COOLING ONLY

Model No.	Unit Price	Shipping Weight	Condenser Used With	Line Set USED WITH STANDARD	BENDABLE
BC-18 (A.C. only)	137.00	60	R1 & F1-18	26998	B29502
BC-24 " "	151.00	76	R1 & F1-24	26995	B29503
BC-36 " "	180.00	167	R1+F1-30	28521	B29505
			R1-36	28522	B29500
BC-18/5	218.00	70	R1+F1-18	26998	B29502
BC-18/10	230.00	70	R1+F1-18	26998	B29502
BC-24/10	293.00	85	R1+F1-24	26995	B29503

AC-101 - 3 cm relay for BC-361 | AC-113 - Filter Cabinet for BC-361

ELECTRIC HEATING ELEMENTS

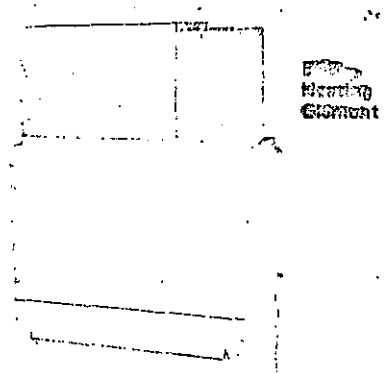
MODEL NO.	UNIT PRICE	SHIP WT	USED WITH	BTU CAPACITY	KILOWATTS @ 240 VOLTS
ES-5	60.00	10	BC-361	15,700	4.6
ES-10	90.00	10	BC-361	31,400	9.2
ES-15	115.00	15	BC-361	47,100	13.8
ES-20	117.00	15	BC-361	62,800	18.4

ES elements include fan relay & thermostat.

VERTICAL OR HORIZONTAL BLOWER COIL UNITS

Unit Number	Unit Price	Ship. Wt.	CONDENSER USED WITH	LINE SET STANDARD	BENDABLE	STUB KIT
HVBC-24	162.00	95	R1+F1-18	26998	B29502	AC-89-1
			R1+F1-24	26995	B29503	AC-89-1

Units include fan control relay.



ELECTRIC HEATING ELEMENTS WITH CABINETS

Element Number	Unit Price	For Use With	Kilowatts @240 Volts	BTU Capacity	Ship. Wt.
EB5	[illegible]	HVBC-24	4.6	15,700	20
EB10	[illegible]	HVBC-24	9.2	31,400	25
EB15	[illegible]	HVBC-24	13.8	47,100	30
EB20	[illegible]	HVBC-24	18.4	62,800	35

The EB series Electric Heating Units have the electric heat strips mounted in an insulated cabinet that fits on the discharge end of the HVBC-24 .

On multiple units EB10, EB15 and EB20 contractors and 45 second time delay relays to start the second, third and fourth heating element are mounted in cabinet and wired to element for use with 24 volt thermostat (must have adjustable heat anticipator).

BLOWER COIL UNITS

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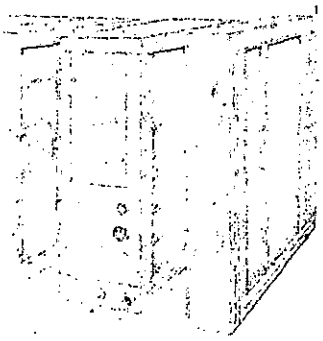


B.C.

VERTICAL or HORIZONTAL AIR DISCHARGE

UNIT USED WITH	DISCHARGE GRILL		INTAKE GRILL	
BC-36	CA70	29.50	CA-80	26.50
BC-481	CA71	34.00	CA-81	[illegible]
BC 601	CA72	41.00	CA-82	30.[illegible]

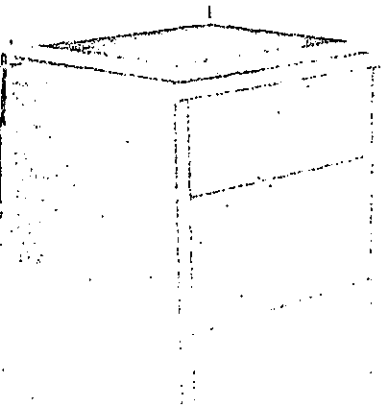
Evaporator Model No.	Evaporator Unit Price	Shipping Weight	Condenser Used With	Line Set Used With BENDABLE	Line Set Used With COPPER	Outlet Plenum Demensions
[illegible]	214.00	167	R1 + F1 30 [illegible] BC-36	B 29500 B 29500	26495 28523	20x24W
BC-481*	[illegible]	160	R1 [illegible]	B 29500	28524	20 x 32W
BC601*	[illegible]	192	R1 [illegible]	B 29501	28525†	22 x 30W
BC-90*	550.00	345	R-90	FIELD PIPE	Field Pipe	24 x 44W

UNITS DO NOT INCLUDE FAN RELAY OR THERMOSTAT.

*BC-36, 481, 601 & 90 shipped as two separate components

VERTICAL BLOWER COIL
A.C. only or Heating + A.C

Model No.	Unit Price	Shipping Weight	Condenser Used With	Hrs. CAP @ 240V
VBC-362 (10 only)	214.00	150	R1 + RC-36	
VBC-362/10			R1 + RC-36	34,100
VBC-362/15			R1 + RC-36	51,150
VBC-362/20			R1 + RC-36	68,200
VBC-362/25			R1 + RC-36	85,250
VBC-362/30			R1 + RC-36	102,300



All V.B.C. units use 28522 (standard) & B-29500 (bendable) line sets.

Heat-Cool units include fan relay + thermostat — A.C. (only) units do not.

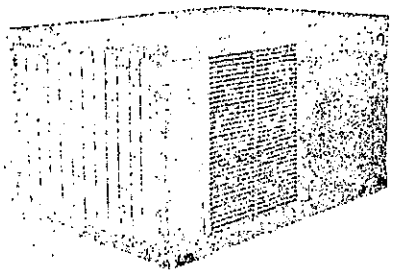
VBC

CRANE®

CRANE SUPPLY COMPANY

SINGLE PACKAGE COOLING

PC SERIES-AIR CONDITIONERS



Baked Enamel cabinets, insulated against sound transmission, large access panels. Condenser and evaporator coils have copper tubes with rippled aluminum fins, extra large face area. Two cylinder compressor, continuous duty hermetically sealed motor. All units have refrigerant charge. Four and Five ton units are equipped with filter drier, high pressure cut-out, and pre-wired and installed control panel with built-in relay. Shipped less thermostat.

Model Number	Unit* Price	Cooling Capacity	C.F.M. .2	Electrical Specifications	Blower Motor H.P. and Speed	Ship. Wt. Approx.
PC-241	490 00	25,000	795	230V/1/60	1/5DD 1 Spd.	275
PC1-301	595 00	30,000	1025	230V/1/60	1/5DD 1 Spd.	335
PC1-361	695 00	36,000	1330	230V/1/60	1/4DD 1 Spd.	375
PC1-421-423	795 00	42,000	1600	230V/1/60	1/3DD 1 Spd.	405 435
PC-481-483	895 00	49,000	1695	230V/1/60	1/3DD 1 Spd.	520
PC-601-603	1075 00	62,000	2050	230V/1/60	1/3DD 1 Spd.	575

START KITS

PART No.	USED WITH	PRICE
AC-55	241-301	$14.50
AC-60	361-421-481-601	14.50

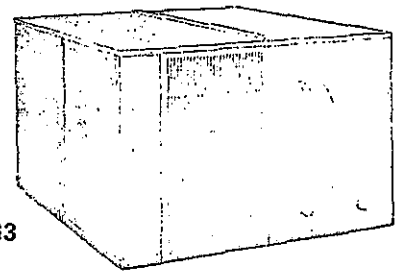
OPTIONAL ELECTRIC HEAT ELEMENTS

Element Number	Unit Price*	For Use With	Kilowatts @ 240 Volts	BTU Capacity	Ship. Wt. Approx.
EL5	65 00	241	4.6	15,700	10
EL10	89 00	241	9.2	31,400	10
EN5	65 00	301 361	4.6	15,700	10
EN10	89 00	301 361	9.2	31,400	10
EN15A	105 00	301-361-421 423	13.8	47,100	13
EN20	125 00	301-361 421	18.4	62,800	15
EN25	142 00	421	23.0	78,500	15
EN30A	160 00	421 - 423	27.6	94,200	15
EK10	89 00	481 + 601	9.2	31,400	10
EK20	125 00	481 - 601	18.4	62,800	13
EK30	160 00	421 - 601	27.6	94,200	18

*HEATING AND COOLING THERMOSTAT INCLUDED WITH HEATERS.

OUTSIDE HEATING-COOLING

CRANE® CRANE SUPPLY COMPANY



PG3

SELF-CONTAINED HEATING AND COOLING UNIT

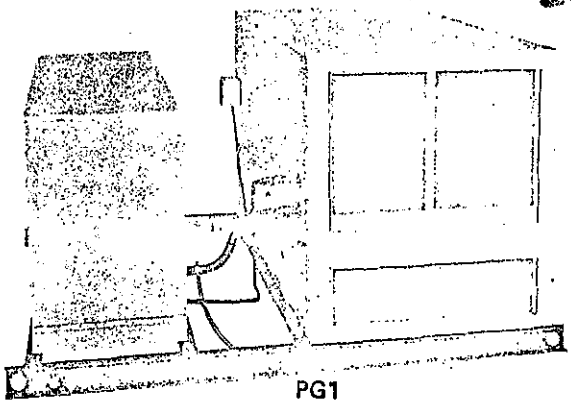
Model Number	Trade Price with Aluminized Steel Element	Trade Price w/Optional Stainless Steel Element	AGA BTU/Hr. Input	AGA BTU/Hr. Bonnet	Cooling Capacity ARI BTU/Hr.	Approx. Ship. Wt.	Optional Damper	Unit Price
PG3-80D2C24 PG3-100D2C24	671.00	725.00	80,000 100,000	60,000 75,000	23,000	530	CA-107	331.00
PG3-80D2C30 PG3-100D2C30	798.00	[illegible]	80,000 100,000	60,000 75,000	30,000	530		
PG3-80D2C36,1-3 PG3-100D2C36,1-3	841.00	875.00	80,000 100,000	60,000 75,000	36,000	530		
PG3-125D2C36,1-3	[illegible]	949.00	125,000	93,750	36,000	620		
PG3-125C48,1-3	1170.00	1257.00	125,000	93,750	48,000	1030	CA-160	334.00
PG3-150C48,1-3			150,000	112,500				
PG3-125C58,1-3	1300	1455.00	125,000	93,750	58,000	1046		
PG3-150C58,1-3			150,000	112,500				
[illegible]	—	1490.00	[illegible]	[illegible]	57,000			
PG1-325C90,1-3	—	[illegible]	325,000	243,750	90,000	1800	CA-161	336.00
[illegible]	—	[illegible]	170,000	[illegible]	[illegible]	[illegible]	CA-160	[illegible]

OPTIONAL: 1/2 HP direct drive motor for 80-100D2C36 . . . . . add ~~[illegible]~~
OPTIONAL: 1/2 HP belt drive blower for 125C36 . . . . . add ~~[illegible]~~
PG3 units shipped with T87F1008 HW Thermostat and Q539A1006 HW Sub-base
OPTIONAL: Low ambient control CA-128 for 23, 30 w/Copeland . . . . . ~~20.00~~ 23.00
OPTIONAL: Low ambient control CA-129 for 23, 30 w/BW or Tecumseh and all 36 . . . . . ~~20.00~~ 24.00
OPTIONAL: Low ambient control CA-154 for 48, 58 (all) . . . . . ~~50.00~~ 64.00
OPTIONAL: 2 HP motor available on 325C90 units . . . . . add ~~[illegible]~~ 35.00

†NOTE:

When ordering PG3 or PG1 units be sure to specify phase; PG3-2[illegible] and PG3-30 units available in single phase only. All other PG3 and PG1 models available in either single or three phase.

EXAMPLE: PG3-80D2C30-1 = Single Phase
PG1-325C90-3 = Three Phase



PG1

All models available in NATURAL or PROPANE Gas.

De-ice control (prevents evaporator freeze-up under abnormal operating conditions. Use Penn control Model A11A-1)

One year guarantee on entire unit and additional four (4) year protection plan on compressor.

PG3 and PG1 units have A.R.I. certified rating label.

Heating section design is A.G.A. certified. Natural or propane gas.

Heating/Cooling units Trade Price includes:
- Insulated casing, mounting rails, blower and completely assembled & wired.
- Condensing unit, cooling coil and refrigerant tubing completely assembled, charge and wired.
- Heating/Cooling thermostat with sub-base and fan control relay.

PG3 & PG1 units shipped with T87F1008 H-W Thermostat and Q539A1006 H-W Sub-base.

PG1-325C90 shipped with T872B1005 HW Thermostat and Q672E1001 HW sub-base for one stage heating, two stage cooling.

CONTROLS FOR HEATING

- Limit Control
- Fan Control
- Automatic solenoid gas valve
- "A" and "B" valves
- Low Pressure Switch
- Safety shut-off of gas supply
- Power exhaust with safety switch
- Fused auxiliary limit
- Thermostat and Sub-Base
- Pilot spark ignition control

CONTROLS FOR COOLING

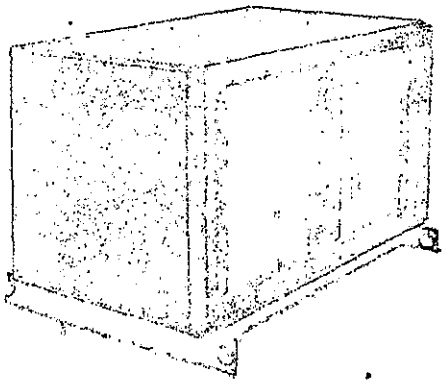
- Compressor with internal protection
- External high pressure switch
- Low ambient control on PG1 units
- Blower relay
- Crankcase heater on PG3 units

ON YOUR ORDER BE SURE TO SPECIFY ITEMS AS SHOWN ABOVE IN BOLD TYPE

CRANE SUPPLY COMPANY

OUTSIDE HEATING

This low silhouette heating only unit features: stainless steel burner, powered vent, and automatic ignition. For all types of light commercial, and residential applications.



UNIT NUMBER	Unit Price with Stainless Steel Element	A.G.A. Btu/hr.		Ship Wt.
		Input	Bonnet	
PG1-80D	522.00	80,000	60,000	300
PG1-100D		100,000	75,000	
PG1-125D	563.00	125,000	93,750	330
PG1-140	459.00	140,000	105,000	485
PG1-160		160,000	120,000	
PG1-180		180,000	135,000	
PG1-325	1032.00	325,000	243,750	900

NATURAL OR PROPANE

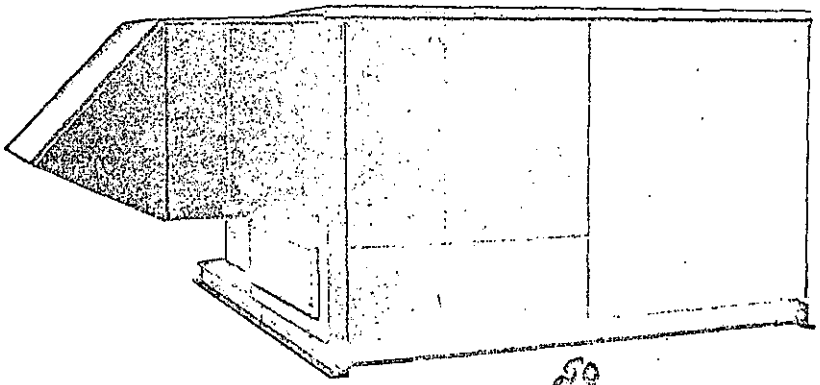
Heating only units trade price includes: Insulated casing, Stainless steel burners, mounting rails, blower and filter, completely wired and assembled, with thermostat.

2 HP Motor available on 325 . . . . . add $34.50

CONTROLS FOR HEATING

Limit Control
Fan Control
Automatic solenoid gas valve
"A" and "B" valves
Safety shutoff of gas supply
Power exhaust with safety switch
Fused auxiliary limit
Thermostat
Spark ignition

MAKE-UP AIR UNIT



A gas fired make-up air unit utilizing a self contianed modulating gas valve in addition to the regular valve. As the temperature of the inlet air to the unit rises or falls the modulating valve will lower or raise the BTU input proportionately.

140 WITH HA-3 DAMPER

NATURAL GAS ONLY

Unit Number	Unit Price with Stainless Steel Element	A.G.A. BTU/Hr.		Ship. Wt.	Optional Damper	Unit Price
		Input	Bonnet			
PG2-140	687.00	56,000 140,000	42,000 105,000	600	HA-50	191.00
PG2-160	687.00	56,000 160,000	42,000 120,000	600	HA-50	191.00
PG2-180	687.00	56,000 180,000	42,000 135,000	600	HA-50	191.00
PG2-325	1032.00	130,000 325,000	97,000 243,750	910	HA-51	219.00

The use of the optional HA-50 or HA-51 dampers provides means for closing the Intake side of the unit during the off cycle thus preventing air infiltration through the unit.

2 HP Motor available . . . . . add $35.00

CRANE® CRANE SUPPLY COMPANY

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APPROVALS

Gas Furnaces and Unit Heaters design certified by American Gas Association.

Air Conditioners are rated in accordance with A.R.I. standard 210-74 and carry the A.R.I. certification seal.

Oil Furnaces, Electric Furnaces, and Air Conditioners unless otherwise noted, are listed by Underwriters Laboratories, Inc.

GENERAL TERMS

All prices herein apply to all shipments after effective date shown, SUPERSEDE ALL PREVIOUS QUOTATIONS and are subject to change without notice. Possession of this price sheet does not constitute an offer to sell.

WARRANTIES

See warranties supplied with units for complete details.

NATURAL TO LP CONVERSION KITS

KIT NO.	UNITS TO BE USED WITH
AF36-1	
AF36-2	
AF36-3	
AF36-4	
AF36-5	

22

Ralph Dunbar
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BB

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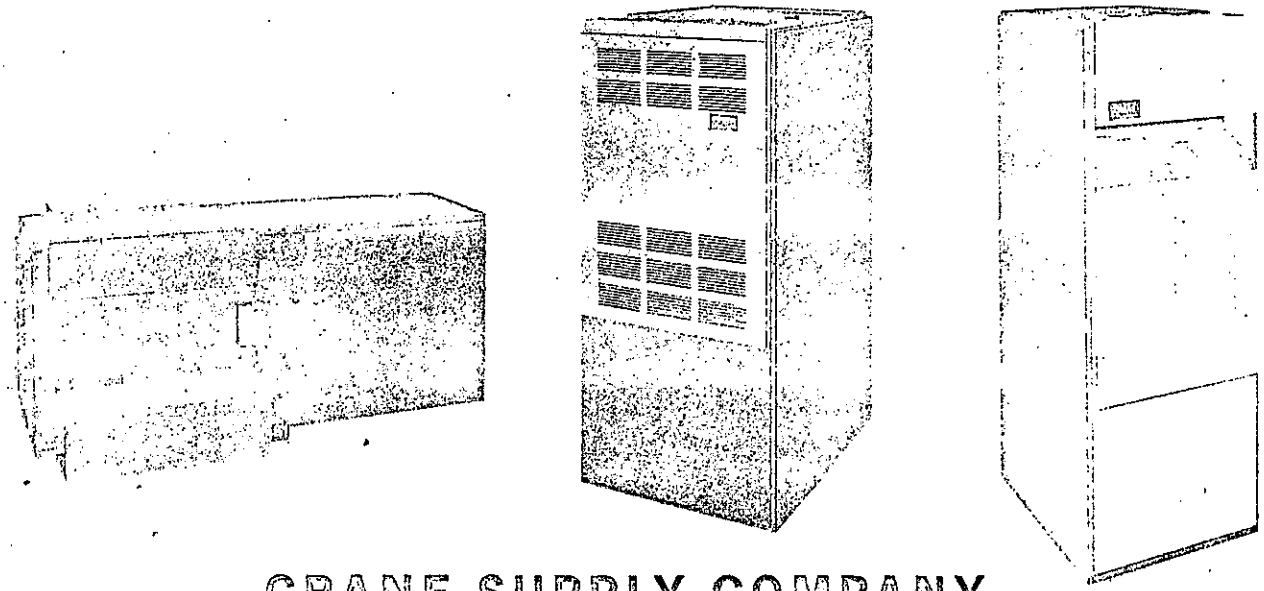
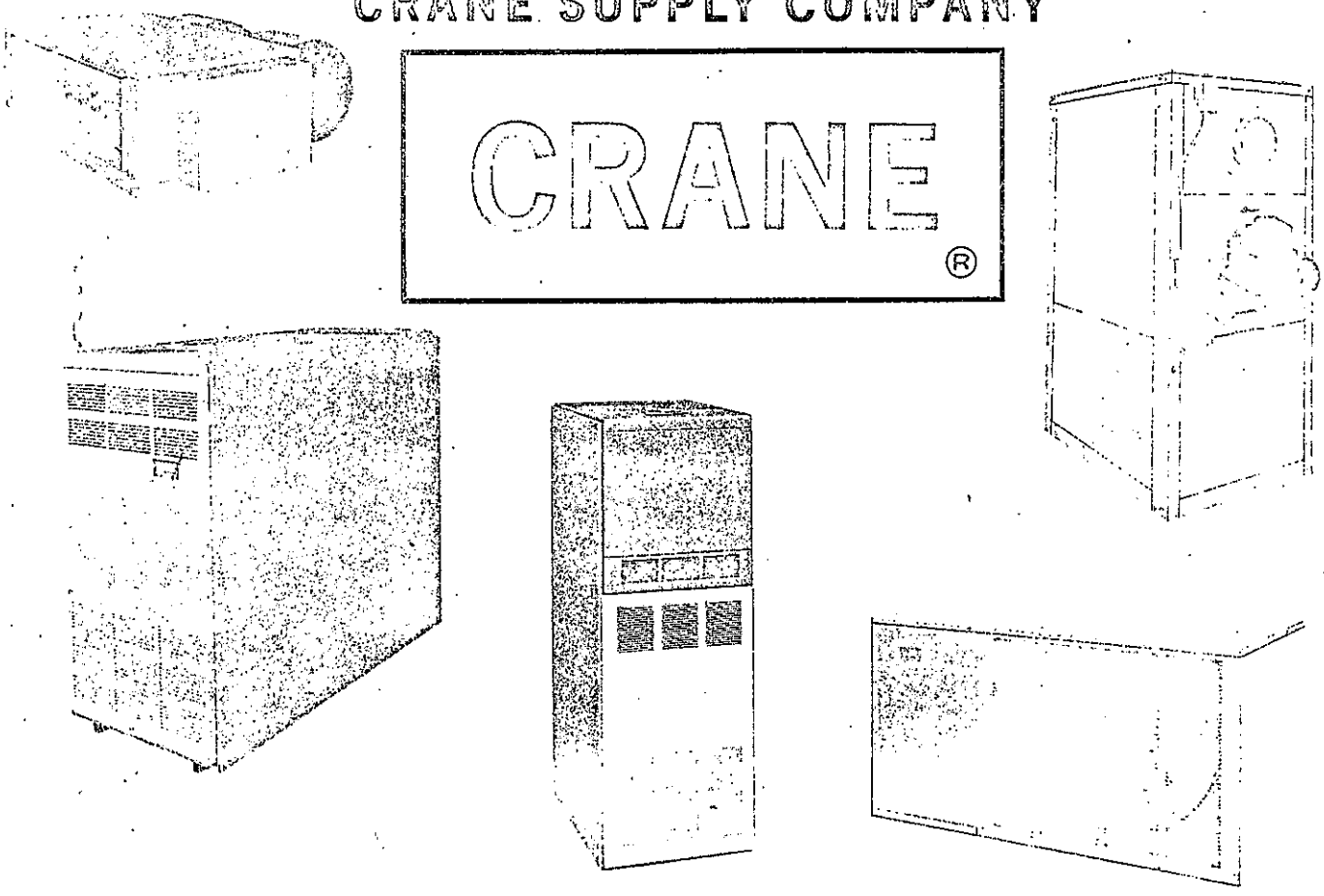


CRANE SUPPLY COMPANY

CRANE®



CRANE®

CRANE SUPPLY COMPANY

300 PARK AVENUE, NEW YORK, N.Y. 10022

ARMSTRONG

DEALER NET PRICE LIST · PRL-17

Effective January 1, 1975

GAS HEATING EQUIPMENT

Basement Models

G53-100	223.00
G53-120	271.00
G53-140	312.00
G53-160	352.00
G53-100C3	255.00
G53-120C3	298.00
G53-140C4	337.00
G53-140C5	352.00
G53-160C4	368.00
G53-160C5	375.00

Optional Equipment
Trans. Kits

AC53	9.50

Upflow Models

G63-80D	163.00
G63A-80	179.00
G63-80	172.00
G63-100D	177.00
G63-100	192.00
G63-120D	207.00
G63-120	228.00
G63-140	261.00
G63-160	297.00
G63-80D2C2	185.00
G63A-80C3	195.00
G63-80C2	189.00
G63-100C3	224.00
G63-100D2C3	211.00
G63-120C3	249.00
G63-120D2C3	238.00
G63-120D2C4	246.00
G63-140C4	287.00
G63-140C5	320.00
G63-160C4	328.00
G63-160C5	340.00

Optional Equipment
Return Air Drops

AF-5	21.00
AF-44	23.00

Filter Racks

AF-26	6.50
AF-27	9.50

Trans. Kits

AC-53	9.50

Larger Upflow Models

G63-180	389.00
G63-200	426.00
G63-240	498.00
G63-180C5	426.00
G63-180C6	452.00
G63-200C5	460.00
G63-200C6	484.00
G63-240C5	522.00
G63-240C6	548.00

Optional Equipment
Return Air Drop

AF-60	33.00

Filter Racks

AF-16	12.00
AF-23	12.00

Trans. Kits

AC-8	9.50
AC-18	14.00

Upflow Models

G64-60D	146.00
G64-80D	148.00
G64A-80D	160.00
G64-100D	163.00
G64-120D	200.00
G64-60D2C2	166.00
G64-80D2C2	169.00
G64A-80D2C3	186.00
G64-100D2C3	191.00
G64-120D2C3	223.00

Optional Equipment
Return Air Drop

AF-5	21.00

Filter Rack

AF-26	6.50

Counterflow Models

G73-80D	165.00
G73-100D	184.00
G73-100	203.00
G73-120D	212.00
G73-120	225.00
G73-140	261.00
G73-160	289.00
G73-80D2C2	197.00
G73-100D2C3	216.00
G73-100C3	233.00
G73-120D2C3	242.00
G73-120C3	256.00
G73-140C4	348.00
G73-140C5	374.00
G73-160C4	359.00
G73-160C5	387.00

Optional Equipment
Sub-Bases

AF-50	7.50
AF-51	10.50
AF-56	12.50

Filter Cabinets

AF-53	12.50
AF-57	14.50

Evap.Refrig.Line Cover

AC-60	7.50
AC-61	7.50

Horizontal Models

G82-75D	189.00
G82-100D	202.00
G82-125D	242.00
G82-150D	305.00
G82-75D2C2.5	205.00
G82-75D2C3.5	212.00
G82-100D2C3.5	224.00
G82-100D2C4	228.00
G82-125D2C3.5	264.00
G82-125D2C4	275.00
G82-125D2C5	294.00
G82-150D2C4	320.00
G82-150D2C5	340.00

Accessories for all Gas Furnaces

Stat & Sub-Bases

T87F1800	Stat	9.49
Q539A1006	Base	7.31
1C30-322-E6	Stat	5.30
S23-1E-2	Base	7.10
T834A	Stat	7.31
Q634A	Base	8.33

Optional Stats for all Gas Furnaces

T87F1800	Add	4.00
Except for G64's		4.25

CRANE00895

OIL HEATING EQUIPMENT

Basement Models

L52-84	366.00
L52-95	379.00
L52-112	400.00
L52-125	442.00
L52-140	454.00
L52-168	521.00
L52-196	566.00
L52-84C3	369.00
L52-95C3	382.00
L52-112C4	417.00
L52-112C5	452.00
L52-125C4	462.00
L52-125C5	472.00
L52-140C4	488.00
L52-140C5	495.00
L52-168C5	547.00
L52-196C5	592.00

Optional Equipment

Trans. Kits

AC-9	8.50
AC-30	8.50
AC-78	8.50

Upflow Models

L62-84D	316.00
L62-84	332.00
L62-95D	338.00
L62-95	352.00
L62-112	375.00
L62-125	403.00
L62-84D2C3	330.00
L62-84C3	349.00
L62-95D2C3	351.00
L62-95C3	363.00
L62-112C4	406.00
L62-125C4	442.00
L62-125C5	456.00

Optional Equipment

Return Air Drops

AF-44	23.00
AF-2	26.00

Trans. Kit

AC-78	8.50

Filter Racks

AF-27	9.50

Counterflow Models

L72-84D	342.00
L72-95D	352.00
L72-112D	382.00
L72-125D	419.00
L72-84D2C3	372.00
L72-95D2C3	385.00
L72-112D2C3.5	390.00
L72-112D2C4	409.00
L72-125D2C3.5	434.00
L72-125D2C4	441.00

Optional Equipment

Sub-Bases

AF-88	11.00
AF-89	11.00

Adapter

AC-100	7.00

Horizontal Models

L82-84D	313.00
L82-95D	328.00
L82-112D	354.00
L82-125D	393.00
L82-140	414.00
L82-168	501.00
L82-196	563.00
L82-84D2C3	335.00
L82-95D2C3	350.00
L82-112D2C4	406.00
L82-125D2C4	445.00
L82-125D2C5	456.00
L82-140C4	487.00
L82-168C5	553.00
L82-196C5	600.00

Optional Equipment

AF83	Filter Rack	7.50
AF27	Filter Rack	9.50

Accessories for all Oil Furnaces

Stats & Sub-Bases

T87F1800	Stat	9.49
Q539A1006	Base	7.31
1C30-322-E6	Stat	5.30
S23-1E-2	Base	7.10
T834A	Stat	7.31
Q634A	Base	8.33

ELECTRIC FURNACES

E15-5D2C2	107.00
E15-10D2C2	120.00
E15-15D2C2	149.00
E15-5D2C2.5	114.00
E15-10D2C2.5	127.00
E15-15D2C2.5	156.00
E15-20D2C2.5	173.00
E15-F5D2C2	117.00
E15-F10D2C2	129.00
E15-F15D2C2	153.00
E15-F5D2C2.5	124.00
E15-F10D2C2.5	137.00
E15-F15D2C2.5	161.00
E15-F20D2C2.5	177.00
E16-F10D2C3.5	180.00
E16-F15D2C3.5	198.00
E16-F20D2C3.5	215.00
E16-F25D2C3.5	235.00
E16-F30D2C3.5	271.00
E16-F10D2C4	181.00
E16-F15D2C4	200.00
E16-F20D2C4	216.00
E16-F25D2C4	236.00
E16-F30D2C4	272.00
E16-F10D2C5	201.00
E16-F15D2C5	218.00
E16-F20D2C5	236.00
E16-F25D2C5	256.00
E16-F30D2C5	292.00

Optional Accessories

T87F1800	Stat	9.49
Q539A1006	Base	7.31
1C30-322-E6	Stat	5.30
S23-1E-2	Base	7.10
T834A	Stat	7.31
Q634A	Base	8.33
AF-78		5.50
AF-82		5.50
AF-80		5.50

OIL BURNERS

D4-A212B	150.00
D4-A217B	150.00

Optional Equipment - Oil Burner

T87F1800	9.49
Two Stage Oil Burner Pumps ...add	11.00
Immersion Type Aquastat or Pressuretrol ...add	10.00

UNIT HEATERS

G31-65	158.00
G31-65SS	204.00
G31-80	169.00
G31-80SS	225.00
G31-100	183.00
G31-100SS	249.00
G31-130	214.00
G31-130SS	293.00
G31-160	248.00
G31-160SS	350.00
G31-200	332.00
G31-200SS	465.00
G31-260	411.00
G31-260SS	550.00
G31-320	486.00
G31-320SS	648.00

Thermostats

T87F1800	9.49
T451A1157	18.00
T834A	7.31
1C30-322-E6	5.30

INDS. OIL FURNACES

L13-225	822.00
L13-275	873.00
L13-350	1124.00
L13-450	1219.00
L13-225C8	849.00
L13-225C9	895.00
L13-225C10	923.00
L13-275C9	935.00
L13-275C10	953.00
L13-350C10	1181.00
L13-350C12	1219.00
L13-350C15	1316.00
L13-450C12	1266.00
L13-450C15	1363.00

Optional Equipment

AF-34	61.00
AF-35	72.00
AF-32	50.00
AF-33	68.00
AF-28	13.00
AF-29	20.00

WALL HEATERS

11G2-28AU	88.00
11G2-35AU	90.00
11G2-50AU	130.00
11G2-60AU	139.00
11G2-28AG	100.00
11G2-35AG	103.00
11G2-50AG	138.00
11G2-60AG	155.00
11G7-65A	202.00
12G7-35	205.00
12G7-50	244.00
12G7-65	249.00
11G3-22CU	132.00
11G3-30CU	144.00

Accessory Equipment

560-01	8.00
559-03	29.00
7A-25	11.50
7A-26	12.50
559-01	34.50
565-01	9.00
629-01	34.00

CONDENSERS

R52-18P1	257.00
R42-18P1	289.00
R52-24P1	284.00
R42-24P1	316.00
R52-30P1	368.00
R42-30P1	397.00
R52A-36P1	448.00
R52A-36P3	448.00
R52A-42P1	515.00
R52A-48P1	598.00
R52A-48P3	598.00
R52-60P1	740.00
R52-60P3	740.00

VERTICAL DISCHARGE COND.

R61-36P1	509.00
R61-42P1	568.00
R61-42P3	568.00
R61-48P1	650.00
R61-48P3	650.00
R61-60P1	790.00
R61-60P3	790.00

LINE SETS

26998-12	34.00
26998-20	41.00
26998-30	55.00
26998-40	66.00
26995-12	35.00
26995-20	43.00
26995-30	57.00
26995-40	69.00
28521-12	38.00
28521-20	47.00
28521-30	61.00
28521-40	72.00
28522-12	39.00
28522-20	48.00
28522-30	62.00
28522-40	74.00
28523-12	38.00
28523-20	45.00
28523-30	58.00
28523-40	70.00
28524-12	41.00
28524-20	55.00
28524-30	66.00
28524-40	80.00
28525-12	65.00
28525-20	83.00
28525-30	102.00
28525-40	120.00

BENDABLE LINE SETS

B29502-12	38.00
B29502-20	50.00
B29502-30	64.00
B29502-40	78.00
B29503-12	38.00
B29503-20	50.00
B29503-30	64.00
B29503-40	78.00
B29504-12	38.00
B29504-20	50.00
B29504-30	64.00
B29504-40	78.00
B29500-12	39.00
B29500-20	53.00
B29500-30	70.00
B29500-40	87.00
B29501-30	122.00
B29501-40	146.00

EVAPORATORS

C62-40CP	113.00
C62-44CP	150.00
C62-48CP	150.00
C62-57CP	170.00
C62-58CP	170.00
C11-23CP	82.00
C13-23CP	84.00
C11-29CP	99.00
C12-40CP	122.00
C72-40CP	145.00
C82-23CP	88.00
C81-35CP	106.00
C82-43CP	123.00
C82-56CP	145.00

ADAPTOR STUB KITS

AC87-1	22.00
AC87-2	22.00
AC87-3	23.00
AC87-4	30.00

EVAP. COIL ONLY

C011-22CP	69.00
C011-23CP	68.00
C011-29CP	82.00
C012-40CP	95.00
C062-44CP	127.00
C062-48CP	131.00
C062-57CP	152.00
C062-58CP	145.00
C072-41CP	125.00

EVAP. CAB. ONLY

C11-23CP	16.00
C13-23CP	17.00
C11-29CP	19.00
C12-40CP	29.00
C62-40CP	25.00
C62-44CP	32.00
C62-48CP	32.00
C62-57CP	33.00
C62-58CP	33.00
C72-41CP	32.00

Optional Accessories

AC-20A		13.50
AC-82		23.00
CA-92		24.00
CA-137		6.50
AC-49		14.50
AC-55		14.50
AC-32		6.50
AC-33		6.50
AC-58		6.50
AC-86		16.00
T87F1800	Stat	9.49
Q539A1006	Base	7.31
1C30-322-E6	Stat	5.30
S23-1E-2	Base	7.10
T834A	Stat	7.31
Q634A	Base	8.33

FIELD CHARGED EQUIPMENT

CONDENSERS

R51-90F1	1288.00
R51-90F3	1288.00

HORIZONTAL EVAPORATOR

C81-90VF	344.00

BLOWER COIL

B81-90VF	550.00

BLOWER COILS

B11-23CP	162.00
B81-17CP	137.00
B81-23CP	151.00
B82-36CP	180.00

Electric Heat Elements
for B11-23CP

EB-5	47.00
EB-10	68.00
EB-15	87.00
EB-20	103.00

for B82-36CP

ES-5	60.00
ES-10	70.00
ES-15	102.00
ES-20	117.00

Filter Cabinet

AC-113	8.00

Blower Coils w/Heat Elements Installed

B81-17CP/5	218.00
B81-17CP/10	239.00
B81-23CP/10	242.00

Blower Coils

B81-35CP	214.00
B82-43CP	264.00
B82-56CP	298.00
B81-90VF	550.00

Composed of:

C81-35CP	106.00
C82-43CP	123.00
C82-56CP	145.00
C81-90VF	344.00

and

V3	108.00
V3.5	144.00
V5	148.00
V90	206.00

Intake and Discharge Grilles

CA-80	26.50
CA-81	28.50
CA-82	30.50
CA-70	29.50
CA-71	37.00
CA-72	41.00

AIR HANDLERS

B62-36CP	214.00
B63-41CP	244.00

Wall Bracket

AC-43		3.25
1C30-322-E6	Stat	5.30
S23-1E-2	Base	7.10

Electric Heat Elements

EF10	54.00
EF15	74.00
EF20	92.00

OUTDOOR UNITS

80D2SBC23	671.00
80D2SBC23SS	725.00
100D2SBC23	671.00
100D2SBC23SS	725.00
80D2SBC30	798.00
80D2SBC30SS	853.00
100D2SBC30	798.00
100D2SBC30SS	853.00
80D2SBC36,1-3	841.00
80D2SBC36,1-3,SS	895.00
100D2SBC36,1-3	841.00
100D2SBC36,1-3,SS	895.00
125D2SBC36,1-3	880.00
125D2SBC36,1-3,SS	949.00
125SBC48,1-3	1170.00
125SBC48,1-3,SS	1257.00
150SBC48,1-3	1170.00
150SBC48,1-3,SS	1257.00
125SBC58,1-3	1368.00
125SBC58,1-3,SS	1455.00
150SBC58,1-3	1368.00
150SBC58,1-3,SS	1455.00
170SBC48,1-3,SS	1296.00
170SBC58,1-3,SS	1495.00
325SAC90,1-3,SS	2591.00
80D2SA	522.00
100D2SA	522.00
125D2SA	563.00
140SA	652.00
160SA	652.00
180SA	652.00
325SA	1022.00
140SAM	687.00
160SAM	687.00
180SAM	687.00
325SAM	1056.00

Optional Equipment
Damper Kit

CA-107	331.00
CA-160	334.00
~~CA-106~~	~~331.00~~
CA-113	336.00
HA-28	191.00
HA-29	217.00

Low Ambient Controls

CA-128	23.00
CA-129	24.00
CA-154	64.00

SELF CONTAINED A.C.

R21-24-1	470.00
R21A-30-1	578.00
R21A-36-1	674.00
R21A-42-1	772.00
R21-48-1	990.00
R21-60-1	1073.00

Electric Heat Elements

EL5	65.00
EL10	84.00
EN5	65.00
EN10	84.00
EN15	105.00
EN20	125.00
EN25	147.00
EN30	169.00
EK10	84.00
EK20	125.00
EK30	169.00

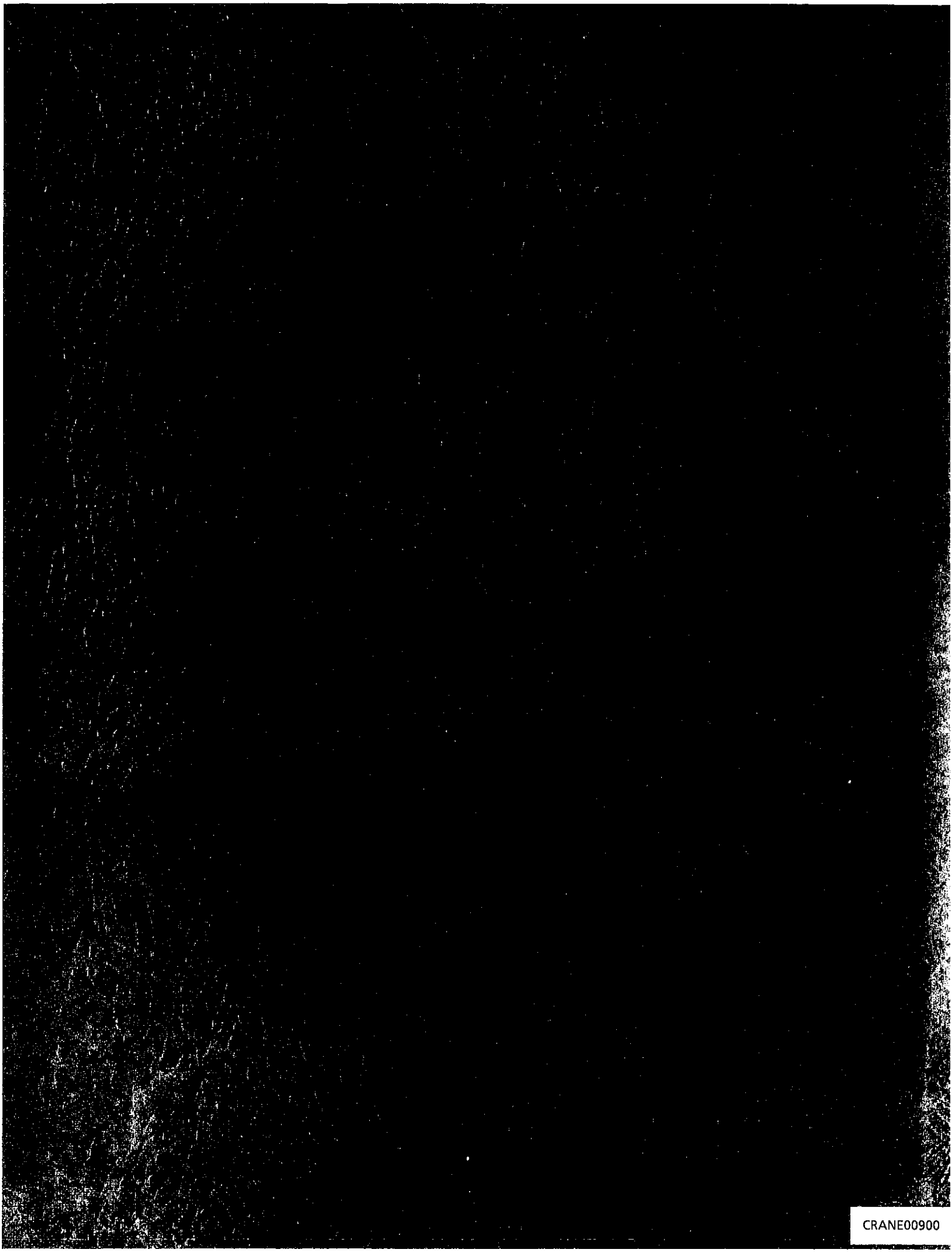
CRANE SUPPLY COMPANY

CRANE

300 Park Avenue • New York, New York 10022

BATES LABELED

CRANE-00900-948

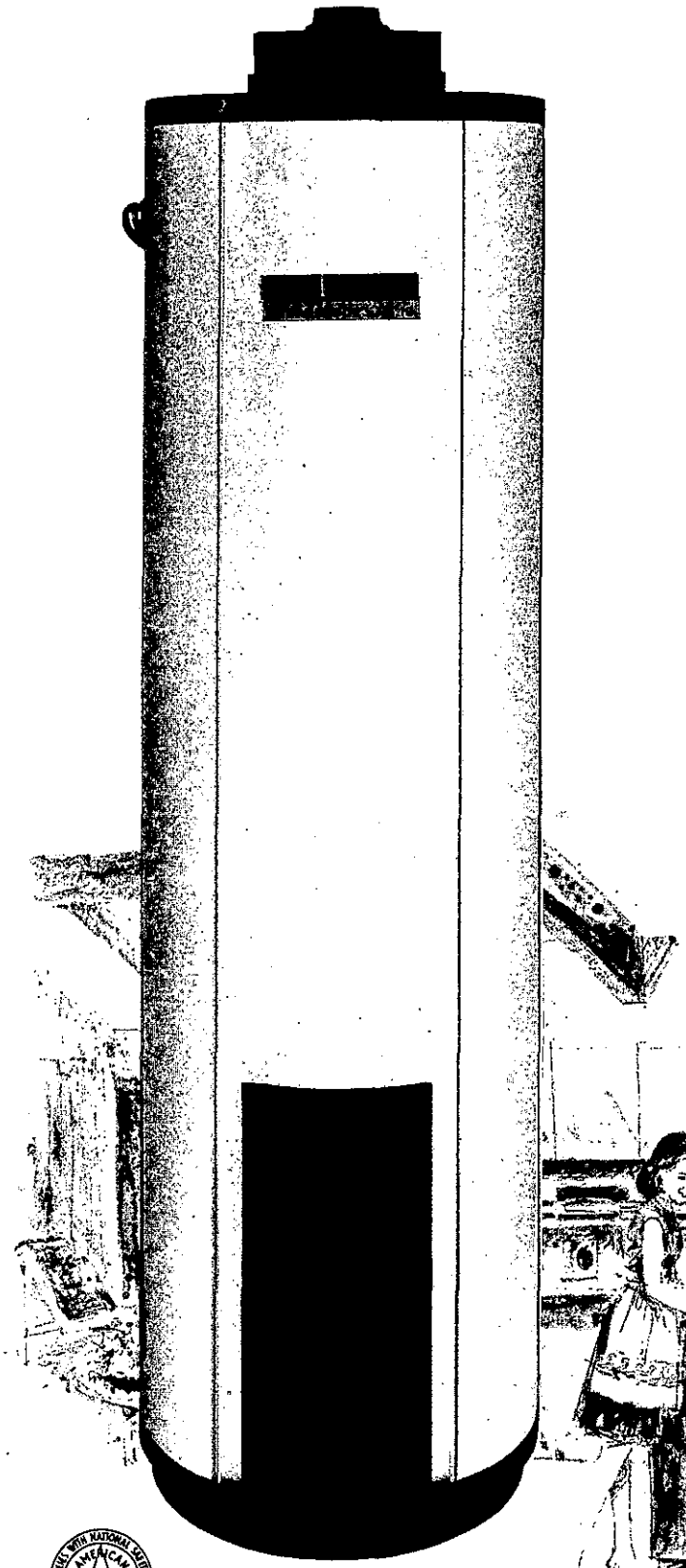


AMBASSADOR
SUPER 10

GAS-FIRED GLASSLINED WATER HEATERS

10 YEAR WARRANTY

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG



For those who want the finest . . . . THE AMBASSADOR offers the ultimate in water heater design and performance.

Included among its outstanding features are a super high recovery rate and VARI-FLAME, the burner system that automatically senses and adjusts to every demand period. The result is . . . . YOU ALWAYS HAVE THE AMOUNT OF HOT WATER YOU NEED WHEN YOU NEED IT!

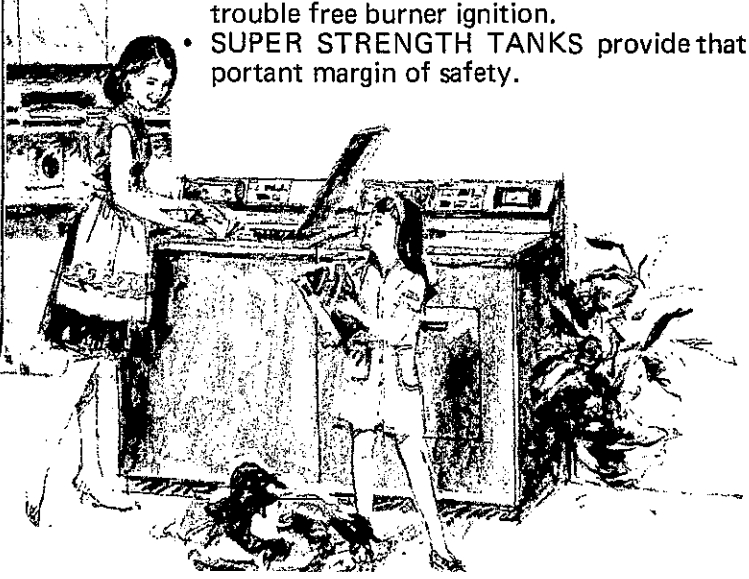
Add to this an excellence in overall product engineering and quality control and you have the very best that money can buy!

***ECONOMY IN OPERATION!**

- FIBERGLASS INSULATION provides increased efficiency while conserving fuel.
- MULTIPORT BURNER delivers quiet efficient combustion. Guaranteed for life.
- COMPACT DESIGN saves space . . . enables low cost installation.
- GAS PRESSURE REGULATORS assure proper operational pressures and prevent service calls.

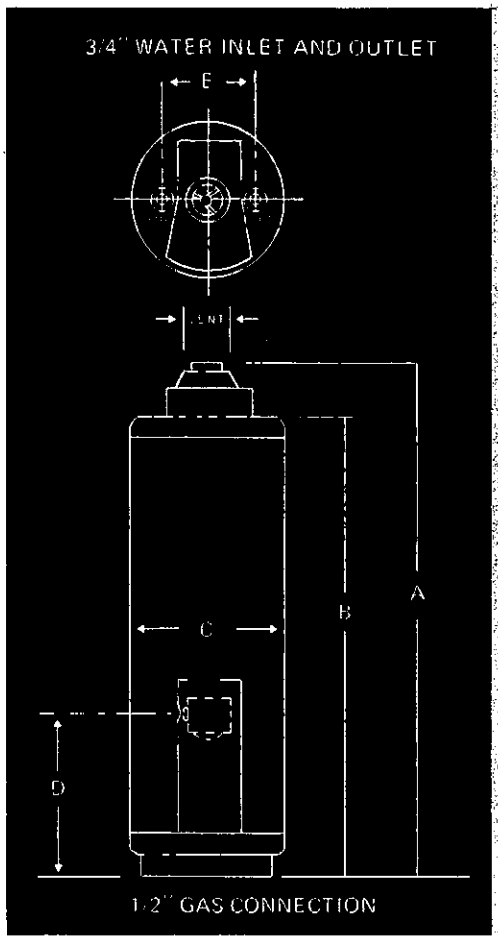
***DEPENDABLE LONG-LIFE PERFORMANCE!**

- The finest in GLASS LINING for superior tank life and water cleanliness.
- T & P VALVE FACTORY INSTALLED provides positive protection.
- High-quality magnesium ANODE ROD assures long life and efficient operation.
- All heaters are APPROVED by the American Gas Association.
- 100% SAFETY CONTROL. Positive gas cut-off within seconds.
- NON-LINTING PILOT burns clean . . . . trouble free burner ignition.
- SUPER STRENGTH TANKS provide that important margin of safety.



CRANE

CRANE SUPPLY COMPANY



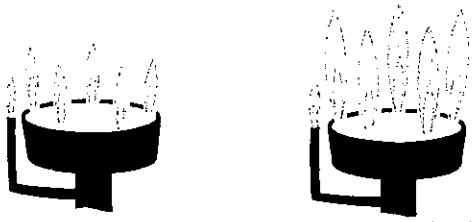
AMBASSADOR
SUPER 10
GAS-FIRED GLASSLINED WATER HEATERS

10 YEAR WARRANTY

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

Here's the inside story on Vari-Flame

As hot water is used, the burner turns on to heat the incoming cold water . . . when there is a demand for large amounts of hot water (when clothes are being washed at the same time as children are bathing), the special control automatically increases the size of the burner flame and heats the water **faster** . . . not **hotter.** As the demand for water is reduced, the flame becomes smaller, heating only the amount of hot water that is needed; water temperature always remains the same as the temperature setting on the dial.



SPECIFICATIONS

MODEL NO.	BTU INPUT HI-FIRE NAT. GAS	RECOVERY 100°RISE HI-FIRE	BTU INPUT LO-FIRE NAT. GAS	RECOVERY 100°RISE LO-FIRE	BTU INPUT L.P.	RECOVERY 100 RISE L.P.	CAPACITY GALS.
CS-30-53 DA	53.000	44.5	37.500	31.5	45.000	37.8	30
CS-40-53 DA	53.000	44.5	37.500	31.5	45.000	37.8	40
CS-40-65 DA	65.000	54.6	44.500	37.4	–	–	40
CS-50-65 DA	65.000	54.6	44.500	37.4	–	–	50
CS-75-75 DA	75.000	63.0	55.500	46.2	–	–	75

DIMENSIONS – IN INCHES

	A-HEIGHT INCLUDING HOOD	B-HEIGHT LESS HOOD	C DIAMETER	D-HEIGHT GAS INLET	E HOT/COLD	F VENT	SHIPPING WEIGHT
CS-30-53 DA	62-3/4	58-7/8	16	16	8	3*	148
CS-40-53 DA	63	59-1/8	18	16	8	3*	155
CS-40-65 DA	64-3/4	60-7/8	18	16	8	4	160
CS-50-65 DA	63-3/8	59-1/2	20	16	8	4	190
CS-75-75 DA	64-1/2	61-1/4	24	16-1/2	8	4	230

*WHERE LOCAL CODES REQUIRE, HEATER MAY BE CONNECTED TO CHIMNEY WITH 4" FLUE PIPE UTILIZING 4" ADAPTER BUILT INTO DRAFT HOOD

CRANE

CRANE SUPPLY COMPANY
300 PARK AVENUE, NEW YORK, N.Y. 10022

Form No. CS 101-73

CRANE SUPPLY COMPANY

CRANE

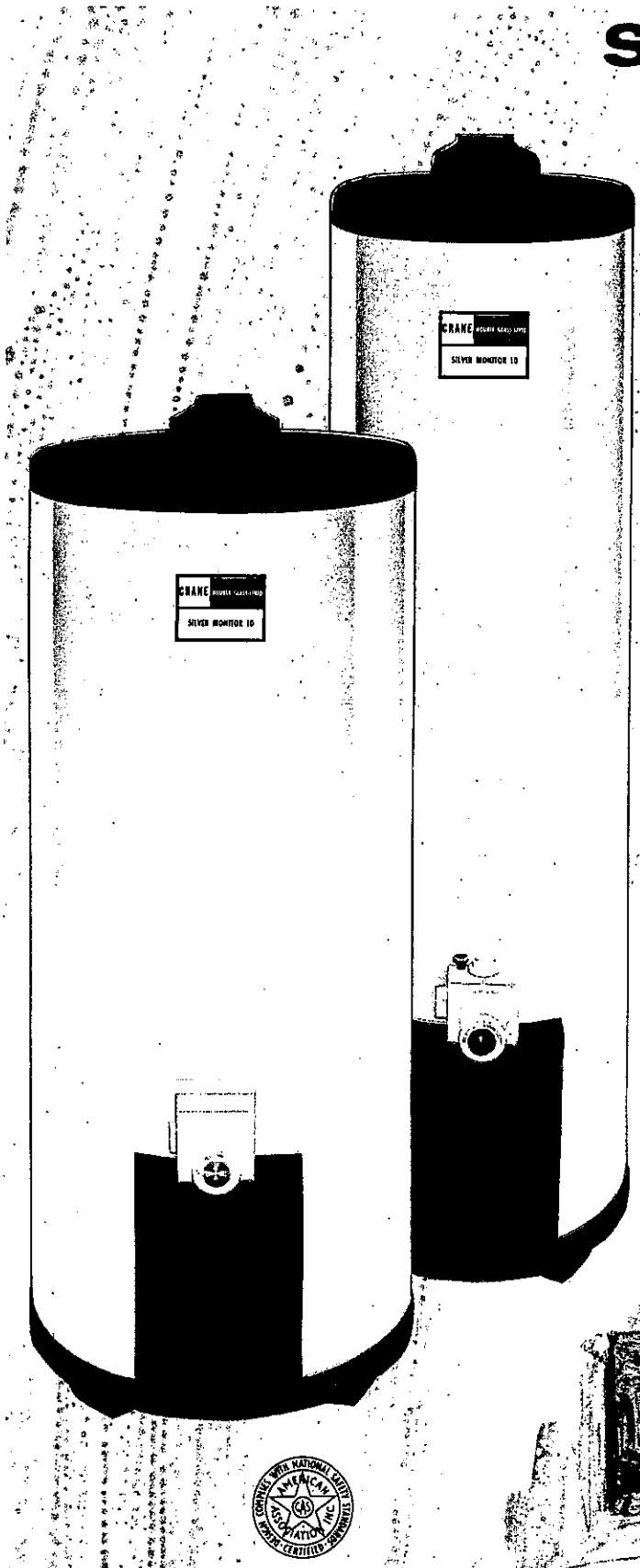
SILVER MONITOR

GAS-FIRED GLASSLINED WATER HEATERS

5 AND 10 YEAR WARRANTIES

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

MODEL	CAPACITY
CS-20-T	20 Gal.
CS-30-S	30 Gal.
CS-30-T	30 Gal.
CS-40-S	40 Gal.
CS-40-T	40 Gal.
CS-50	50 Gal.
CS-75	75 Gal.
CS-100	100 Gal.



SILVER MONITOR Regular and Stubby Water Heaters . . . engineered for utility and safety . . . provide years of trouble-free service PLUS plenty of hot water for family and home needs . . . WHEN YOU NEED IT! Check these advantages.

ECONOMY IN OPERATION!

- FIBERGLASS INSULATION provides increased efficiency while conserving fuel.
- MULTIPORT BURNER delivers quiet efficient combustion. Guaranteed for life.
- COMPACT DESIGN saves valuable space . . . enables low-cost installation.

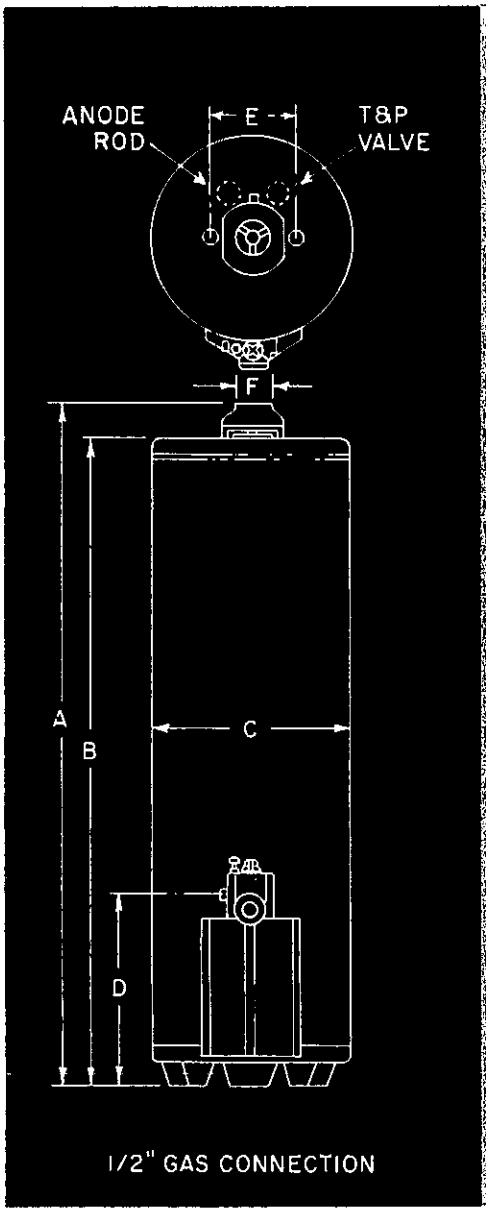
DEPENDABLE LONG-LIFE PERFORMANCE!

- The finest in GLASS LINING for superior tank life and water cleanliness.
- High quality magnesium ANODE ROD assures long life and efficient operation.
- All heaters are APPROVED by the American Gas Association.
- 100% SAFETY CONTROL. Positive gas cut-off within seconds.
- FLAME CONCENTRATOR PILOT features lint-free combustion.
- EXTRA STRENGTH TANKS provide that important margin of safety.

CRANE00903

CRANE

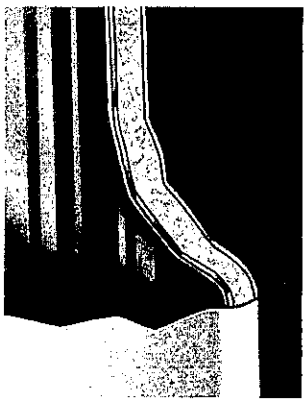
CRANE SUPPLY COMPANY



SILVER MONITOR

GAS-FIRED GLASSLINED WATER HEATERS

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG



Here's the inside story on glasslining! After years of use, these heaters will still supply crystal clear water . . . thanks to glasslining! Rust, once the chief cause of water heater failure, has been eliminated with the adaptation of glasslining to heaters. After liquid glass is applied, special glasslining furnaces fire the tanks to 1600°F, fusing glass to steel. Result! A positive, rust proof glass-to-steel bond.

10 YEAR HEATERS HAVE ADDITIONAL ANODIC PROTECTION.

NOTE: Cold water inlet interchangeable in field by relocating dip stick.

SPECIFICATIONS AND DIMENSIONS

Model No. 10 Year Warranty	Model No. 5 Year Warranty	BTU Input Nat. Gas	Recovery 100° Rise Nat. Gas	BTU Input LPG	Recovery 100° Rise LPG	Capacity Gals.	Shipping Weight	A-Height Including Hood	B-Height Less Hood	C-Diameter	D-Height Gas Inlet	E-Inlet/ Outlet C to C	F-Vent Size
CS-20-T-10	CS-20-T-5	30,000	25.2	30,000	25.2	20	96	57-3/8"	54-3/8"	14	16-1/2"	8"	3"
CS-30-S-10	CS-30-S-5	42,000	35.3	37,000	31.1	30	112	50-3/8"	47-3/8"	18	16-1/2"	8"	3"
CS-30-T-10	CS-30-T-5	46,000	38.6	37,000	31.1	30	119	60-5/8"	57-5/8"	16	16-1/2"	8"	3"
CS-40-S-10	CS-40-S-5	44,000	37.0	40,000	33.6	40	138	52-3/8"	49-3/8"	20	16-1/2"	8"	3"
CS-40-T-10	CS-40-T-5	48,000	40.3	42,000	35.3	40	138	61-1/8"	58-1/8"	18	16-1/2"	8"	3"
CS-50-10	CS-50-5	65,000	54.6	55,000	46.2	50	177	62-3/16"	59-7/16"	20	16-1/2"	8"	4"
CS-75-10	CS-75-5	75,000	63.0	55,000	46.2	75	220	63-1/8"	60-3/8"	24	17"	8"	4"
CS-100-10	CS-100-5	75,000	63.0	70,000	59.00	100	382	71-5/8"	—	26-1/4"	19-3/4"	14"	4"

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CRANE SUPPLY COMPANY

300 PARK AVE., NEW YORK, N.Y. 10022

CRANE SUPPLY COMPANY

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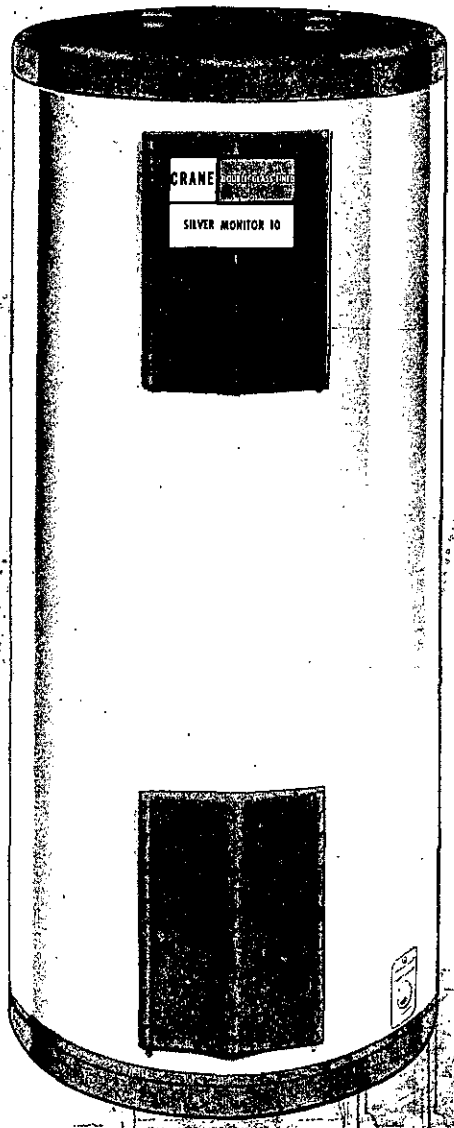
SILVER MONITOR

ELECTRIC GLASSLINED WATER HEATERS

5 AND 10 YEAR WARRANTIES

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

MODEL	CAPACITY	MODEL	CAPACITY
CS-30-SE	30 Gal.	CS-52-DE	52 Gal.
CS-30-DE	30 Gal.	CS-66-DE	66 Gal.
CS-42-SE	42 Gal.	CS-82-DE	82 Gal.
CS-42-DE	42 Gal.	CS-100-DE	100 Gal.
CS-52-SE	52 Gal.	CS-120-DE	120 Gal.



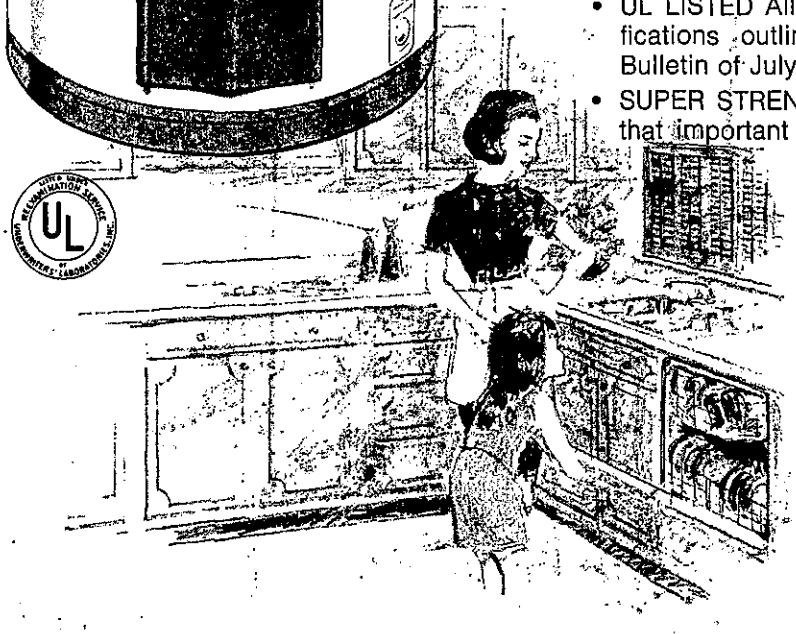
The attractively styled glasslined SILVER MONITOR ELECTRIC will deliver an abundant supply of clean, piping hot water throughout years of economical trouble-free service. Its quiet operation and no vent design make it perfect for locating in kitchens, rumpus rooms, finished rooms and the like. Check these advantages.

ECONOMY IN OPERATION!

- Immersed HEATING ELEMENTS transfer heat directly into water for maximum efficiency.
- FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!
- COMPACT DESIGN takes less space, enables low-cost installation.

DEPENDABLE LONG-LIFE PERFORMANCE!

- The finest in GLASS LINING for superior tank life and water cleanliness.
- Magnesium ANODE ROD protects tank interior against corrosion.
- Snap-on THERMOSTAT automatically controls water temperature . . . assures continuous trouble-free service.
- UL LISTED All models comply with safety specifications outlined in Underwriters Laboratories Bulletin of July 29, 1964.
- SUPER STRENGTH TANKS provide long life and that important margin of safety.



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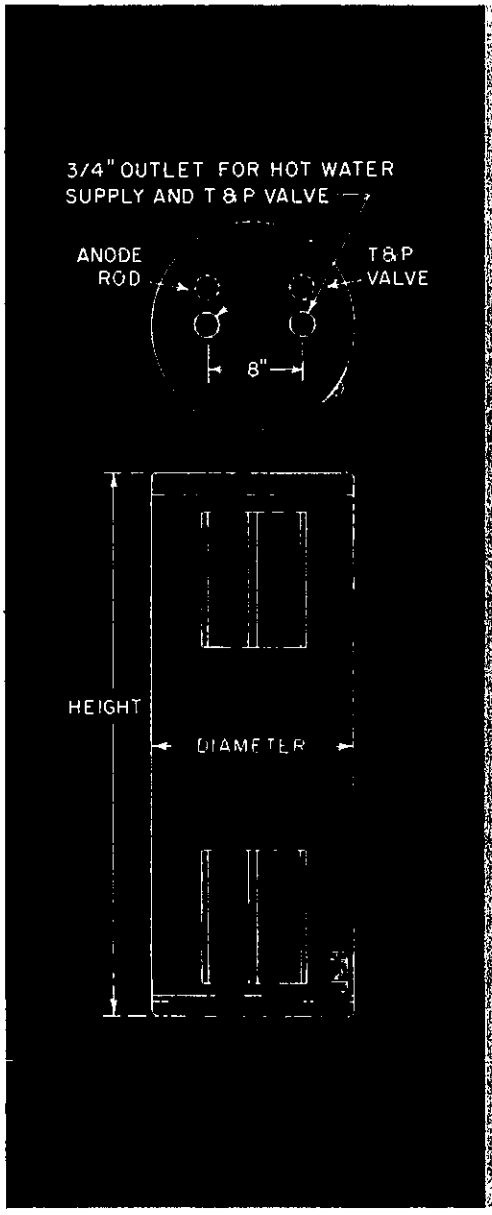
CRANE SUPPLY COMPANY

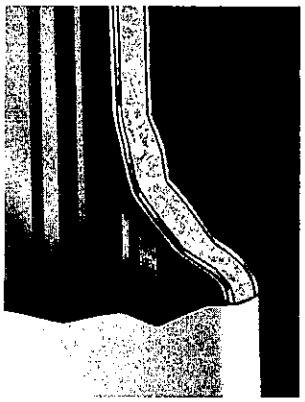


SILVER MONITOR

ELECTRIC GLASSLINED WATER HEATERS

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

Here's the inside story on glasslining! After years of use, these heaters will still supply crystal clear water . . . thanks to glasslining! Rust, once the chief cause of water heater failure, has been eliminated with the adaptation of glasslining to heaters. After liquid glass is applied, special glasslining furnaces fire the tanks to 1600°F, fusing glass to steel. Result! A positive, rust proof glass-to-steel bond.



10 YEAR HEATERS HAVE ADDITIONAL ANODIC PROTECTION.

NOTE: Cold water inlet interchangeable in field by relocating dip stick.

SPECIFICATIONS AND DIMENSIONS

MODEL NO. 10 YEAR WARRANTY	MODEL NO. 5 YEAR WARRANTY	TYPE ELEMENT	WATTAGE MAXIMUM 240V AC 208V AC	CAPACITY GALS.	DIMENSIONS		SHIPPING WEIGHT LBS.
					HGT.	DIAM.	
CS-30-SE-10	CS-30-SE-5	SINGLE	6,000	30	38-1/8"	20"	101
CS-30-DE-10	CS-30-DE-5	DOUBLE	9,000*	30	38-1/8"	20"	101
CS-42-SE-10	CS-42-SE-5	SINGLE	6,000	42	48-1/8"	20"	121
CS-42-DE-10	CS-42-DE-5	DOUBLE	12,000*	42	48-1/8"	20"	121
CS-52-SE-10	CS-52-SE-5	SINGLE	6,000	52	50-1/2"	22"	150
CS-52-DE-10	CS-52-DE-5	DOUBLE	12,000*	52	50-1/2"	22"	150
CS-66-DE-10	CS-66-DE-5	DOUBLE	12,000*	66	52-1/8"	24"	172
CS-82-DE-10	CS-82-DE-5	DOUBLE	12,000*	82	58-3/8"	24"	192
CS-100-DE-10	CS-100-DE-5	DOUBLE	12,000*	100	58-1/4"	28"	297
CS-120-DE-10	CS-120-DE-5	DOUBLE	12,000*	120	63-3/4"	28"	308

Water inlets and outlets connection ¾" all models.

Maximum wattages shown here are available when specified.

*Double element wattages are based on simultaneous operation and must be specified – otherwise heater elements are wired independently in an interlocking circuit.

All wattage must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 GPH per 1000 watts input.

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SILVER MONITOR

MIDGET ELECTRIC GLASSLINED WATER HEATERS

5 AND 10 YEAR WARRANTIES

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

MODEL	CAPACITY
CS-6-SE	6 Gal.
CS-10-SE	10 Gal.
CS-17-SE	17 Gal.
CS-20-SE	20 Gal.

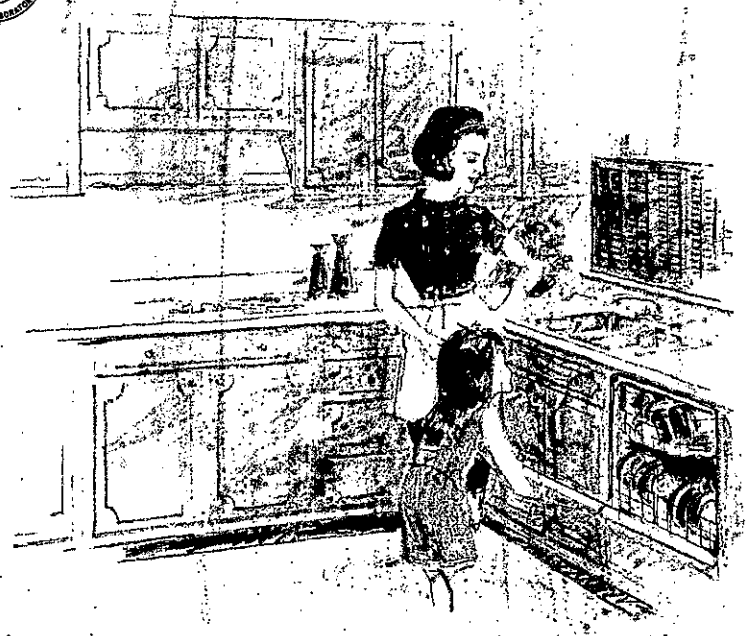
The SILVER MONITOR MIDGET ELECTRIC water heater is ideally suited for use wherever space is more limited than hot water needs. Though small in size, it is a GIANT in performance which means years of safe, efficient service. Just check these advantages.

ECONOMY IN OPERATION!

- The finest in GLASS LINING for superior tank life and water cleanliness.
- Immersed HEATING ELEMENTS transfer heat directly into water for maximum efficiency.
- FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!
- COMPACT DESIGN takes less space, enables low-cost installation.

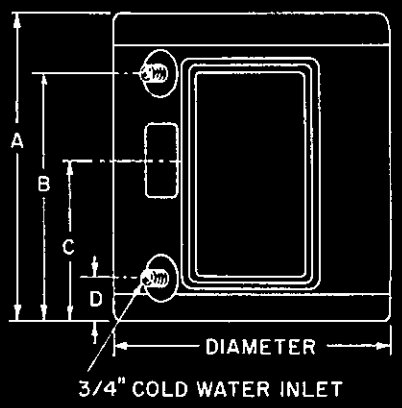
DEPENDABLE LONG-LIFE PERFORMANCE!

- Magnesium ANODE ROD protects tank interior against corrosion.
- UL LISTED All models comply with safety specifications outlined in Underwriters Laboratories Bulletin of July 29, 1964.
- NO DIP TUBE required due to use of side-bottom cold water inlet.



CRANE

CRANE-SUPPLY COMPANY



SILVER MONITOR

ELECTRIC GLASSLINED WATER HEATERS

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

Here's the inside story on glasslining! After years of use, these heaters will still supply crystal clear water . . . thanks to glasslining! Rust, once the chief cause of water heater failure, has been eliminated with the adaptation of glasslining to heaters. After liquid glass is applied, special glasslining furnaces fire the tanks to 1600°F, fusing glass to steel. Result! A positive, rust proof glass-to-steel bond.

10 YEAR HEATERS HAVE ADDITIONAL ANODIC PROTECTION.

SPECIFICATIONS AND DIMENSIONS

Model No. 10 Year Warranty	Model No. 5 Year Warranty	Type Element	Element Wattage	Cap. Gals.	Dia.	A-Height	B-Floor to Outlet	C-Floor to Junction Box	D-Floor to Inlet	Shpg. Wt.
CS-6-SE-10	CS-6-SE-5	SINGLE	1500	6	14"	17-1/8"	12-5/8"	8-1/2"	3"	38
CS-10-SE-10	CS-10-SE-5	SINGLE	1500	10	16"	17"	11-11/16"	8-1/2"	3"	47
CS-17-SE-10	CS-17-SE-5	SINGLE	1500	17	16"	27-7/8"	23-1/8"	8-1/2"	3"	64
CS-20-SE-10	CS-20-SE-5	SINGLE	1500	20	20"	21-13/16"	16-5/8"	8-1/2"	3"	78

Inlet and outlet connections ¾" all models.

Maximum wattages shown here are available when specified. All wattage must conform to local codes and utility requirements. Should maximum permissible wattage in your area be less than above, recovery can be determined at the rate of 4.1 GPH per 1000 watts input.

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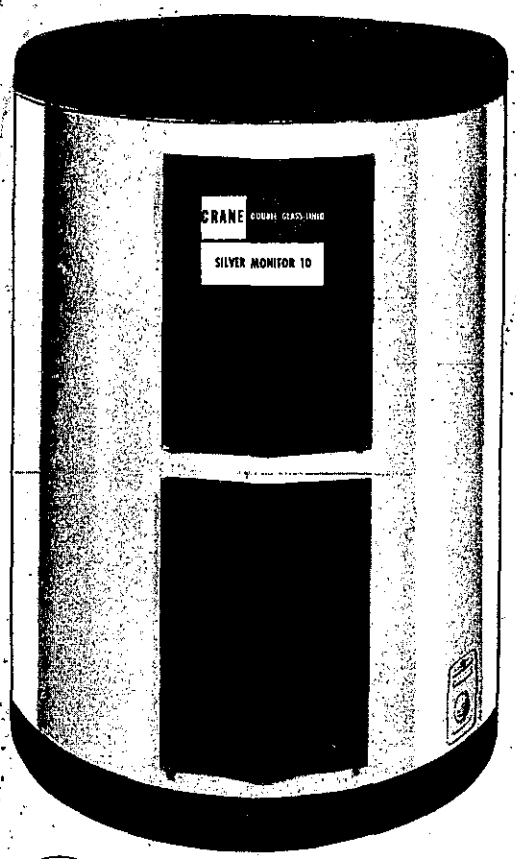
SILVER MONITOR

UNDER COUNTER ELECTRIC GLASSLINED WATER HEATERS

5 AND 10 YEAR WARRANTIES

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

MODEL	CAPACITY	MODEL	CAPACITY
CS-30-USE	30 Gal.	CS-42-UDE	42 Gal.
CS-30-UDE	30 Gal.	CS-52-USE	52 Gal.
CS-42-USE	42 Gal.	CS-52-UDE	52 Gal.



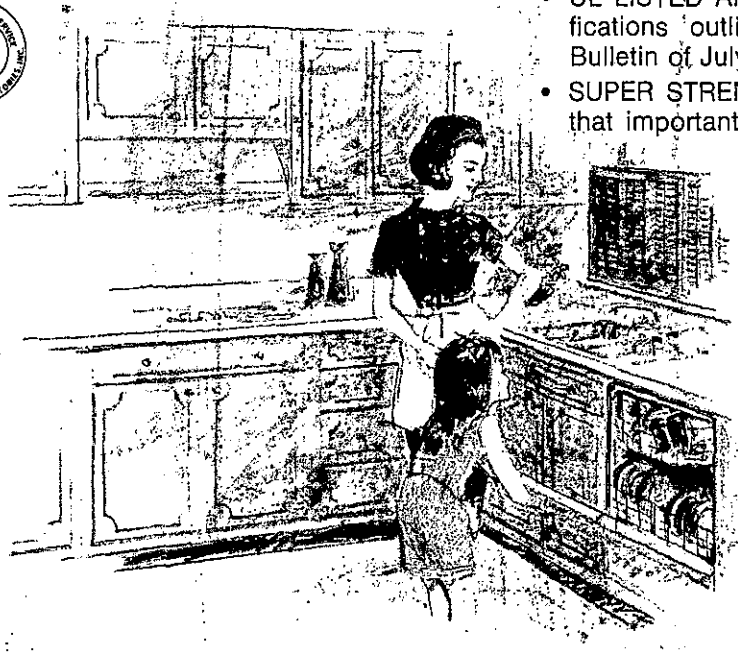
These compact SILVER MONITOR ELECTRICS are especially designed for use wherever space is more limited than hot water needs. A low silhouette plus large storage capacity assures an abundant supply of hot water for family and home throughout years of safe, efficient trouble-free service. Check these advantages.

ECONOMY IN OPERATION!

- Immersed HEATING ELEMENTS transfer heat directly into water for maximum efficiency.
- FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!
- COMPACT DESIGN takes less space, enables low-cost installation.

DEPENDABLE LONG-LIFE PERFORMANCE!

- The finest in GLASS LINING for superior tank life and water cleanliness.
- Magnesium ANODE ROD protects tank interior against corrosion.
- Snap-on THERMOSTAT automatically controls water temperature . . . assures continuous trouble-free service.
- UL LISTED All models comply with safety specifications outlined in Underwriters Laboratories Bulletin of July 29, 1964.
- SUPER STRENGTH TANKS provide long life and that important margin of safety.



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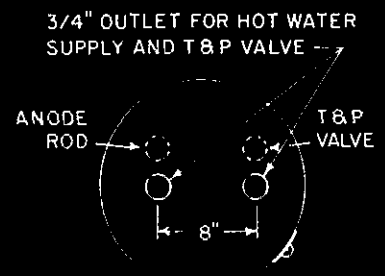
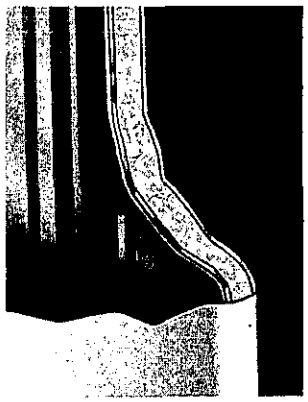


SILVER MONITOR

ELECTRIC GLASSLINED WATER HEATERS

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

Here's the inside story on glasslining! After years of use, these heaters will still supply crystal clear water . . . thanks to glasslining! Rust, once the chief cause of water heater failure, has been eliminated with the adaptation of glasslining to heaters. After liquid glass is applied, special glasslining furnaces fire the tanks to 1600°F, fusing glass to steel. Result! A positive, rust proof glass-to-steel bond.



NOTE: Cold water inlet interchangeable in field by relocating dip stick.

10 YEAR HEATERS HAVE ADDITIONAL ANODIC PROTECTION.

SPECIFICATIONS AND DIMENSIONS

MODEL NO. 10 YEAR WARRANTY	MODEL NO. 5 YEAR WARRANTY	TYPE ELEMENT	WATTAGE MAXIMUM 240V AC 208V AC	CAPACITY GALS.	A-HEIGHT	B-DIAMETER	SHIPPING WEIGHT LBS.
CS-30-USE-10	CS-30-USE-5	SINGLE	6,000	30	30½"	20"	99
CS-30-UDE-10	CS-30-UDE-5	DOUBLE	9,000*	30	30½"	20"	99
CS-42-USE-10	CS-42-USE-5	SINGLE	6,000	42	31"	24"	128
CS-42-UDE-10	CS-42-UDE-5	DOUBLE	12,000*	42	31"	24"	128
CS-52-USE-10	CS-52-USE-5	SINGLE	6,000	52	31½"	26"	147
CS-52-UDE-10	CS-52-UDE-5	DOUBLE	12,000*	52	31½"	26"	147

Maximum wattages shown here are available when specified.

*Double element wattages are based on simultaneous operation and must be specified — otherwise heater elements are wired independently in an interlocking circuit.

All wattage must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 GPH per 1000 watts input.

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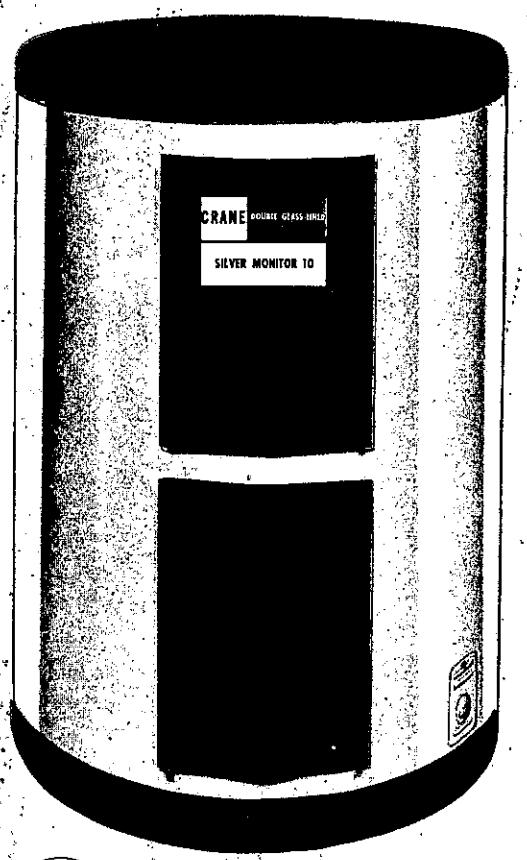
SILVER MONITOR

SLIM SERIES UNDER COUNTER ELECTRIC GLASSLINED WATER HEATERS

5 AND 10 YEAR WARRANTIES

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

MODEL	CAPACITY	MODEL	CAPACITY
CSJ-30-SE	30-Gal.	CSJ-42-DE	42 Gal.
CSJ-30-DE	30 Gal.	CSJ-52-SE	52 Gal.
CSJ-42-SE	42 Gal.	CSJ-52-DE	52 Gal.



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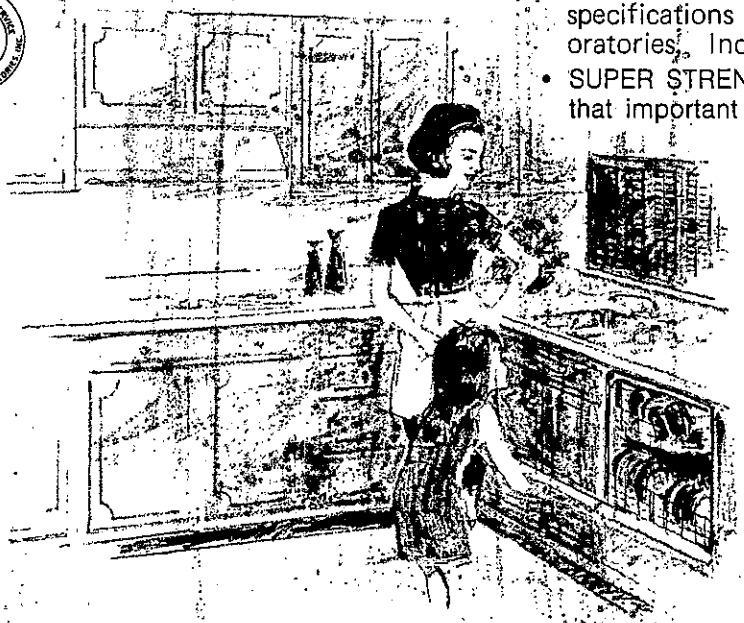
ECONOMY IN OPERATION!

- Immersed HEATING ELEMENTS transfer heat directly into water for maximum efficiency.
- FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!
- COMPACT DESIGN takes less space, enables low-cost installation.

DEPENDABLE LONG-LIFE PERFORMANCE!

- The finest in GLASS LINING for superior tank life and water cleanliness.
- Magnesium ANODE ROD protects tank interior against corrosion.
- Snap-on THERMOSTAT automatically controls water temperature . . . assures continuous trouble-free service.
- UL LISTED All models comply with safety specifications outlined in Underwriter Laboratories, Inc. UL 174.
- SUPER STRENGTH TANKS provide long life and that important margin of safety.



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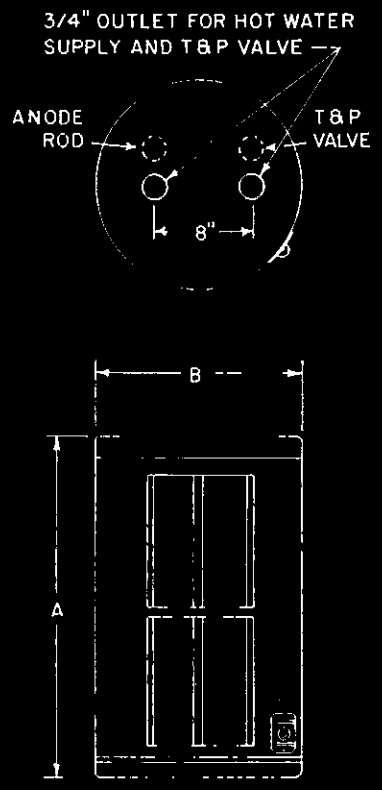
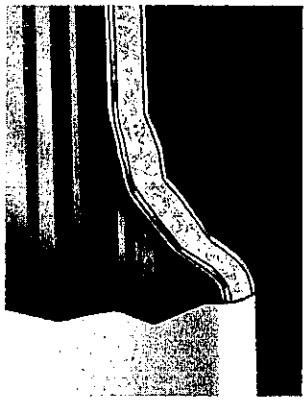
CRANE SUPPLY COMPANY



SILVER MONITOR

ELECTRIC GLASSLINED WATER HEATERS

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG



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NOTE: Cold water inlet interchangeable in field by relocating dip stick.

10 YEAR HEATERS HAVE ADDITIONAL ANODIC PROTECTION.

SPECIFICATIONS AND DIMENSIONS

MODEL NO. 10 YEAR WARRANTY	MODEL NO. 5 YEAR WARRANTY	TYPE ELEMENT	WATTAGE MAXIMUM 240V AC 208V AC	CAPACITY GALS.	A-HEIGHT	B-DIAMETER	SHIPPING WEIGHT LBS.
CSJ-30-SE-10	CSJ-30-SE-5	SINGLE	6,000	30	30-7/8"	20"	85
CSJ-30-DE-10	CSJ-30-DE-5	DOUBLE	9,000*	30	30-7/8"	20"	90
CSJ-42-SE-10	CSJ-42-SE-5	SINGLE	6,000	42	31-1/4"	22"	120
CSJ-42-DE-10	CSJ-42-DE-5	DOUBLE	12,000*	42	31-1/4"	22"	125
CSJ-52-SE-10	CSJ-52-SE-5	SINGLE	6,000	52	31-1/2"	24"	140
CSJ-52-DE-10	CSJ-52-DE-5	DOUBLE	12,000*	52	31-1/2"	24"	145

Maximum wattages shown here are available when specified.

*Double element wattages are based on simultaneous operation and must be specified — otherwise heater elements are wired independently in an interlocking circuit.

All wattage must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 GPH per 1000 watts input.

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300 PARK AVE., NEW YORK, N.Y. 10022

CRANE SUPPLY COMPANY

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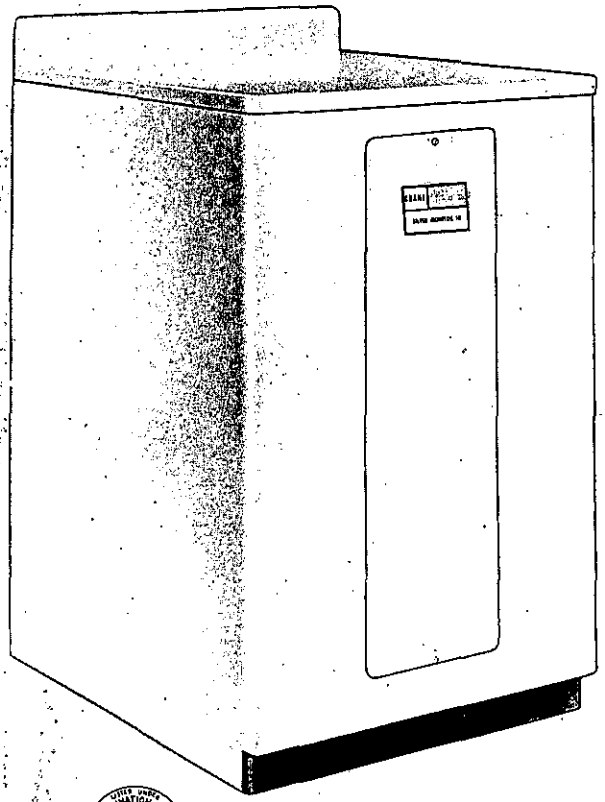
SILVER MONITOR

TABLE TOP ELECTRIC GLASSLINED WATER HEATERS

5 AND 10 YEAR WARRANTIES

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

MODEL	CAPACITY	MODEL	CAPACITY
CST-30-SE	30 Gal.	CST-40-DE	40 Gal.
CST-30-DE	30 Gal.	CST-50-SE	50 Gal.
CST-40-SE	40 Gal.	CST-50-DE	50 Gal.



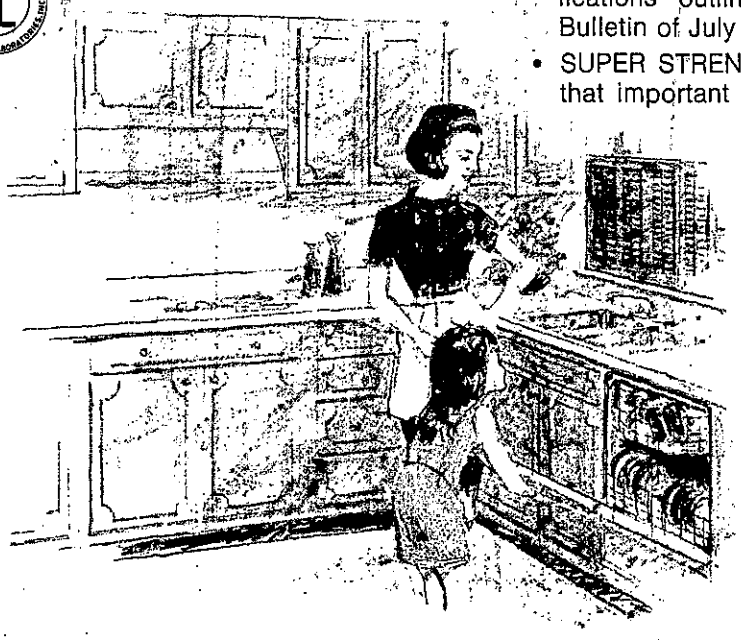
The popular SILVER MONITOR TABLE TOP ELECTRIC not only meets all your hot water needs, but becomes an ideal companion for your other table top appliances. Its stain-resistant porcelain top, with integral back splash and scuffproof recessed base, makes an ideal extra work space. Check these advantages.

ECONOMY IN OPERATION!

- Immersed HEATING ELEMENTS transfer heat directly into water for maximum efficiency.
- FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!
- COMPACT DESIGN takes less space, enables low-cost installation.

DEPENDABLE LONG-LIFE PERFORMANCE!

- The finest in GLASS LINING for superior tank life and water cleanliness.
- Magnesium ANODE ROD protects tank interior against corrosion.
- Snap-on THERMOSTAT automatically controls water temperature . . . assures continuous trouble-free service.
- UL LISTED All models comply with safety specifications outlined in Underwriters Laboratories Bulletin of July 29, 1964.
- SUPER STRENGTH TANKS provide long life and that important margin of safety.



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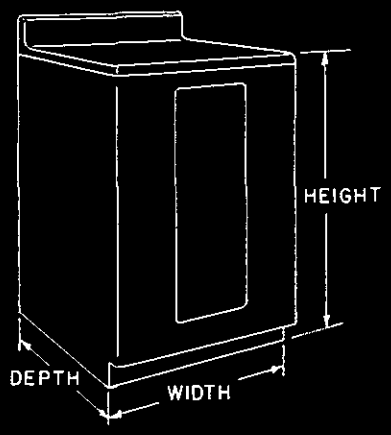
SILVER MONITOR

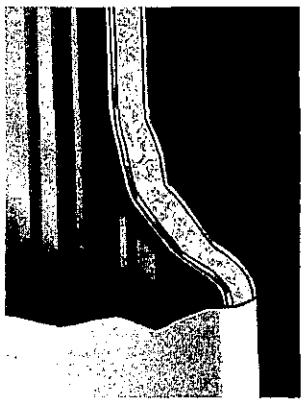
ELECTRIC GLASSLINED WATER HEATERS



3/4" WATER INLET AND OUTLET

FULL TERMS OF WARRANTY MAY BE FOUND IN THIS CATALOG

Here's the inside story on glasslining! After years of use, these heaters will still supply crystal clear water . . . thanks to glasslining! Rust, once the chief cause of water heater failure, has been eliminated with the adaptation of glasslining to heaters. After liquid glass is applied, special glasslining furnaces fire the tanks to 1600°F, fusing glass to steel. Result! A positive, rust proof glass-to-steel bond.



10 YEAR HEATERS HAVE ADDITIONAL ANODIC PROTECTION.

SPECIFICATIONS AND DIMENSIONS

MODEL NO. 10 YEAR WARRANTY	MODEL NO. 5 YEAR WARRANTY	TYPE ELEMENT	WATTAGE MAXIMUM 240V AC 208V AC	CAPACITY GALS.	HEIGHT INCHES	WIDTH INCHES	DEPTH INCHES	SHIPPING WEIGHT
CST-30-SE-10	CST-30-SE-5	SINGLE	6,000	30	36	21	25	133
CST-30-DE-10	CST-30-DE 5	DOUBLE	9,000*	30	36	21	25	133
CST-40-SE-10	CST-40-SE-5	SINGLE	6,000	40	36	21	25	141
CST-40-DE-10	CST-40-DE-5	DOUBLE	12,000*	40	36	21	25	141
CST-50-SE-10	CST-50-SE-5	SINGLE	6,000	50	36	24	25	171
CST-50-DE-10	CST-50-DE-5	DOUBLE	12,000*	50	36	24	25	171

Maximum wattages shown here are available when specified.

*Double element wattages are based on simultaneous operation and must be specified — otherwise heater elements are wired independently in an interlocking circuit.

All wattage must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 GPH per 1000 watts input.

CRANE

CRANE SUPPLY COMPANY

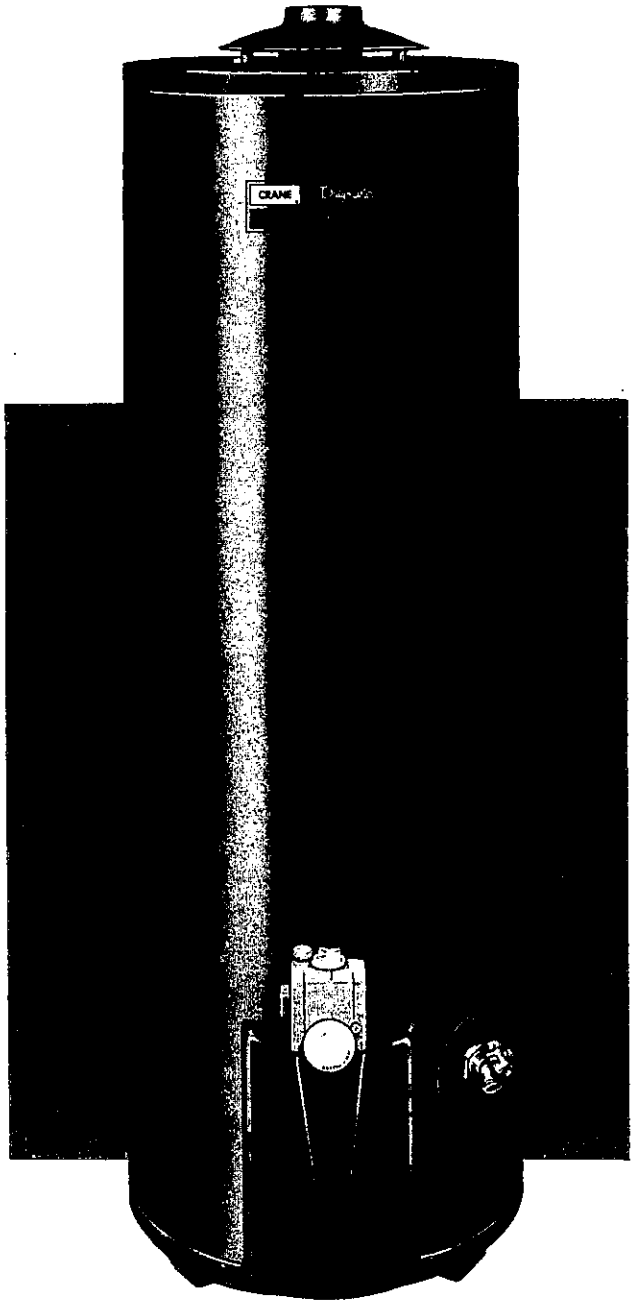
300 PARK AVE., NEW YORK, N.Y. 10022

COMMERCIAL

D50-65C ••• D75-75C
D100-75CW ••• D100-90CW

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



The DUTYMASTER Commercial Water Heaters are gas fired storage boosters certified by the American Gas Association for supplying hot water both as a "Type A Booster" and as a "Type B Storage Heater". When used singularly or in manifolded multiples as a Type B Storage Heater they are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems.

ENGINEERING FEATURES

TANK—Internal, single flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—DUTYMASTER's well-proved "Crown of Flame" multiport burner gives quiet efficient combustion.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible clean-out located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely mechanical control system provides positive control and safety shut off—avoiding down time due to failure of electrical components. In the event of pilot outage, 100% shut-off safety valve cuts off all gas supply to burner and pilot.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ECO (ENERGY CUT OFF)—An A.G.A. certified, factory installed heat-sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.

3-YEAR WARRANTY

The DUTYMASTER SERIES is design certified by the American Gas Association.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

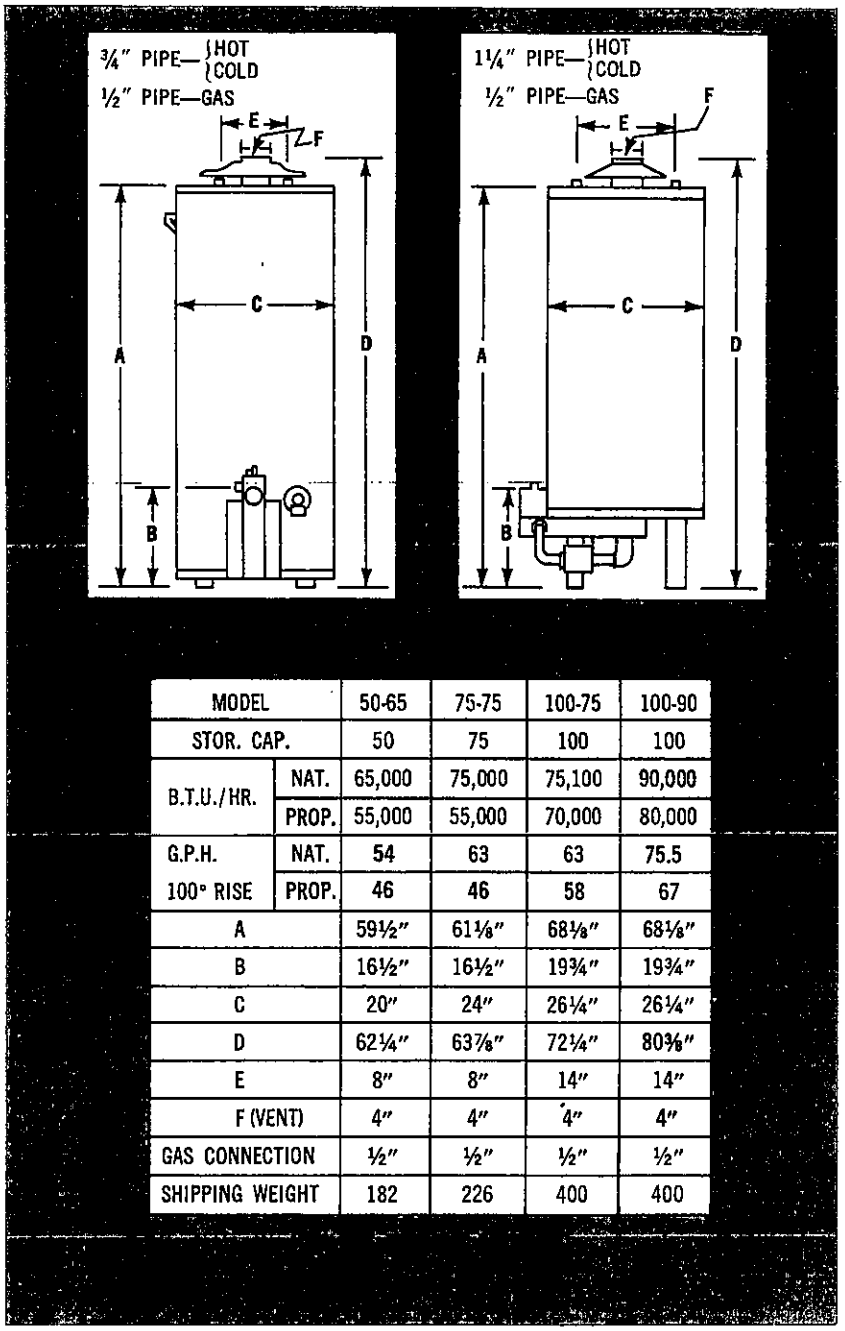
CRANE

COMMERCIAL

D50-65C ••• D75-75C
D100-75CW ••• D100-90CW

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER
3-YEAR WARRANTY



MODEL		50-65	75-75	100-75	100-90
STOR. CAP.		50	75	100	100
B.T.U./HR.	NAT.	65,000	75,000	75,100	90,000
	PROP.	55,000	55,000	70,000	80,000
G.P.H. 100° RISE	NAT.	54	63	63	75.5
	PROP.	46	46	58	67
A		59½"	61⅛"	68⅛"	68⅛"
B		16½"	16½"	19¾"	19¾"
C		20"	24"	26¼"	26¼"
D		62¼"	63⅞"	72¼"	80⅜"
E		8"	8"	14"	14"
F (VENT)		4"	4"	4"	4"
GAS CONNECTION		½"	½"	½"	½"
SHIPPING WEIGHT		182	226	400	400

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the DUTYMASTER is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the DUTYMASTER be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. In given circumstances, however, it can be installed either singly or in multiples with an auxiliary storage tank.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Apartment buildings with up to ten units equipped with automatic washing equipment and one shower head with two to three gallons per minute flow rate.

Restaurants and Institutional Food Service—The DUTYMASTER is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

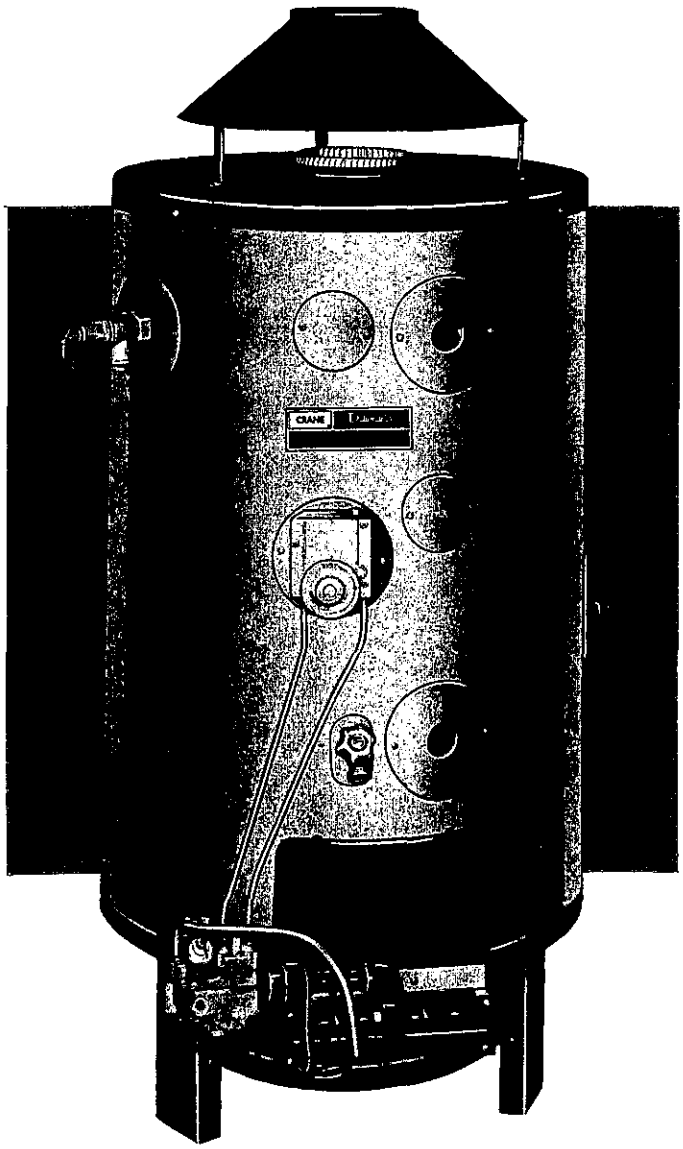
CRANE

CRANE00916

COMMERCIAL

D20-150C

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 20-150 is a gas fired instantaneous booster certified by the American Gas Asssociation and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous heater and as (b) a Type A Automatic Circulating Tank Heater.

2. When used as an Automatic Instantaneous booster its 150,000 BTU input and 20-gallon storage capacity make this heater ideal for short periods of heavy demand. Much more so than heaters with comparable BTU input but with greatly reduced storage capacity. The 20-150 may also be used with a mixing valve to supply both 180°F. and 140°F. water.

3. When used as a Type A Automatic Circulating Tank heater the 20-150 is so constructed that it may be installed as a gravity circulating system without a circulating pump and the additional wiring and piping this requires.

4. The 20-150 may also be installed in series with a DUTYMASTER Storage Booster to raise 140°F. water to 180°F. sanitizing water for restaurants or similar usage.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR WARRANTY

N.S.F. MODEL NO. D20-150C

The 20-150 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

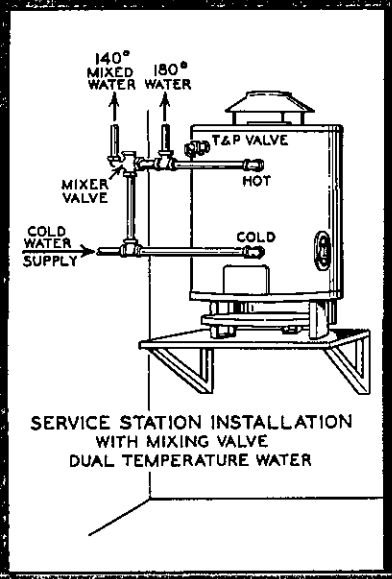
CRANE00917

COMMERCIAL

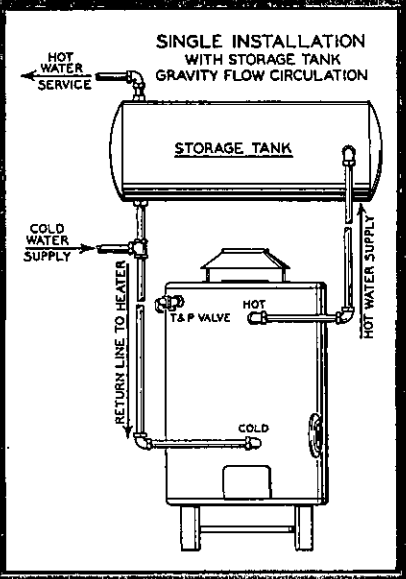
D20-150C

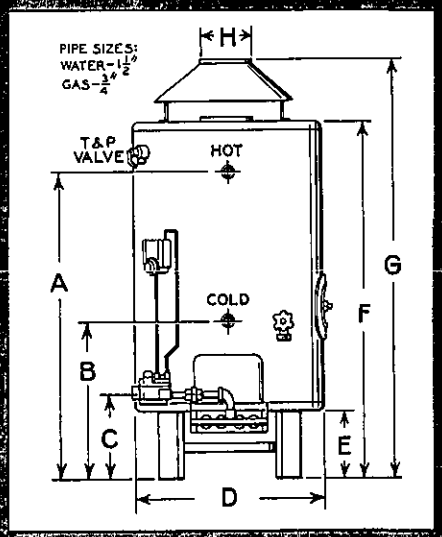
DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER
3-YEAR WARRANTY



SERVICE STATION INSTALLATION
WITH MIXING VALVE
DUAL TEMPERATURE WATER





MODEL		D20-150C
STOR. CAP.		20
B.T.U./HR.	NAT.	150,000
	PROP.	150,000
G.P.H. 100° RISE		126.1
A		35½"
B		18¼"
C		8½"
D		22"
E		8"
F		41¼"
G		48⅝"
H (VENT)		6"
GAS CONNECTION		¾"
SHIPPING WEIGHT		250 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installation for which the 20-150 is suited. For more detailed engineering information please consult the DUTY-MASTER Commercial Water Heating Engineering Handbook.

The 20-150 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Service Stations—The 20-150 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

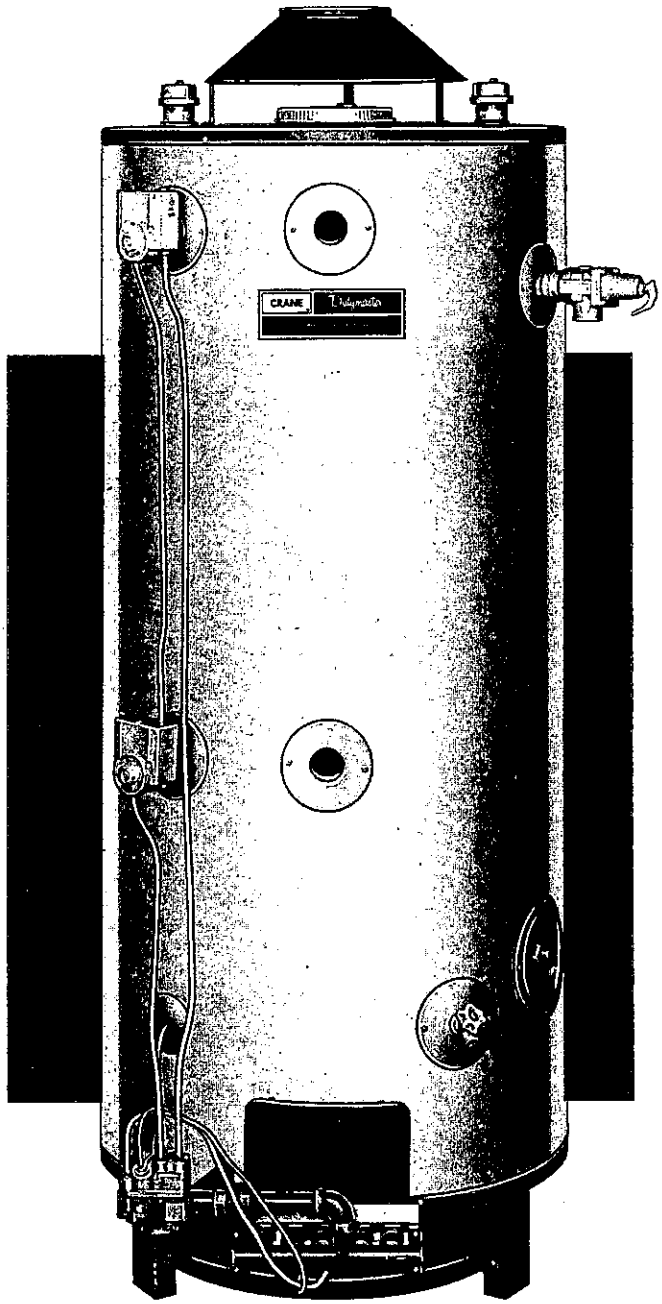
CRANE

COMMERCIAL

D80-180C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 80-180 is a gas fired storage booster with 80-gallon tank capacity and 180,000 BTU/hour input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-180 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as "Type A Booster" with separate storage tank the 80-180 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR WARRANTY

N.S.F. MODEL NO. D80-18C

The 80-180 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

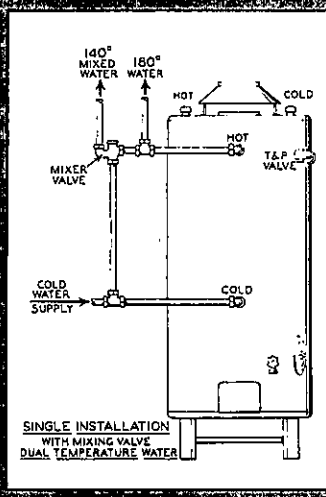
CRANE00919

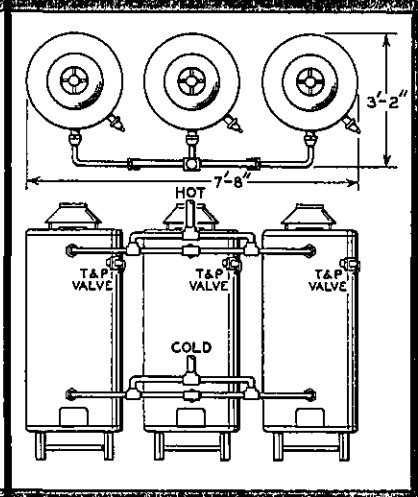
COMMERCIAL

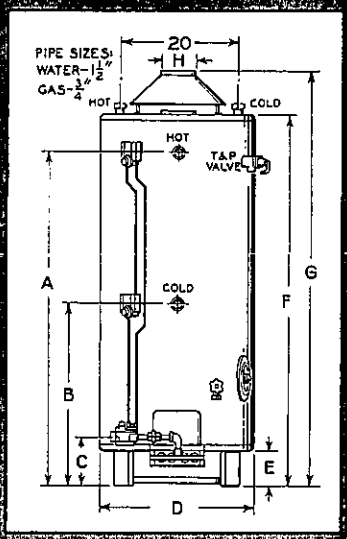
D80-180C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER







MODEL	D80-180C
STOR. CAP.	80
B.T.U./HR. NAT.	180,000
B.T.U./HR. PROP.	180,000
G.P.H. 100° RISE	151
A	55½"
B	30¼"
C	5¾"
D	26"
E	5¼"
F	61¾"
G	68⅝"
H (VENT)	5"
GAS CONNECTION	¾"
SHIPPING WEIGHT	550 LBS.

FOR U.S. WORKING PRESSURE

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 80-180 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-180 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 12 units per heater. If used in apartments with 2 baths 9 units per heater.

Restaurants and Institutional Food Service—The 80-180 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

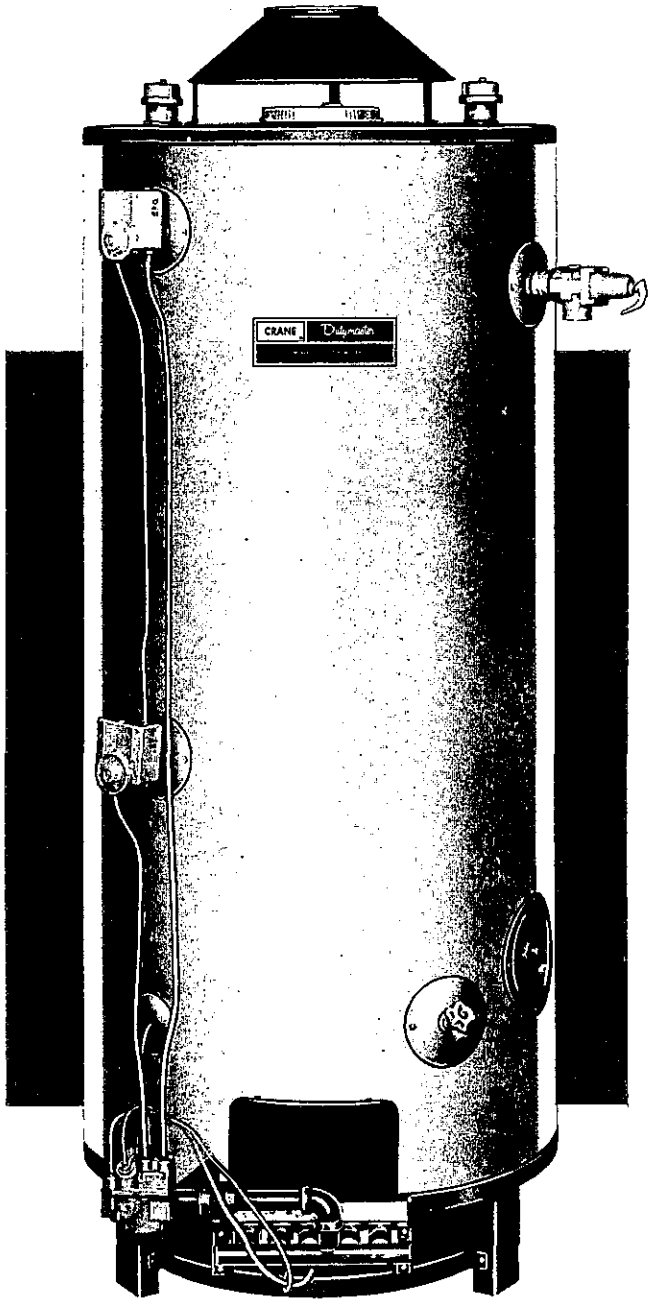
CRANE

COMMERCIAL

D80-180CW

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 80-180 is a gas fired storage booster with 80-gallon tank capacity and 180,000 BTU/hour input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-180 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as "Type A Booster" with separate storage tank the 80-180 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR WARRANTY

N.S.F. MODEL NO. D80-180CW

The 80-180 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

CRANE00921

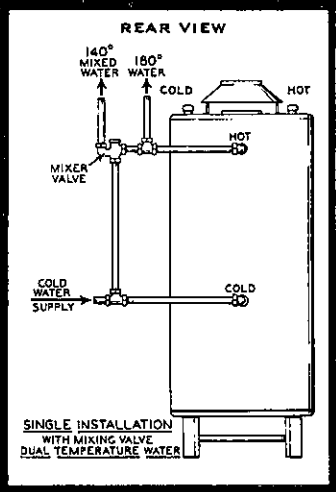
COMMERCIAL

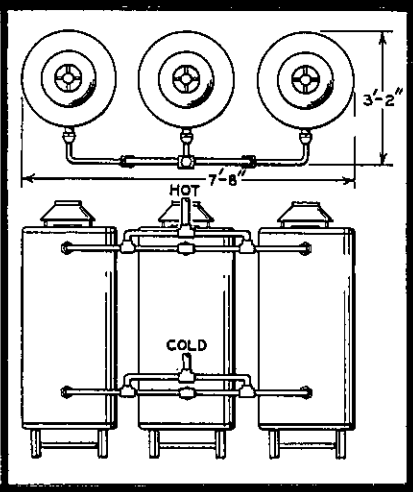
D80-180CW

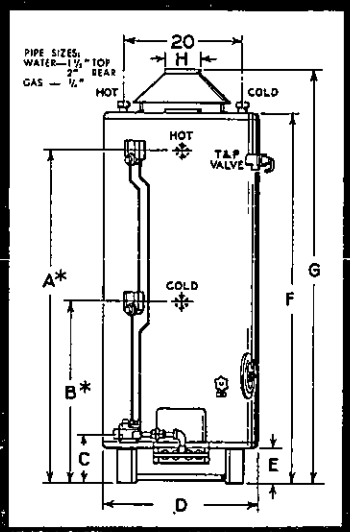
DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR WARRANTY







MODEL	D80-180CW
STOR. CAP.	80
B.T.U./HR. NAT.	180,000
B.T.U./HR. PROP.	180,000
G.P.H. 100° RISE	151
A	52½"
B	24"
C	5¾"
D	26"
E	5¼"
F	61¾"
G	68⅝"
H (VENT)	5"
GAS CONNECTION	¾"
SHIPPING WEIGHT	550 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 80-180 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-180 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 12 units per heater. If used in apartments with 2 baths 9 units per heater.

Restaurants and Institutional Food Service—The 80-180 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

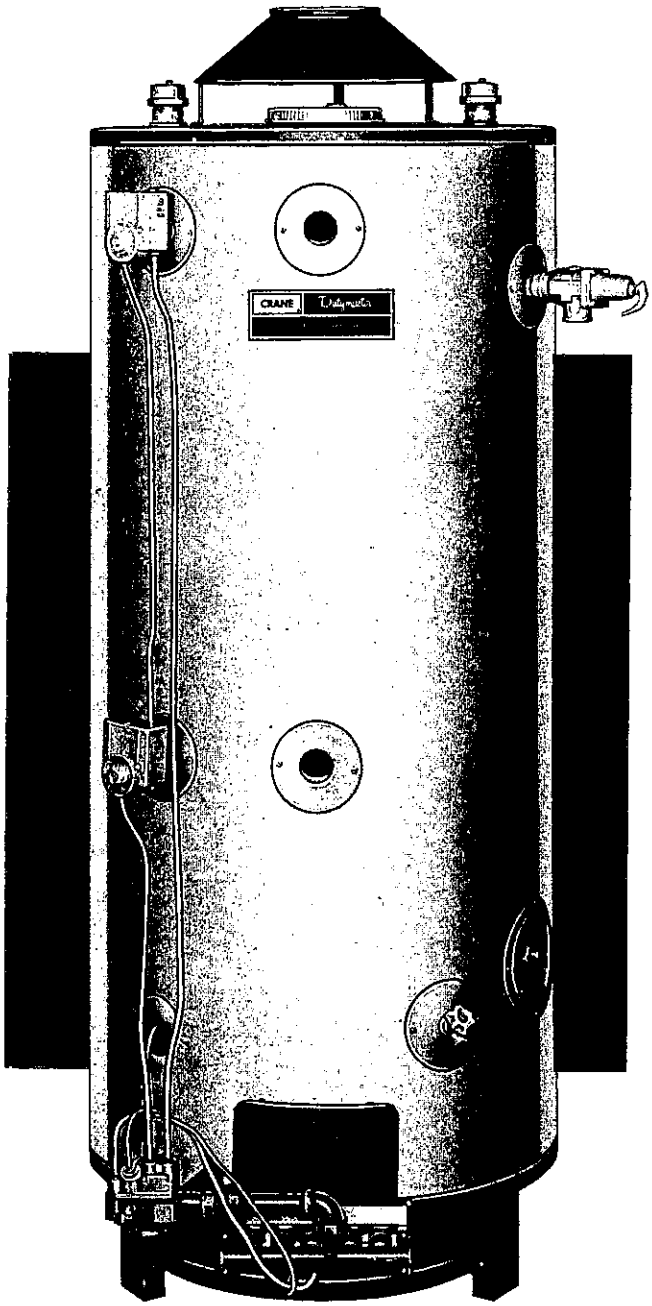
CRANE00922

COMMERCIAL

D85-199C / D85-250C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED STORAGE BOOSTER



1. The 85-gallon booster is available in two models. Model 85-199 (199,900 BTU) where heaters of less than 200,000 BTU must be used. Model 85-250 (250,000 BTU) where heaters of more than 200,000 BTU may be used. The two models are otherwise identical. The 85's are certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 85's are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a "Type A Booster" with separate storage tank the 85's are designed so as to provide sufficient gravity circulation and no circulation pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

INSULATION—A 2" blanket of treated fiberglass completely enveloping the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR WARRANTY

N.S.F. MODEL NOS. D85-199C/D85-250C

The 85's are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

CRANE00923

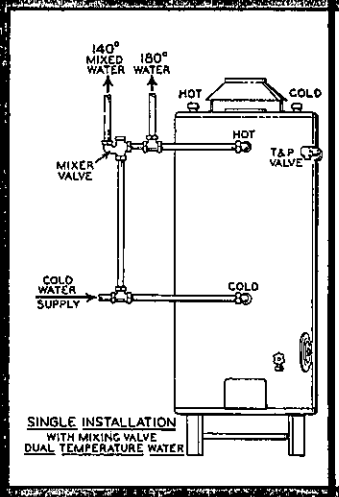
COMMERCIAL

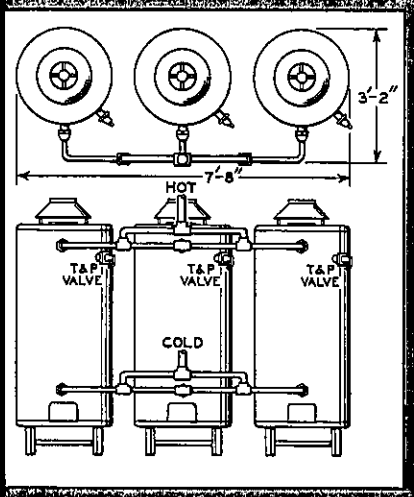
D85-199C / D85-250C

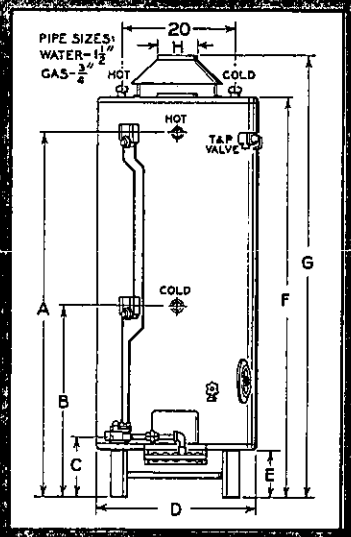
DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR WARRANTY







MODEL	85-199	85-250
STOR. CAP.	85	
B.T.U./HR. NAT.	199,900	250,000
B.T.U./HR. PROP.	199,900	250,000
G.P.H. 100° RISE	168	210
A	63"	
B	33"	
C	9½"	
D	28"	
E	8"	
F	69¼"	
G	76¼"	
H (VENT)	6"	
GAS CONNECTION	¾"	
SHIPPING WEIGHT	600 LBS.	

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 85-250 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 85-250 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 17 units per heater. If used in apartments with 2 baths 12 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 85-250 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 85-250 can furnish the necessary water for conveyor type dishwashers using up to 150 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

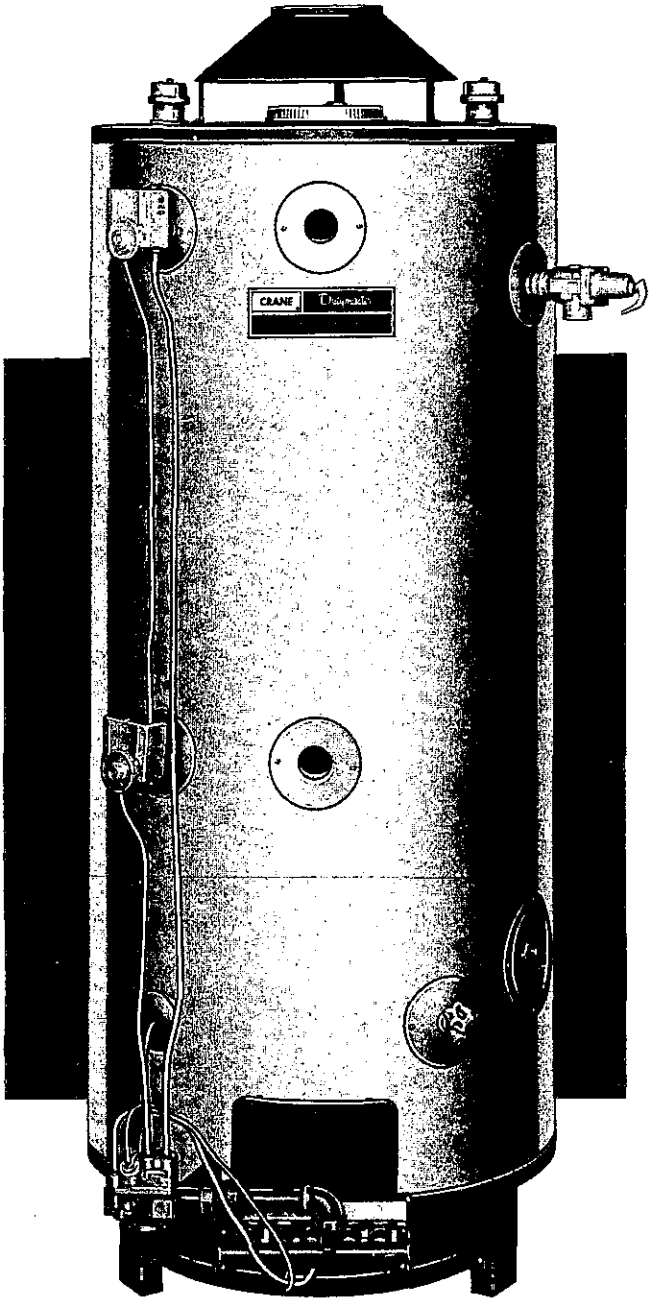
CRANE00924

COMMERCIAL

D100-199C / D100-270C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 100-gallon booster is available in two models. Model 100-199 (199,900 BTU) where heaters of less than 200,000 BTU must be used. Model 100-270 (270,000 BTU) where heaters of more than 200,000 BTU may be used. The two models are otherwise identical. The 100's are certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 100's are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a "Type A Booster" with separate storage tank the 100's are designed so as to provide sufficient gravity circulation and no circulation pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

INSULATION—A 2" blanket of treated fiberglass completely enveloping the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR WARRANTY

N.S.F. MODEL NOS. D100-199C/D100-270C

The 100's are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

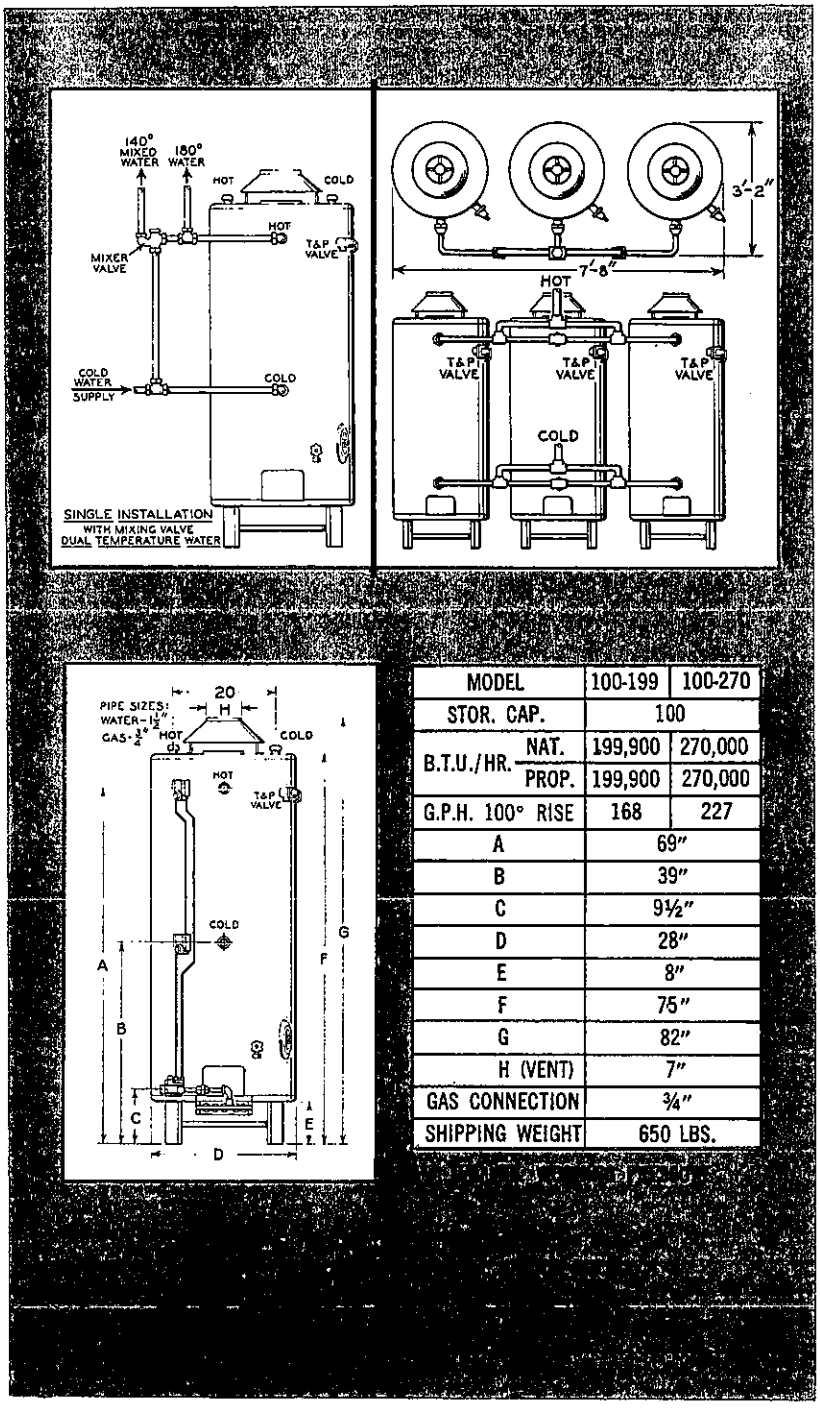
COMMERCIAL

D100-199C / D100-270C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR WARRANTY



MODEL	100-199	100-270
STOR. CAP.	100	
B.T.U./HR. NAT.	199,900	270,000
B.T.U./HR. PROP.	199,900	270,000
G.P.H. 100° RISE	168	227
A	69"	
B	39"	
C	9½"	
D	28"	
E	8"	
F	75"	
G	82"	
H (VENT)	7"	
GAS CONNECTION	¾"	
SHIPPING WEIGHT	650 LBS.	

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 100's are suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 100's be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 19 units per heater. If used in apartments with 2 baths 14 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 100's can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 100's can furnish the necessary water for conveyor type dishwashers using up to 162 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

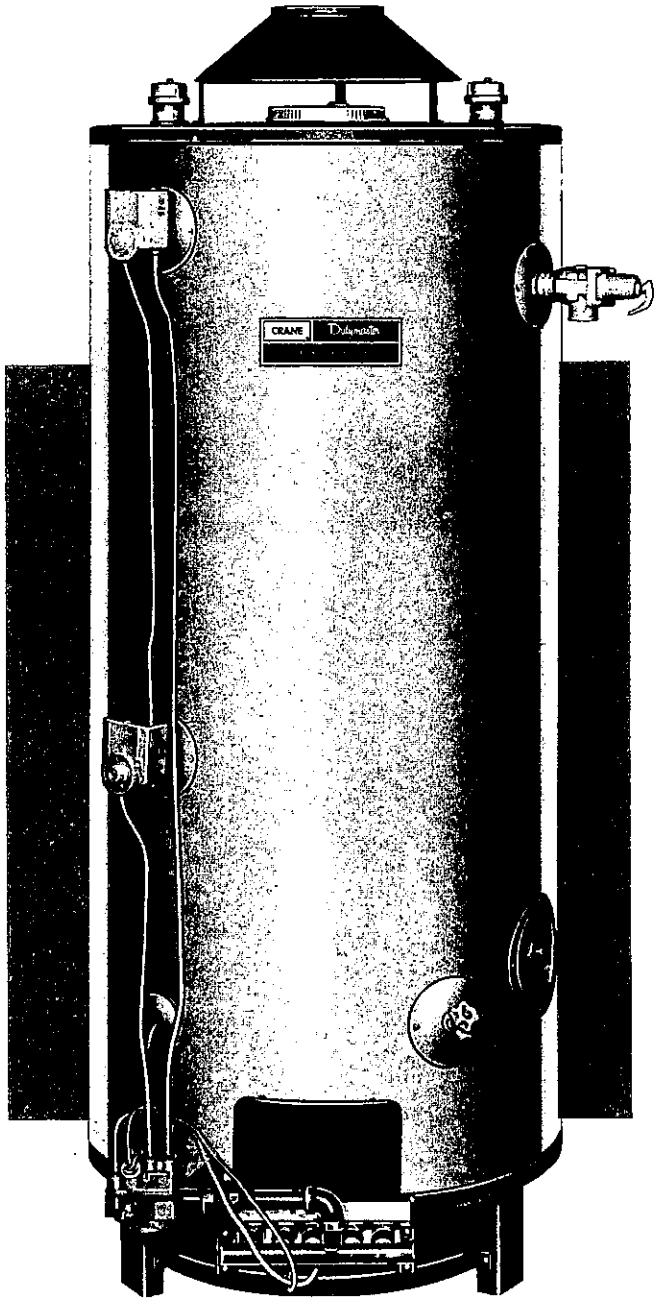
CRANE

COMMERCIAL

D100-199CW / D100-260CW

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 100-gallon booster is available in two models. Model 100-199 (199,900 BTU) where heaters of less than 200,000 BTU must be used. Model 100-260 (260,000 BTU) where heaters of more than 200,000 BTU may be used. The two models are otherwise identical. The 100's are certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 100's are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a "Type A Booster" with separate storage tank the 100's are designed so as to provide sufficient gravity circulation and no circulation pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Single port upshot burner with flame spreader provides even distribution of heat to tank bottom and flueways. Universally suited for the gases listed.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR WARRANTY

N.S.F. MODEL NOS. D100-199CW/D100-260CW

The 100's are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

CRANE00927

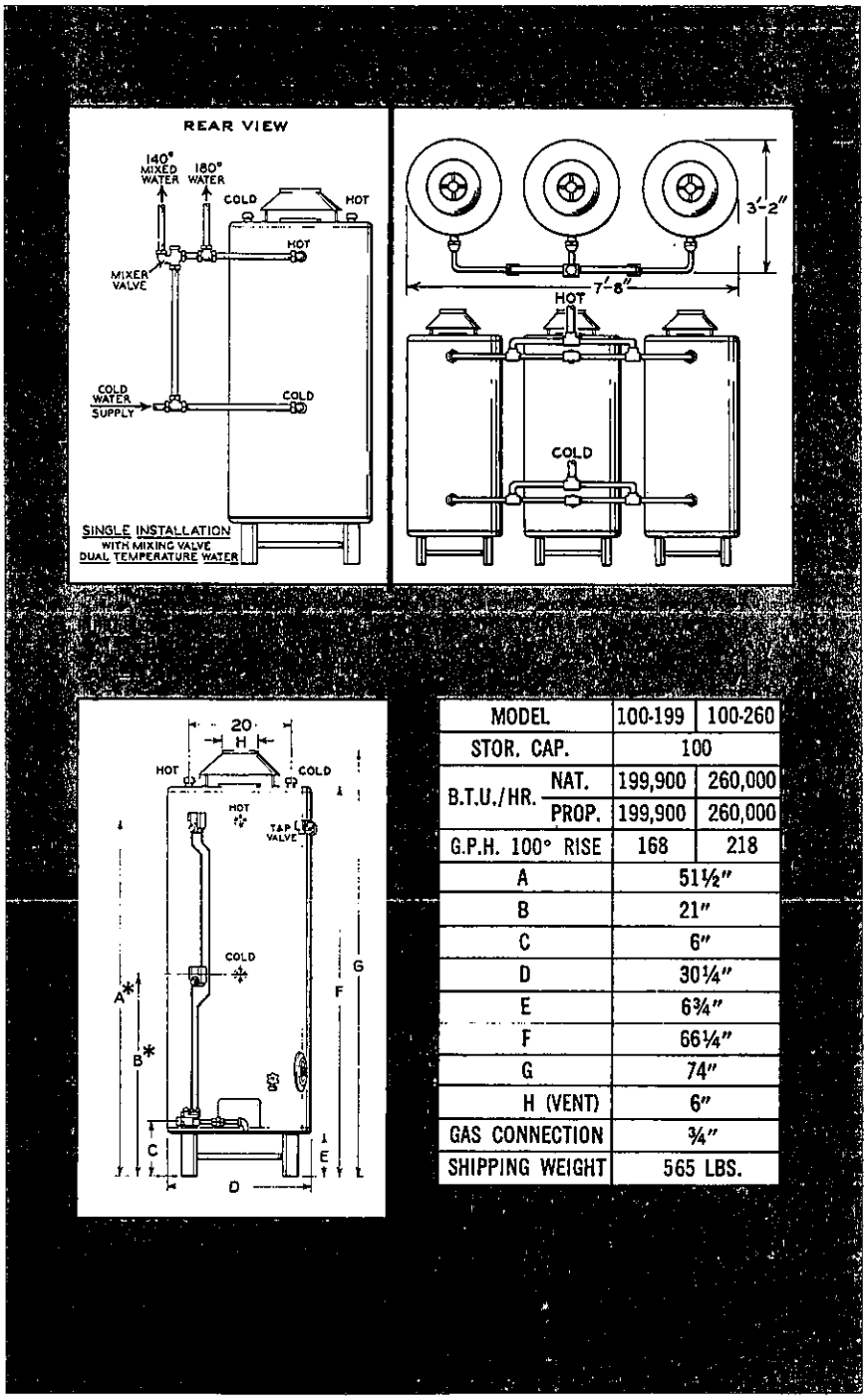
COMMERCIAL

D100-199CW / D100-260CW

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR WARRANTY



MODEL		100-199	100-260
STOR. CAP.		100	
B.T.U./HR.	NAT.	199,900	260,000
	PROP.	199,900	260,000
G.P.H. 100° RISE		168	218
A		51½"	
B		21"	
C		6"	
D		30¼"	
E		6¾"	
F		66¼"	
G		74"	
H (VENT)		6"	
GAS CONNECTION		¾"	
SHIPPING WEIGHT		565 LBS.	

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 100's are suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 100's be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 18 units per heater. If used in apartments with 2 baths 13 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 100's can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 100's can furnish the necessary water for conveyor type dishwashers using up to 162 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

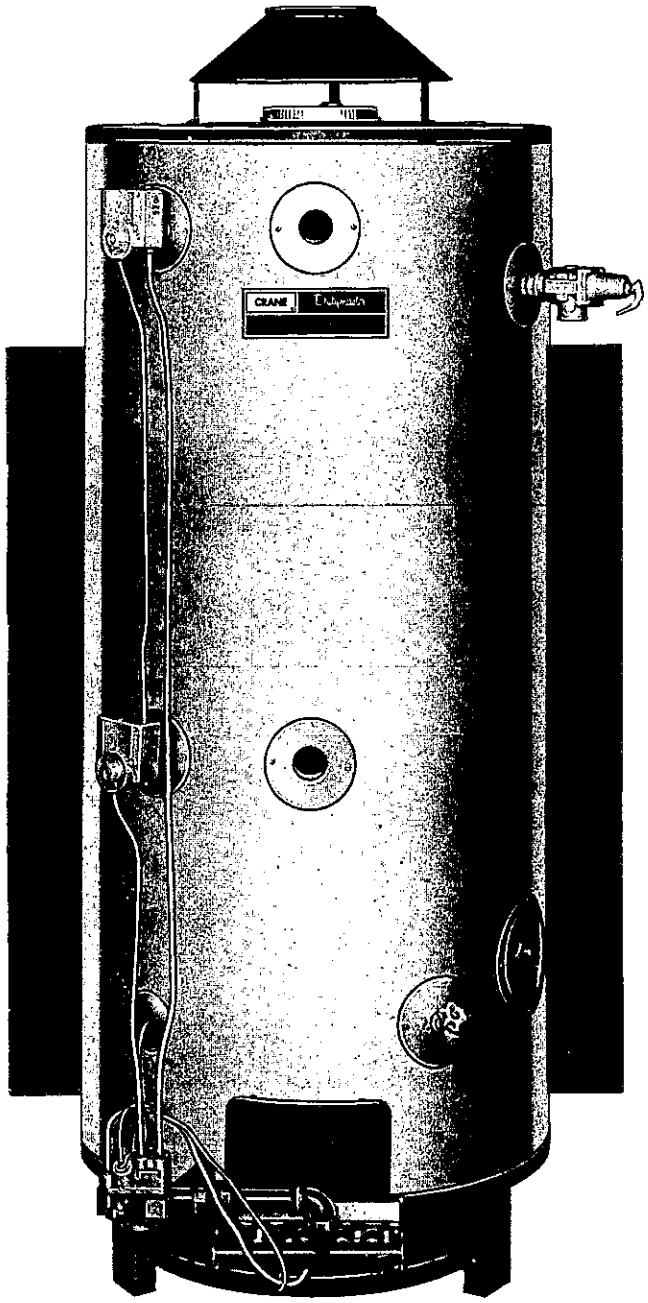
CRANE

COMMERCIAL

D75-360C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER



1. The 75-360 is a gas fired instantaneous booster with 75-gallon tank capacity and 360,000 BTU/hr. input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous Heater and as (b) a Type A Circulating Tank Heater.

2. When used singly or in manifolded multiples as an "Automatic Instantaneous Heater" the 75-360 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

3. When used as a Type A Automatic Circulating Tank Heater installed singly or in manifolded multiples with separate storage tank. The 75-360 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

INSULATION—A 2" blanket of treated fiberglass completely enveloping the heater.

COMBUSTION CHAMBER—The tank skirt of this high input model is lined with PYROLITE ceramic insulators to guard against burn-out and corrosion.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR WARRANTY

N.S.F. MODEL NOS. D75-360DC

The 75-360 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

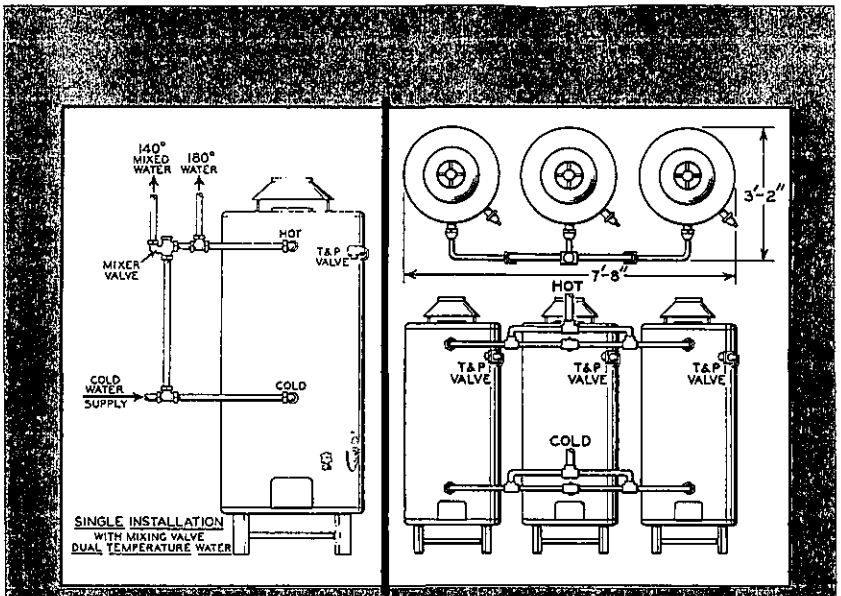
COMMERCIAL

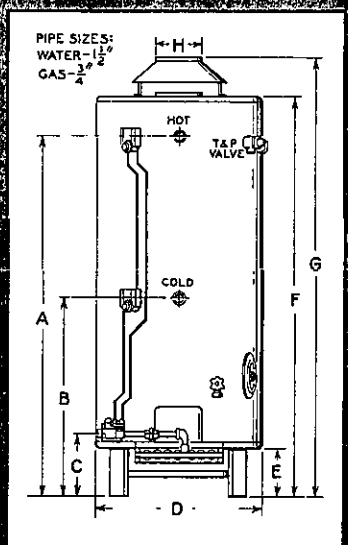
D75-360C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

3-YEAR WARRANTY





MODEL	D75-360C
STOR. CAP.	75
B.T.U./HR. NAT.	360,000
B.T.U./HR. PROP.	360,000
G.P.H. 100° RISE	302
A	60"
B	33"
C	9½"
D	28"
E	8"
F	66¼"
G	72⅞"
H (VENT)	8"
GAS CONNECTION	¾"
SHIPPING WEIGHT	650 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 75-360 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 75-360 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 25 units per heater. If used in apartments with 2 baths 18 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 75-360 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 75-360 can furnish the necessary water for conveyor type dishwashers using up to 216 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

COMMERCIAL

D70-500C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

3-YEAR WARRANTY

1. The 70-500 is a gas fired instantaneous booster with 70-gallon tank capacity and 500,000 BTU/hr. input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous Heater and as (b) a Type A Automatic Circulating Tank Heater.

2. When used singly or in manifold multiples as an "Automatic Instantaneous Heater" the 70-500 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

3. When used as a Type A Automatic Circulating Tank Heater installed singly or in manifolded multiples with separate storage tank. The 70-500 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

INSULATION—A 2" blanket of treated fiberglass completely enveloping the heater.

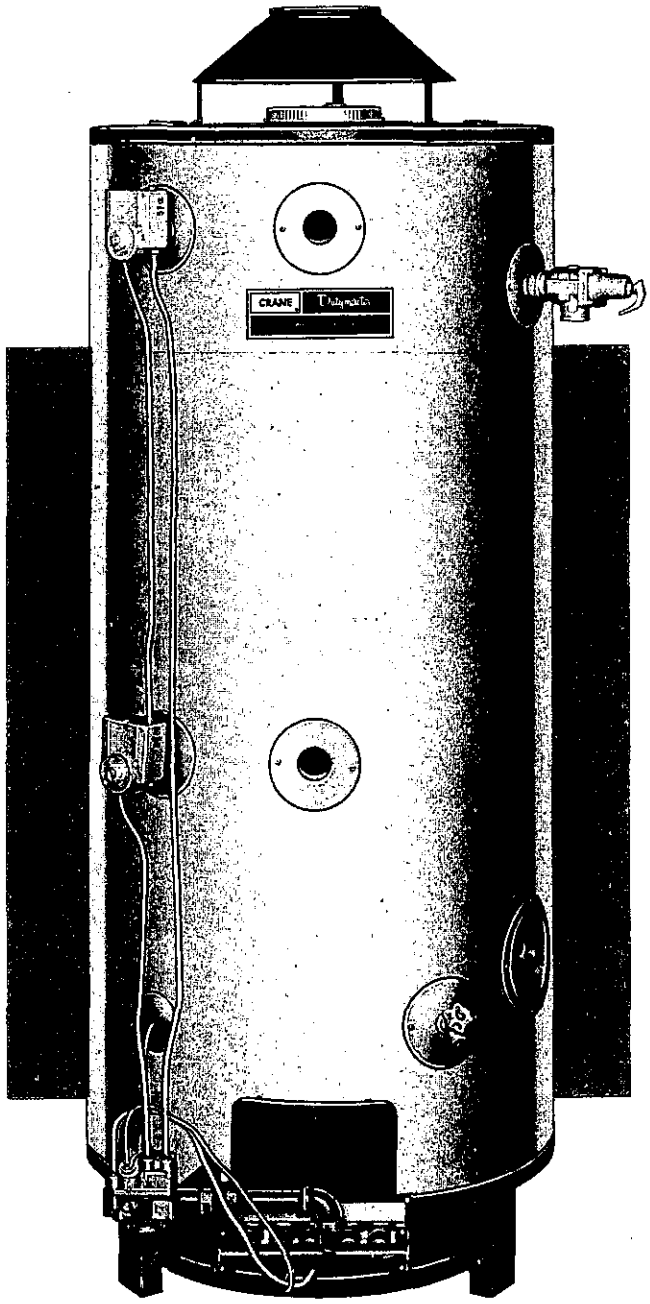
COMBUSTION CHAMBER—The tank skirt of this high input model is lined with PYROLITE ceramic insulators to guard against burn-out and corrosion.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.



3-YEAR WARRANTY

N.S.F. MODEL NO. D70-500C

The 70-500 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

CRANE00931

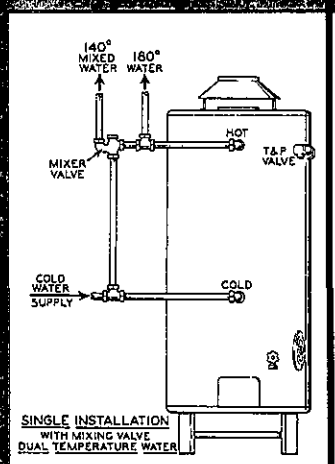
COMMERCIAL

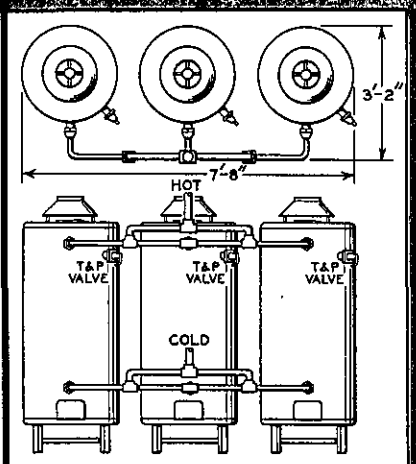
D70-500C

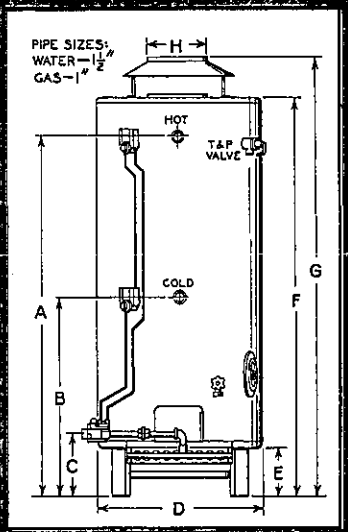
DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

3-YEAR WARRANTY







MODEL		D70-500C
STOR. CAP.		70
B.T.U./HR.	NAT.	500,000
	PROP.	480,000
G.P.H. 100° RISE	NAT.	420
	PROP.	403
A		60"
B		33"
C		10"
D		28"
E		8"
F		66¼"
G		72⅝"
H (VENT)		10"
GAS CONNECTION		1"
SHIPPING WEIGHT		700 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 70-500 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 70-500 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 35 units per heater. If used in apartments with 2 baths 25 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 70-500 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 70-500 can furnish the necessary water for conveyor type dishwashers using up to 300 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

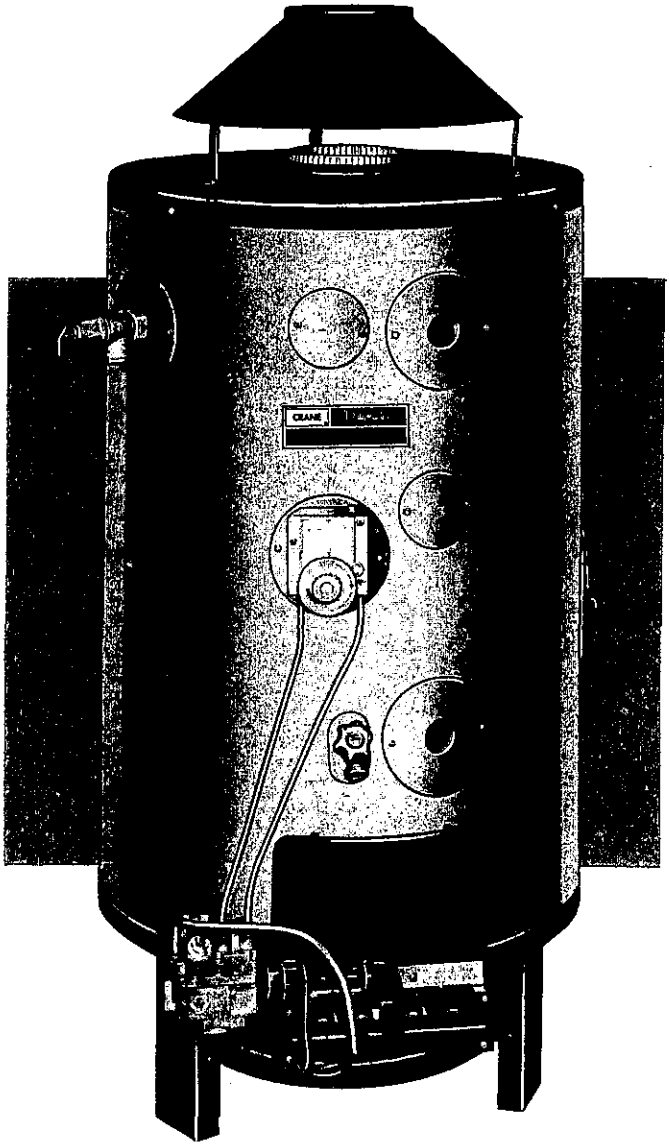
CRANE00932

COMMERCIAL

D150C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER



1. The D150 is a gas fired instantaneous booster design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water.

2. When used as an Automatic Instantaneous booster its 150,000 BTU input makes this heater ideal for short periods of heavy demand.

3. The design is intended for installation in series with a Storage Booster to raise general purpose 140° water to 180° sanitizing water for restaurants or similar uses.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR WARRANTY

N.S.F. MODEL NO. D150

The D150 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

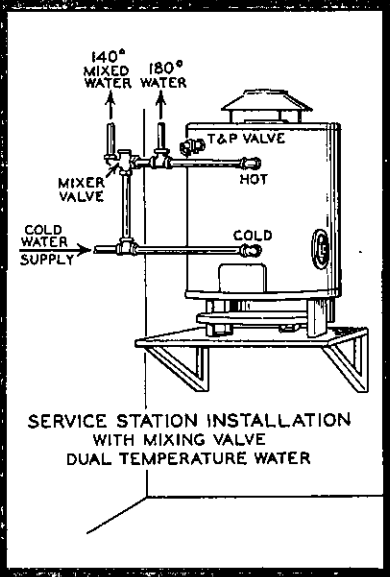
COMMERCIAL

D150C

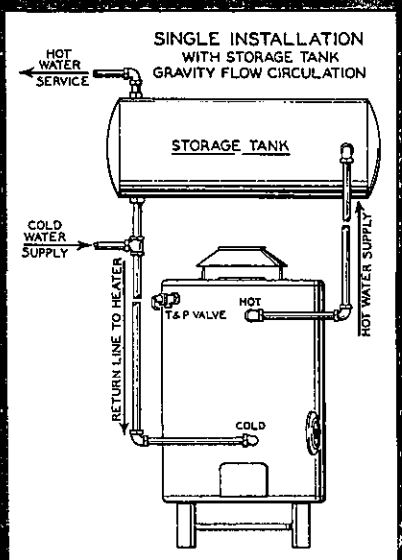
DUTYMASTER
MARK II

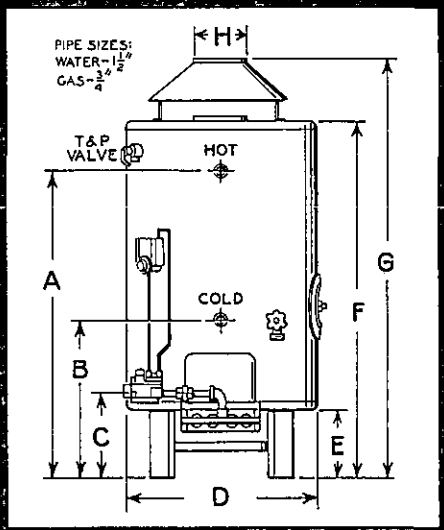
COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

3-YEAR WARRANTY



SERVICE STATION INSTALLATION
WITH MIXING VALVE
DUAL TEMPERATURE WATER





MODEL		D150
B.T.U./HR.	NAT.	150,000
	PROP.	150,000
G.P.H. 100° RISE		126.1
A		35½"
B		18¼"
C		8½"
D		22"
E		8"
F		41¼"
G		48⅝"
H (VENT)		6"
GAS CONNECTION		¾"
SHIPPING WEIGHT		250 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installation for which the D150 is suited. For more detailed engineering information please consult the DUTY-MASTER Commercial Water Heating Engineering Handbook.

The D150 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The D150 can supply all hot water requirements for any door or hood type commercial dishwasher when incoming water is 80°F. or above. If incoming water is pre-heated to 140°F. the D150 can furnish the necessary water for conveyor type dishwashers using up to 315 gallons/hour. The above applications are figured supplying 180°F. water.

Service Stations—The D150 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

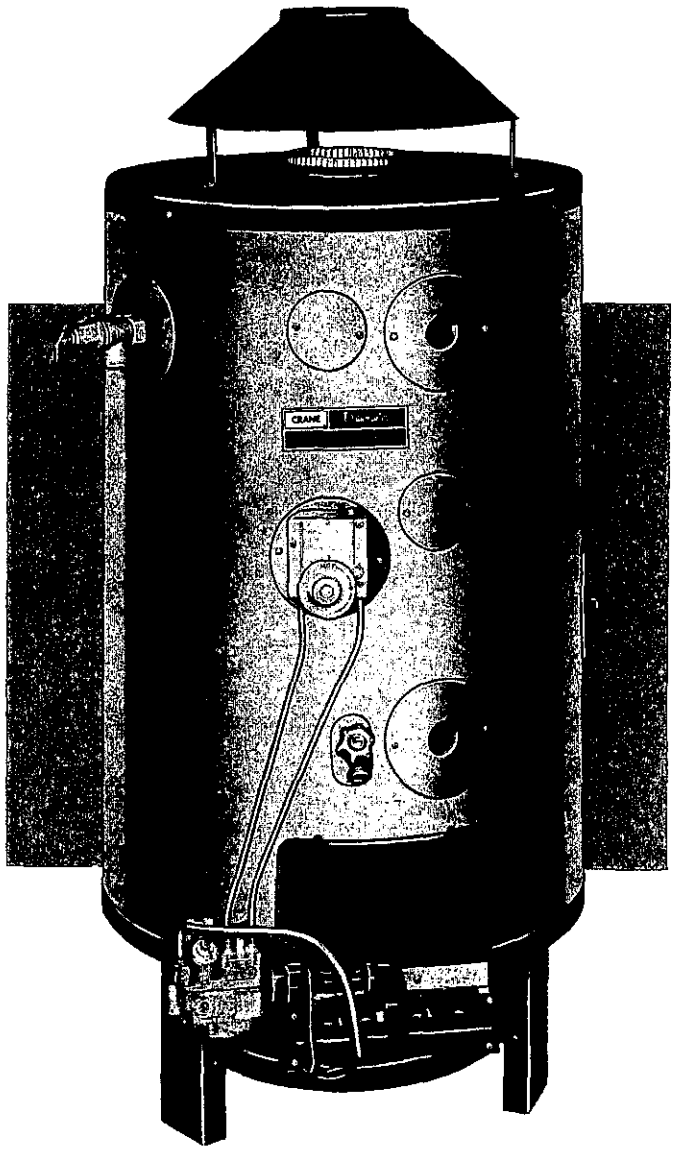
CRANE00934

COMMERCIAL

D199C / D225C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER



1. The D225 is a gas fired instantaneous booster design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water. Model D199 (199,900 BTU) where heaters of less than 200,000 BTU must be used.

2. When used as an Automatic Instantaneous booster its 225,000 BTU input makes this heater ideal for short periods of heavy demand.

3. The design is intended for installation in series with a Storage Booster to raise general purpose 140° water to 180° sanitizing water for restaurants or similar uses.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

INSULATION—A 2" blanket of treated fiberglass completely enveloping the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR WARRANTY

N.S.F. MODEL NOS. D199C/D225C

These "D" models are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

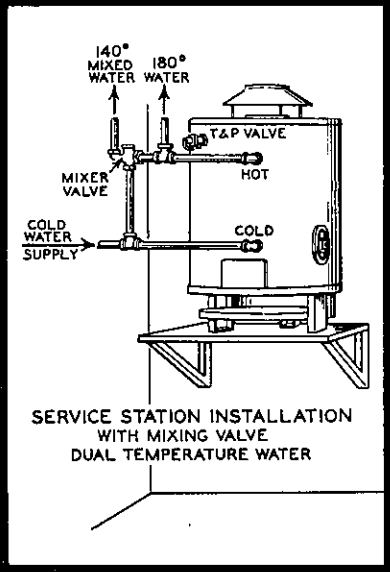
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

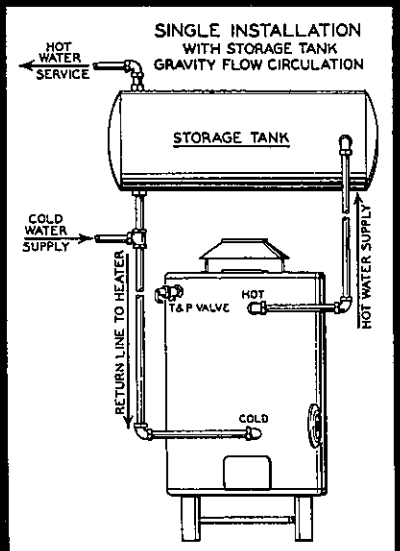
COMMERCIAL

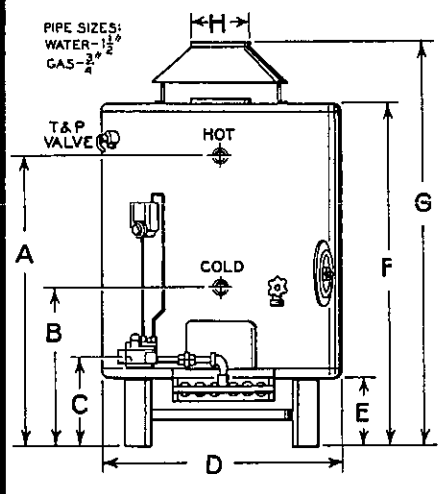
D199C / D225C

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER
3-YEAR WARRANTY



SERVICE STATION INSTALLATION
WITH MIXING VALVE
DUAL TEMPERATURE WATER





MODEL		D199	D225
B.T.U./HR.	NAT.	199,900	225,000
	PROP.	199,900	225,000
G.P.H. 100° RISE		168	189
A		33½"	
B		18⅜"	
C		10"	
D		28"	
E		8"	
F		39⅜"	
G		46⅜"	
H (VENT)		7"	
GAS CONNECTION		¾"	
SHIPPING WEIGHT		400 LBS.	

150 LBS. WORKING PRESSURE

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installation for which the D225 is suited. For more detailed engineering information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

The D225 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The D225 can supply all hot water requirements for any door or hood type commercial dishwasher when incoming water is 40°F. or above. If incoming water is pre-heated to 140°F. the D225 can furnish the necessary water for conveyor type dishwashers using up to 473 gallons/hour. The above applications are figured supplying 180°F. water.

Service Stations—The D225 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

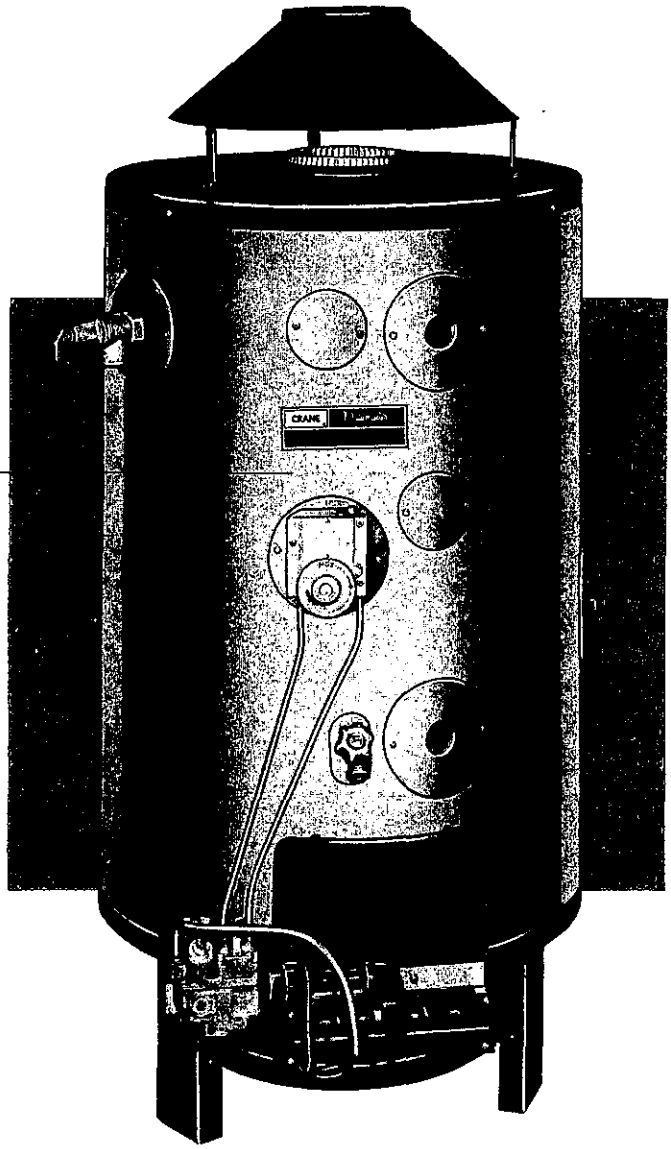
CRANE

COMMERCIAL

D310C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER



1. The D310 is a gas fired instantaneous booster design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water.

2. When used as an Automatic Instantaneous booster its 310,000 BTU input makes this heater ideal for short periods of heavy demand.

3. The design is intended for installation in series with a Storage Booster to raise general purpose 140° water to 180° sanitizing water for restaurants or similar uses.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

INSULATION—A 2" blanket of treated fiberglass completely enveloping the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR WARRANTY

N.S.F. MODEL NO. D310C

The D310 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

CRANE00937

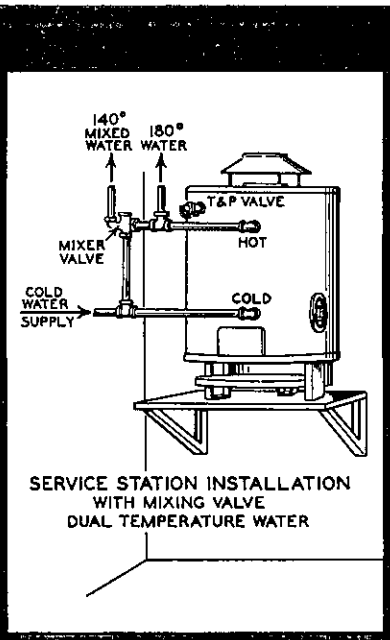
COMMERCIAL

D310C

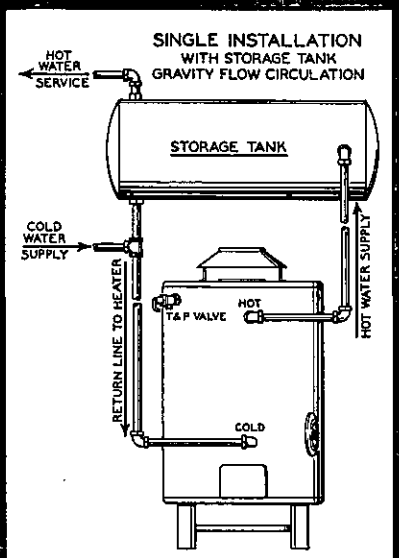
DUTYMASTER
MARK II

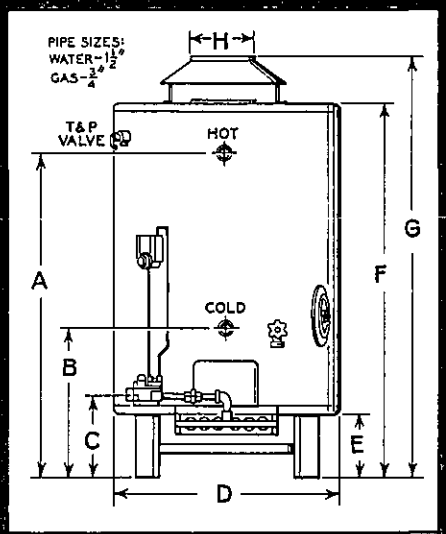
COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

3-YEAR WARRANTY



SERVICE STATION INSTALLATION
WITH MIXING VALVE
DUAL TEMPERATURE WATER





MODEL		D310
B.T.U./HR.	NAT.	310,000
	PROP.	290,000
G.P.H. 100° RISE	NAT.	260.5
	PROP.	242
A		40½"
B		18⅜"
C		10"
D		28"
E		8"
F		46⅜"
G		52½"
H (VENT)		8"
GAS CONNECTION		¾"
SHIPPING WEIGHT		440 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installation for which the D310 is suited. For more detailed engineering information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

The D310 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The D310 can supply all hot water requirements for any door or hood type commercial dishwasher when incoming water is 40°F. or above. If incoming water is pre-heated to 140°F. the D310 can furnish the necessary water for conveyor type dishwashers using up to 650 gallons/hour. The above applications are figured supplying 180°F. water.

Service Stations—The D310 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

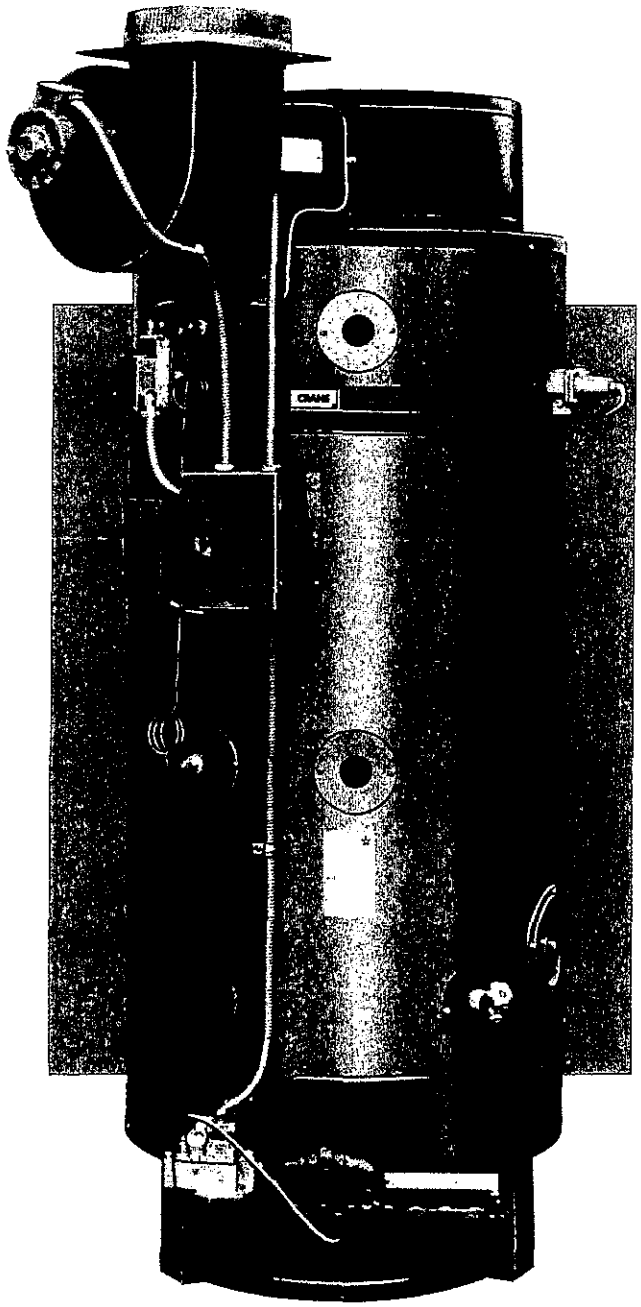
CRANE00938

COMMERCIAL

D70-725C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER OR AUTOMATIC CIRCULATOR



1. The 70-725 is a gas fired instantaneous booster with 70-gallon tank capacity and 725,000 BTU/hr input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous Heater and as (b) a Type A Automatic Circulating Tank Heater.

2. When used singly or in manifold multiples as an "Automatic Instantaneous Heater" the 70-725 is so constructed as to provide a completely independent water system needing no separate storage tanks or pump with the attendant complex piping and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

3. When used as a Type A Automatic Circulating Tank Heater installed singly or in manifolded multiples with separate storage tank. The 70-725 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

INSULATION—A 2" blanket of treated fiberglass completely enveloping the heater.

COMBUSTION CHAMBER—The tank skirt of this high input model is lined with PYROLITE ceramic insulators to guard against burn-out and corrosion.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Dutymaster booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

POWER VENT—Blower assures positive venting. Double safety system shuts the heater down in case of flue blockage.

ELECTROLYTIC PROTECTION—Multiple large extruded rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

N.S.F. MODEL NO. D70-725C

The 70-725 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

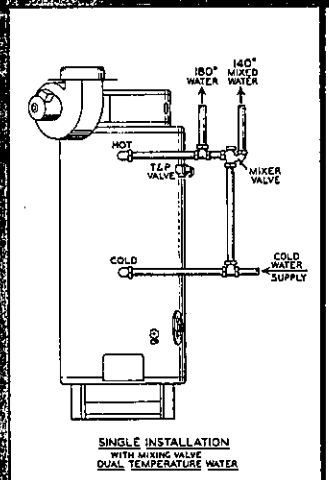
CRANE

COMMERCIAL

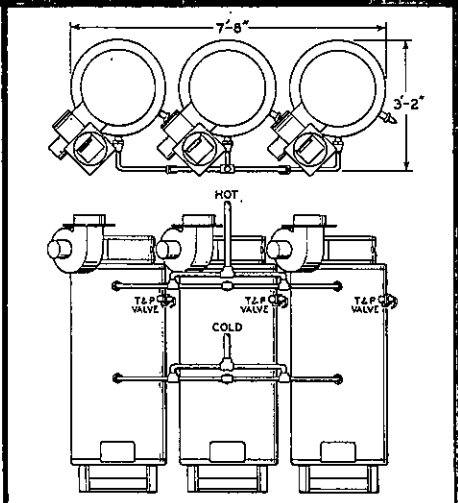
D70-725C

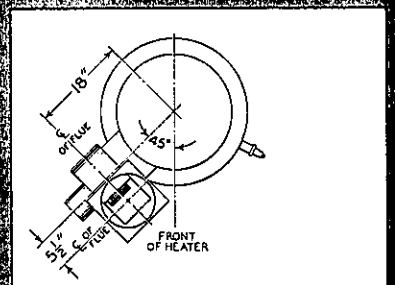
DUTYMASTER
MARK II

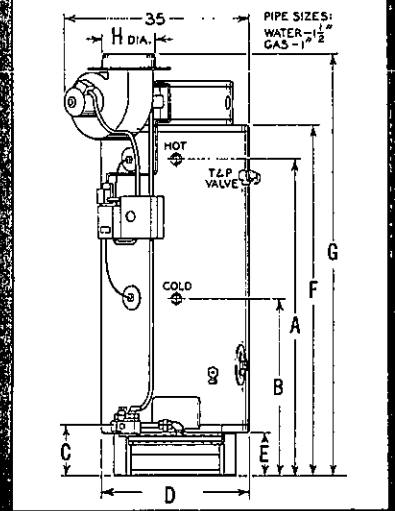
COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER OR AUTOMATIC CIRCULATOR



SINGLE INSTALLATION
WITH MIXING VALVE
DUAL TEMPERATURE WATER







MODEL		D70-725C
TANK CAP (GALS)		70
B.T.U./HR.	NAT.	725,000
	PROP.	725,000
G.P.H. 100° RISE	NAT.	609
	PROP.	609
A		60"
B		33"
C		10"
D		28"
E		8"
F		66¼"
G		78¾"
H (VENT)		10"
GAS CONNECTION		1"
SHIPPING WEIGHT		800 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 70-725 is suited. For more detailed engineering and application information, please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 70-725 be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations), it should be installed either singly or in multiples with a storage tank of 300 gallons to 1200 gallons.

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 75 units per heater. If used in apartments with 2 baths, 54 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 70-725 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 70-725 can furnish the necessary water for conveyor type dishwashers using up to 435 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

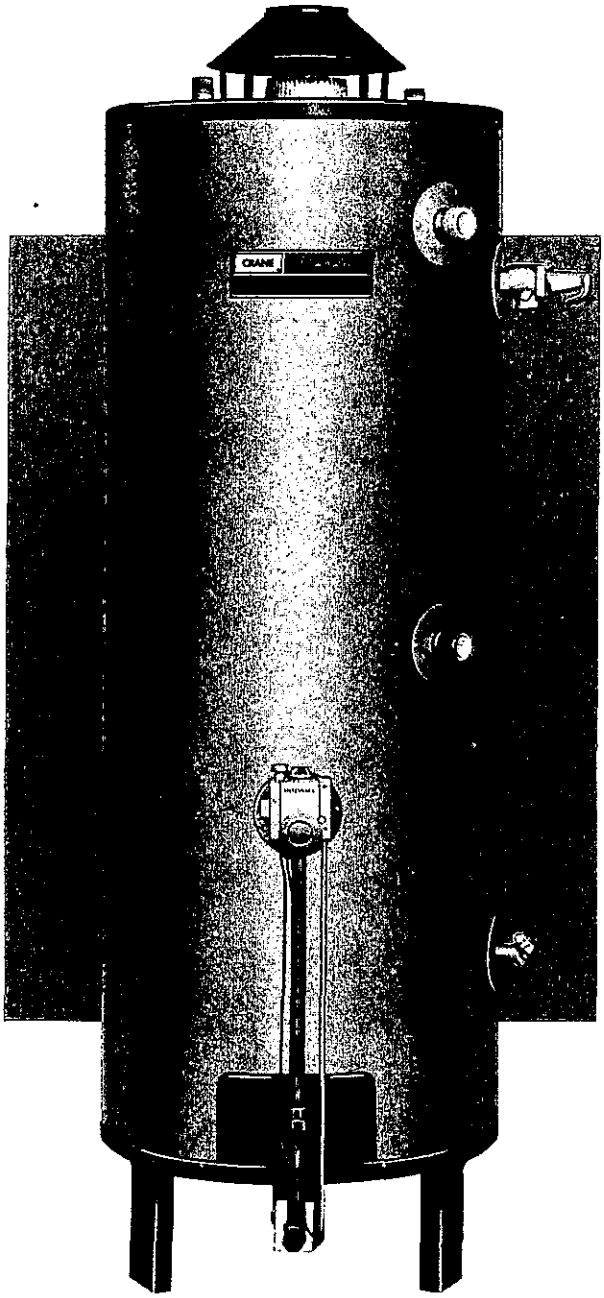
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

COMMERCIAL

D75-120C

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED STORAGE BOOSTER



1. The 75-120 is a gas-fired storage booster with 75-gallon tank capacity and 120,000 BTU/hour input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 75-120 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a "Type A Booster" with separate storage tank the 75-120 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable, high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Single port upshot burner with stainless steel flame spreader specifically designed for this heater's maximum efficiency at its input.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Dutymaster booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extruded rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

N.S.F. MODEL NO. D75-120C

The 75-120 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

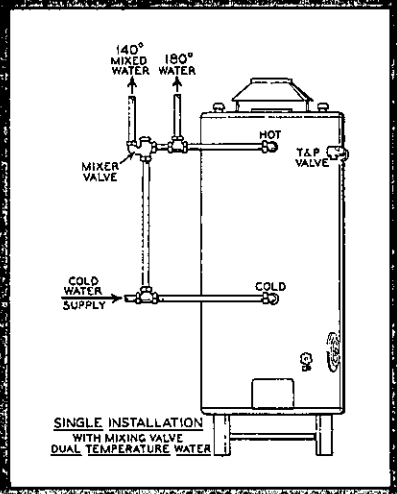
CRANE

CRANE00941

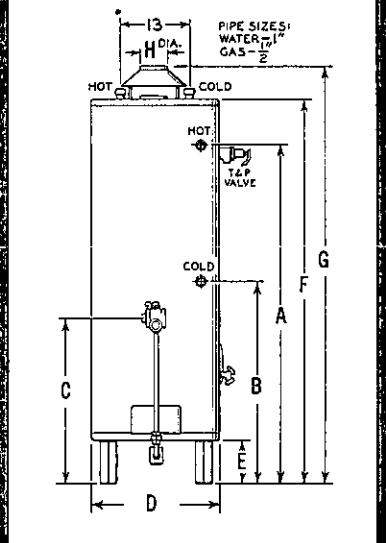
COMMERCIAL

D75-120C

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



SINGLE INSTALLATION
WITH MIXING VALVE
DUAL TEMPERATURE WATER



MODEL		D75-120C
STOR. CAP.		75
B.T.U./HR.	NAT.	120,000
	PROP.	100,000
G.P.H. 100° RISE	NAT.	101
	PROP.	84
A		62⅝"
B		37⅝"
C		30¼"
D		24"
E		8"
F		71½"
G		77½"
H (VENT)		5"
GAS CONNECTION		¾"
SHIPPING WEIGHT		500 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 75-120 is suited. For more detailed engineering and application information, please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 75-120 be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. In given circumstances, however, it can be installed either singly or in multiples with an auxiliary storage tank.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Apartment buildings with up to ten units equipped with automatic washing equipment and one shower head with two to three gallons per minute flow rate.

Restaurants and Institutional Food Service—The 75-120 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE

CRANE SUPPLY
COMPANY

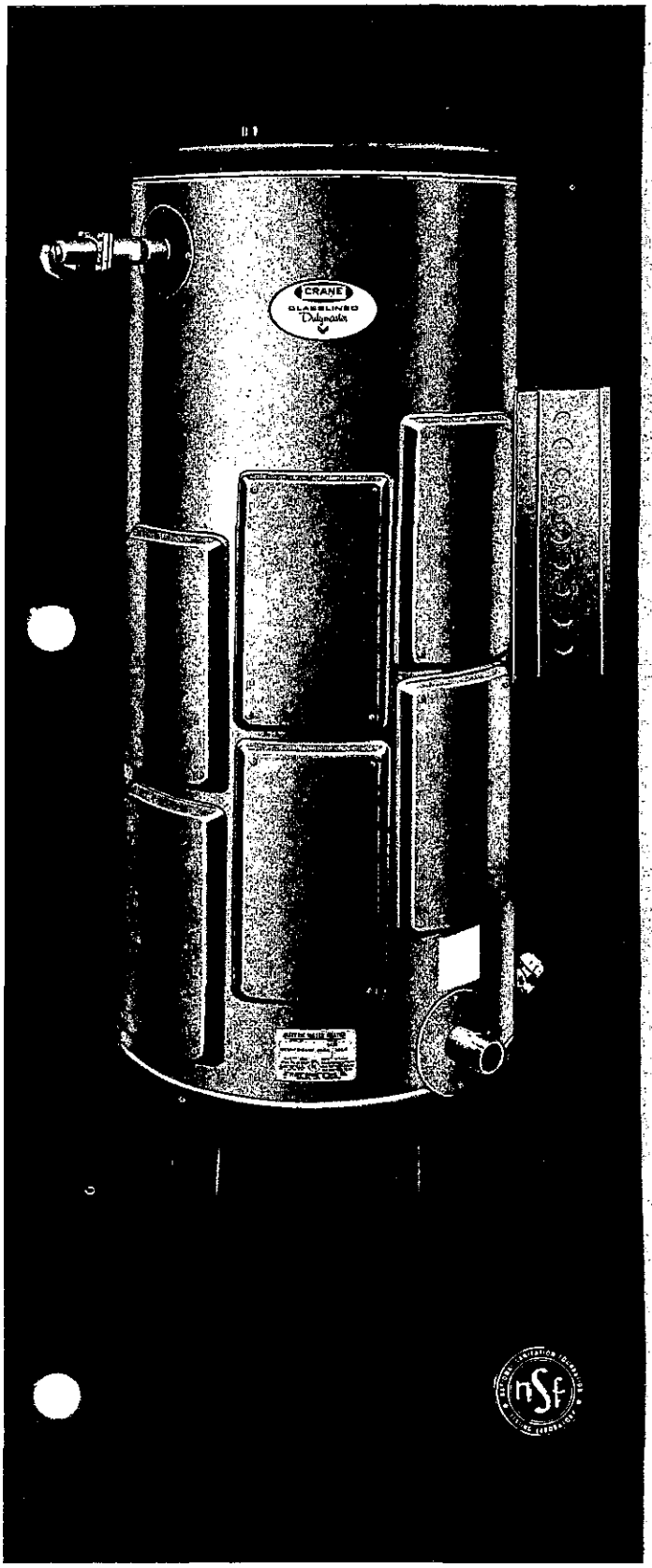
CRANE®

DUTYMASTER CS-52EC

COMMERCIAL ELECTRIC STORAGE BOOSTER
52 GALLON TANK CAPACITY

3 YEAR WARRANTY

Full terms of warranty may be found in this catalog.



GENERAL DESCRIPTION

The DUTYMASTER Model CS-52EC* electric commercial heater with 52-gallon tank capacity is listed by the Underwriters Laboratories and the National Sanitation Foundation to supply 180°F water both as a Booster and as a Storage Heater. When used singly, or in manifolded multiples as a storage heater, the DUTYMASTER electric is constructed to provide a completely independent water system needing no separate storage tank or pump. This avoids complex wiring and plumbing systems. It can supply both 140°F general use hot water and 180°F sanitizing water simultaneously when used with optional mixing valve.

When installed as a Booster with separate storage tank, the DUTYMASTER electric is designed to provide gravity circulation without a circulation pump. DUTYMASTER electrics are completely prewired and ready for installation and are available for 208, 220/240, 277, 440/480 volt, single- or three-phase, 60 cycle A. C. power sources. Specify when ordering. Note: There is an additional charge for the 277 or 440/480 volt models.

*See table of Specification for model number suffix (e.g., CS-52EC-15).

CONSTRUCTION FEATURES

TWICE-FIRED GLASSLINING on the electric storage booster tank consists of two completely different coats of vitrified glass, each coat separately applied and fired to insure long years of trouble-free service.

ELECTROLYTIC PROTECTION — A large extruded rod of highest quality magnesium provides maximum cathodic protection of all internal tank surfaces.

TANK CLEANOUT is easily accessible, located on the tank front for removal of lime scale, silt, sand or other foreign matter that may be deposited in the tank.

ASME RELIEF VALVE — Each booster heater is supplied with a factory installed ASME rated temperature and pressure relief valve.

FIBERGLASS INSULATION — A 2" thick sheet of fiberglass that cannot pack down assures efficient insulation for the life of the heater.

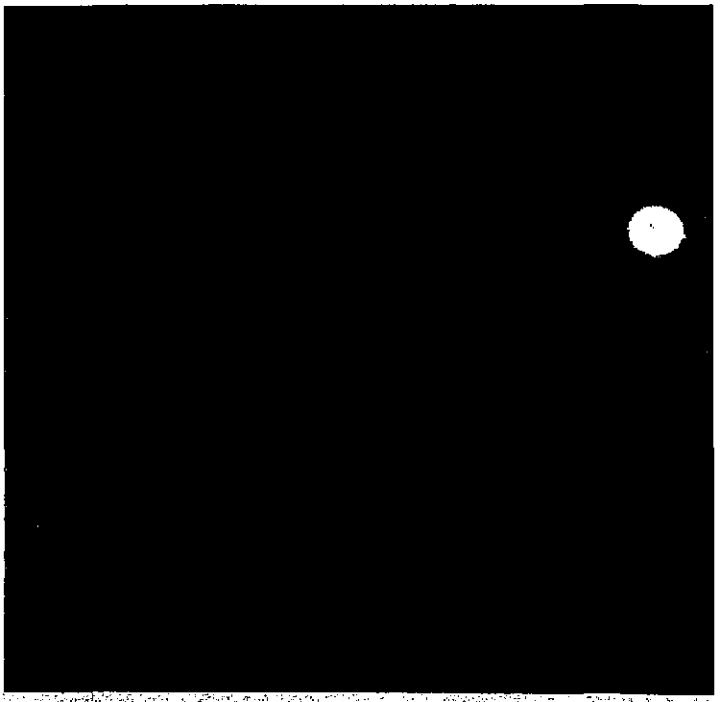
THERMOSTATS are immersion type, using contactor relays. Also available with surface mounted thermostats.

ELEMENTS are high efficiency immersion type and conduct all heat directly into the water. They are pressure sealed to prevent leakage.

PRE-WIRED completely and ready for installation. Includes hi-limit energy cutoff and safety signal light.

DUTYMASTER CS-52EC

COMMERCIAL ELECTRIC STORAGE BOOSTER
52 GALLON TANK CAPACITY



SAMPLE SPECIFICATIONS

Water heater(s) shall be Crane Supply Company Model CS-52EC-54, for 220/240 volts, single phase, A.C. with 52-gallon capacity, maximum of 54,000 watts and a recovery rate of 220, GPH at 100°F temperature rise. Water heater(s) shall have a glasslined tank with magnesium rod factory installed. Water heater(s) shall have the U.L. seal of re-examination. Tank(s) shall be supplied with a cleanout opening and shall have a working pressure rating of 150 psi. Heater(s) shall have hi-limit temperature control(s) and ASME rated temperature and pressure relief valve.

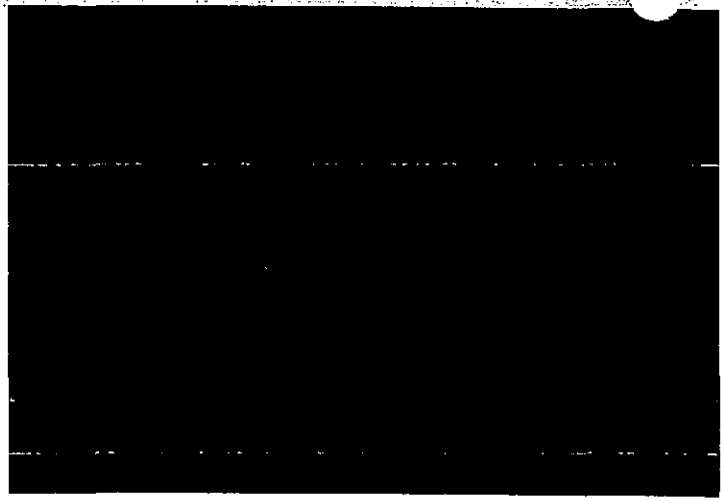
Heater(s) will be covered by a full three year warranty backed by the supplier.

NOTE: Underlined values can be revised, depending on model selected.

SPECIFICATIONS

52 Gal. Capacity Model	Max. Wattage 9,000 per element	No. of Elements	Shipping Weight in lbs.	Recovery Capacity Gals./Hr. @ Degrees F. Rise										
				40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°
CS-52EC-13.5*	13,500	3	280	139	111	92	79	69	61	55	51	46	43	40
CS-52EC-15*	15,000	3	280	154	123	102	87	76	67	61	56	51	47	44
CS-52EC-18*	18,000	3	280	185	148	123	104	92	81	73	68	62	57	53
CS-52EC-27	27,000	6	280	277	222	184	157	138	122	110	102	93	86	79
CS-52EC-30	30,000	6	280	308	246	205	174	153	135	123	113	103	95	88
CS-52EC-36	36,000	6	280	369	296	246	209	184	162	147	136	124	115	106
CS-52EC-45	45,000	6	280	462	370	307	261	230	203	183	170	155	143	132
CS-52EC-54	54,000	6	280	554	444	369	313	276	243	220	204	186	172	158

*These models are also available with surface mounted thermostats. Specify when ordering.

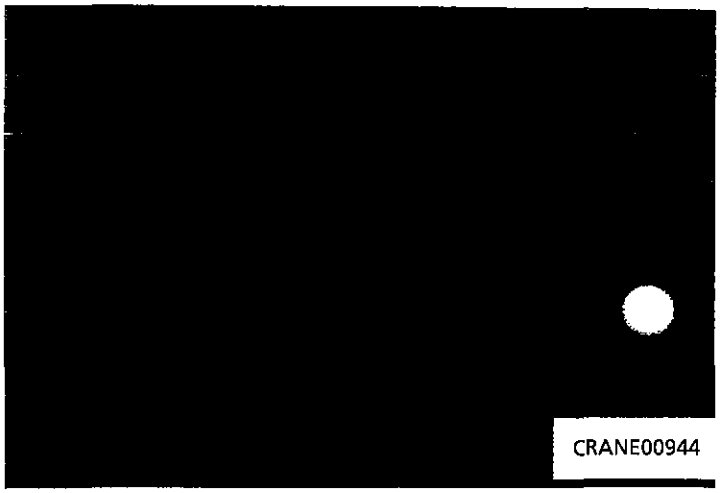


APPLICATION INFORMATION

Typical Installations:
Apartments
Restaurants
Institutional Food
Service
Farms
Motels
Factories
and other commercial
installations

The following information is intended as a guide for a typical installation for which the DUTYMASTER electrics are suited. For more detailed engineering information, consult your Crane Supply Company Engineering and Sizing Guide or the nearest Crane Supply Company Branch.

For maximum economy and utilization of floor space it is recommended that a DUTYMASTER electric be installed singly or in manifolded multiples without using a storage tank. In special installations where large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.



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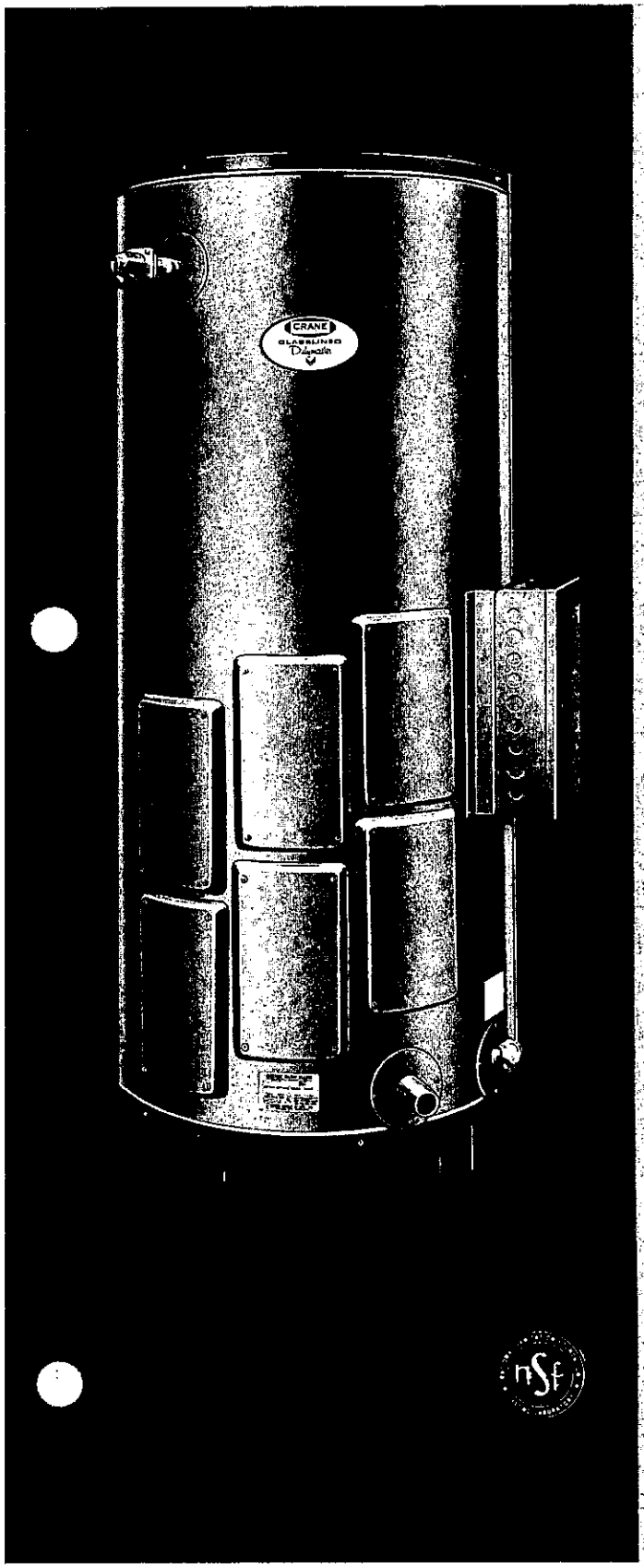
DUTYMASTER CS-82EC

COMMERCIAL ELECTRIC STORAGE BOOSTER
82 GALLON TANK CAPACITY

3 YEAR WARRANTY

Full terms of warranty may be found in this catalog.



GENERAL DESCRIPTION

The DUTYMASTER Model CS-82EC* electric commercial heater with 82-gallon tank capacity is listed by the Underwriters Laboratories and the National Sanitation Foundation to supply 180°F water both as a Booster and as a Storage Heater. When used singly, or in manifolded multiples as a storage heater, the DUTYMASTER electric is constructed to provide a completely independent water system needing no separate storage tank or pump. This avoids complex wiring and plumbing systems. It can supply both 140°F general use hot water and 180°F sanitizing water simultaneously when used with optional mixing valve.

When installed as a Booster with separate storage tank, the DUTYMASTER electric is designed to provide gravity circulation without a circulating pump. DUTYMASTER electrics are completely prewired and ready for installation and are available for 208, 220/240, 277, 440/480 volt, single- or three-phase, 60 cycle A. C. power source. Specify when ordering. Note: There is an additional charge for the 277 or 440/480 volt models.

*See table of Specifications for model number suffix (e.g., CS-82EC-15).

CONSTRUCTION FEATURES

GLASS LINING — Tank lined with durable high Silica content glass best suited for commercial water heating assuring long years of trouble-free service.

ELECTROLYTIC PROTECTION — A large extruded rod of highest quality magnesium provides maximum cathodic protection of all internal tank surfaces.

TANK CLEANOUT is easily accessible located on the tank front for removal of lime scale, silt, sand or other foreign matter that may be deposited in the tank.

ASME RELIEF VALVE — Each booster heater is supplied with a factory installed ASME rated temperature and pressure relief valve.

FIBERGLASS INSULATION — A 2" thick sheet of fiberglass that cannot pack down assures efficient insulation for the life of the heater.

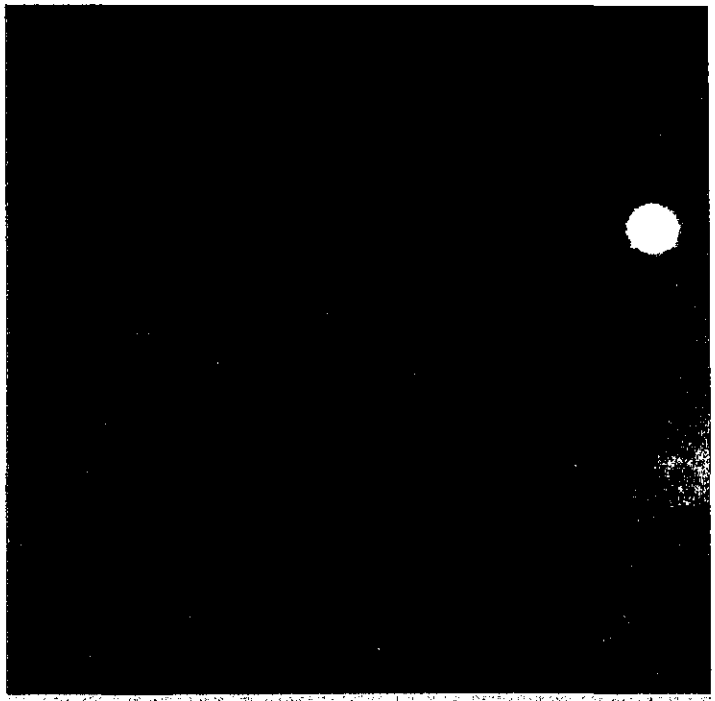
THERMOSTATS are immersion type, using contactor relays. Also available with surface mounted thermostats.

ELEMENTS are high efficiency immersion type and conduct all heat directly into the water. They are pressure sealed to prevent leakage.

PRE-WIRED completely and ready for installation. Includes hi-limit energy cutoff and safety signal light.

DUTYMASTER CS-82EC

COMMERCIAL ELECTRIC STORAGE BOOSTER
82 GALLON TANK CAPACITY



SAMPLE SPECIFICATIONS

Water heater(s) shall be Crane Supply Company Model CS-82EC-54, for 220/240 volts, single phase, A.C., with 82-gallon capacity, maximum of 54,000 watts and a recovery rate of 220 GPH at 100°F temperature rise. Water heater(s) shall have a glasslined tank with magnesium rod factory installed. Water heater(s) shall have the U. L. seal of re-examination. Tanks shall be supplied with a cleanout opening and shall have a working pressure rating of 150 psi. Heater(s) shall have hi-limit temperature control(s) and ASME rated temperature and pressure relief valve.

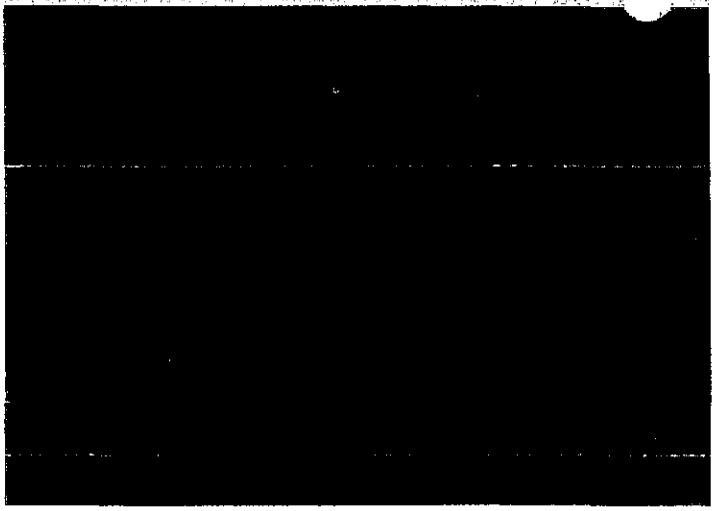
Heater(s) will be covered by a full three year warranty backed by the supplier.

NOTE: Underlined values can be revised, depending on model selected.

SPECIFICATIONS

82 Gal. Capacity Model	Max. Wattage 9,000 per element	No. of Elements	Shipping Weight in lbs.	Recovery Capacity Gals./Hr. @ Degrees F. Rise										
				40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°
CS-82EC-13.5*	13,500	3	370	139	111	92	79	69	61	55	51	46	43	40
CS-82EC-15*	15,000	3	370	154	123	102	87	76	67	61	56	51	47	44
CS-82EC-18*	18,000	3	370	185	148	123	104	92	81	73	68	62	57	53
CS-82EC-27	27,000	6	370	277	222	184	157	138	122	110	102	93	86	79
CS-82EC-30	30,000	6	370	308	246	205	174	153	135	123	113	103	95	88
CS-82EC-36	36,000	6	370	369	296	246	209	184	162	147	136	124	115	106
CS-82EC-45	45,000	6	370	462	370	307	261	230	203	183	170	155	143	132
CS-82EC-54	54,000	6	370	554	444	369	313	276	243	220	204	186	172	158

*These models are also available with surface mounted thermostats. Specify when ordering.



APPLICATION INFORMATION

Typical Installations:
Apartments
Restaurants
Institutional Food
Service
Farms
Motels
Factories
and other commercial installations

The following information is intended as a guide for a typical installation for which the DUTYMASTER electrics are suited. For more detailed engineering information, consult your Crane Supply Company Engineering and Sizing Guide or the nearest Crane Supply Company Branch.

For maximum economy and utilization of floor space it is recommended that a DUTYMASTER electric be installed singly or in manifolded multiples without using a storage tank. In special installations where large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

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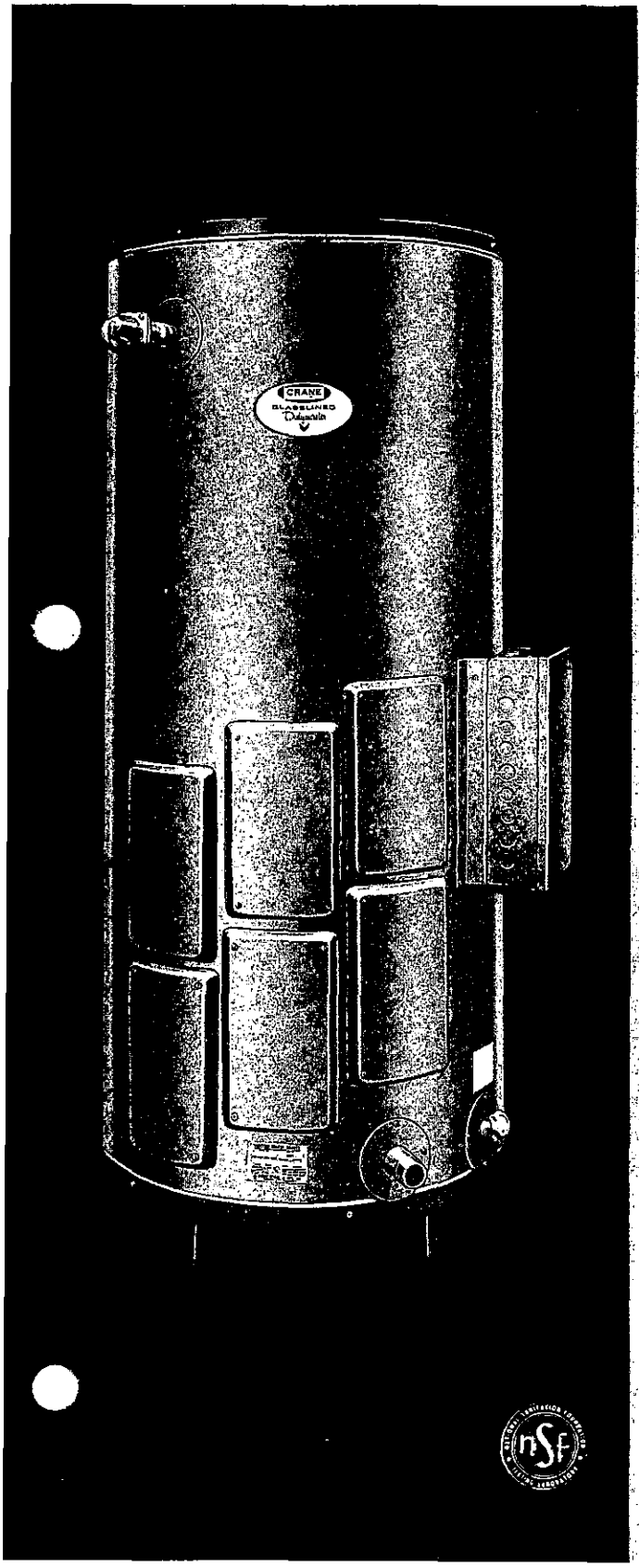
DUTYMASTER CS-120EC

COMMERCIAL ELECTRIC STORAGE BOOSTER
120 GALLON TANK CAPACITY

3 YEAR WARRANTY

Full terms of warranty may be found in this catalog.



GENERAL DESCRIPTION

The DUTYMASTER Model CS-120EC* electric commercial heater with 120-gallon tank capacity is listed by the Underwriters Laboratories and the National Sanitation Foundation to supply 180°F water both as a Booster and as a Storage Heater. When used singly, or in manifolded multiples as a storage heater, the DUTYMASTER electric is constructed to provide a completely independent water system needing no separate storage tank or pump. This avoids complex wiring and plumbing systems. It can supply both 140°F general use hot water and 180°F sanitizing water simultaneously when used with optional mixing valve.

When installed as a Booster with separate storage tank, the DUTYMASTER electric is designed to provide gravity circulation without a circulating pump.

DUTYMASTER electrics are completely prewired and ready for installation and are available for 208, 220/240, 277, 440/480 volt, single- or three-phase, 60 cycle A.C. power sources. Specify when ordering. Note: There is an additional charge for the 277 or 440/480 volt models.

*See table of Specifications for model number suffix (e.g., CS-120EC-15).

CONSTRUCTION FEATURES

GLASS LINING — Tank lined with durable high Silica content glass best suited for commercial water heating assuring long years of trouble-free service.

ELECTROLYTIC PROTECTION—A large extruded rod of highest quality magnesium provides maximum cathodic protection of all internal tank surfaces.

TANK CLEANOUT is easily accessible located on the tank front for removal of lime scale, silt, sand or other foreign matter that may be deposited in the tank.

ASME RELIEF VALVE — Each booster heater is supplied with a factory installed ASME rated temperature and pressure relief valve.

FIBERGLASS INSULATION—A 2" thick sheet of fiberglass that cannot pack down assures efficient insulation for the life of the heater.

THERMOSTATS are immersion type, using contactor relays. Also available with surface mounted thermostats.

ELEMENTS are high efficiency immersion type and conduct all heat directly into the water. They are pressure sealed to prevent leakage.

PRE-WIRED completely and ready for installation. Includes hi-limit energy cutoff and safety signal light.

DUTYMASTER CS-120EC

COMMERCIAL ELECTRIC STORAGE BOOSTER
120 GALLON TANK CAPACITY

SAMPLE SPECIFICATIONS

Water heater(s) shall be Crane Supply Company Model CS-120EC-54, for 220/240 volts, single phase, A.C., with 120-gallon capacity, maximum of 54,000 watts and a recovery rate of 220 GPH at 100°F temperature rise. Water heater(s) shall have a glass-lined tank with magnesium rod factory installed. Water heater(s) shall have the U.L. seal of re-examination. Tanks(s) shall be supplied with a cleanout opening and shall have a working pressure rating of 150 psi. Heater(s) shall have hi-limit temperature control(s) and ASME rated temperature and pressure relief valve.

Heater(s) will be covered by a full three year warranty backed by the supplier.

NOTE: Underlined values can be revised, depending on model selected.

SPECIFICATIONS

Capacity 120 Gal. Model	Max. Wattage 9,000 per element	No. of Elements	Shipping Weight in lbs.	Recovery Capacity Gals./Hr. @ Degrees F. Rise										
				40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°
CS-120EC-13.5*	13,500	3	520	139	111	92	79	69	61	55	51	46	43	40
CS-120EC-15*	15,000	3	520	154	123	102	87	76	67	61	56	51	47	44
CS-120EC-18*	18,000	3	520	185	148	123	104	92	81	73	68	62	57	53
CS-120EC-27	27,000	6	520	277	222	184	157	138	122	110	102	93	86	79
CS-120EC-30	30,000	6	520	308	246	205	174	153	135	123	113	103	95	88
CS-120EC-36	36,000	6	520	369	296	246	209	184	162	147	136	124	115	106
CS-120EC-45	45,000	6	520	462	370	307	261	230	203	183	170	155	143	132
CS-120EC-54	54,000	6	520	554	444	369	313	276	243	220	204	186	172	158

*These models are also available with surface mounted thermostats. Specify when ordering. Shipping Weight of ASME Model—726 lbs.

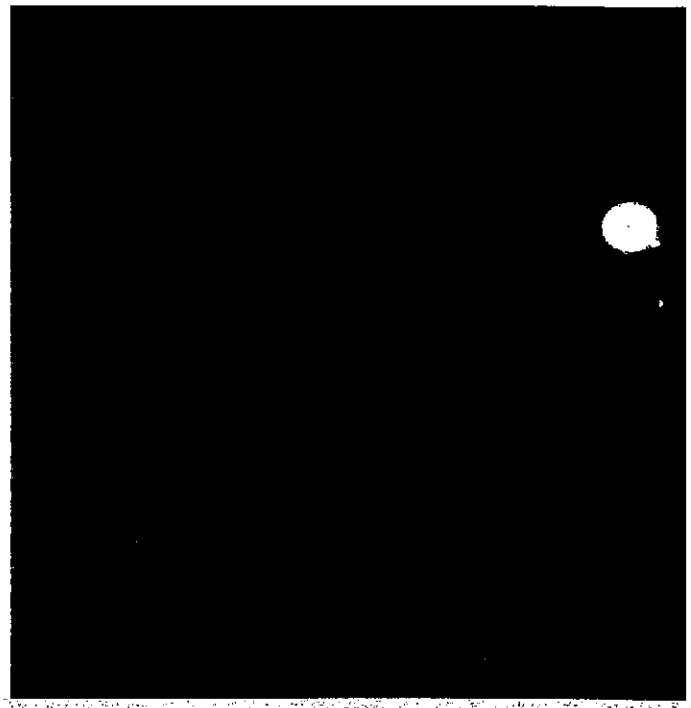
APPLICATION INFORMATION

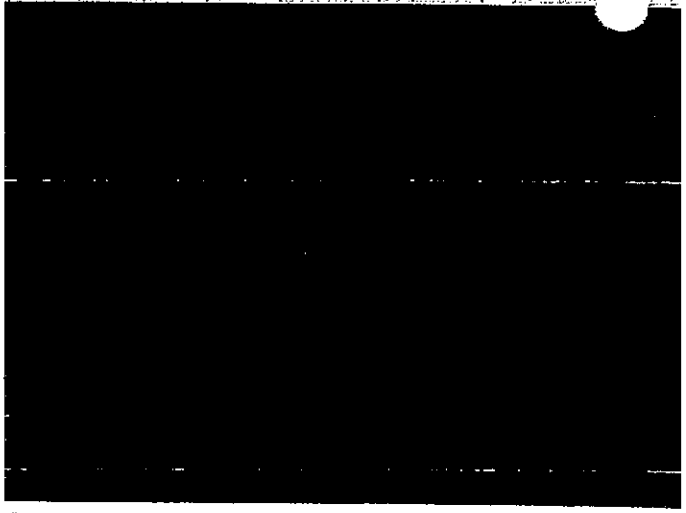
Typical Installations:

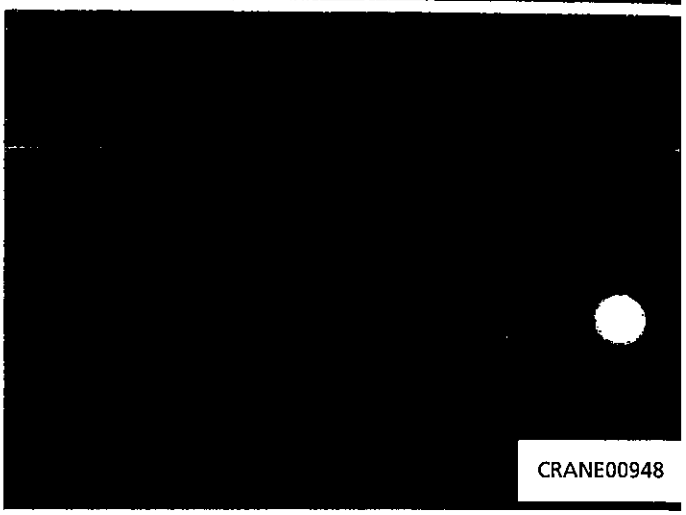
Apartments
Restaurants
Institutional Food
Service
Farms
Motels
Factories
and other commercial installations

The following information is intended as a guide for a typical installation for which the DUTYMASTER electrics are suited. For more detailed engineering information, consult your Crane Supply Company Engineering and Sizing Guide or the nearest Crane Supply Company Branch.

For maximum economy and utilization of floor space it is recommended that a DUTYMASTER electric be installed singly or in manifolded multiples without using a storage tank. In special installations where large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.







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Dutymaster

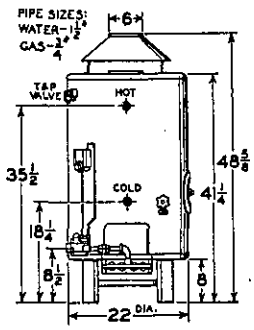
COMMERCIAL WATER HEATER

COMMERCIAL GAS

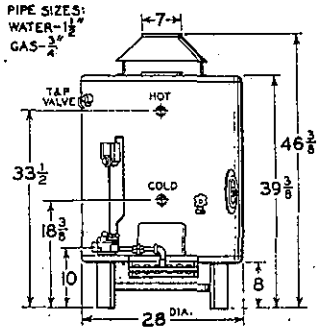
SAFETY
INSTALLATION
OPERATION
MAINTENANCE
PARTS

029240 A

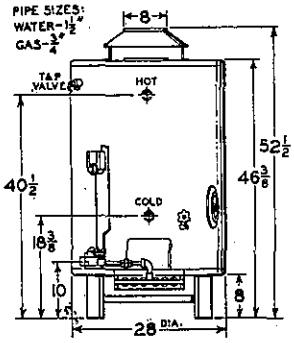
You have purchased the highest quality water heater available for commercial, industrial and institutional installation. These instructions have been prepared for you in order that you may derive full benefits from your new water heating system. This manual applies to the following Commercial Water Heaters:



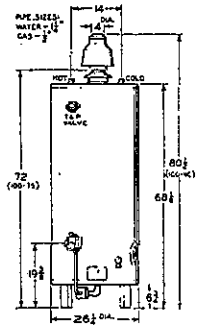
150/20-150
20 Gal.
150,000 Btu



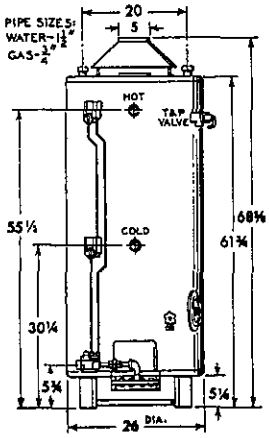
199/225
199,900 Btu 225,000 Btu



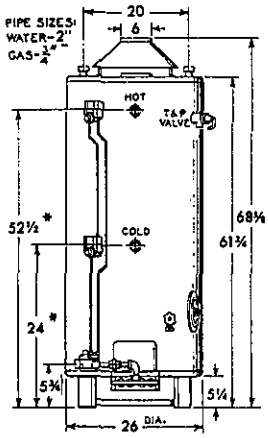
310
310.000 Btu



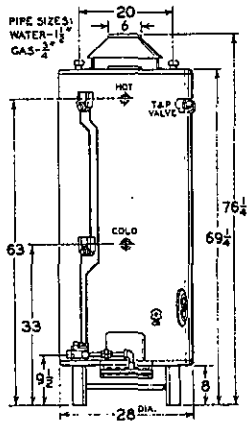
100-75/100-90
100 Gal.
75,000 Btu/90,000 Btu



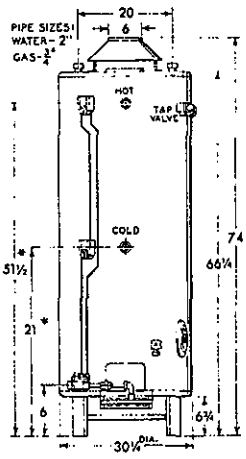
80-180
80 Gal.
180,000 Btu



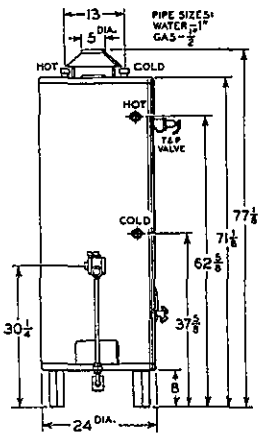
80-180H
80 Gal.
180,000 Btu



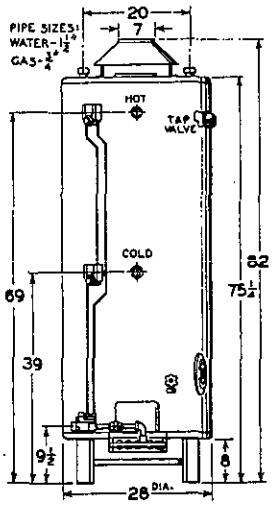
85-199/85-250
85 Gal.
199,900 Btu /250,000 Btu



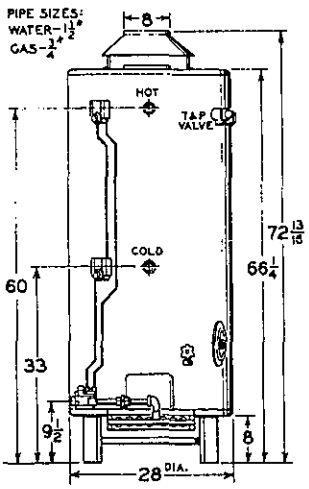
100-199H/100-260H
100 Gal.
199,000 Btu/260,000 Btu



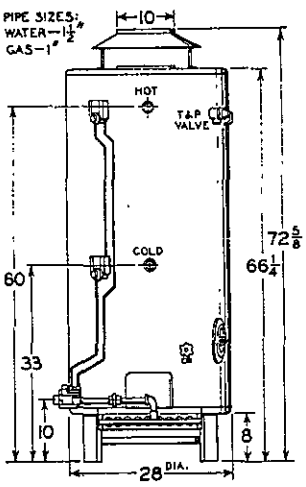
75/120
75 Gal.
120,000 Btu



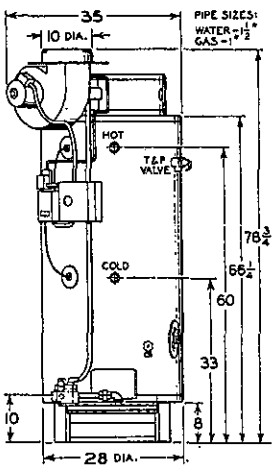
100-199/100-270
100 Gal.
199,900 Btu/270,000 Btu



75-360
75 Gal.
360,000 Btu



70-500
70 Gal.
500,000 Btu



70/725
70 Gal.
725,000 Btu

SAFETY

FOR SAFE OPERATION, PLEASE TAKE THE TIME TO READ THIS INSTRUCTION BOOK BEFORE ATTEMPTING TO INSTALL YOUR NEW WATER HEATER. THE INSTRUCTIONS IN THIS BOOK ARE INTENDED TO HELP YOU AVOID UNNECESSARY ACCIDENTS AND SERVICE COSTS BEYOND OUR CONTROL. PLEASE READ IT FIRST.

SAFETY HINTS

1. Before installation, check your installation instructions, applicable local codes and gas company requirements.

2. A new A.G.A. design certified temperature and pressure relief valve with limits no greater than 210° F. and 150 pounds pressure must be installed properly at time of heater installation. Three year models come equipped with a factory installed temperature and pressure relief valve.

   Failure to install, or an improperly installed temperature and pressure relief valve, will release the manufacturer from claims resulting from excessive temperature and pressures.

3. Installation clearances at rear and sides of heater must be no less than 6 inches. Heater must be located on a non-combustible floor.

4. Flue pipe clearance must be at least 6 inches from combustible surfaces.

5. Adequate combustion and ventilation air must be provided for proper combustion and vent action.

6. Apply pipe thread compound resistant to the action of liquified Petroleum gases.

7. Do not reduce flue pipe size below that of draft hood opening, nor alter draft hood or its relief openings.

8. Check all gas piping, including factory piping for leaks, using a soapy water solution or non-flamable leak detection fluid. The use of matches, candles, or open flame may cause an extreme fire hazard.

9. Consult your local gas utility to examine installation for propriety and safety.

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Parts 14-27
Performance 28

All appliances included in this manual were tested under "Title of Standards" ANS 221.10.3

CRANE00951

INSTALLATION

GENERAL INFORMATION

Pages 8 and 11-13 show detailed installation diagrams. Check them thoroughly for materials and method before starting installation to avoid possible errors and lost time.

TYPE OF GAS

Make sure gas supply is the same as specified on rating plate of heater. If rating plate specifies another type gas, **do not** install heater.

LOCATING THE HEATER
(See "Important" note, Page 22)

Locate heater as close to stack or chimney as possible. The stack or chimney must be free of soot or other obstructions.

Installation of water heater should be accomplished in such a manner that if its tank or other connections should leak, the resulting flow of water shall not cause damage to an adjoining area. Under no condition is the supplier nor the manufacturer to be held liable for any water damage in connection with this water heater.

FLUE PIPE SIZE AND INSTALLATION

All products of combustion and vent gases must be completely removed to the outside air without condensation in vent or spillage at draft hood. Horizontal runs of flue pipe must have ¼" per lineal foot min. upward pitch.

Use strong, gas tight pipe for proper venting with a cross-sectional area equal to that of the draft hood outlet. Observe clearances from all combustible material and provide vent outlet with an approved cap.

In addition to local ordinances and utility requirements consult the American Standards Association "Installation of Gas Piping and Gas Appliances in Buildings" as a guide.

Where continuous or intermittent backdraft is found to exist, check chimney conditions. In some cases a blower type flue gas exhauster must be employed between the appliance and the stack to assure proper venting and correct combustion.

Combining vents as shown is satisfactory, providing the basic rules of good venting are observed. In either case, the vertical rise above draft hood (X) before any fittings, should be as great as possible. All venting connections should be made in accordance with local codes and ordinances.

300 LBS. PER SQ. IN. HYDROSTATIC TEST PRESSURE
150 LBS. PER SQ. IN. WORKING PRESSURE A.G.A.

MODEL NO.		SERIAL NO. 1972	
EQUIPPED FOR GAS	INPUT B.T.U./HR.	RECOVERY GALS./HR.	CAPACITY U.S. GALS.

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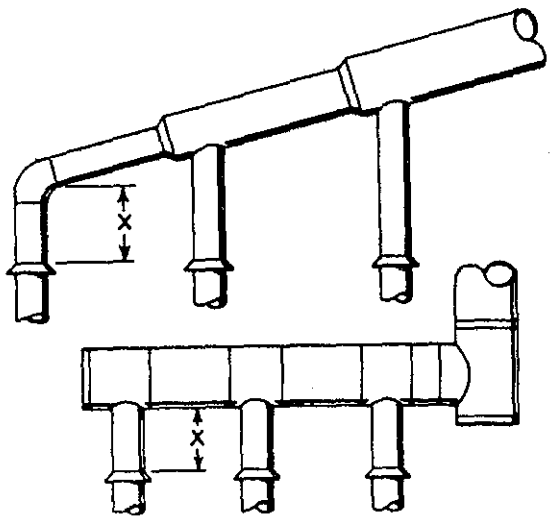


When vents are combined, area of the combined vent should be equal to area of the largest single vent, plus 50% of area of all others joining it.

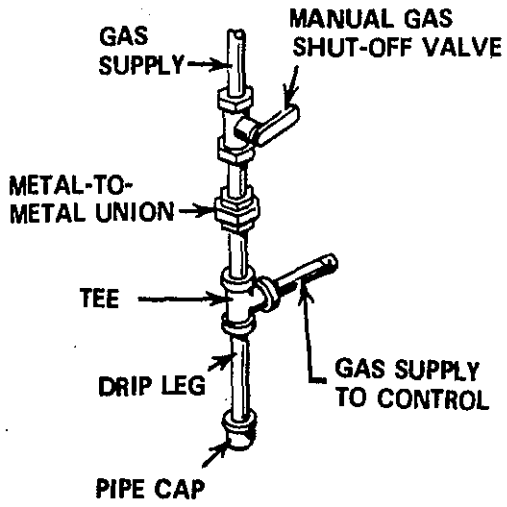
EXAMPLE: To combine two 6" vents with an 8" vent, the area of a combined vent should be one half area of two 6 inch inch vents (14 + 14) plus area of 8 inch vent (50) or 78 sq. inches. Referring to chart, 78 sq. inches require 10" diameter vent.

Vent Size	Square Inches	Vent Size	Square Inches
5"	20	10"	79
6"	28	12"	113
7"	38	14"	154
8"	50	16"	201
9"	64	18"	225

COMBUSTION AND VENTILATION AIR

It is imperative to have an adequate supply of combustion air for gas burning appliances. (One square inch for each 1,000 BTU input.) 70-725 requires a minimum of 1600 sq. inches combustion and vent air. Air is being drawn into combustion chamber from surrounding areas for combustion, as well as providing ventilation for proper vent action. Therefore, it is important that local codes be consulted when equipment is being installed in a closely confined area.

Where an exhaust fan is installed in the same room as heater, air will be drawn into the room through the chimney. Air supply openings must be large enough to admit air exhausted by the fan and that required by all gas burning appliances. A downdraft or back-draft will prevent proper combustion, causing soot which may result in serious damage to the heater. **(See "Important" note, Page 28).**



SIZE OF GAS SUPPLY LINE

Use gas supply line of adequate size to insure full gas input to heater. Porivde and install necessary pipes, fittings, valves, etc. to each heater as shown in illustration. Apply pipe thread compound resistant to the action of liquified petroleum gases.

Gas piping to heater(s) must be large enough to carry the full load without abnormal pressure drop. The following charts show recommended gas pipe size for heaters installed at various distances from gas meter, based on a pressure drop of 0.3 inch water column, and specific gravity of 0.6 (propane gas 1.53). If gas pressure at outlet of meter is less than 5 inches water column, use pipe one size larger than indicated in table.

GAS PIPE SIZES

Correct gas pipe size for heaters operating on NATURAL GAS								Correct gas pipe size for heaters operating on MIXED GAS							
Total Input BTU/hr	DISTANCE TO METER, IN FEET							Total Input BTU/hr	DISTANCE TO METER, IN FEET						
	30	60	90	120	150	180	210		30	60	90	120	150	180	210
65,000	½	¾	¾	¾	1	1	1	65,000	¾	¾	¾	1	1	1	1
100,000	¾	1	1	1	1¼	1¼	1¼	100,000	1	1	1	1¼	1¼	1¼	1¼
150,000	¾	1	1	1¼	1¼	1¼	1¼	150,000	1	1	1¼	1¼	1¼	1¼	1¼
200,000	1	1¼	1¼	1¼	1¼	1¼	1¼	200,000	1	1¼	1¼	1¼	1¼	1½	1½
300,000	1¼	1¼	1¼	1½	1½	1½	1½	250,000	1¼	1¼	1¼	1½	1½	1½	1½
400,000	1¼	1½	1½	1½	2	2	2	300,000	1¼	1½	1½	1½	1½	2	2
500,000	1¼	1½	2	2	2	2	2	400,000	1¼	1½	2	2	2	2	2
600,000	1½	2	2	2	2	2	2	500,000	1½	1½	2	2	2	2	2
750,000	1½	2	2	2	3	3	3	600,000	1½	2	2	2	2	2	2½
								750,000	2	2	2	2½	2	2½	2½

Correct gas pipe size for heaters operating on MANUFACTURED GAS								Correct gas pipe size for heaters operating on LIQUEFIED PROPANE GASES							
Total Input BTU/hr	DISTANCE TO METER, IN FEET							Total Input BTU/hr	DISTANCE TO METER, IN FEET						
	30	60	90	120	150	180	210		30	60	90	120	150	180	210
65,000	¾	1	1	1¼	1¼	1¼	1¼	65,000	½	½	½	½	½	½	½
100,000	1	1	1¼	1¼	1¼	1¼	1¼	100,000	¾	¾	¾	1	1	1	1
150,000	1¼	1¼	1¼	1½	1½	1½	1½	150,000	¾	¾	1	1	1	1	1¼
200,000	1¼	1¼	1½	1½	1½	2	2	200,000	¾	1	1	1¼	1¼	1¼	1¼
250,000	1¼	1½	2	2	2	2	2	250,000	1	1	1	1¼	1¼	1¼	1¼
300,000	1¼	1½	2	2	2	2	2	300,000	1	1¼	1¼	1¼	1¼	1¼	1¼
400,000	1½	2	2	2	3	3	3	400,000	1¼	1¼	1¼	1¼	1½	1½	1½
500,000	2	2	2½	2½	3	3	3	500,000	1¼	1¼	1¼	1½	1½	1½	1½
600,000	2	2½	2½	2½	3	3	3	600,000	1¼	1½	1½	1½	2	2	2
750,000	2	2½	3	3	3	3	3	750,000	1¼	1½	2	2	2	2	2

GAS METER SIZE

Be sure gas meter has adequate capacity for the complete building load, including new heater(s) and other gas burning appliances. Consult your local utility if meter is under sized.

GAS PRESSURE REGULATION

All water heaters described in this manual are furnished with a gas pressure regulator when equipped for natural gas.

The installer should check the outlet pressure by installing a manometer in provided "pressure tap" of the control. Pressure reading should be between 3.5 and 4.0 inch water column. Minor adjustments, if necessary, can be made with pressure adjusting screw, located on top of control.

Having established proper gas pressure settings, the heater should be checked for proper firing rate indicated on rating plate. If your installer is not equipped, nor familiar with the above procedures, contact your local gas company or gas dealer before lighting your heater.

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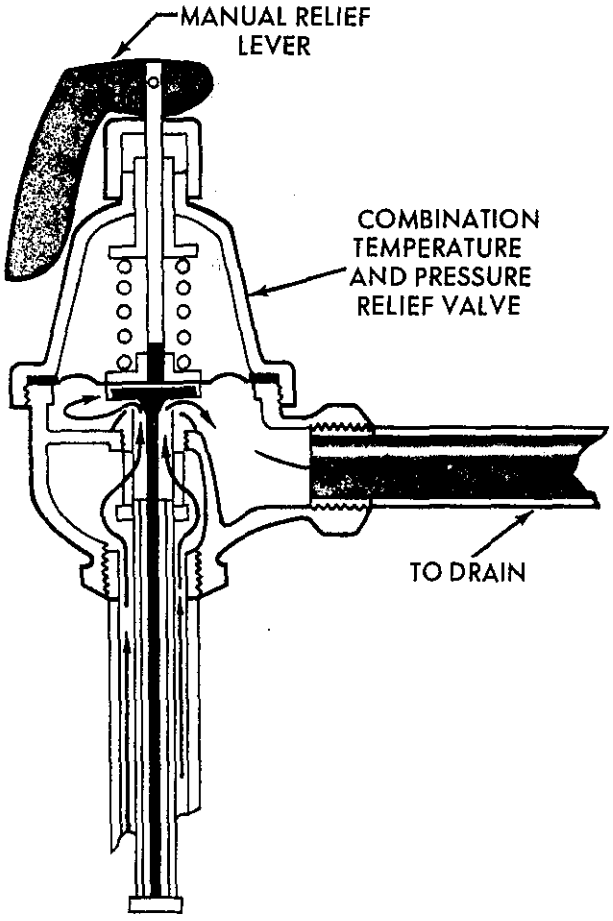
WATER PRESSURE REGULATION

It is strongly recommended that fluctuations of water pressure and "water hammer" (both have damaging effect on tanks) be controlled by installation of a pressure reducing valve in cold water supply line; particularly when incoming pressures exceeds 60 psi. It is essential, however, to investigate the demands of all fixtures supplied by the hot water system before deciding on one pressure reducing valve in the main supply line. A multiple installation of such valves may be necessary throughout the system, due to wide variation in hot water demands.

CAUTION: Some pressure reducing valves permit the flow of water in one direction only. Due to water expanding when heated, it is a must that a pressure relief valve be used in conjunction with a pressure reducing valve.

TEMPERATURE AND PRESSURE RELIEF VALVE



To prevent possible danger of over heating, a temperature relief valve is a must. A new A.G.A. design certified valve with limits no greater than 210° F. and 150 pound pressure must be installed in provided relief valve opening.

Three year models are factory furnished with a properly sized combination temperature and pressure relief valve as standard equipment. It is an automatic reseating lever type, approved by ASME, so located in the water heater tank as to provide quickest sensing and proper functioning.

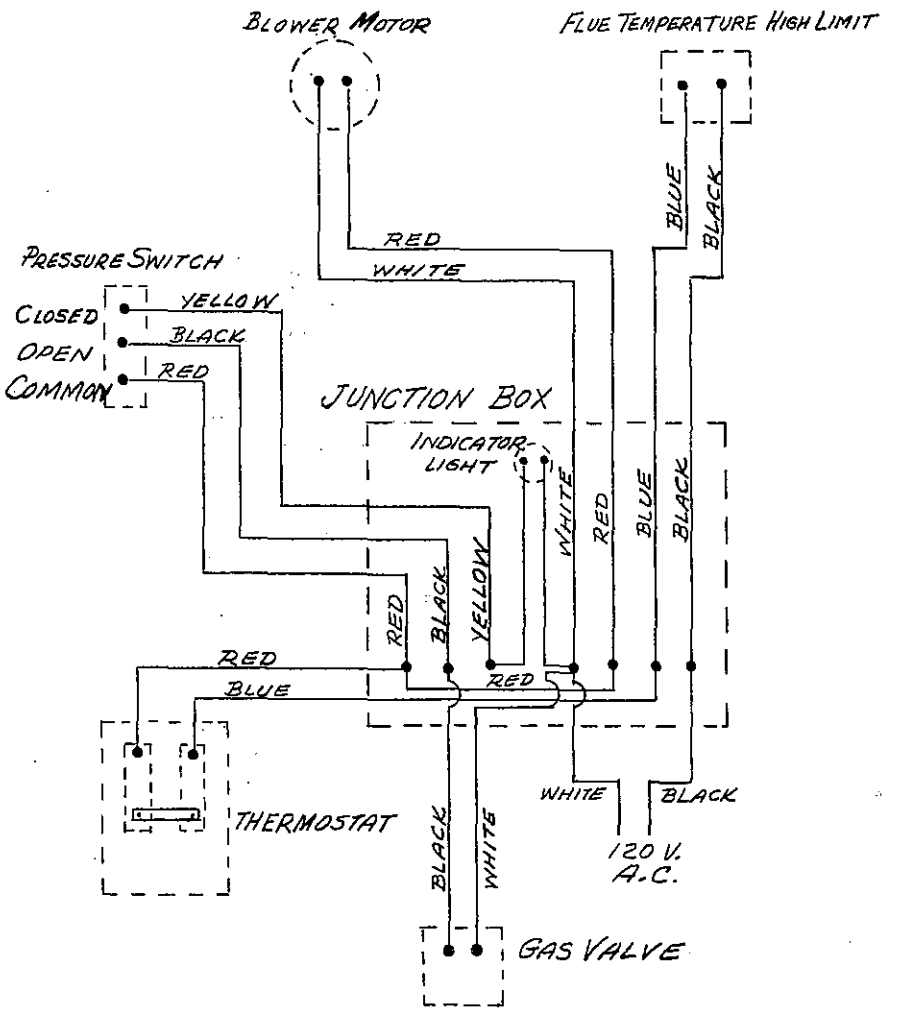
One year models are certified and equipped with an automatic gas shut off system actuated by high water temperature. A listed combination temperature and pressure relief valve shall be installed at time of installation of heater. Local codes shall govern installation of relief devices.

Install a pipe from relief valve outlet to an open drain, or other suitable drainage point not subject to freezing.

USE PIPE SIZE EQUIVALENT TO OUTLET OF "T&P" VALVE.

DO NOT REDUCE PLUG OR CAP OUTLET.

70-725 WIRING DIAGRAM



MINIMUM LINE VOLTAGE WIRE – #14 AWG

This water heater must be electrically "grounded" by the installer. Using a screw on the heater junction box, a wire must be run to connect the heater to an uninterrupted metallic ground.

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE HEATER MUST BE REPLACED, IT MUST BE REPLACED WITH 105° C. THERMOPLASTIC AWM WIRE OR ITS EQUIVQLENT.

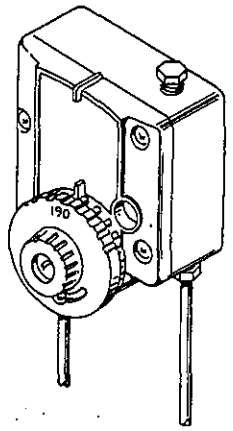
OPERATION

GENERAL INFORMATION

Before lighting heater, be certain heater and system is filled with water. Expel air by opening all hot water faucets. Close faucets and inspect system for leaks; repair, if necessary.

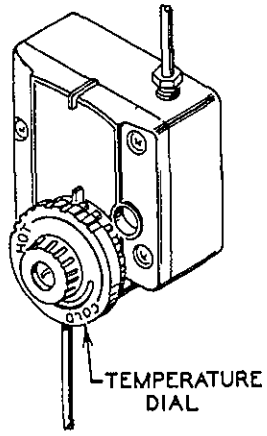
UPPER THERMOSTAT

Models: 80-180, 85-199, 85-250, 100-199, 100-260, 100-270, 75-360, & 70-500 have a fixed (non-adjustable) thermostat set at 190°.



LOWER THERMOSTAT

To vary temperature of delivered hot water, adjust temperature dial from approximately 110 degrees to 180 degrees F.



PILOT BURNER ADJUSTMENT, ALL MODELS

Remove pilot key cap. Turn pilot adjusting screw (counterclockwise to open, clockwise to close) until pilot burns with a strong blue flame. Do not allow pilot flame to rise off pilot or burn lazily. Replace pilot key cap.

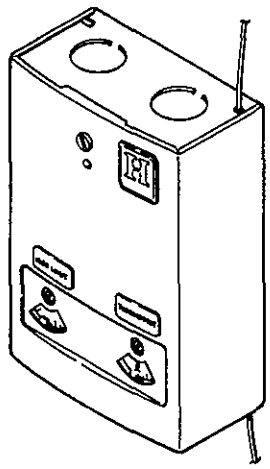
MAIN BURNER AIR ADJUSTMENT

These models have a metered air supply burner which requires no further adjustments.

70-725

THERMOSTAT

Serves a dual purpose. To set desired temperature adj. dial marked "heater". To set desired Hi Limit adj. dial marked "Hi Limit". DO NOT SET "HI LIMIT" BELOW SETTING OF DIAL MARKED "HEATER".

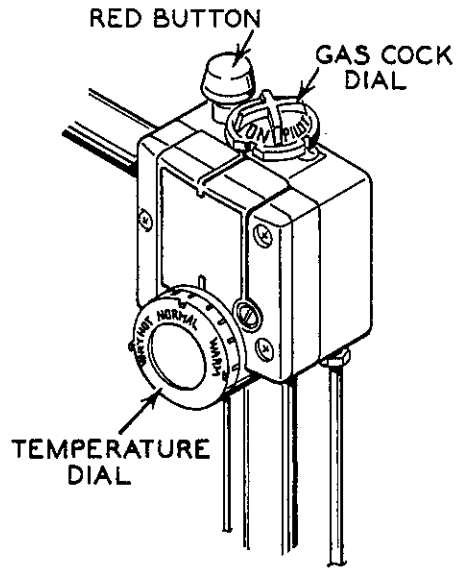


OPERATIONAL SEQUENCE

Thermostat calls for heat, completing a circuit thru the ECO, and then to blower. When blower has achieved sufficient venting the pressure switch activates the gas control value (indicator light goes off) and burn comes on.

FLUE TEMP HIGH LIMIT

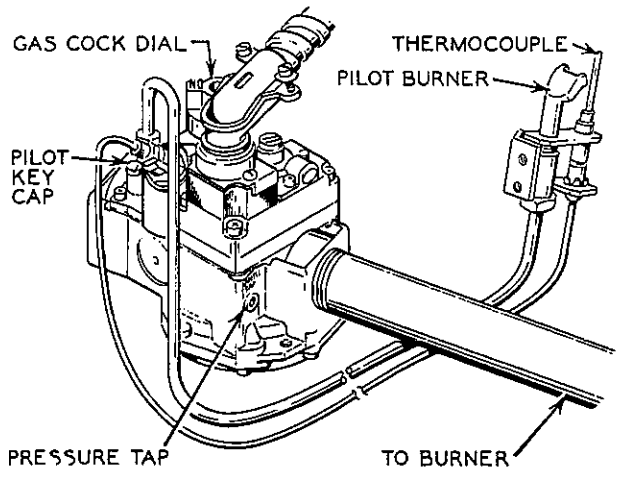
Check for vent blockage.
Turn current to heater off. Remove access cover on ECO located behind right side of blower. Push red reset button, replace access cover and restore current to heater.



LIGHTING INSTRUCTIONS FOR MODEL:

75-120, 100-90/100-75

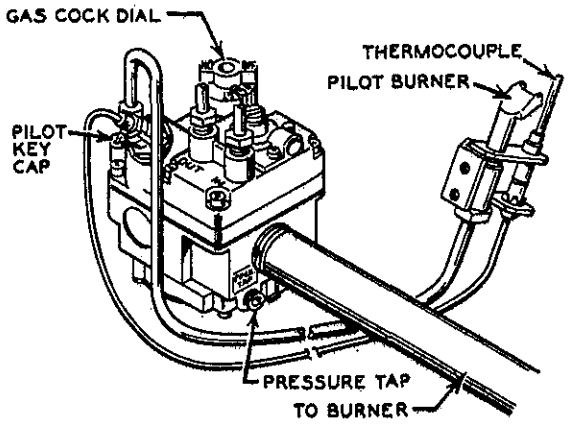
1. Turn gas cock dial to "OFF" position.
2. Wait five (5) minutes.
3. Turn gas cock dial to "PILOT" position.
4. Depress and hold red button for 60 seconds while lighting the pilot.
5. Release red button, (if pilot does not remain lighted, repeat step 4). Turn gas cock dial to "ON" position.
6. Set temperature indicator of thermostat to desired position.
7. To shut down heater, turn gas cock dial to "OFF".



LIGHTING INSTRUCTIONS FOR MODEL:

70-725

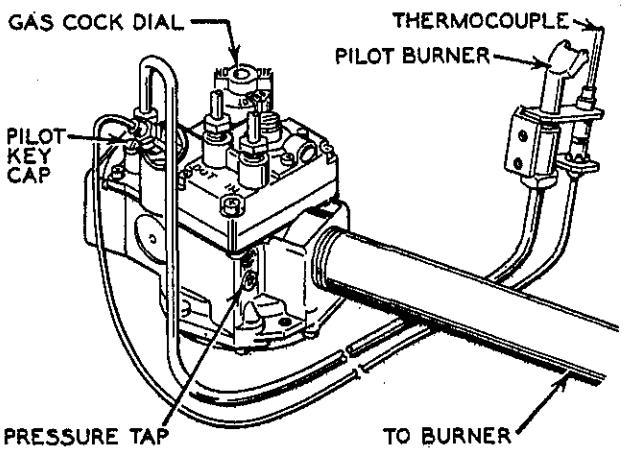
1. Turn gas cock dial to "OFF" position.
2. Wait five (5) minutes.
3. Turn gas cock dial to "PILOT" position.
4. Depress and hold gas cock dial for 60 seconds while lighting the pilot.
5. Release gas cock dial, (if pilot does not remain lighted, repeat step 4). Turn gas cock dial to "ON" position.
6. Set temperature indicator of heater thermostat to desired position.
7. To shut down heater, turn gas cock dial to "OFF".



LIGHTING INSTRUCTIONS FOR MODELS:

150, 199, 225, 310, 20-150, 80-180, 85-199, 85-250, 100-199, 100-260, 100-270, & 75-360.

1. Depress and turn gas cock dial to "OFF" position.
2. Wait five (5) minutes.
3. Turn gas cock dial to "PILOT" position.
4. Depress and hold gas cock dial for 60 seconds while lighting the pilot.
5. Release gas cock dial, (if pilot does not remain lighted, repeat step 4). Turn gas cock dial to "ON" position.
6. Set temperature indicator of lower thermostat to desired position.
7. To shut down heater, turn gas cock dial to "OFF".



LIGHTING INSTRUCTIONS FOR MODEL:

70-500

1. Depress and turn gas cock dial to "OFF" position.
2. Wait five (5) minutes.
3. Turn gas cock dial to "PILOT" position.
4. Depress and hold gas cock dial for 60 seconds while lighting the pilot.
5. Release gas cock dial, (if pilot does not remain lighted, repeat step 4). Turn gas cock dial to "ON" position.
6. Set temperature indicator of lower thermostat to desired position.
7. To shut down heater, turn gas cock dial to "OFF".

MAINTENANCE

1. Keep your heater clean and free of lint. Accumulation of lint under the heater, near the draft hood, or near the burner access door will cause an extreme fire hazard.

2. When mopping floor around heaters, do not splash water over gas controls for it will render them inoperative. Make certain that installer provides a drain pipe from outlet of relief valve to a drain to prevent relief water from flooding control and surrounding area.

3. Some particular water areas have excessive amounts of lime and minerals present (hard water). Periodic draining and cleaning will prevent the rapid buildups of such deposits. Replace cleanout gasket after removal of hand hold cleanout! If the sediments are not removed, a resulting rumbling and boiling noise will be heard. The manufacturer's warranty on this heater will not be valid if lime or scale deposits are allowed to accumulate excessively in the tank causing failure due to restricted heat transfer. (See Instruction Book).

   Removal of excessive sediments can be accomplished by using "Mag-Erad" or other suitable de-liming chemicals sold for cleaning tanks of sediment. Follow the manufacturers' guidelines for use.

4. This heater is provided with a magnesium anode which is important to the tank life. An occasional check should be made to determine if replacement is required.

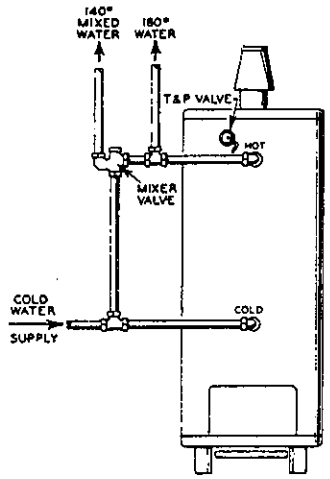
The following procedure is recommended for draining your water heater tank.

1. Shut off gas to water heater.
2. Shut off the cold water supply.
3. Open the drain valve on the tank, and a hot water outlet. Allow water to drain either to the desired level, or until tank is empty.

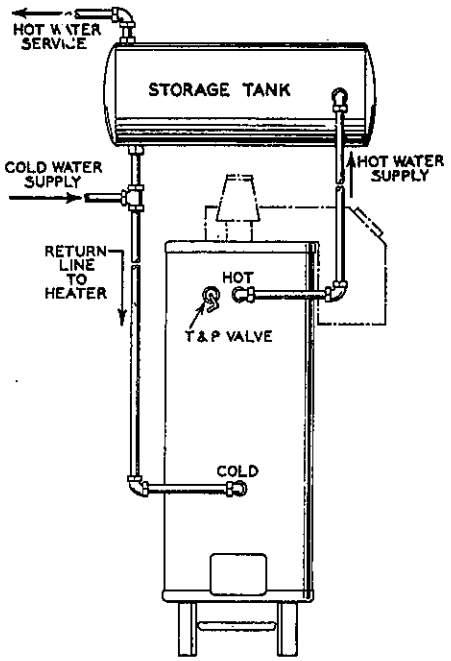
   When refilling tank, turn on water and allow it to run out the open hot water faucet, keeping the hot water faucet open until it is running smoothly and is free of entrapped air. Turn on gas to water heater and relight pilot.

INSTALLATION DIAGRAMS

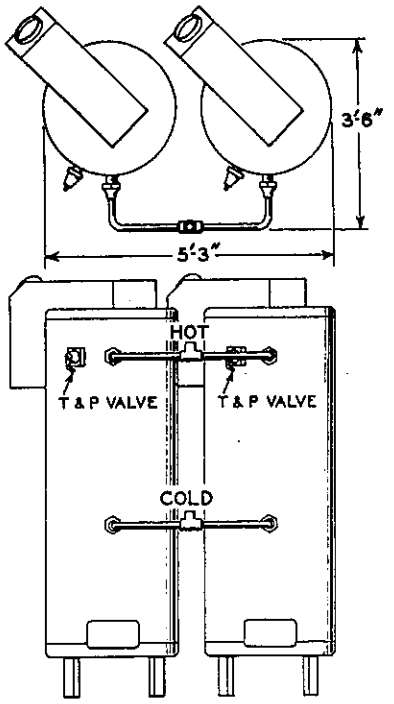
SINGLE INSTALLATION
with mixing valve
DUAL TEMPERATURE WATER



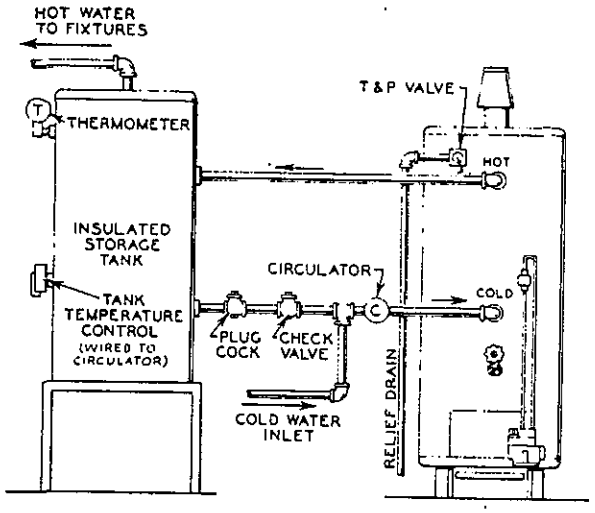
SINGLE INSTALLATION
with gravity flow circulation
to storage tank



DUAL MANIFOLD



SINGLE INSTALLATION
with forced circulation to storage tank.



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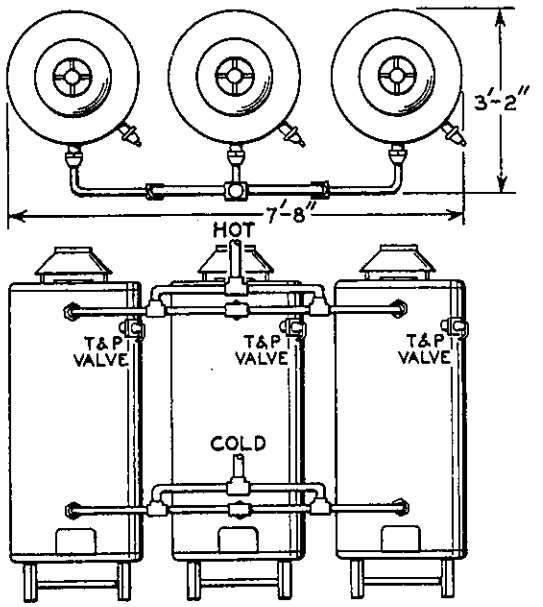
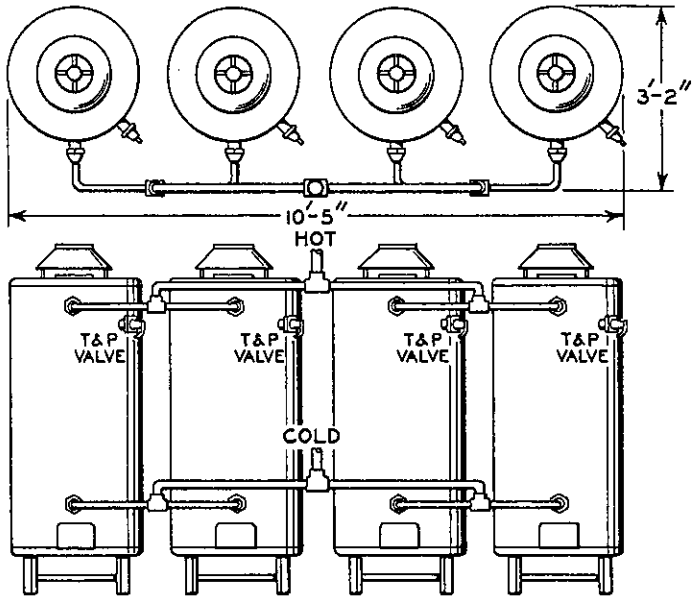
INSTALLATIONS WHERE HEATERS ARE MANIFOLDED: TWO (2) IMPORTANT CONDITIONS THAT MUST BE NOTED:

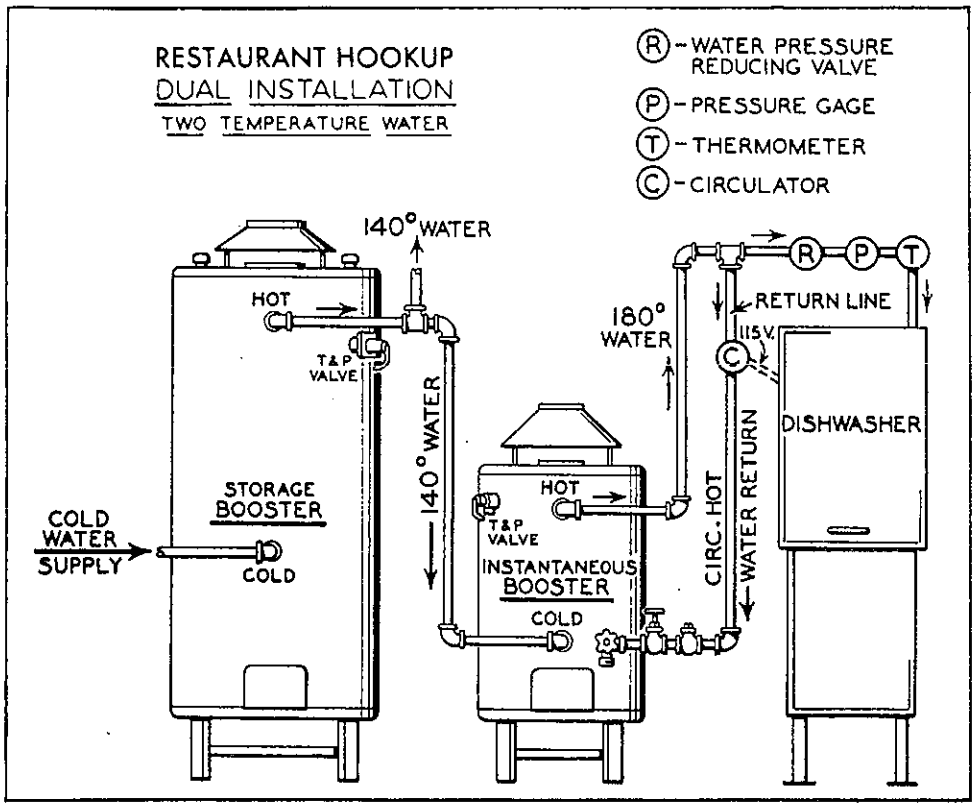
1. All heaters must be the same model.
2. All heaters must be evenly spaced to provide identical number of turns, length and size of pipes in each manifold. This is absolutely necessary to insure a balanced condition to all heaters in the installation.

TRIPLE MANIFOLD



QUADRUPLE MANIFOLD





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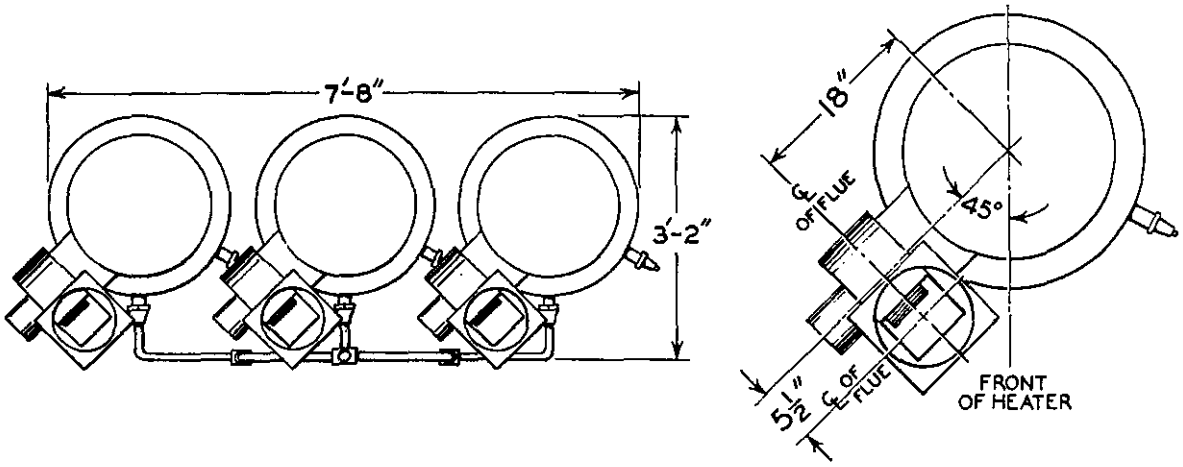
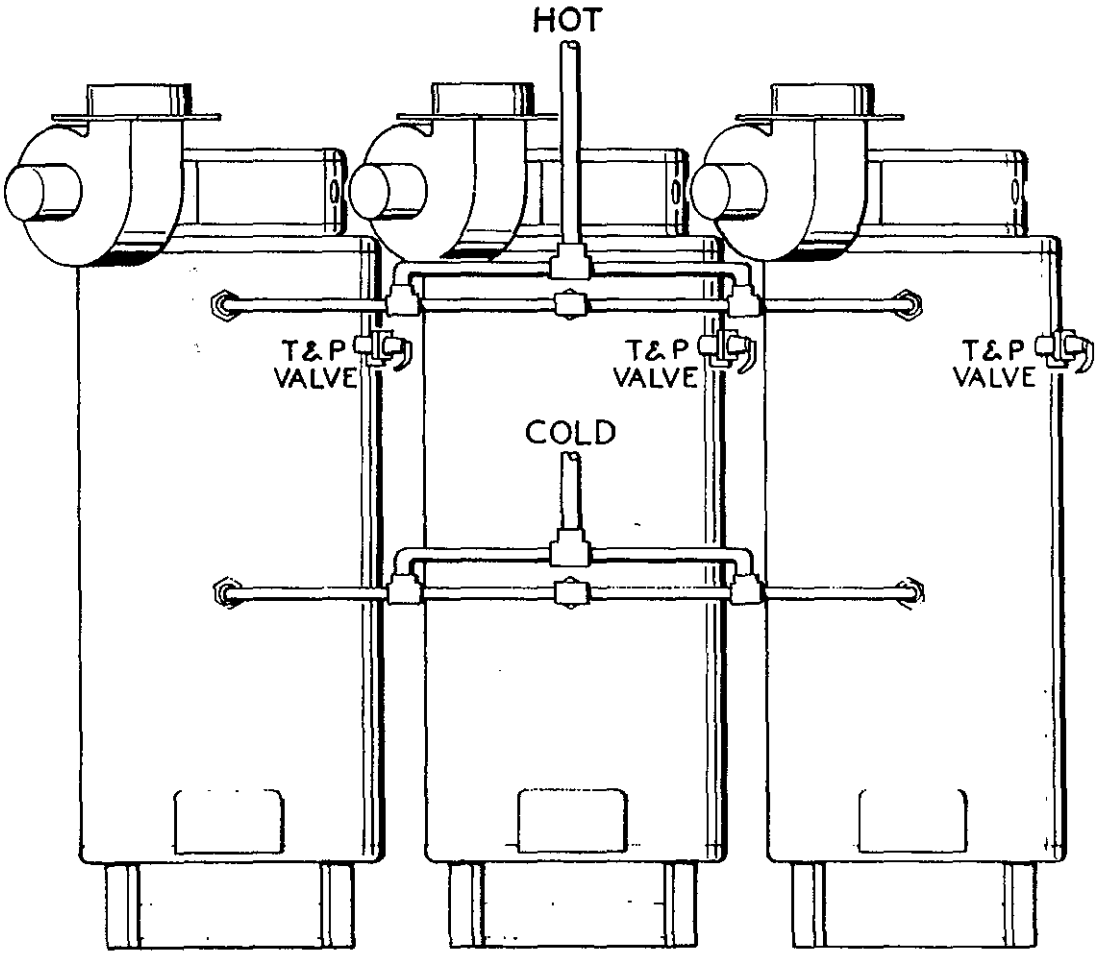
Installations where heaters are manifoled: Two (2) important conditions that must be noted

1. All heaters must be the same model.
2. All heaters must be evenly spaced to provide identical number of turns, length and size of pipe in each manifold. This is absolutely necessary to insure a balanced condition to all heaters in the installation.





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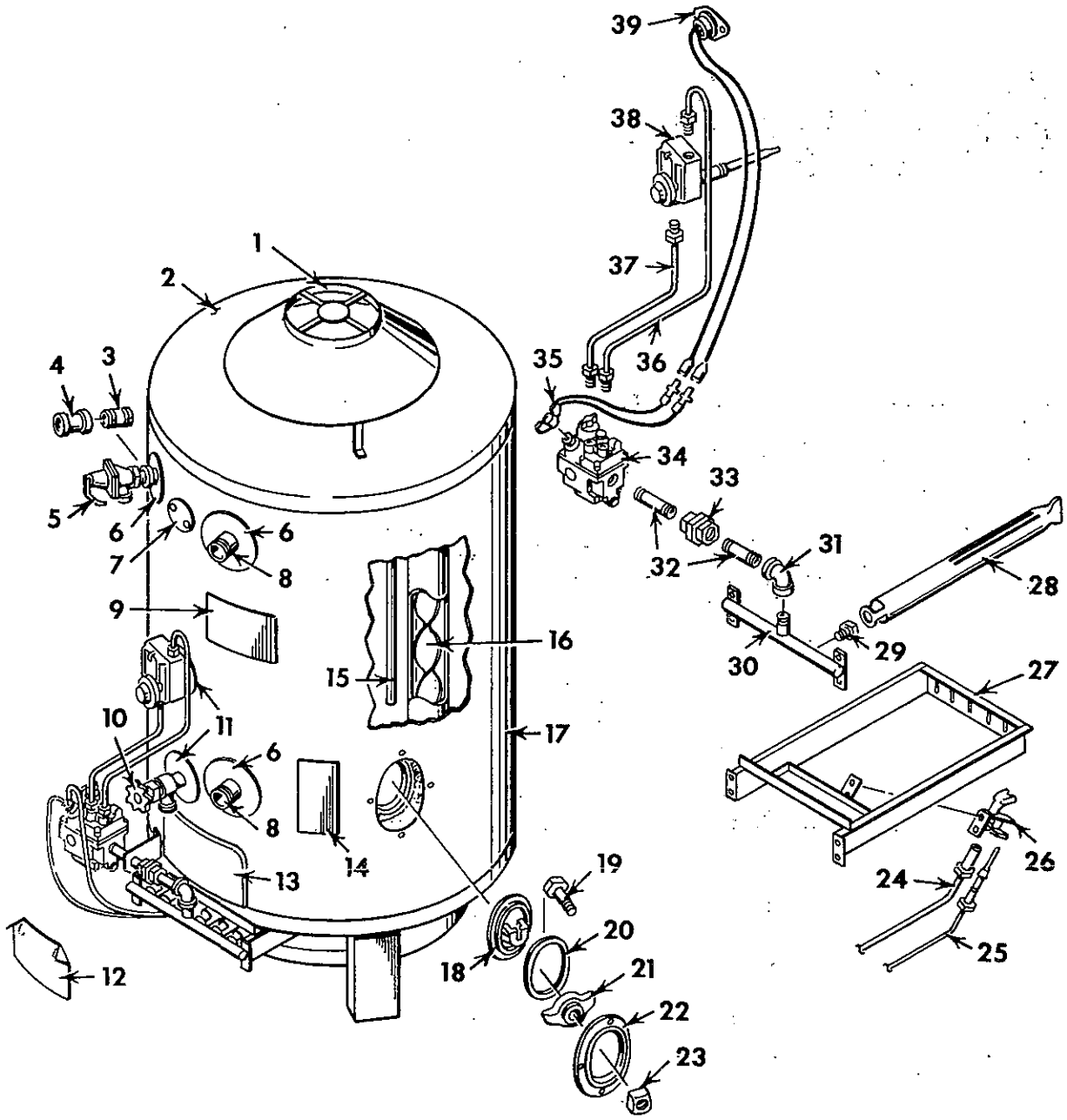
PARTS ILLUSTRATION

MODELS: 150, 199, 225, 310 and 20-150



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REPAIR PARTS

MODELS: 150, 199, 225, 310 and 20-150

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front – please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front – please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761.)

ITEM NO.	DESCRIPTION OF PARTS	PART PRICE
1	Draft Hood	$ 10.95
2	Jacket Top	22.05
3	Nipple (T & P)	2.55
4	Coupling (T & P)	5.55
5	Temperature and Pressure Relief Valve	80.25
6	Collar (inlet, outlet and T & P)	1.95
7	ECO Cover	2.40
8	Nipple (water)	4.05
9	Name Plate	2.55
10	Drain	4.05
11	Collar (drain and thermostat)	1.95
12	Inner Door	3.75
13	Outer Door	2.10
14	Model and Rating Plate †	1.35
15	Magnesium Anode (ea.)	6.45
16	Flue Baffle (ea.)	5.70
17	Jacket	32.55
18	Cleanout Plate	4.80
19	Cleanout Bolt	1.65
20	Cleanout Gasket	2.55
21	Cleanout Adaptor	1.80
22	Cleanout Flange	5.50
23	Cleanout Plate Nut	.90
24	Pilot Tube w/fittings	4.65
25	Thermocouple	5.70
26	Pilot (Nat. or Propane)*	4.05
27	Burner Support Tray	8.55
28	Burner (ea.)	9.00
29	Orifice (Nat. or Propane)* ea.	1.20
30	Manifold	8.70
31	Elbow (gas)	1.80
32	Nipple (gas)	1.95
33	Union	3.30
34	Control Valve (Nat. or Propane)*	49.25
35	ECO Connector **	3.30
36	Bleed Line w/fittings (long)	1.20
37	Bleed Line w/fittings (short)	1.20
38	Thermostat	32.25
39	ECO **	8.55

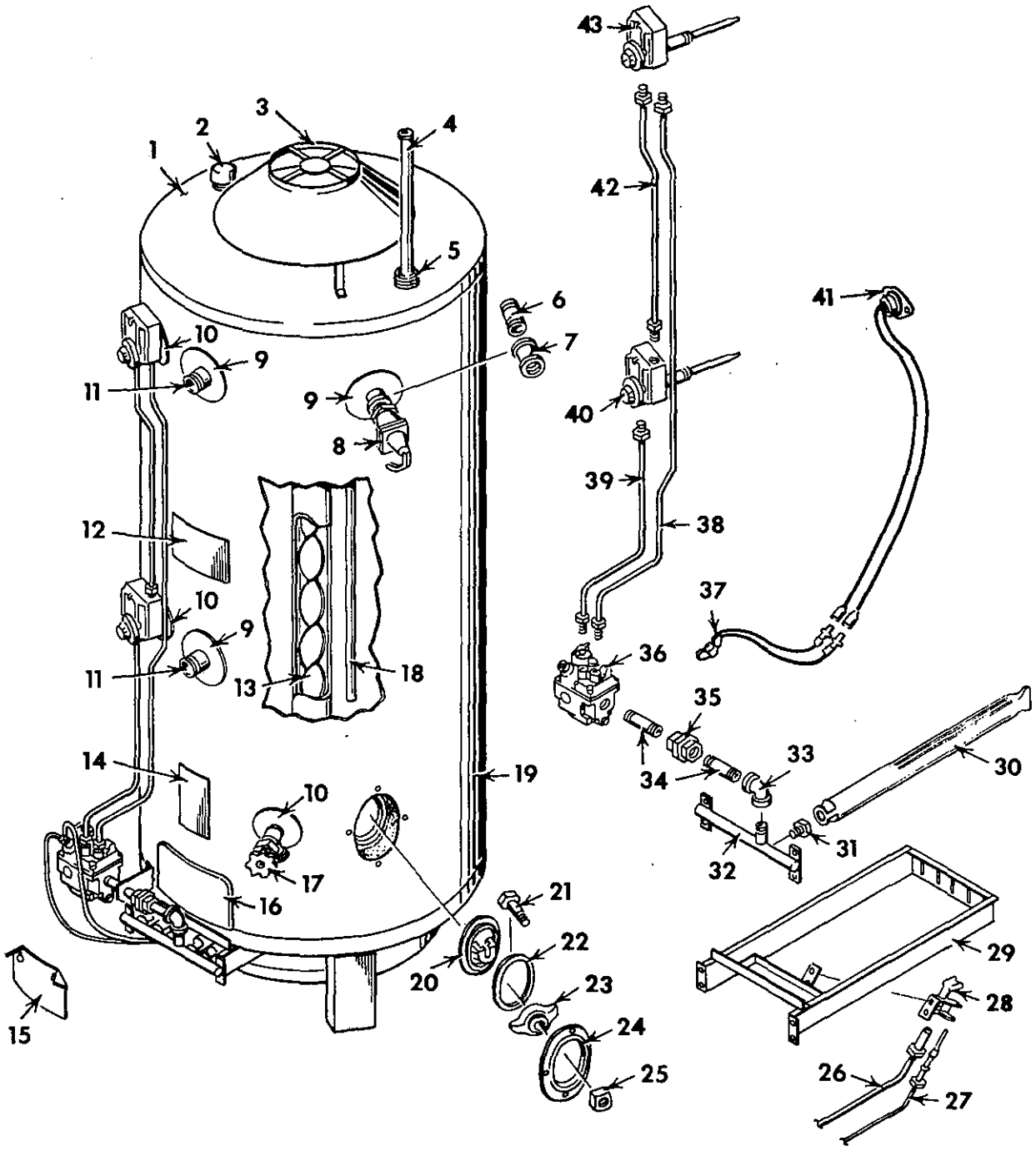
*Indicate type of gas required.

**Used on one year models only

† Replaced only upon return of damaged plate.

PARTS ILLUSTRATION

MODELS: 80-180, 85-199, 85-250, 100-199,
100-270, 75-360, and 70-500



CRANE00966

REPAIR PARTS

MODELS: 80-180, 85-199, 85-250, 100-199, 100-270, 75-360, and 70-500.

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front – please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front – please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761.)

ITEM NO.	DESCRIPTION OF PART	PART PRICES	
		80-180, 85-199, 85-250 100-199, 100-270	75-360 70-500
1	Jacket Top	$ 22.05	22.05
2	Nipple Cap	7.05	–
3	Draft Hood	10.95	10.95
4	Dip Tube	3.90	–
5	Water Nipple (top)	4.05	–
6	Nipple (T & P)	2.55	2.55
7	Coupling (T & P)	5.55	5.55
8	Temperature and Pressure Relief Valve	80.25	80.25
9	Collar (inlet, outlet and T & P)	1.95	1.95
10	Collar (drain and thermostat)	1.95	1.95
11	Water Nipple (front or rear)	4.05	4.05
12	Name Plate	2.55	2.55
13	Flue Baffle	5.70	5.70
14	Model and Rating Plate †	1.35	1.35
15	Inner Door	3.75	3.75
16	Outer Door	2.10	2.10
17	Drain	4.05	4.05
18	Magnesium Anode (ea.)	10.35	10.35
19	Jacket	72.00	72.00
20	Cleanout Plate	4.80	4.80
21	Cleanout Bolt	1.65	1.65
22	Cleanout Gasket	2.55	2.55
23	Cleanout Adaptor	1.80	1.80
24	Cleanout Flange	5.50	5.50
25	Cleanout Plate Nut	.90	.90
26	Pilot & Tube w/fittings	4.65	4.65
27	Thermocouple	5.70	5.70
28	Pilot (Nat. or Propane)*	4.05	4.05
29	Burner Support Tray	8.55	8.85
30	Burner (ea.)	9.00	11.25
31	Orifice (Nat. or Propane)* ea.	1.20	1.20
32	Manifold	8.70	9.30
33	Elbow (gas)	1.80	1.80
34	Nipple (gas)	1.95	1.95
35	Union (gas)	3.30	4.50
36	Control Valve (Nat. or Propane)*	49.25	51.75
37	ECO Connector**	3.30	3.30
38	Bleed Line w/fittings (long)	1.20	1.20
39	Bleed Line w/fittings (short)	1.20	1.20
40	Thermostat (adjustable)	32.25	32.25
41	ECO**	8.55	8.55
42	Bleed Line w/fittings (int.)	1.20	1.20
43	Thermostat (fixed)	32.25	32.25

*Indicate type of gas required.

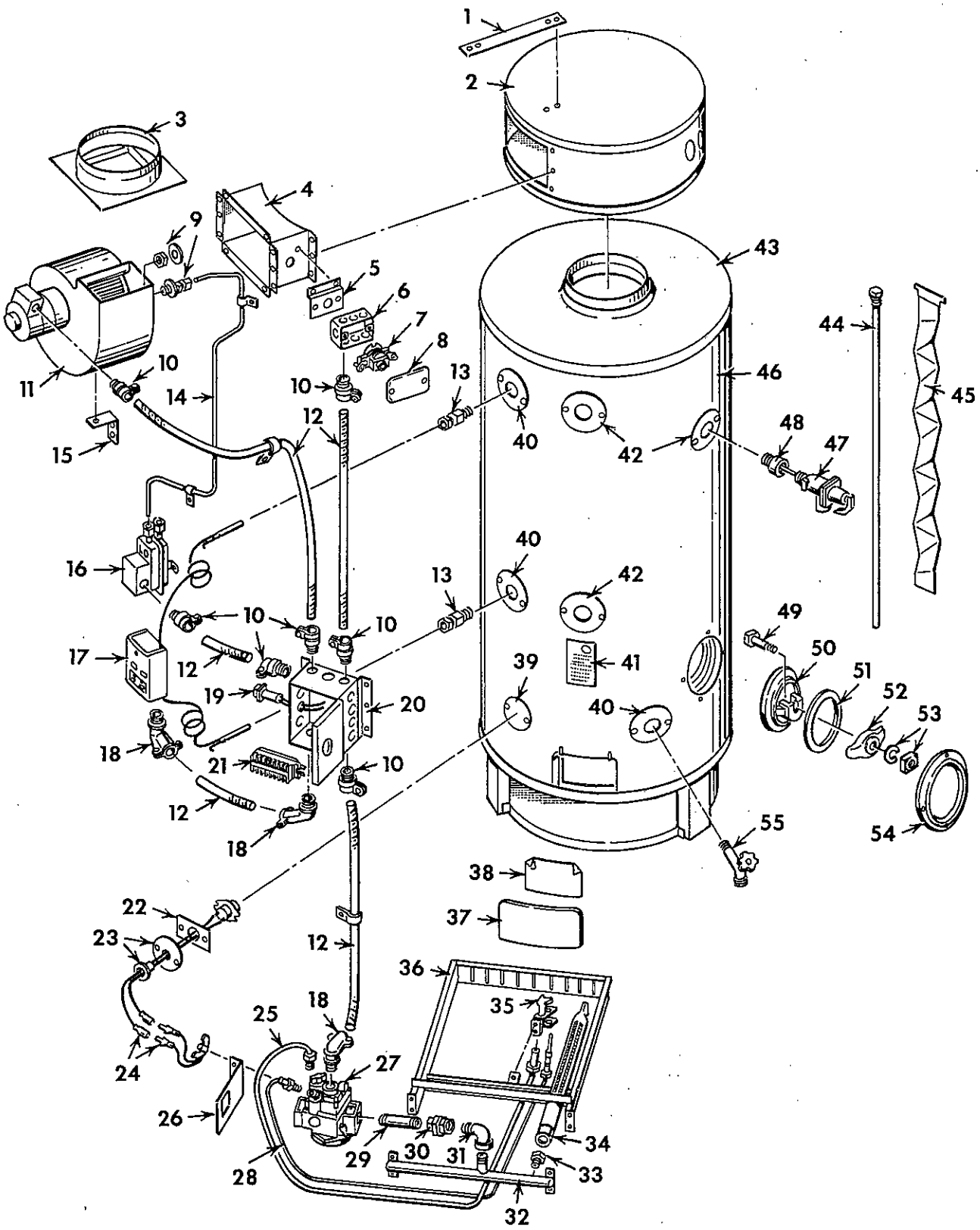
**Used on one year models only.

† Replaced only upon return of damaged plate.

CRANE00967

PARTS ILLUSTRATION

MODEL: 70-725



REPAIR PARTS

MODEL: 70-725

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front—please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front—please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761.)

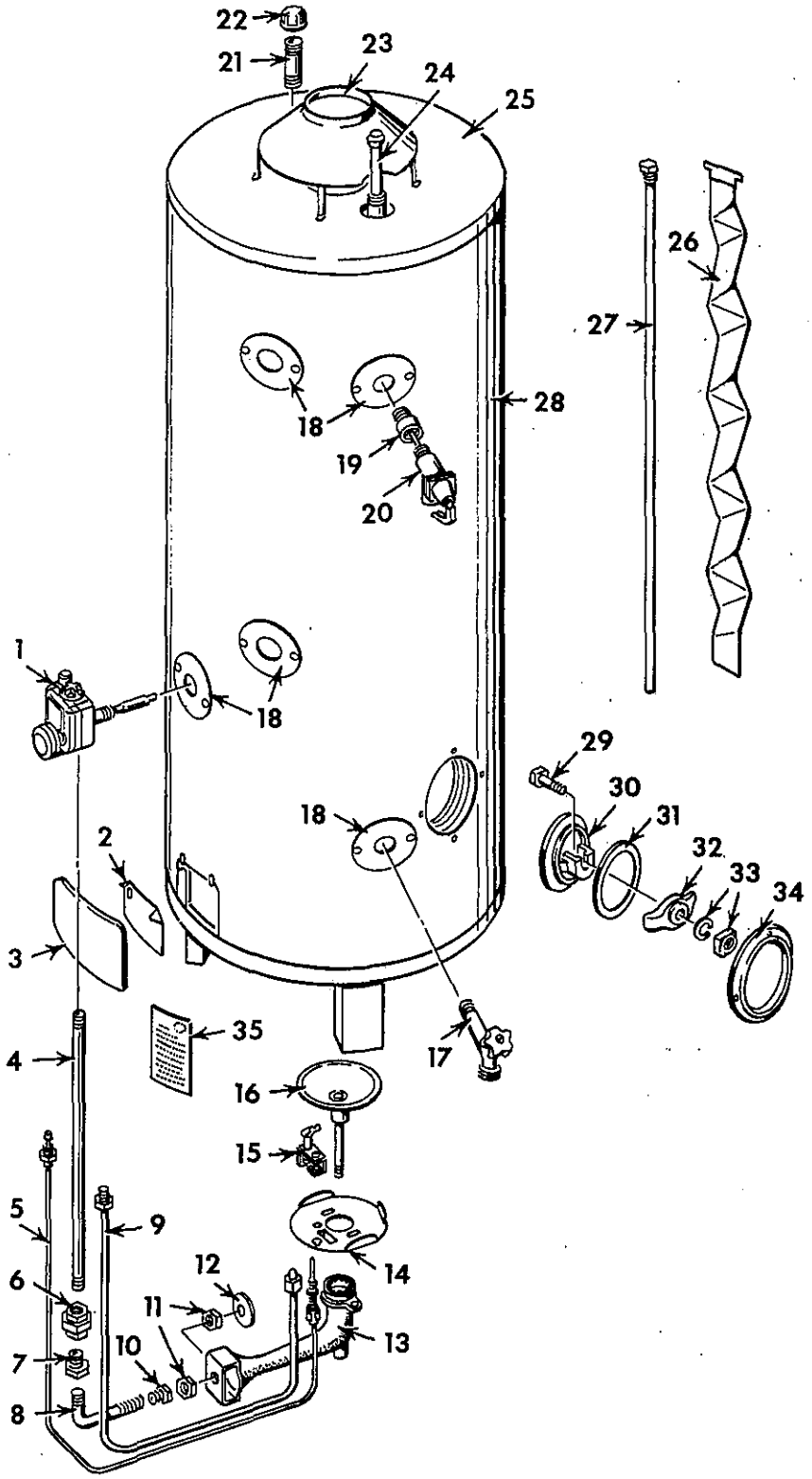
ITEM NO.	DESCRIPTION OF PARTS	PART PRICE
1	Duct Assembly Support Bracket	$ 1.20
2	Duct Top Assembly	14.55
3	Flue Collar Assembly	5.25
4	Blower–Duct Collar Assembly	6.30
5	Support Bracket (Flue Temp. Hi Limit)	1.65
6	Junction Box (Flue Temp. Hi Limit)	3.67
7	Flue Temperature Hi Limit	5.55
8	Access Cover (Flue Temp. Hi Limit)	1.50
9	Pressure Tubing Retainer Assembly	10.05
10	Straight Conduit Connector (ea.)	2.55
11	Blower Assembly	164.25
12	Conduit (specify length)	1.80 per ft.
13	Thermostat Blub Coupling	7.35
14	Pressure Tubing	1.05
15	Blower Support Bracket	1.35
16	Pressure Switch	57.75
17	Hi Limit & Thermostat	76.05
18	90° Conduit Connector (ea.)	3.75
19	Indicator Light	3.00
20	Junction Box	23.55
21	Terminal Block	21.15
22	ECO Retainer Plate *	2.55
23	ECO Cover w/Hole & Bushing *	2.40
24	ECO *	11.85
25	Pilot Tubing Assembly	4.65
26	Bracket (Gas Control Valve)	2.55
27	Gas Control Valve (Nat. or Propane)	137.25
28	Thermocouple	5.70
29	Nipple (Gas)	1.95
30	Union (Gas)	4.50
31	Elbow (Gas)	1.80
32	Manifold	9.30
33	Orifice (Nat. or Propane) ***	1.20
34	Burner	11.25
35	Pilot (Nat or Propane) ***	4.05
36	Burner Support Tray	8.55
37	Outer Door	2.10
38	Inner Door	3.75
39	ECO Cover Plate	1.95
40	Collar (Drain, Thermostat Bulb) (ea.)	1.95
41	Model & Rating Plate †	1.35
42	Collar (Inlet, Outlet, T & P) (ea.)	1.95
43	Jacket Top	22.05
44	Anode Rod (ea.)	10.35
45	Flue Baffle (ea.)	5.70
46	Jacket	72.00
47	Temperature & Pressure Relief Valve **	80.25
48	Nipple (T&P)	8.10
49	Cleanout Bolt	1.65
50	Cleanout Plate	4.80
51	Cleanout Gasket	2.55
52	Cleanout Adaptor	1.80
53	Nut & Washer (cleanout bolt)	.90
54	Cleanout Flange	5.50
55	Drain	4.05

† Replaced only upon return of damaged plate.
*Used only on one year models.
**Used only on three year models.
***Indicate type of gas required.

CRANE00969

PARTS ILLUSTRATION

MODEL: 75-120



REPAIR PARTS

MODEL: 75-120

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

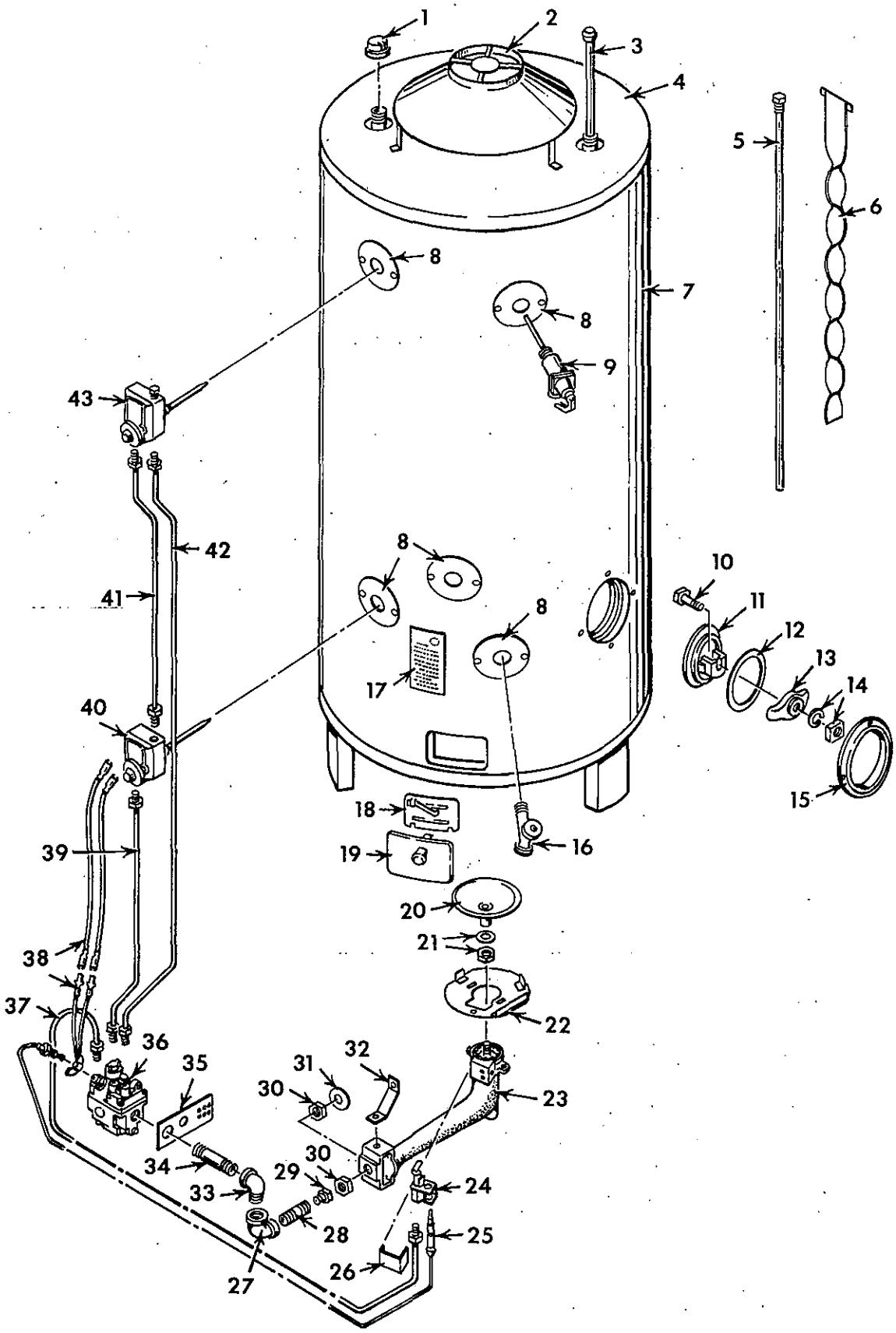
1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front—please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front—please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761.)

ITEM NO.	DESCRIPTION OF PARTS	PART PRICE
1	Gas Control Valve	$45.60
2	Inner Door	3.75
3	Outer Door	2.10
4	Nipple 20¾ (Gas)	3.45
5	Thermocouple	5.70
6	Union (Gas)	3.15
7	Bushing (Gas)	3.15
8	Manifold Nipple (Gas)	3.15
9	Pilot Tubing (w/fittings)	4.65
10	Orifice (Nat or Propane)*	1.20
11	Locknut (Gas)	1.35
12	Air Shutter	2.25
13	Burner	15.75
14	Burner Shield	2.10
15	Pilot (Nat or Propane)*	4.20
16	Flame Spreader Assembly	2.55
17	Drain	4.05
18	Collar (Drain, Gas Control, Inlet, Outlet, T&P)	1.95
19	Nipple (T&P)	2.55
20	Temperature & Pressure Relief Valve	80.25
21	Nipple (Hot Water Outlet)	5.70
22	Nipple Cap (Hot Water Nipple Outlet)	7.05
23	Draft Hood Assembly	5.25
24	Dip Tube	2.70
25	Jacket Top	6.30
26	Flue Baffle	1.95
27	Anode Rod	10.35
28	Jacket	28.80
29	Cleanout Bolt	1.65
30	Cleanout Plate	4.80
31	Cleanout Gasket	2.55
32	Cleanout Adaptor	1.80
33	Nut & Washer (cleanout bolt)	.90
34	Cleanout Flange	5.50
35	Model & Rating Plate †	1.35

† Replaced only upon return of damaged plate.
* Indicate type of gas required.

PARTS ILLUSTRATION

MODEL: 100-260



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REPAIR PARTS

MODEL 100-260

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

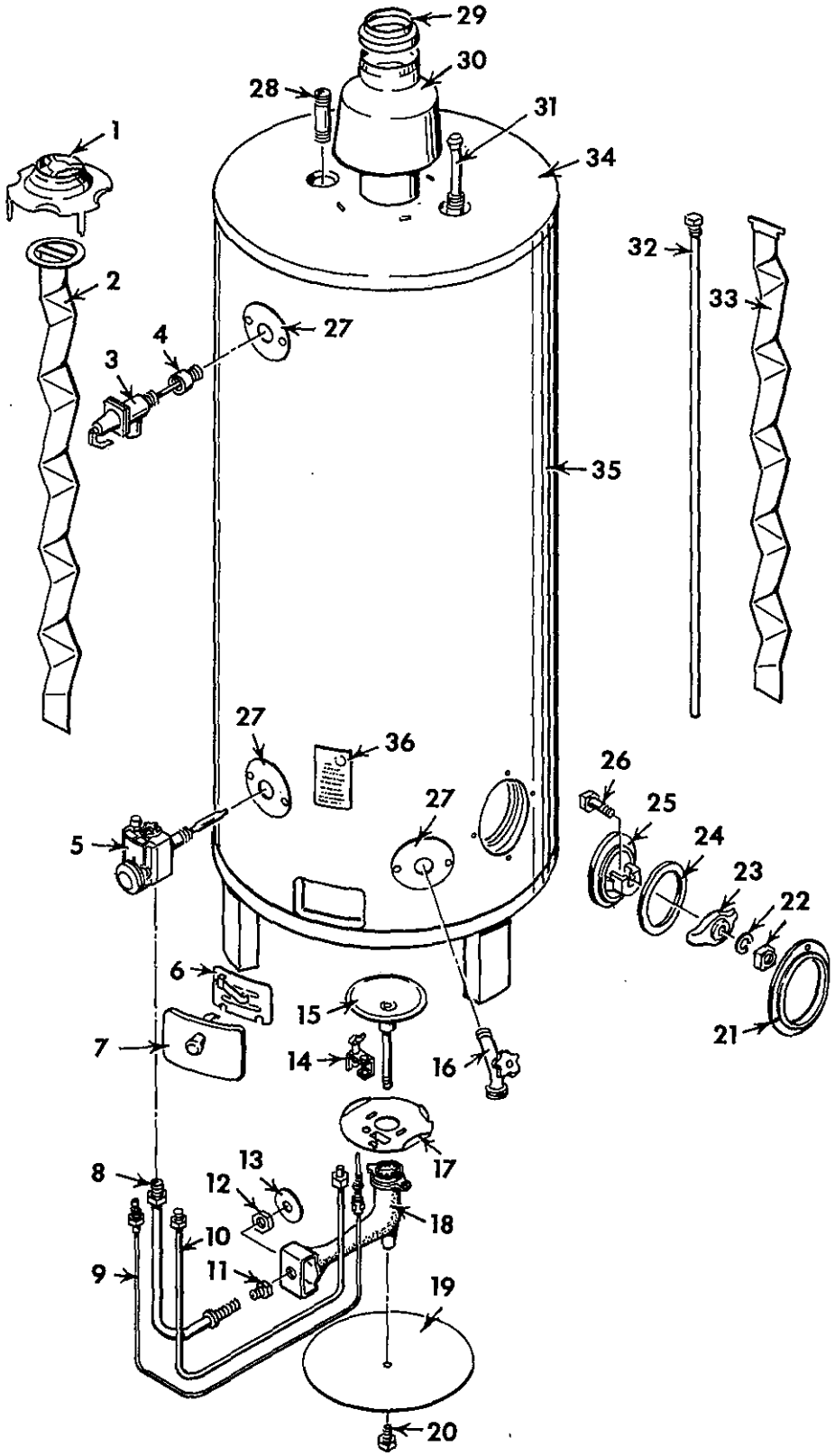
1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front—please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front—please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761.)

ITEM NO.	DESCRIPTION OF PARTS	PART PRICE
1	Pipe Cap (Hot Water Nipple Outlet)	$ 7.05
2	Draft Hood Assembly	10.95
3	Dip Tube	3.90
4	Jacket Top	22.05
5	Anode Rod (ea.)	10.35
6	Flue Baffle	5.70
7	Jacket	72.00
8	Collar (Drain, Thermostat, Inlet, T&P)	1.95
9	Temperature & Pressure Relief Valve **	80.25
10	Cleanout Bolt	1.65
11	Cleanout Plate	4.80
12	Cleanout Gasket	2.55
13	Cleanout Adaptor	1.80
14	Nut & Washer (cleanout bolt)	.90
15	Cleanout Flange	5.50
16	Drain	4.05
17	Model & Rating Plate †	1.35
18	Inner Door	3.75
19	Outer Door	2.10
20	Flame Spreader Assembly	2.55
21	Nut & Washer (Flame Spreader Assembly)	.90
22	Burner Shield	2.10
23	Burner	15.75
24	Pilot (Nat. or Propane)*	4.05
25	Thermocouple	5.70
26	Pilot Shield	1.50
27	Elbow (Gas)	1.80
28	Nipple (Gas)	1.95
29	Orifice (Nat. or Propane)*	1.20
30	Locknut (Gas)	1.35
31	Locknut (Gas)	1.35
32	Air Shutter	2.25
33	Elbow (Gas)	1.80
34	Nipple (Gas)	1.95
35	Gas Control Bracket	2.55
36	Gas Control Valve	49.25
37	Pilot Tubing	4.65
38	ECO Assembly ***	11.85
39	Tubing (Gas)	1.20
40	Thermostat (Lower)	32.25
41	Tubing (Gas)	1.20
42	Tubing (Gas)	1.20
43	Thermostat (Upper)	32.25

† Replaced only upon return of damaged plate.
* Indicate type of gas required.
** Used on three year models only.
*** Used on one year models only.

PARTS ILLUSTRATION

MODELS: 100-90/100-75



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REPAIR PARTS

MODELS: 100-90/100-75

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front—please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front—please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761

ITEM NO.	DESCRIPTION OF PARTS	PART PRICE
1	Draft Hood Assembly (100-75)	$ 10.95
2	Flue Baffle (100-75)	5.70
3	Temperature & Pressure Relief Valve-**	80.25
4	Nipple (T&P)	8.10
5	Gas Control Valve (Nat. or Propane)*	45.60
6	Inner Door	3.75
7	Outer Door	2.10
8	Manifold Tubing Assembly	5.70
9	Thermocouple	3.45
10	Pilot Tubing w/Fitting	4.65
11	Orifice (Nat. or Propane) (ea.) (Specify Model)*	1.20
12	Locknut (Gas)	1.35
13	Air Shutter	2.25
14	Pilot (Nat. or Propane)*	4.05
15	Flame Spreader Assembly	2.55
16	Drain	4.05
17	Burner Shield	2.10
18	Burner	8.70
19	Radiation Shield (100-90)	3.10
20	Securing Nut (Radiation Shield) (100-90)	.90
21	Cleanout Flange	5.50
22	Nut & Washer (Cleanout Bolt)	.90
23	Cleanout Adaptor	1.80
24	Cleanout Gasket	2.55
25	Cleanout Plate	4.80
26	Cleanout Bolt	1.65
27	Collar (Drain, Gas, Control, T&P)	1.95
28	Nipple (Hot Water Outlet)	4.05
29	Flue Restrictor Ring	3.10
30	Draft Hood Assembly (100-90)	10.95
31	Dip Tube (100-90)	3.90
32	Dip Tube (100-75)	3.90
33	Flue Baffle (100-90)	6.30
34	Jacket Top	28.80
35	Jacket	48.00
36	Model & Rating Plate †	1.35

* Indicate type of gas required.
**Used only on three year models.
† Replace only upon return of damaged plate.

PERFORMANCE

			G.P.H. RECOVERY CAPACITY @ DEGREE F. RISE										
MODEL	TYPE GAS	BTU. INPUT	40	50	60	70	80	90	100	110	120	130	140
150	Nat.-Propane	150,000	315	252	210	180	157	141	126	115	105	97	91
199	Nat-Propane	199,900	420	336	280	240	210	186	168	153	140	129	120
225	Nat-Propane	225,000	473	378	315	270	236	210	189	172	157	145	135
310	Nat.	310,000	650	520	433	372	326	289	259	237	217	201	186
	Propane	290,000	610	488	406	349	305	270	242	222	203	187	174
20-150	Nat-Propane	150,000	315	252	210	180	157	141	126	115	105	97	91
75-120	Nat.	120,000	253	205	168	144	126	112	101	92	84	78	72
	Propane	100,000	210	168	140	120	105	93	84	76	70	65	60
80-180	Nat.-Propane	180,000	378	302	252	216	189	168	151	137	126	116	108
85-199	Nat-Propane	199,900	420	336	280	240	210	186	168	153	140	129	120
85-250	Nat-Propane	250,000	526	420	350	300	263	233	210	191	175	162	150
100-75	Nat-Propane	75,000	155	104	103	88	77	69	63	56	52	48	44
100-90	Nat.-Propane	90,000	187	150	125	107	94	83	76	68	61	58	53
100-199	Nat.-Propane	199,900	420	336	280	240	210	186	168	153	140	129	120
100-260	Nat. Propane	260,000	546	437	364	313	273	242	218	198	182	168	156
100-270	Nat.-Propane	270,000	567	454	378	324	284	252	227	207	190	175	162
75-360	Nat.-Propane	360,000	756	605	504	434	378	335	302	275	252	233	216
70-500	Nat.	500,000	1050	840	700	600	525	467	420	382	350	324	300
	Propane	480,000	1001	806	673	576	504	448	403	367	334	311	289
70-725	Nat.-Propane	725,000	1523	1218	1015	870	761	677	609	554	509	468	435

IMPORTANT

In beauty shops, barber shops, cleaning establishments and self-service laundries with dry cleaning equipment, it is imperative that the heater or heaters be installed so combustion and ventilation air be taken from outside by means of louvers or screens.

CRANE00976

INSTRUCTIONS FOR INSTALLATION, OPERATING AND ORDERING PARTS

COMMERCIAL ELECTRIC WATER HEATERS

MODEL NUMBERS

CS-52EC	CS-82EC	CS-120EC
52 GALLON	82 GALLON	120 GALLON

CRANE SUPPLY COMPANY

AMERICA'S LEADING DISTRIBUTOR OF PLUMBING, HEATING, AIR CONDITIONING AND INDUSTRIAL PRODUCTS

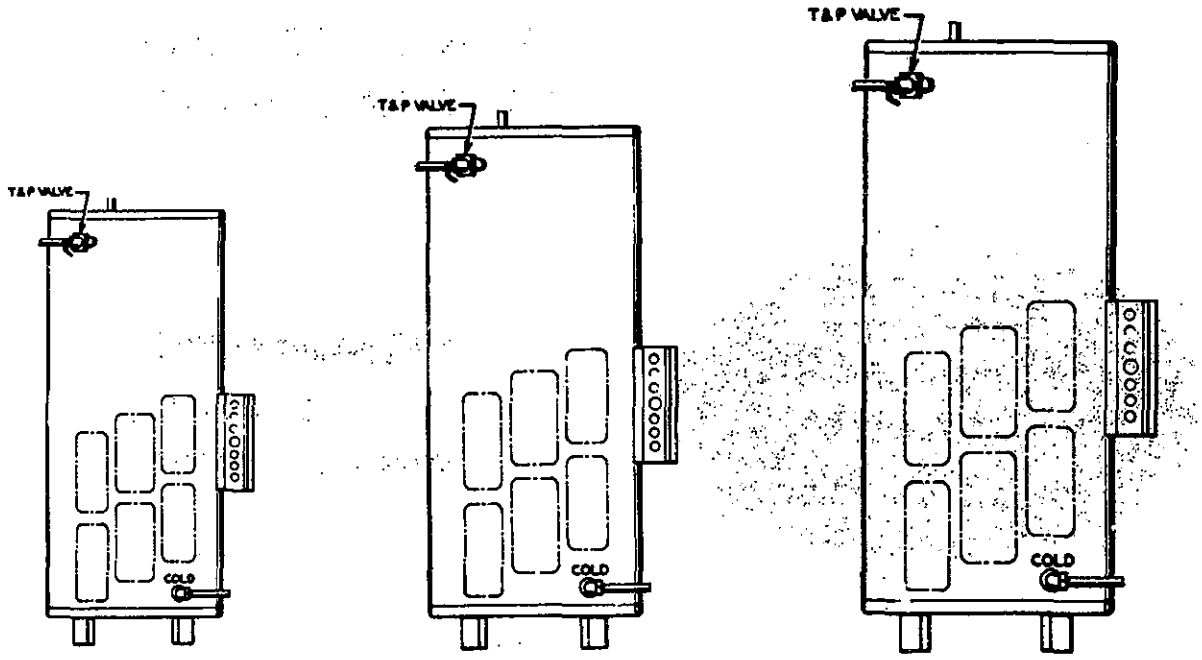
FORM CSE-DM-9/73

CRANE00977

You have just purchased a Dutymaster Commercial Water Heater. It is the highest quality available for commercial, industrial and institutional installation. These instructions have been prepared for you in order that you may derive full benefit from the installation of your water heater. Please read instructions with your other valuable papers for future reference.

This manual applies to the following Dutymaster Commercial Water Heaters.

THE DUTYMASTER COMMERCIAL ELECTRIC LINE



CS-42EC
42 GALLON

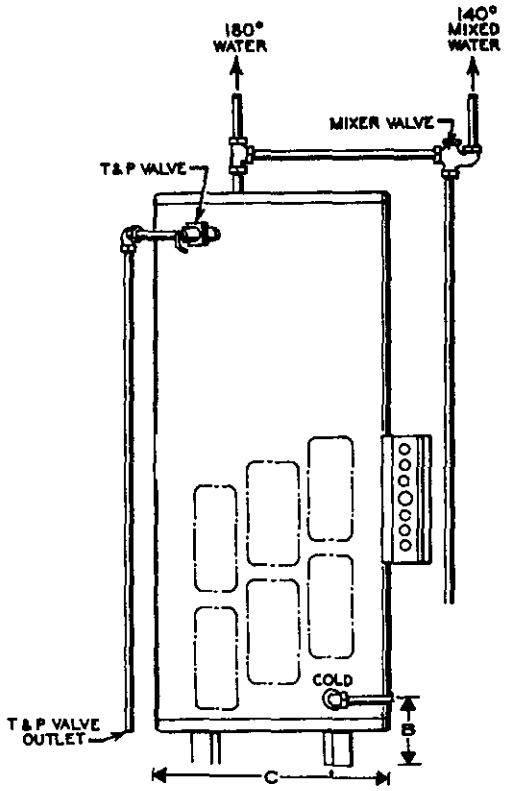
CS-82EC
82 GALLON

CS-120EC
120 GALLON

CAPACITY PERFORMANCE													
GALLON CAP. AVAIL.	RECOVERY IN GALLONS PER HOUR AT VARIOUS TEMPERATURE RISES												NO. Elements
	WATTAGE	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	
42, 82, 120	13500	139	111	92	79	69	61	55	51	46	43	40	3
42, 82, 120	15000	154	123	102	87	76	67	61	56	51	47	44	3
4.5, 42, 82,120	18000	185	148	123	104	92	81	73	68	62	57	53	3
42, 82, 120	27000	277	222	184	157	138	122	110	102	93	86	79	6
42, 82, 120	30000	308	246	205	174	153	135	123	113	103	95	88	6
42, 82, 120	36000	369	296	246	209	184	162	147	136	124	115	105	6
42, 82, 120	45000	462	370	307	261	230	203	183	170	155	143	132	6
42, 82, 120	54000	554	444	369	313	276	243	220	204	186	172	158	6

SPECIFICATIONS

STORAGE BOOSTERS



CAPACITY U.S. GALLONS	INLET OUTLET	A	B	C	MAXIMUM Wattage/Element
120	1¼ IPS	68.5	7¼	24.0	9,000 Watts
82	1¼ IPS	63.0	7¼	24.0	9,000 Watts
42	1¼ IPS	53.0	7¼	20.0	9,000 Watts

CRANE00979

SECTION 1 INSTALLATION

GENERAL INFORMATION

In section 4 of this manual there are detailed installation diagrams. Check them thoroughly for materials and method before starting installation to avoid possible errors and lost time.

NOTE: Where these instructions are at variance with your local codes, the codes should be followed in all cases.

PLUMBING INSTRUCTIONS

Select a level location for the water heater and if this is not possible use shims under base to insure water heater being level.. The location of the water heater should be close to the hot water faucet where the greatest amount of hot water will be used. This will reduce the length of piping thus providing hot water more quickly from water heater. The water heater should be located so that the junction box, front covers and the drain cock are readily accessible.

LOCATION

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

DO NOT CONNECT THIS ELECTRIC WATER HEATER DIRECTLY TO A HEATING PLANT OR OTHER INDIRECT HEATERS.

The water piping should be made first to the water heater. Connect the cold water supply line to the "COLD" water opening (inlet at bottom side of heater). Connect the hot water pipe to the "HOT" water opening in top of of heater. When making these connections use a good grade of pipe joint compound. Make sure that all pipe joints, including the connections into the tank, are "Wrench Tight." However, do not over-tighten connections, as doing so is unnecessary and in some cases harmful.

To gain the utmost economy of operation it is advisable to insulate the hot water pipe to prevent radiation losses, especially where there are long exposed lengths between the heater and the outlet.

Fill water heater with water by opening valve in cold water supply line. NOTE THIS VALVE MUST BE LEFT OPEN DURING THE ENTIRE OPERATION OF THE WATER HEATER. Open the "hot" faucets on your fixtures to allow the air to escape from the system while filling the water heater with water. The water heater is filled when water passes through these open faucets. Check for possible leaks in the system. If any leaks are found drain the system and make the repair and follow refill procedure before making the electrical connections.

After the system has been filled with water and no leak occurs then the electrical connections can be made. Consult your local power company to ascertain the most suitable and economical type of service offered. Use only exterior hook-up approved by your local power company. Check the wiring diagram which is furnished with the water heater, with your local power company to determine whether the circuit with which the water heater is wired meets their approval. Consult wiring diagram if necessary to convert to a different wiring circuit.

WATER PRESSURE REGULATION

It is strongly advised that the fluctuation of water pressure and "water hammer" (both have damaging effect on tanks) be controlled by in-

CRANE00980

stallation of a pressure reducing valve in the cold water supply line, particularly if the incoming pressure exceeds 60 psi. It is essential, nowever, to investigate the demands of all fixtures supplied by the hot water system before deciding on one pressure reducing valve in the main supply line. A multiple installation of such valves may be necessary throughout the system due to the wide variation in the hot water demand.

Most manufacturers of commercial automatic dishwashers, laundry equipment, etc. recommend certain pressures at which their product will operate at maximum efficiency. In these cases the pressure should be controlled by a suitable reducing valve installed in the inlet line to the appliance; not in the line to the water heater.

CAUTION: Some pressure reducing valves permit the flow of water in one direction only. Because water expands when it is heated, it is a must that a pressure relief valve be used in conjunction with a pressure reducing valve. See below.

TEMPERATURE AND PRESSURE RELIEF VALVE

To prevent any possible danger of over heating, a temperature relief valve is a must. Such a valve has to open under 212° F and must have a BTU water rated discharge capacity equal to the heat input of the heater.

Each water heater is factory furnished with a properly sized combination temperature and pressure relief valve as standard equipment. It is an automatic reseating lever type, approved by ASME, so located in the water heater tank as to provide quickest sensing and proper functioning. The outlet of the "T & P" valve should be piped to a drain. Use pipe size equivalent to outlet of "T & P" valve.

Do not reduce, plug or cap.

CONTROL SYSTEMS

Immersion Thermostats With Contactors

The water temperature is controlled by close differential, fast-acting immersion thermostat(s) which activates the control circuit of the heavy duty magnetic contactors which controls the power flow to the heating elements. Over temperature protection is obtained with manual reset high limit thermostat(s) which opens all ungrounded power circuits.

Surface Mounted Thermostats with Contactors

The water temperature is controlled by close differential surface mounted thermostat(s) which activates the control circuit of the heavy duty magnetic contactors which controls the power flow to the heating elements. Over temperature protection is obtained with manual reset high limit thermostat(s) which opens all ungrounded power circuits.

Surface Mounted Thermostats

The water temperature is controlled by close differential surface mounted thermostats which controls its own individual heating element. Over temperature protection is obtained with a manual reset high limit thermostat above each thermostat.

Pilot Light

A red neon pilot light is wired to indicate that there is power to the heater, however, it is also wired so that the light will go out if the high limit thermostat is tripped.

CRANE00981

WIRING INSTRUCTIONS

This Electric Commercial water heater is completely wired with leads to the terminal block. Select proper wire size, check the rating plate for correct voltage, phase and wattage.

NOTE: NEVER OPERATE THE HEATING ELEMENTS WITHOUT BEING CERTAIN THE HEATER IS COMPLETELY FILLED WITH WATER.

K. W. RATING	NUMBER OF ELEMENTS	FULL-LOAD CURRENT IN AMPERES							
		SINGLE – PHASE				THREE – PHASE			
		208V	220/240V	277V	440/480V	208V	220/240V	277V	440/480V
–6	3–2000W	29	27	22	14	17	16	13	9
–9	3–3000W	43	41	33	21	26	24	20	12
–12	3–4000W	58	55	43	28	34	32	25	17
–13.5	3–4500W	65	61	49	31	38	35	29	18
–15	3–5000W	72	69	55	34	42	40	32	20
–18	3–6000W	87	82	65	41	50	48	38	24
–27	6–4500W	130	123	98	62	75	71	57	36
–30	6–5000W	144	137	109	69	83	79	63	40
–36	6–6000W	173	164	130	82	100	95	75	48
–45	3–9000W 3–6000W	N.A. 3 phase only	205	163	103	125	119	95	60
–54	6–9000W	N.A. 3 phase only	246	195	123	150	142	113	71

ALLOWABLE CURRENT-CARRYING CAPACITIES (Amperes) OF INSULATED CONDUCTORS. Not More Than Three Conductors in Raceway or Direct Burial, based on 30 C, 86 F ambient (Condensed from National Electrical Code)

Size AWG or MCM	Max Oper Temp: 60 C Types of Insulation: R, RW RH-RW (wet loc.) T, TW Flamenol SI58175	75 C RH, RHW Versatol SI8006 Super Coronol SI58007 RH-RW (dry loc.) THW Flamenol SI58266	85 C Paper V-C (V) Varnish Cambric SI12352 V-C (AVB) Deltabeston SI57095 MI RHH Super Coronol SI58007 8 AWG & Larger	110 C V-C (AVA) Deltabeston SI57049 V-C (AVL) Deltabeston SI57120	125 C AI AIA Silicone SI58210	200 C A AA
14	15	15	25	30	30	30
12	20	20	30	35	40	40
10	30	30	40	45	50	55
8	40	45	50	60	65	70
6	55	65	70	80	85	95
4	70	85	90	105	115	120
3	80	100	105	120	130	145
2	95	115	120	135	145	165
1	110	130	140	160	170	190
0	125	150	155	190	200	225
00	145	175	185	215	230	250
000	165	200	210	245	265	285

CRANE00982

SECTION 2 OPERATION

GENERAL INFORMATION

Never operate the electrical heating elements without being certain the heater is filled with water. Serious damage to the heating elements may result if water heater is allowed to run dry.

After completing the installation and the system is completely filled with water, then close the switch and allow the electric current to flow to the water heater. From then on its operation is automatic. MAKE SURE THAT THE VALVE ON THE COLD WATER SUPPLY LINE IS LEFT OPEN AT ALL TIMES WHILE WATER HEATER IS IN OPERATION.

FILLING

1. Close the water heater drain valve by turning handwheel to right (clockwise).
2. Open a nearby hot water faucet to permit the air in the system to escape.
3. Fully open the cold water supply valve allowing the heater and piping to be filled.
4. Close the hot water faucet as water starts to flow.
5. Turn on the electrical supply to the water heater.

TEMPERATURE REGULATION

The heating elements operate under the control of thermostats which are factory set at 180° F. The thermostats operate automatically and can be adjusted to provide cooler water temperature.

For safety, a non-adjustable high temperature limit switch will shut-off when excessive water temperatures are reached. The high limit has no adjustment, although, it must be reset manually if it should operate and turn off the heating element. Because the high limit operates only when abnormally high water temperatures are present, it is important that a serviceman should be called to determine the reason for operation.

This section explains thermostat adjustment and tells how to reset the high limit, should it operate..

Thermostat Adjustment

Surface-mounted Thermostats:

1. Remove element and thermostat access panels.

   The insulation covering the thermostat should be carefully cut with a serrated edge knife so that it can be folded aside or removed. Do not damage insulation on wires.

2. Adjust Thermostats to desired temperature setting.

   Low – 120°
   Med. – 150°
   Hi – 180°

3. Replace insulation and access panels.

Immersion Thermostats:

1. Open junction box cover.
2. Adjust thermostats to desired temperature setting indicated on dial.
3. Close junction box cover.

HIGH TEMPERATURE LIMIT

A red neon pilot light is wired to indicate that there is power to the heater, however, it is also wired so that the light will go out if the high limit thermostat is tripped.

CRANE00983

If Necessary To Reset The High Limit:

1. Turn off electrical supply to water heater.
2. Remove all element covers on surface mounted thermostat models and only the uppermost panel on the immersion thermostat models.

   The insulation covering the thermostats should be carefully cut with a serrated edge knife so that it can be folded aside or removed. Do not damage insulation on wires.

3. Reset the control, replace the insulation and access panel. Restore electricity and call your serviceman.

DRAINING

If the heater is to be shut-off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater.

1. Turn off the electrical and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.

   If desired, a hose may be connected to the drain valve to carry the water away.

3. The drain valve must be left open during the shutdown period.

   To restart heater, refer to the foregoing filling instructions.

THE DISTRIBUTOR OR THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

CRANE00984

SECTION 3 MAINTENANCE

Electric water heater maintenance is generally confined to cleaning the tank and removing lime (or scale) from the heating element in hard water areas. In some instances a hissing sound may be heard as the scale builds up. This noise is normal.

Cleaning Tank

1. Follow DRAINING instructions to remove water from tank.

2. Remove the drain and cleanout plug after the tank is drained.

3. Access to the tank bottom can now be obtained through the tank opening.

   A stream of water can be directed through the opening to wash out accumulated material.

   To loosen sediment, form a piece of wire to fit through opening.

   Alternately scrape and flush around the tank bottom until the accumulations are washed away.

4. Replace the drain and cleanout, fill water heater following FILLING instructions.

Element Cleaning and Replacement

1. Follow the DRAINING procedure to remove the water from the heater.

2. Remove the element and thermostat access panels.

   The insulation covering the thermostats should carefully be cut with a serrated knife so that it can be folded aside or removed. Do not damage insulation on wires.

3. Disconnect the wires from the heating element terminals and remove the screws holding the elements against the tank.

4. Remove the elements and gaskets for cleaning or replacement. Gaskets should always be replaced with new ones whenever removing elements.

   If removed for cleaning, scale removal can be accomplished by using vinegar or by scraping.

   If replacement is necessary, be certain that the electrical specifications of the new element are consistent with electric utility company requirements.

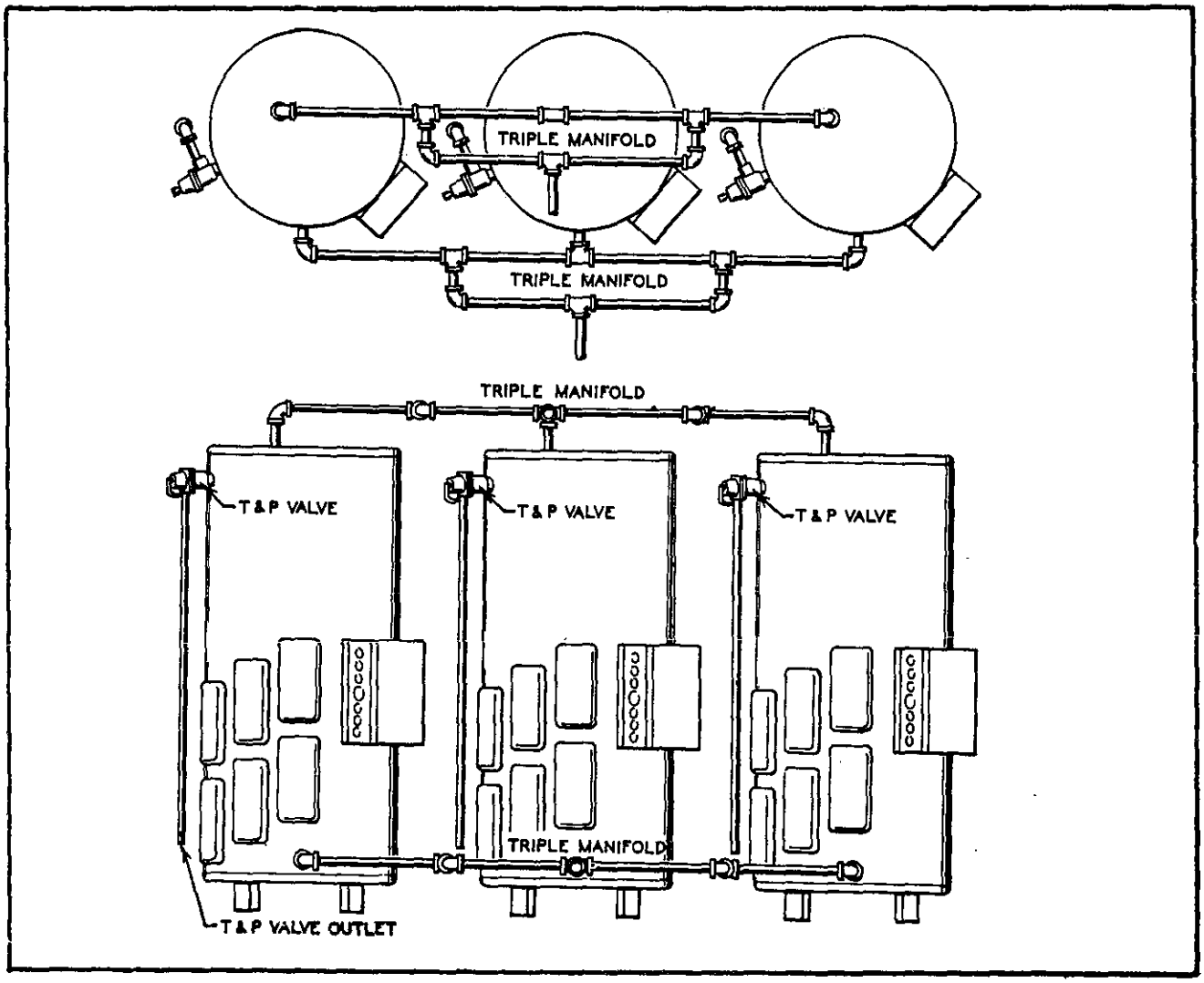
5. Replace the element in the reverse of the removal steps and fill the tank with water before turning electricity on.

CRANE00985

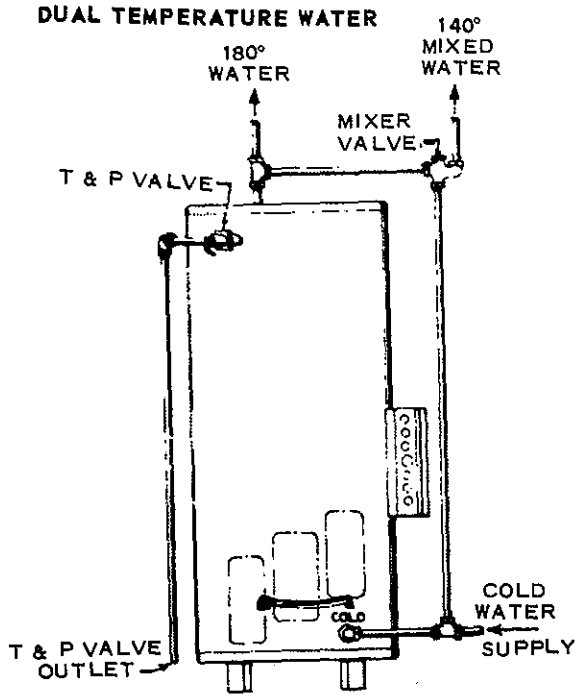
SECTION 4 INSTALLATION

In any installation where commercial heaters are manifolded there are two important conditions that must be observed.

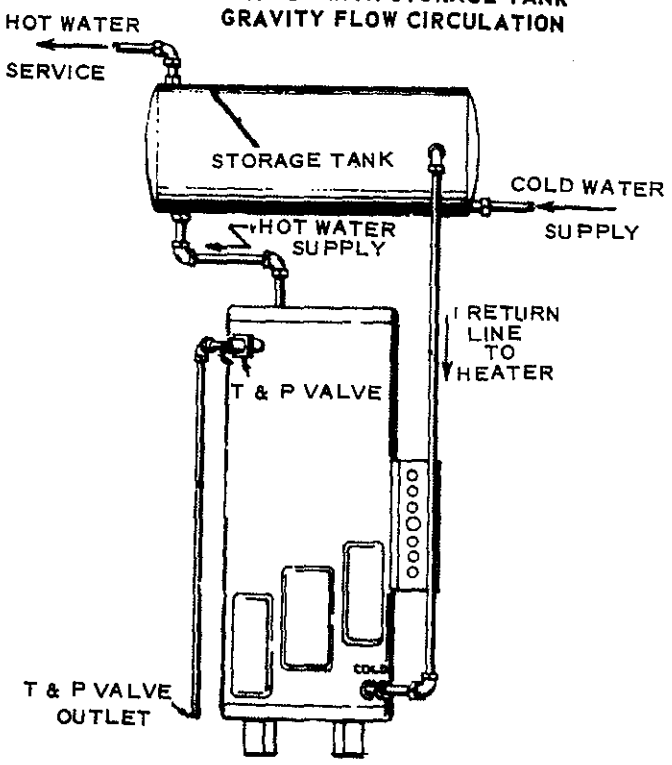
1. All heaters must be the same model.
2. All heaters must be evenly spaced so that in the piping manifold, the number of turns, length of pipe and size of pipe, are identical. This is absolutely necessary so that the hot water demand will be evenly balanced between all the heaters in the installation.



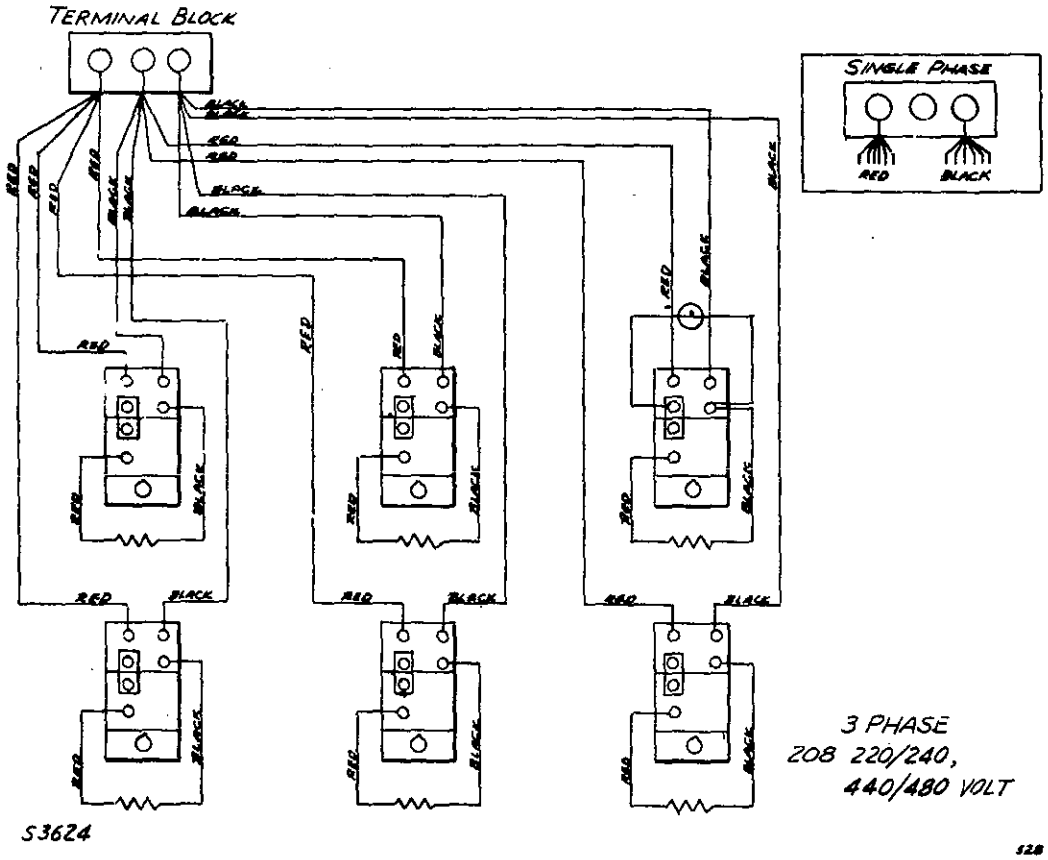
SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE WATER



SINGLE INSTALLATION WITH STORAGE TANK
GRAVITY FLOW CIRCULATION

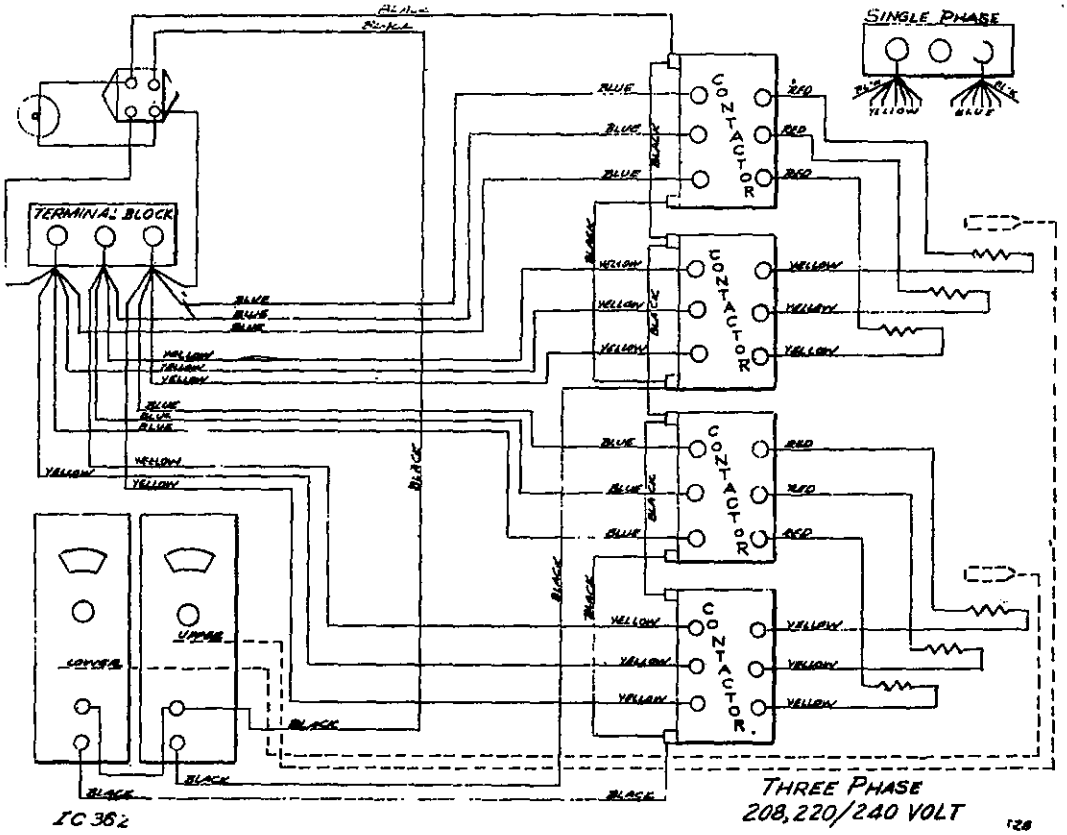


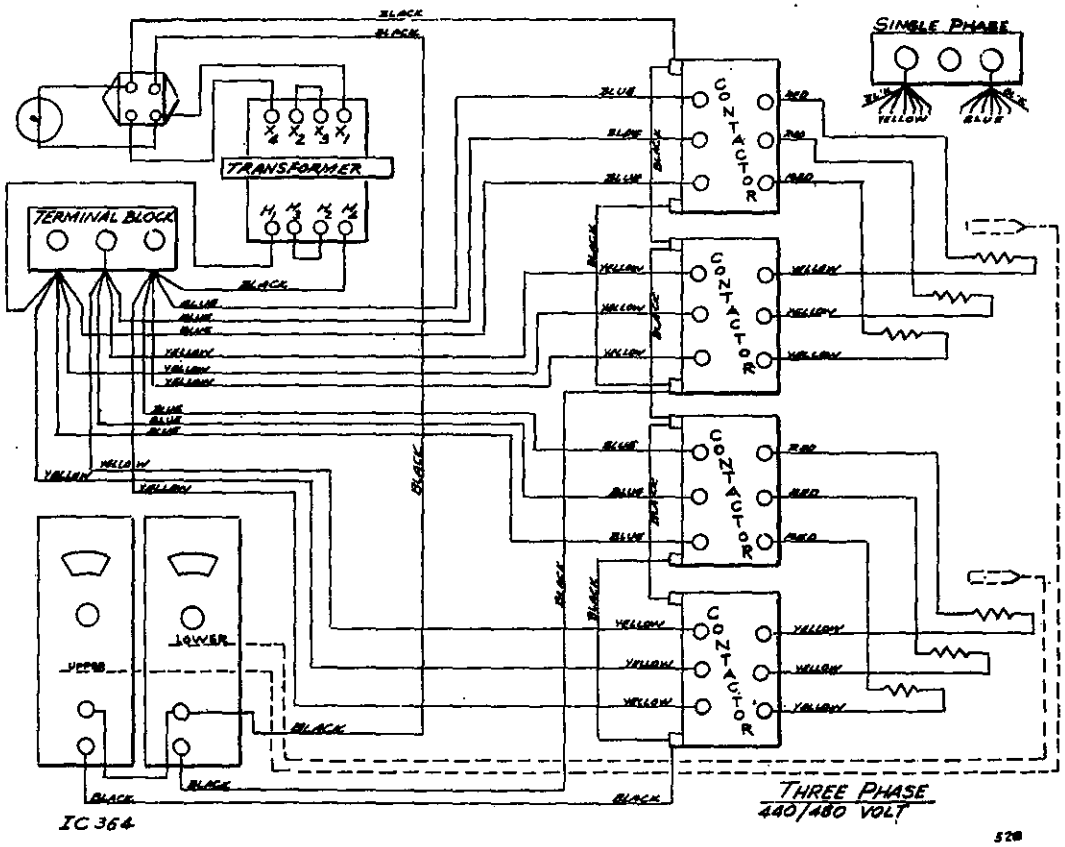
SECTION 5 WIRING DIAGRAMS



SECTION 5 WIRING DIAGRAMS

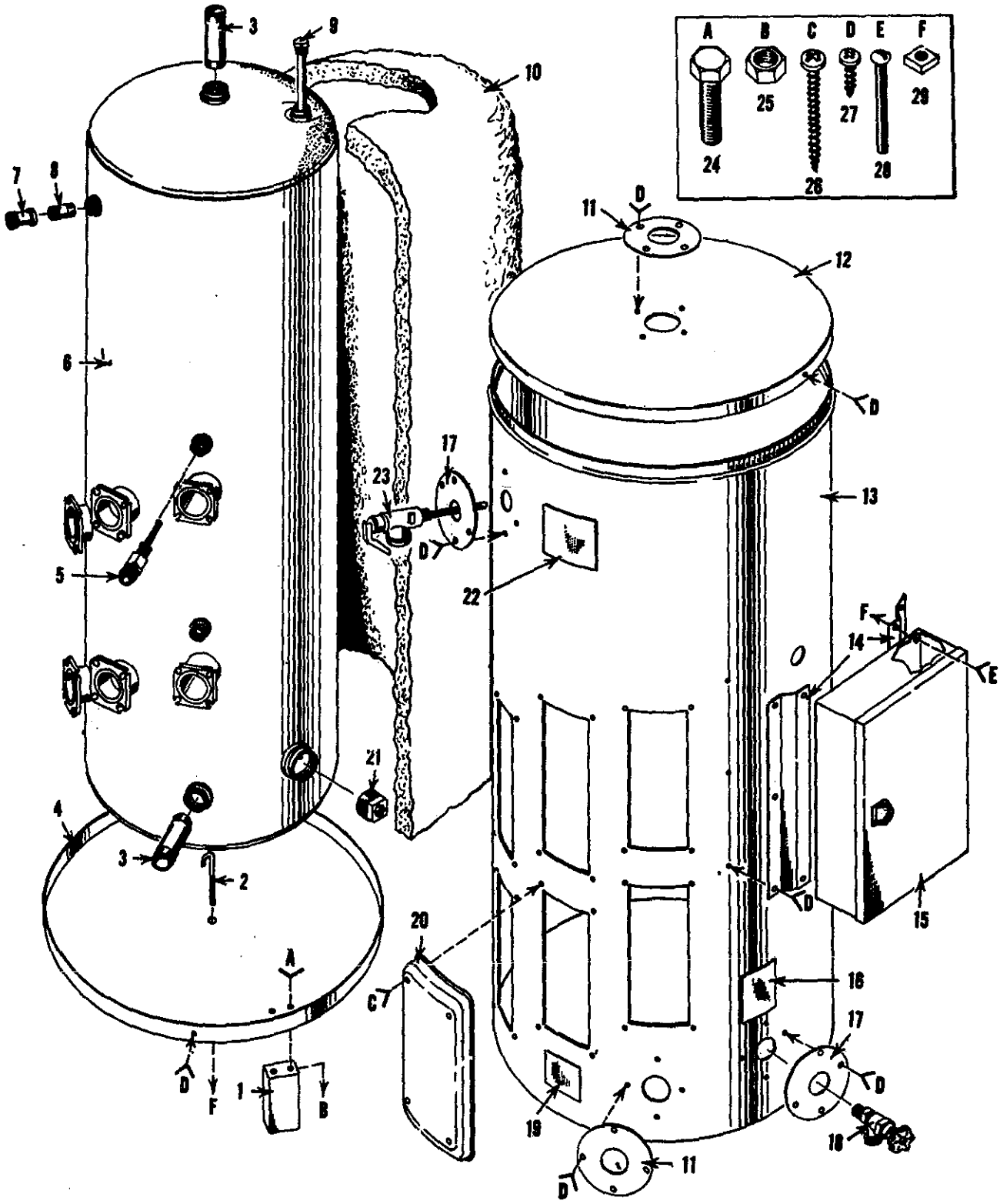
STORAGE BOOSTERS





CRANE00988

PARTS ILLUSTRATION – CAPACITY 42, 82, 120



REPAIR PARTS LIST – CAPACITY 42, 82, 120

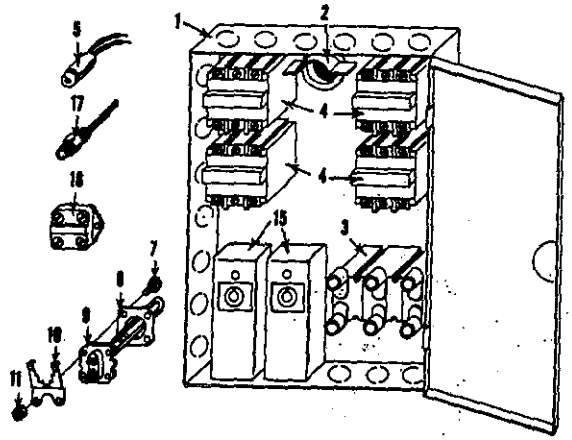
KEY NO.	CAPACITY			DESCRIPTION OF PART
	42 Gal.	82 Gal.	120 Gal.	
	Part Number	Part Number	Part Number	
1	3184	3184	3184	Outer leg w/bolts (4 sets required)
2	3863	3863	3863	¼–20 x 5" Hook bolt, w/nut
3	3126	3126	3126	Inlet-Outlet Nipple
4	3864	3865	3866	Base
5	3862	3862	3862	Thermostat bulb well
6	3867	3868	3869	Tank**
7	3256	3256	3256	Coupling
8	3233	3233	3233	T & P Nipple
9	3870	3871	3871	Magnesium Anode
10	3872	3873	3874	Insulation**
11	3126	3126	3126	Inlet-Outlet Collar
12	3875	3876	3877	Top Cover
13	3878	3879	3880	Jacket**
14	3881	3881	3881	Junction Box Supports
15	SEE CONTROL AND ELEMENT(group part list			Junction Box
16	3882	3882	3882	Clean-out Instruction Plate
17	3284	3284	3284	Drain & T & P Collar
18	3131	3131	3131	Drain
19	3883	3773	3774	Rating Plate
20	3003	3003	3003	Front Cover
21	3308	3308	3308	Clean-out Bushing
22	3127	3127	3127	Name Plate
23	3125	3125	3125	T & P Valve
24	191846	191846	191846	3/8–16 x 1¼" Hex Head Mach. Bolt(2 per leg required)
25	120377	120377	120377	3/8–16 Hexagonal Nut (2 per leg required)
26	161964	161964	161964	Screw, #10 x 1¾" Type A, Ph. Pan Hd. C.B.*
27	161928	161928	161928	Screw, #10 x 1" Type A, Phillips Pan Head C.B.*
28	110504	110504	110504	10–24 x 1" Rd. Head Slotted Mach. Screw Plain
29	110634	110634	110634	10–24 Square Nut
##	← CSE-DM-6/68 →			Instruction Manual

Not Illustrated

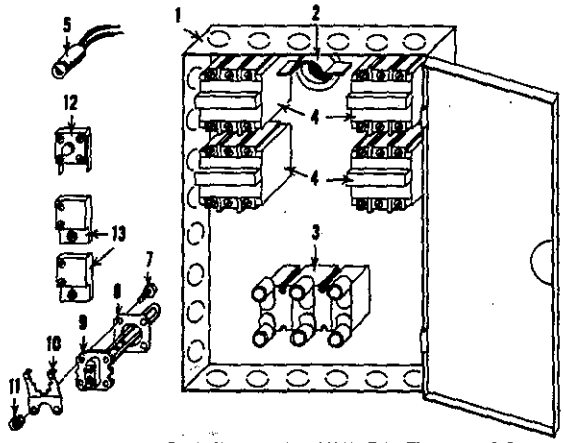
* Standard Hardware Item. May be Purchased Locally.

**Not Mailable

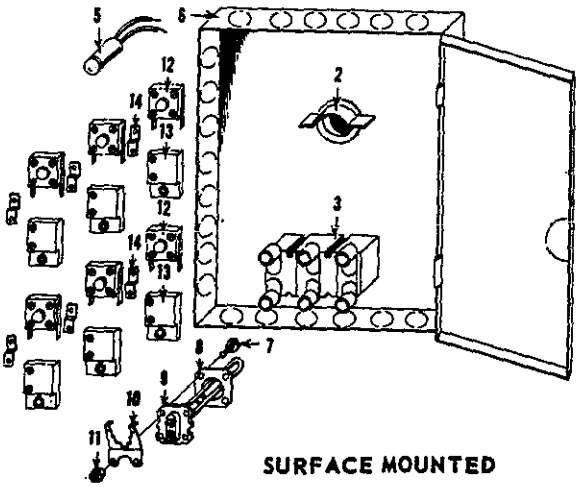
CONTROL AND ELEMENT GROUP – PARTS LIST – CAPACITY 42, 82, 120



IMMERSION THERMOSTAT
WITH CONTACTORS



SURFACE MOUNTED THERMOSTAT
WITH CONTACTORS



SURFACE MOUNTED
THERMOSTATS

KEY NO.	CONTROL GROUP	
	PART NO.	DESCRIPTION
1	3766	Box, Junction Box
2	3767	Clamp, wire
3	3768	Block, terminal G.E.
3	3769	45 KW & 54 KW Cutler–Hammer
4	3770–25	Contactor, 208 Volt 25 Amp
4	3770–30	Contactor, 208 Volt 30 Amp
4	3770–40	Contactor, 208 Volt 40 Amp
4	3770–50	Contactor, 208 Volt 50 Amp
4	3771–25	Contactor, 236 Volt 25 Amp
4	3771–30	Contactor, 236 Volt 30 Amp
4	3771–40	Contactor, 236 Volt 40 Amp
4	3771–50	Contactor, 236 Volt 50 Amp
4	3772–25	Contactor, 440/480 Volt 25 Amp
4	3772–30	Contactor, 440/480 Volt 30 Amp
5	3747–2	Light, indicator 208 Volt, 236 Volt
5	3747–4	Light, indicator 440/480 volt
6	3859	Box, Junction
7	191846	3/8–16 x 1¼" Sq. Hd. Mach. Bolt(4 per element)
8	254	Gasket, Element
9	SEE ELEMENT TABLE BELOW	
10	277	Bracket, Thermostat & E C O
11	120377	3/8–16 Hex. Nut
12	712	EC HLC 1610
13	3860	Thermostat, Surface mounted
14	3367	Bar, Buss
15	3861	Thermostat, Immersion
16	430	ECO HL 2043
17	3862	Bulb Well, Thermostat

ELEMENT GROUP			
ELEMENT WATTAGE	208 VOLT PART NUMBER	236 VOLT PART NUMBER	440/480 VOLT PART NUMBER
3000	434	427	440
4000	435	431	441
4500	436	428	442
5000	437	429	443
6000	438	432	444
9000	439	433	445

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REPAIR PART NUMBER AND PRICE LIST

42 Gal. 82 Gal. 120 Gal.

PART NO.	PRICE	PART NO.	PRICE	PART NO.	PRICE	PAPT NO.	PRICE
427	7.50	3003	3.00	3774	.76	3876	4.50
428	7.50	3747-2	3.00	3859	18.00	3877	11.26
429	7.50	3747-4	3.00	3860	7.50	3878	27.00
431	7.50	3766	22.50	3861	36.00	3879	37.50
432	9.00	3767	1.50	3862	12.00	3880	48.00
433	22.50	3768	22.50	3863	.60	3881	1.50
434	10.50	3769	52.50	3864	3.76	3882	.76
435	10.50	3770-25	36.00	3865	4.50	3883	.76
436	10.50	3770-30	36.00	3866	11.26		
437	10.50	3770-40	39.00	3867	120.00		
438	12.00	3770-50	39.00	3868	150.00		
439	25.50	3771-25	30.00	3869	187.50		
440	13.50	3771-30	30.00	3870	13.50		
441	13.50	3771-40	33.00	3871	13.50		
442	13.50	3771-50	33.00	3872	4.50		
443	13.50	3772-25	22.50	3873	6.00		
444	15.00	3772-30	22.50	3874	7.50		
445	28.50	3773	.76	3875	3.76		

CRANE00992

CRANE

GLASSLINED

Dutymaster

ELECTRIC COMMERCIAL WATER HEATER ENGINEERING HANDBOOK

CSHBE-370

CRANE

SUPPLY COMPANY

CRANE00993

CRANE00994

TERMINAL BLOCK
SINGLE PHASE
RED
BLACK
3 PHASE
208 220/240,
440/480 VOLT
S3624

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INTRODUCTION

For the first time in the history of Commercial water heating, a manufacturer offers a program that guarantees a user all the hot water a given installation will need.

GUARANTEED HOT WATER PROGRAM

This program guarantees that in a commercial water heater application if the instructions and sizing charts in this manual are properly used to size a given installation, the DUTYMASTER heaters so chosen will adequately supply all the hot water needed.

Should it fail to do so, Crane Supply Company will furnish without charge the additional equipment to satisfactorily supply the hot water needs, exclusive of installation costs.

ASTER Electric Commercial Water listed with the Underwriter's Laboratories egulating Body for the Electric Appliy. Such approval being indicated by prominently displayed on all products t literature.

All DUTYMASTER commercial water heaters bear the seal of approval of the National Sanitation Foundation, which is the regulating body for approval of all equipment relating to the food handling and service industry.

CRANE00996

WIRING INSTRUCTIONS

The DUTYMASTER Electric Commercial water heater is completely wired with leads to the terminal block. Select the proper wire size, check the rating plate for correct voltage, phase and wattage.

NOTE: NEVER OPERATE THE HEATING ELEMENTS WITHOUT BEING CERTAIN THE HEATER IS COMPLETELY FILLED WITH WATER.

PLUMBING INSTRUCTIONS

Locate water heater near major hot water load.

To gain the utmost economy of operation it is advisable to insulate the hot water pipe to prevent radiation losses, especially where there are long exposed lengths between the heater and the outlet.

The temperature and pressure relief valve should be piped to a drain or other suitable place. The discharge pipe should not be smaller than threaded opening in valve; also the outlet should not be located where it is subjected to freezing temperatures.

CONTROLS

IC models — the water temperature is by close differential, fast-acting immersi stat(s) which activiates the control cir heavy duty magnetic contractors whic the power flow to the heating elements. perature protection is obtained with m high limit thermostat(s) which opens all ed power circuits.

S models — the water temperature is by close differential surface mounted t which controls its own individual heatir Over temperature protection is obtain manual reset high limit thermostat a thermostat.

Pilot Light—A red neon pilot light is v dicate that there is power to the heate it is also wired so that the light will gc high limit thermostat is tripped.

K. W. RATING	NUMBER OF ELEMENTS	FULL-LOAD CURRENT IN AMPERES						
		SINGLE - PHASE				THREE - PHA		
		208V	220/240V	277V	440/480V	208V	220/240V	277V
-6	3-2000W	29	27	22	14	17	16	13
-9	3-3000W	43	41	33	21	26	24	20
-12	3-4000W	58	55	43	28	34	32	25
-13.5	3-4500W	65	61	49	31	38	35	29
-15	3-5000W	72	69	55	34	42	40	32
-18	3-6000W	87	82	65	41	50	48	38
-27	6-4500W	130	123	98	62	75	71	57
-30	6-5000W	144	137	109	69	83	79	63
-36	6-6000W	173	164	130	82	100	95	75
-45	3-9000W 3-6000W	N.A. 3 phase only	205	163	103	125	119	95
-54	6-9000W	N.A. 3 phase only	246	195	123	150	142	113

CRANE00997

WATER PRESSURE REGULATION

advised that the fluctuation of water "water hammer" (both have damag- tanks) be controlled by installation of ducing valve in the cold water supply ssential, however, to investigate the ll fixtures supplied by the DUTYMAS- r system before deciding on one pres- g valve in the main supply line. A allation of such valves may be neces- out the system due to the wide varia- t water demand.

ufacturers of commercial automatic laundry equipment, etc., recommends ures at which their product will oper- um efficiency. In these cases the pres- be controlled by a suitable reducing d in the inlet line to the appliance; e to the water heater.

CAUTION: Pressure reducing valves permit the flow of water in one direction only. Because water expands when it is heated, it is a must that a pressure relief valve be used in conjunction with a pressure reducing valve.

To prevent any possible danger of over heating, a temperature relief valve is a must. Such a valve has to open under 212°F and must have a Btu water rated discharge capacity equal to the heat input of the heater.

Each DUTYMASTER water heater is factory furnished with a properly sized combination temperature and pressure relief valve as standard equipment. It is an automatic reseating lever type, approved by ASME, so located in the water heater tank as to provide quickest sensing and proper functioning. The outlet of the **T & P valve** should be piped to a drain. **Use pipe size equivalent to outlet of T & P valve. Do not reduce.**

STORAGE EFFICIENCY

ater "deliverability" of a water heat- usable storage plus recovery capacity interval involved. Usable storage is he amount of hot water that can be a water heating system (after being o desired temperature and heat turned ncoming cold water dilutes the remain- ot water to the extent that it is no

f their efficient vertical design, DU- Storage Boosters can deliver 90% of capacity as usable hot water. Thus, er up to temperature and heat turned gallon DUTYMASTER Storage Booster 08 gallons of hot water. Incoming cold s the remaining 12 gallons to the ex- s no longer "hot" water.

of the increased "mixing" action ncoming cold water, horizontal storage eliver only 50% of their total stored usable hot water. Thus, without heat , a 200 gallon horizontal tank is re- otain the same quantity of usable hot an be obtained from the storage capa- f one 120 gallon DUTYMASTER Stor-

This contrast in storage efficiency becomes a highly significant factor as the size of the system is increased. The following table compares the actual hot water "deliverability" of the DUTYMASTER Storage Booster system with systems using boilers or "circulating tank heaters" and a separate horizontal storage tank.

STORAGE EFFICIENCY		
DUTYMASTER STORAGE BOOSTER SYSTEM	"CIRCULATING TANK HEATER" KW INPUT	HORIZONTAL STORAGE TANK, GALLONS
2-CS 82–36 are equal to	72 KW	with 290 Gallon Tank
2-CS 120–54 "	108 "	" 430 " "
3-CS 82–36 "	108 "	" 440 " "
3-CS 120–54 "	162 "	" 650 " "
4-CS 82–36 "	144 "	" 600 " "
4-CS 120–54 "	216 "	" 860 " "

Horizontal storage tanks are quite expensive when the cost of insulating these tanks and providing a pipe stand is considered. Because storage tanks are usually built of uncoated steel, or at best galvanized steel, the life expectancy of these tanks is questionable. A brief study of the tables in this manual will show that most water heating requirements can be met more economically and efficiently by using two or more DUTYMASTER Storage Boosters than by using a "circulating tank heater" with a separate storage tank.

CRANE00998

TABLE 1

ALLOWABLE CURRENT-CARRYING CAPACITIES OF INSULATED CONDUCTORS

ALLOWABLE CURRENT-CARRYING CAPACITIES (Amperes) OF INSULATED CONDUCTORS. Not More Than Three Conductors in Raceway or Direct Burial, based on 30 C, 86 F ambient (Condensed from National Electrical Code)

Max Oper Temp	60 C	75 C	85 C	110 C	125 C	200 C
	Types of Insulation					
Size AWG or MCM	R, RW	RH, RHW Versatol SI8006 Super Coronol SI58007	Paper V-C (V) Varnish Cambric SI12352	V-C (AVA) Deltabeston SI57049 V-C (AVL) Deltabeston SI57120	AI AIA Silicone SI58210	A AA
	RH-RW (wet loc.)	RH-RW (dry loc.)	V-C (AVB) Deltabeston SI57095			
	T, TW Flamenol SI58175	THW Flamenol SI58266	MI RHH Super Coronol SI58007 8 AWG & Larger			
14	15	15	25	30	30	30
12	20	20	30	35	40	40
10	30	30	40	45	50	55
8	40	45	50	60	65	70
6	55	65	70	80	85	95
4	70	85	90	105	115	120
3	80	100	105	120	130	145
2	95	115	120	135	145	165
1	110	130	140	160	170	190
0	125	150	155	190	200	225
00	145	175	185	215	230	250
000	165	200	210	245	265	285

REST HOMES AND NURSING HOMES

The Dutymaster "GUARANTEED HOT WATER" sizing guide for rest homes and nursing homes covers the general purpose water for showers, tubs, and lavatories. LAUNDRY LOADS MUST BE SIZED SEPARATELY.

Determine the maximum occupancy either by beds or people, and refer to the table below.

Example: A nursing home having a total of 37 people requires hot water for general use. What heaters should be recommended?

Answer: Use the table below finding 37 or more under the column entitled "Number of Occupants or Beds" and refer to heaters recommended. In this case, use 2 model CS-82–36 Dutymaster water heaters.

No. of & Model of Water Heaters Required	Number of Occupants or Beds
CS 42–13.5	9
CS 82–27	14
CS 82–54	27
(2) CS 82–36	38
(2) CS 82–54	50
(4) CS 82–36	68
(4) CS 120–54	105
(5) CS 82–54	130
(6) CS 120–54	166

Hot water for food service requirements must be sized separately. (See section on Food Service.)

All sizing is based on 100° F. rise in water temperature. If it is more or less, multiply the number of beds or occupants by one of the factors before entering the sizing guide.

110° F. Rise	-	1.1
90° F. Rise	-	.9
80° F. Rise	-	.8
70° F. Rise	-	.7
60° F. Rise	-	.6

CRANE01000

DORMITORY, BARRACKS, ROOMING HOUSES, FRATERNI AND SORORITY HOUSES

The Dutymaster "GUARANTEED HOT WATER" sizing guide for dormitories, rooming houses, fraternity and sorority houses covers the general purpose water for showers, tubs, lavatories and utility sinks for each individual. The type and flow rate of the shower head determines the heater or heaters to be used.

Determine the shower head size and maximum occupancy, then refer to the table below.

Example: A dormitory has a maximum occupancy of 52 people and is equipped with Central Brass #3033 shower heads. What heaters should be recommended? (Refer to the shower head sizing guide, page 9, and the table below.)

Answer: The shower head is rated at 3 gpm, so using the table below, find 52 or more under the 3 gpm column and refer to the heaters to be used, which are two (2) model CS 120–54.

No. of & Model of Water Heater Req.	One Hour Recovery @ 100° Rise GPH	One Hour Delivery @ 100° Rise GPH	No. of People 3 gpm Shower	5 gpm Shower
CS 82–13.5	55	121	12	7
CS 120–18	73	169	17	10
CS 120–27	110	206	20	12
CS 120–36	147	243	24	14
CS 120–54	220	316	31	19
(2) CS 120–27	220	412	41	25
(2) CS 120–36	284	486	48	29
(2) CS 120–54	440	632	63	38
(3) CS 120–36	441	729	73	44
(3) CS 120–54	660	948	95	57
(4) CS 120–54	880	1264	126	77
(5) CS 120–54	1100	1590	159	96
(6) CS 120–54	1320	1896	189	114

All sizing is based on 100° F. rise in water temperature. If it is more or less, multiply the number of people by one of the factors before entering the sizing guide.

110° F. Rise	–	1.1
90° F. Rise	–	.9
80° F. Rise	–	.8
70° F. Rise	–	.7
60° F. Rise	–	.6

CRANE01001

APARTMENT HOUSES, MOTELS AND HOTELS

The Dutymaster "GUARANTEED HOT WATER" sizing guide for apartments, motels, and hotels covers the general purpose water used for each individual unit. The number of rooms in each unit is of little consequence, as the load is computed by the number of baths in each unit. If a laundry load does exist, it rarely occurs during the peak hours when general purpose water is being used.

The size and number of water heaters to be used is determined by the type and flow rate of the shower heads in use.

Therefore, sizing is based on the number of shower heads in existence, which is the main source of variation.

When sizing, first determine the number of units and the type and flow rate of the shower heads. Note: If there are 2 baths per apartment unit, multiply the number of double bath apartments by 1.4 and continue figuring as a single bath apartment.

Find the number of units water is to be furnished to under the appropriate column, and read quantity and model of heaters required.

Example: A convention hotel has 30 units with single bath, equipped with Logan Company "Wizard" shower heads and flow restrictors. What should be recommended?

Answer: The shower head is rated between 3.5 and 5.0 gpm without flow restrictor, but restricted flow is 3.0 gpm. (Found in the Shower Head Sizing Guide, Page 9). Find 30 units under "Convention Hotel" (Apartment, Hotel and Motel Sizing Guide, Page 9) and refer to heaters required, which are 2 - CS-82–30.

All sizing is based on 100° F. rise in water temperature. If it is more or less, multiply the number of units by one of the factors before entering sizing guide.

110° F. Rise	-	1.1
90° F. Rise	-	.9
80° F. Rise	-	.8
70° F. Rise	-	.7
60° F. Rise	-	.6

APARTMENT HOUSE, HOTEL AND MOTEL SIZING GUI

No. of & Model of Water Heaters Required	One Hour Recovery at 100° Rise	One Hour Delivery at 100° Rise	Single Bath Apartments (1) No. of Apts. 3 GPM Shower	No. of Apts. 5 GPM Shower	Convention Hotel (2) No. of Units 3 GPM Shower	No. of Units 5 GPM Shower	Hi-W No. of Units 3 GPM Show
CS 82-13.5	55 GPH	121 GPH	5	4	6	4	8
CS 82-18	73 GPH	139 GPH	7	5	7	5	9
CS 82-27	110 GPH	176 GPH	10	7	11	10	16
CS 120-36	147 GPH	243 GPH	13	9	12	9	15
CS 120-54	220 GPH	316 GPH	20	16	28	22	33
(2) CS-82-30	246 GPH	377 GPH	23	18	34	26	38
(2) CS-120-36	294 GPH	486 GPH	30	23	45	34	52
(2) CS-120-54	440 GPH	632 GPH	45	36	64	49	76
(3) CS-120-36	440 GPH	729 GPH	51	38	70	53	80
(3) CS-120-54	660 GPH	948 GPH	71	53	93	71	108
(4) CS-120-54	880 GPH	1264 GPH	135	79	124	93	143
(5) CS-120-54	1100 GPH	1590 GPH	183	137	166	125	191
(6) CS-120-54	1320 GPH	1896 GPH	272	204	206	154	251

When more than one water heater is required, parallel water connections should be made using Tru Flo manifolds. All sizing temperature rise. For other temperature rises multiply, the number of units by the following factors before determining water he For 90° F. rise multiply by .90, for 80° F. rise by .80, for 70° rise by .70, for 60° F. rise by .60.

(1) For two bathroom apartments, multiply number of apartment units by 1.4 before determining water heater requirements.

(2) Does not include hot water requirements for food service establishments.

All sizing based on the use of a return line circulating pump.

SHOWER HEAD SIZING GUIDE

Shower Head	Manufacturer	Flow Rate GPM	Restricted Flow
Act-O-Matic	Sloan Valve	5.5	3.0
Boyd	American Std.	9.5	3.0
Victor	American Std.	10.0	3.0
Anystream No. 1 52240	Speakman	4.5	3.0
Anystream No. 2 52240	Speakman	4.5	3.0
Anystream No. 1 52250	Speakman	9.0	4.0
Anystream No. 2 52250	Speakman	7.0	3.0
Anystream No. 3 52250	Speakman	6.0	2.0
Brown 620-B	Chicago Faucet	8.0	2.0
Bubble Stream	Wrightway Eng.	4.0	2.0
Central Brass No. 3033	Central Brass Mfg.	3.0	1.5
Chase 188–355	Chase Brass & Copper	10.0	2.0
Crane Rainbow No. 8-2556	Crane Co.	5.5	3.0
Crane Capri 8-2550	Crane Co.	3.0	2.0
Crane Crestmont 8-3592	Crane Co.	3.0	2.0
Crane Crestmont 8-3590	Crane Co.	3.0	2.0
Crane Criterion 8-1561	Crane Co.	5.5	3.0
Dearborn	Dearborn Brass	7.5	3.0
Eljer	Eljer	6.0	3.0
Federal	Federal Huber	---	2.0
Gryo-Manystream	Gyro Brass Mfg.	---	2.0
Harcraft B-2	Harvey Machine	8.0	3.0
Homart 2091	Sears	---	2.0
Homart 2080	Sears	---	2.0
Indiana Brass	Indiana Brass Mfg.	---	3.0
Kohler K-7325	Kohler	---	3.0
Kohler K-7332	Kohler	---	3.0
Magic Fountain	Magic Fountain	2.8	2.0
Milwaukee "Premier"	Milwaukee Faucet	3.5	2.0
Sterling S-194	Sterling Faucet	6.0	2.0
Sure Flow 35	Sure Flow Brass Mfg.	3.0	2.0
Sure Flow 36	Sure Flow Brass Mfg.	4.5	3.0
Symmons Clear Flow	Symmons Eng.	3.5-7.0	2.0-4.0
Symmons Super Flow	Symmons Eng.	4.0-9.0	3.0-4.0
Universal/Rundle	Universal/Rundle	---	2.0
Wizard	Logan Mfg.	3.5-5.0	3.0
PP-15-020	Price Pfister	4.5	3.0
Moen 1533	Std. Screw	4.0	2.5
Delta	Delta Mfg.	4.0	2.5
Gerber	Gerber Brass	4.0	3.0
Sayco	Stephen Young	3.0	2.0

CRANE01003

FOOD SERVICE

DUTYMASTER GUARANTEED HOT WATER SIZING FOR FOOD SERVICE

e operations require water at two temp-
ieneral purpose water at 120°F. for
erations in sinks and in washrooms, and
er for sanitizing use in the final rinse on
ıg operations.

g for food service operations, it must be
which one of three systems will be
ɔply the two different temperatures of
°F. General Purpose and 180°F. Dish-
e three systems are:

ı mixing valve and a storage type com-
water heater set at 180° F. In this sys-
e heater supplies both of the needed
tures. (SYSTEM I)

ɜ of a storage type commercial heater
20° F. will supply the general purpose
/ith an instantaneous type booster heater
raise a portion of this 120°F. water
F. water for the dishwasher. (SYSTEM

ɜ of two separate installations, one to
ɔnly 120° F. general purpose water. The
; used to supply only 180° F. water for
ıwasher. (SYSTEM III)

There are, generally, two types of dishwashing machines. Type I, stationary, or door and hood type, (for batch operation). Type II, conveyor type, (with or without racks) for continuous operations. All water requirements at 180°F. for dishwashers is determined solely by standards governed by the National Sanitation Foundation and complied with by every dishwasher manufacturer whose equipment bears the NSF seal.

To determine amount of 180°F. water needed, determine dishwasher specified. Refer to Table 5, if stationary type. Refer to Table 6, if conveyor type.

The amount of general purpose water can be determined by the use of Table 4. Determine the number and type of fixtures using 120° F. general purpose water. Add the amounts used by each of these fixtures to find the total amount of general purpose water needed.

The amount of 180° F. water needed per hour is determined by the size and/or type of dish washing equipment used.

SYSTEM I

If System I is to be used, refer to Food Service Sizing Guide 5. Select column at top of page under Heading "A" (general purpose water) corresponding to amount of general purpose water needed. Select the line under Heading "B" corresponding to 180°F. water requirements for the dishwasher. At the intersection of the line and column will be found the equipment needed to supply the hot water needs.

If there is more than one (1) heater needed for the installation, the heaters must be installed in parallel, as shown in Figure 2, Page 26.

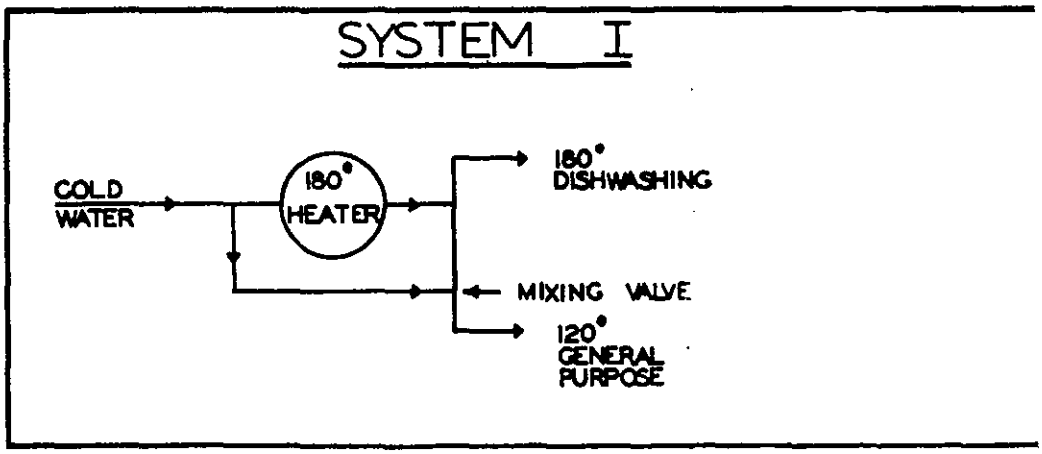
SYSTEM I

Example: A restaurant having a stationary rack type dishwasher would use System I.

The establishment is equipped as follows:

Equipment	180° F. Sanitizing Water GPH	120° F. General Purpose Water GPH
FASPRAY 2A		
Dishwasher (1)	74	
Vegetable Sink (2)		90
Double Pot Sink (1)		60
Pre-rinse Shower (1)		45
Bar Sink (2)		60
Lavatory (3)		15
Slop Sink (1)		20
	74	290

Using Food Service Sizing Guide 5, we find at the intersection of line "80 GPH" and column "300 GPH," two (2) DUTYMASTER CS120-54 water heaters for this job.



is used, add both the general purpose irements and the dishwasher water re- to determine the size of the commercial ter needed. Refer to Food Service Siz- . Under Heading "A", find the column he general purpose water corresponds . The proper equipment will be shown derneath in the line labeled "0" under ".

more than one (1) heater needed, they stalled in parallel as shown in Figure

To determine the amount of 180°F. water for the dishwasher, refer to Food Service Sizing Guide Table 5, for stationary dishwashers or Food Service Sizing Guide, Table 6, for conveyor dishwashers.

The sizing of the dishwasher booster heater is taken from Food Service Sizing Guide 6, Page 17.

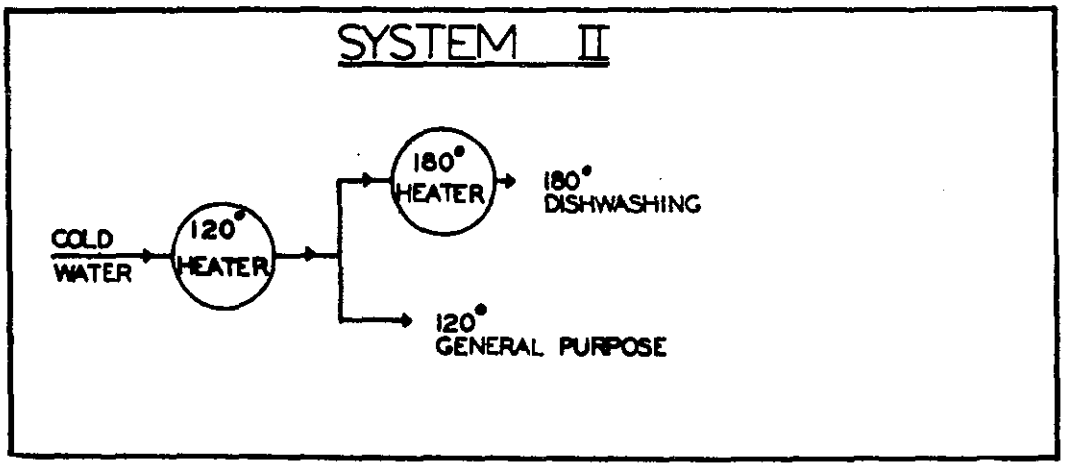
SYSTEM II

Example: A restaurant having a conveyor type dishwasher would use system II.
The establishment is equipped as follows:

Equipment	180° F. Sanitizing Water GPH	120° F. General Purpose Water GPH
Hobart XM-4 Dishwasher (1)	360	360
Vegetable Sink (2)		90
Triple Pot Sink (1)		90
Bar Sink (3)		90
Lavatory (5)		25
Slop Sink (2)		40
	360	695

Using Food Service Sizing Guide 5, we find under Heading "A" column "700 GPH" three (3) DUTY-MASTER CS82-54 water heaters for general purpose water.

Since the conveyor type dishwasher is using 360 GPH 180° F. water, we use a DUTYMASTER CS42-54 for a booster, Food Service Sizing Guide 6.



SYSTEM III

If system III is used, determine the amount of general purpose water needed. Refer to Food Service Sizing Guide 5. Under Heading "A", find the column in which the general purpose water corresponds to this amount. The proper equipment to supply general purpose water will be shown directly underneath the line labeled "O", under Heading "B".

To find the size heater needed to furnish 180° F. water for this dishwasher, determine the amount of water needed by referring to Food S ing Guide, Table 5 for stationary dishw Food Service Sizing Guide, Table 6 fo type dishwashers.

Under Heading "B" of the Food Ser Guide 5, find the GPH of 180° F. water the dishwasher. Immediately to the ri figure under column Headed "0" may the proper equipment.

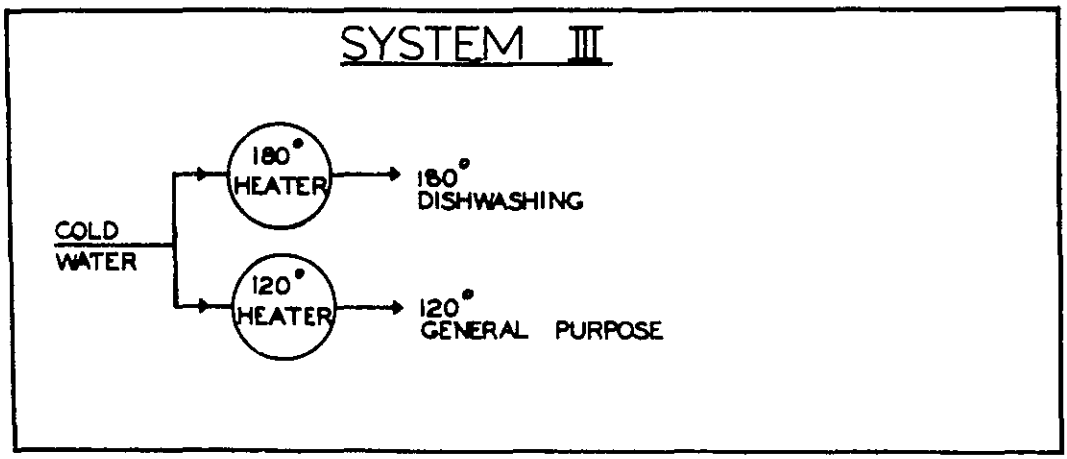
SYSTEM III

Example: Follow this system for restaurant desiring independent supplies of 180°F. water for dishwasher and 120° F. general purpose water. The establishment is equipped as follows:

Equipment	180° F. Sanitizing Water GPH	120° F. General Purpose Water GPH
FASPRAY 2A Dishwasher (1)	74	
Vegetable Sink (2)		90
Double Pot Sink (1)		60
Pre-rinse Shower (1)		45
Bar Sink (2)		60
Lavatory (3)		15
Slop Sink (1)		20
	74	290

Under Heading "B" of the Food Service Sizing Guide 5, we go to line "80 GPH". Immediately to the right of this figure under column "O", we find one (1) DUTYMASTER CS42-36 water heater for the dishwasher using 74 GPH of 180°F. water

Under Heading "A" column "300 GPH", we find two (2) DUTYMASTER CS82-30 water heaters for the 290 GPH general purpose water.



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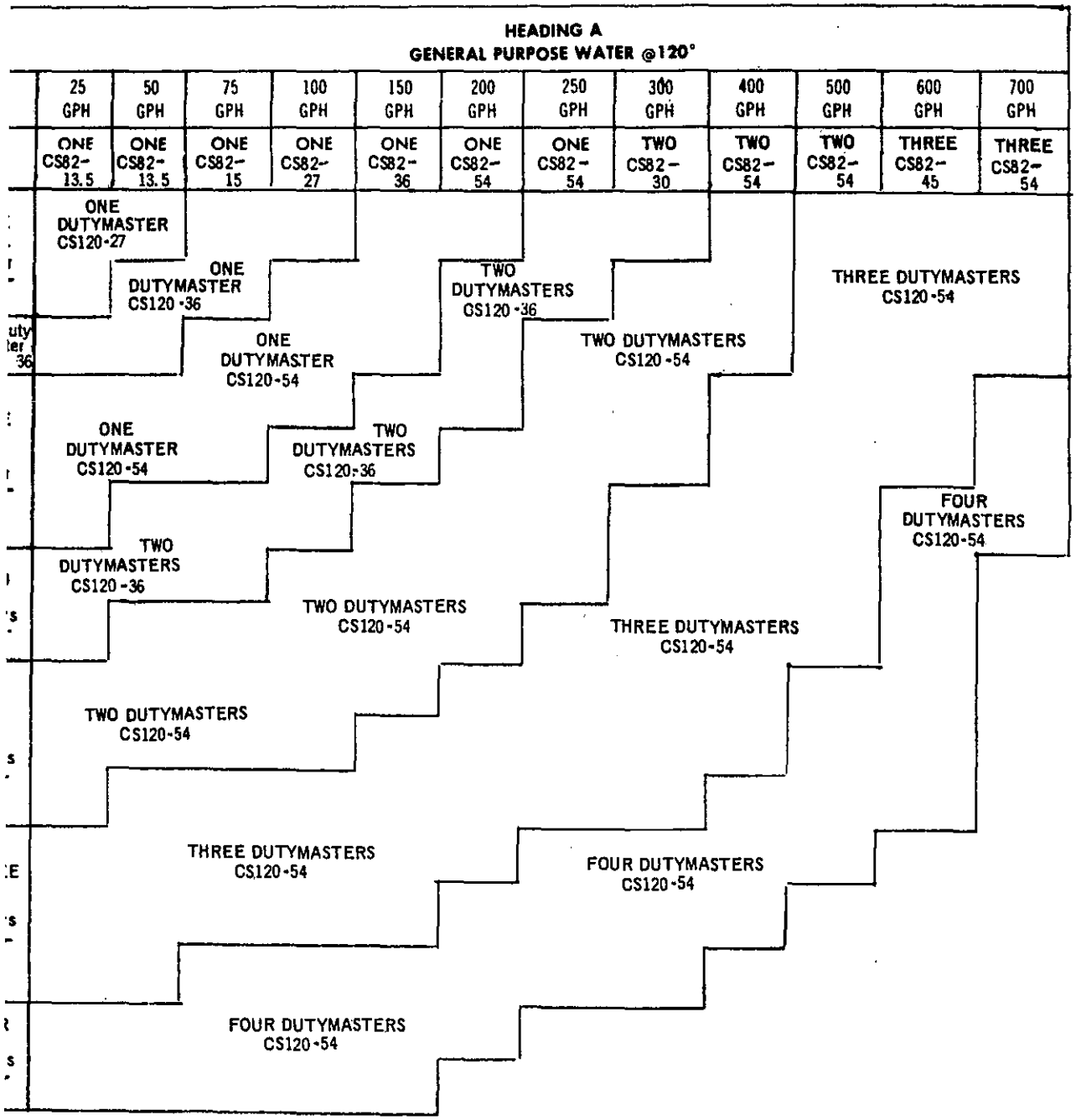
FOOD SERVICE SIZING GUIDE 5



FOOD SERVICE SIZING GUIDE

TABLE 4

General Purpose Hot Water Consumption—Kitchens

ITEM	GALLONS PER HOUR EACH
Vegetable Sink	45
Single Pot Sink	30
Double Pot Sink	60
Triple Pot Sink	90
Pre Rinse for Dishes; Shower Head Type (Hand Operated)	45
Pre Scrapper for Dishes (Salvajor Type)	180
Pre Scrapper for Dishes (Conveyor Type)	250
Bar Sink	30
Lavatory (Rest Rooms)	5
Slop Sink	20

Note: The above figures are based on field test data, but may vary with unusual conditions.

FOOD SERVICE SIZING GUIDE 6

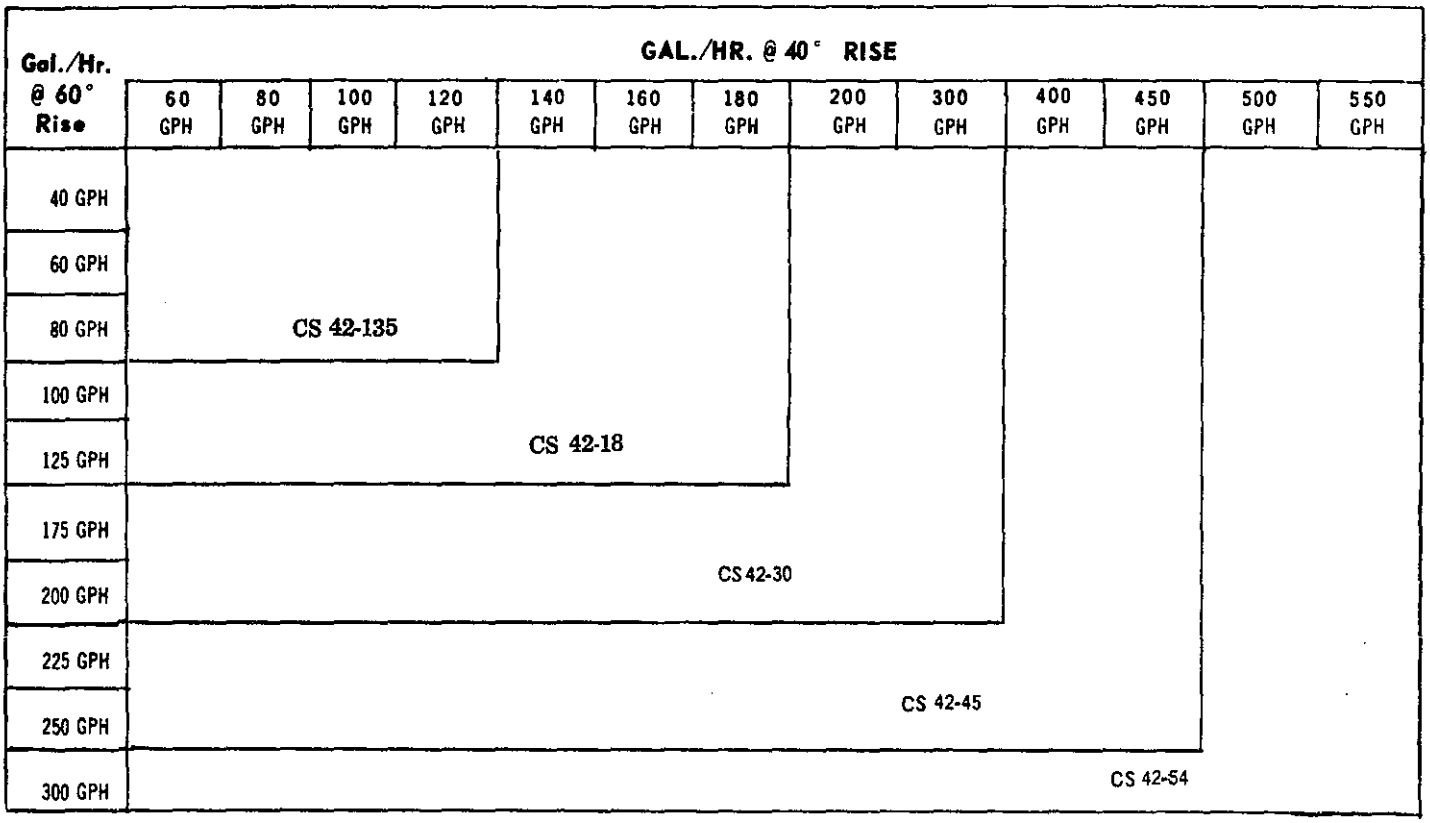


TABLE 5

HOT WATER REQUIREMENTS FOR STATIONARY-RACK DISHWASHERS

*Door and Hood-Type

MANUFACTURER	MODEL NO.	RACK SIZE	GAL. PER HR. AT 180*
Alvey-Ferguson	CP, VP	Utensil Washer	60
Auto-Chlor System, Inc.	A	20" x 20"	35
Blakeslee	A-6, AT-6	16" x 16"	25
	B-4, BC-4, BT-4, BCT-4	18" x 18"	41
	D4, DC-4, D-40, DC-40 DT-4, DCT-4	20" x 20"	68
Champion	T-6, T-6A, T-7, T-7C, T-7A, T-7AC	16" x 16"	47
	I-KCB, I-KB, I-KAB, I-KCAB	20" x 20"	67
Elkington	S-16, S-16T, S-16D, S-16DT, S-16DTC	16" x 16"	25
	S-20, S-20T, S-20DT, S-20D, S-20DTC	20" x 20"	36
	E-6, E-6T, E-6TC, RW-6, RW-6T, RW-6TC, RW-7, RW-7T, RW-7TC	20" x 20"	60
	PS, PS-T (Curtain Type)	20" x 20"	72
Fespray	2-A, 2-AT	20" x 20"	74
Fearless	22	16" x 16"	28
	22T	16" x 16"	25
	33, 33A, 33AT, 33C, 33T, 33CT	16" x 16"	63
	44, 44C, 44T, 44CT	20" x 20"	82
Foley-Irish	A-3, A-5, A-7, A-9	Silver Washer	45
Food Machinery	102, 202	Pot and Pan Washer	75
Gresham	50, 50T	20" x 20"	87
Hobart	SM-6, SM-6TR2, SM-6T2	16" x 16"	29
	UM-4, UM-4D, UMP-4, UMP-4D	19" x 19"	39
	AM-A, AM-ATR2, AM-AT2, AM-AC, AM-ACTR2, AM-ACT2	20" x 20"	62
	AM-6, AM-6C, AM-6CT2, AM-6CTR2, AM-6TR2, AM-6T2	20" x 20"	62
	AM-7, AM-7C, AM-7CT2, AM-7CTR2, AM-7TR2, AM-7T2, AM-77	20" x 20"	62
	LM-2, LM-2TR2, LM-2T2	20" x 20"	62
Insinger	40-2, 45	16" x 16"	45
	15, 50-SA	20" x 20"	63
Jackson	10A, 10M, 10AB, 10APR-B	16" x 16"	43
	50APR, 50-APR-B	18" x 18"	49
Stero	SF-1R, SF-1RA, SF-1DR, SF-1DRA, SF-1DC, SF-1DCA	16" x 16"	28
	40 SM16, 40 EMT16	16" x 16"	37
	SF-2R, SF-2RA, SF-2DR, SF-2DRA, SF-2DC, SF-2DCA	20" x 20"	53
	SD-1R, SD-1RA, SD-1RC, SD-1RCA, SD-1RAF	20" x 20"	66
	SD-RA, SD-1RCAF, 40 SM20	20" x 20"	66
	SD-2R, SD-2RA, SD-2RAF, SD-2RCA, SD-2RCAF	20" x 20"	66
	SD-3, SD-3R, SD-3A, SD-3RA, SD-3AF, SD-3RAF, 50 SMT.	20" x 20"	66
	SD-SPT, SD-SPTA, SD-SPTAF	20" x 20"	66
Toledo	CM-20, CA-20	16" x 16"	30
	DC-22, DS-22, TA-22, TAC-22, TA-22D, TAC-22D	16" x 16"	61
	DC-27, DS-27, TA-27, TAC-27, TA-27D, TAC-27D	20" x 20"	61
	TSM-27, TSMC-27, TSA-27, TSAC-27	20" x 20"	61
Universal	WG Glasswasher	16" x 16"	21
	DG Glasswasher	20" x 20"	52
	Model W	16" x 16"	21
	Model B	16" x 16"	24
	HL, HLC	16" x 16"	36
	H, HD, HDC	18" x 18"	50
	Model D	20" x 20"	52
	U, M, M2, E, S, SD, SE, SR	20" x 20"	70
Vulcan Hart	CU-16B, CU-16BTA, CU-16BTX	16" x 16"	61
	R-16B, R-16BTA, R-16BTX	16" x 16"	61
	R-1B, R-1BTX, R-1BTA, R1-20, R1-20TX, R1-20TA	20" x 20"	61

*Based on 20 PSI flow pressure, National Sanitation Foundation Standard No. 5 and 70% mechanical operation.
Detailed specification sheets on above models available on request from manufacturers.

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FOOD SERVICE SIZING GUIDE
TABLE 6
HOT WATER REQUIREMENTS FOR CONVEYOR-TYPE DISHWASHERS

MANUFACTURER	MODEL NO.	CONVEYOR TYPE	GAL. PER HR. AT 180°
Blakeslee	EC-4, MC-4	Single Tank 20" x 20"	360
	PC-4, SC-4, WC-4	Multiple Tank 20" x 20"	240
	86-PT-2, 86-PT-2HM, 86-PT-2PW, 86-PT-2PWHM, 86-PT-3, 86-PT3HM	Peg Type (Rackless)	300
	66-PT	Peg Type (Rackless)	370
Champion	20-KB, 20-KFWB, 20-KPRB, 30-KB, 30-KFWB, 30-KPRB	Single Tank 20" x 20"	360
	CC-1	Single Tank 20" x 20"	360
	CC-2	Multiple Tank 20" x 20"	240
	40-KB, 40-KFWB, 40-KPRB, 60-KB, 60-KFWB, 60-KPRB	Multiple Tank 20" x 20"	240
	400-KB, 600-KB	Flat (Rackless)	200
	UC,12C, UC-15C, UC-17C, UC-19C, UC-21C, UC-23C, UC-24C, UC-26C UC-116C, UC-15FWC, UC-17FWC,	Inclined (Rackless)	
	UC-19FWC	Inclined (Rackless)	
Elkington	GD-44, GD-54	Single Tank 20" x 20"	360
	GDX-60, GDX-70, GDX-80, GDX-90,		300
	GDX-100, GDX-110, GDX-120	Multiple Tank 20" x 20"	240
	PC-12, PC-15, PC-22, PC-24, PC-26	Peg (Rackless)	300
	PC-19	Peg (Rackless)	370
Faspray	4-A, 4-ARD, 6-A, 6-ARD, 7-A, 7-ARD, 9-A, 9-ARD, Roto Drive Jr.	Multiple Tank 20" x 20"	240
Fearless	77	Single Tank 20" x 20"	360
	88, 110, 150	Multiple Tank 20" x 20"	240
Hobart	XM-4, CM-2	Single Tank 20" x 20"	360
	XXM-4, CCM-2, GM-2	Multiple Tank 20" x 20"	240
	FT-12, FT-14, FT-17, FT-18, FT-19	Flight Type (Rackless)	360
	FT-15, FT-20, FT-22, FT-23, FT-24, FT-26, FT-28, FT-29	Flight Type (Rackless)	300
Insinger	Admiral 120-5	Single Tank 20" x 20"	360
	Speeder IV	Multiple Tank 20" x 20"	240
	Clipper 85-DA-6, 85-DA-7, 85-DA-8	Multiple Tank 20" x 20"	240
	Super 135-DA-4, 135-DA-7	Multiple Tank 20" x 20"	240
	Master 165-DA-3, 165-DA-4, 50-DA, 60-DA, 75-DA, 85-DA, 115-DA, 135-DA, 165DA, 185-DA, 225-DA,	Multiple Tank 20" x 20" (Certain Models	240
	250-DA, 275-DA	17" x 20" Rack)	240
	Admiral RC-12FWPW	Rackless	360
	Admiral RC-12RCPW	Rackless	380
	Clipper RC-15, RC-18FWPW, RC-18RCPW	Rackless	300
	Master RC-18, RC-21FWPW, RC-21RCPW	Rackless	300

(continued on next page)

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FOOD SERVICE SIZING GUIDE
TABLE 6 –(Continued)
HOT WATER REQUIREMENTS FOR CONVEYOR-TYPE DISHWASHERS

MANUFACTURER	MODEL NO.	CONVEYOR TYPE	GAL. PER HR. AT 180°
Stero	SCT-44, SCT-44F, SCT-44VF, SCT-44V, SCT-44-10	Single Tank 20" x 20"	360
	SCT-44-10F, SCT-44-10VF, SCT-44-10V, SCT-54, SCT-54F	Single Tank 20" x 20"	360
	SCT-54VF, SCT-54V	Single Tank 20" x 20"	360
	SCT-60, SCT-60F, SCT-60VF, SCT-60V, SCT-64, SCT-64F	Multiple Tank 20" x 20"	240
	SCT-64VF, SCT-64V, SCT-76, ST-76F, SCT-76VF, SCT-76V	Multiple Tank 20" x 20"	240
	SCT-80, SCT-80F, SCT-80VF,		240
	SCT-80V, SCT-94, SCT-94F	Multiple Tank 20" x 20"	240
	SCT-94VF, SCT-94V, SCT-108, SCT-108F, SCT-108VF, SCT-108V	Multiple Tank 20" x 20"	240
	SCT-120, SCT-120F, SCT-120VF,		240
	SCT-120V, 60DA, 85DA, 135DA	Multiple Tank 20" x 20"	240
	185DA, 250DA, 50DA, 75DA, 115DA, 165DA, 225DA, 275DA	Multiple Tank 20" x 20"	240
	STPC-10, STPC-12HS, STPC-12PS,		240
	STPC-15HS, STPC-15PS	Peg Type (Rackless)	360
	STPC-15, STPC-22, STPC-24, STPC-24D, STPC-26, STPC-26D	Peg Type (Rackless)	300
	STPC-19, STPC-19PS, STPC-20	Peg Type (Rackless)	390
	STPC-120	Peg Type (Rackless)	360
Toledo	C2A-1A, 1TP-54	Single Tank 20" x 20"	360
	2T-P-60, 2T-P-60R, 2T-P-68R, 2T-P-68	Multiple Tank 20" x 20"	260
	2T-P-64, 2T-P-61, 2T-P-103, 3T-P-86, 3T-P-86R, 3T-P-103, 3T-P-103R	Multiple Tank 20" x 20"	240
	R1T-10, R2T-12R	(Rackless)	360
	R3T-29R	(Rackless)	300
Universal	Y, Y2, Y2CC, Y3	Single Tank 20" x 20"	360
	J2, J4-CC, MM, MM4, MM4CC, N, N4, N4CC, A, A3, A3CC	Multiple Tank 20" x 20"	240
	A4, A4CC	Multiple Tank 20" x 20"	240
	ZA, ZB, ZC	Rackless	300
Vulcan-Hart	A44, A44F, A44P, A54, A54F, A54P	Single Tank 20" x 20"	360
	A64, A643, A64F, A643F, A64P, A643P, A81, A81-4, A81-F	Multiple Tank 20" x 20"	240
	A81P, A814F, A814P, A816, A816F, A816P, A984, A984F	Multiple Tank 20" x 20"	240
	A984P, A986, A986F, A986P	Multiple Tank 20" x 20"	240
	AR-215, AR-217PW, AR-217, AR-219PW, AR-219, AR-221PW	Rackless (Peg Type)	360
	AR-320, AR-322, AR-324, AR-326	Rackless (Peg Type)	360

*Based on National Sanitation Foundation Standard No. 5
Single and Multiple Tank are based on 70% mechanical operation.
Rackless are based on 100% or continuous operation.
Detailed specification sheets on above models available on request from manufacturers.

CRANE01012

SELF-SERVICE LAUNDRIES

The Dutymaster self-service laundry "GUARANTEED HOT WATER" sizing guide furnishes the 140°–160° water required for self-service coin operated laundries. The hot water requirements are determined by the size, number, and cycle time of the clothes washer.

A Dutymaster system, either singularly or in multiples, is very desirable in these installations because it is space saving and eliminates the extra costs of large storage tanks, coils, needless wiring, extra electric controls and high maintenance costs.

NUMBER OF DUTYMASTER WATER HEATERS	NUMBER OF 15 LB. WASHERS 30 MINUTE CYCLE
(1) CS82-54	1–4
(2) CS82-54	5–8
(3) CS120-54	9–12
(4) CS82-54	13–16
(5) CS82-54	17–24
(6) CS120-54	25–30
(7) CS82-54	31–36
(8) CS120–54	37–42

For 20 lb. washers, multiply number of units by 1.4 before using sizing chart.

For 8–12 lb. washers, multiply number of units by .8 before using sizing chart.

All sizing is based on 100° F. rise in water temperature. If more or less, multiply the number of units by one of the following factors before using sizing chart:

110° F. Rise	-	1.1
90° F. Rise	-	.9
80° F. Rise	-	.8
70° F. Rise	-	.7
60° F. Rise	-	.6

BARBER AND BEAUTY SHOPS

DUTYMASTER GUARANTEED HOT WATER SIZING FOR BARBER AND BEAUTY SHOPS

Hot water requirements for barber and beauty shops are determined by the number of chairs or bowls. Water is used at a general purpose temperature of 120° F.

Each chair, or bowl, has an average use of 15 GPH, and sizing can be determined by totaling the number of chairs, before referring to sizing guide for Barber and Beauty Shops to choose the correct DUTYMASTER heater required.

DUTYMASTER GUARANTEED HOT WATER SIZING GUIDE

BARBER & BEAUTY SHOPS

NO. OF CHAIRS OR OPERATORS*		NUMBER AND MODEL OF DUTYMASTER HEATERS
1–4	ONE	CS42–18
5–9	ONE	CS82–27
10–12	ONE	CS82–36
13–18	ONE	CS82–54
19–24	TWO	CS82–36
25–30	TWO	CS82–45
31–36	TWO	CS82–54

*USE LARGEST NUMBER

SERVICE STATIONS

This Dutymaster "GUARANTEED HOT WATER" sizing guide covers the required 100° F. water for washrooms, general cleaning and single hose car wash operation in service stations. Code requirements in these installations make it necessary to install the water heater at least six (6) feet or sometimes eight (8) feet above the floor level.

Using a Dutymaster model CS 42, with the required KW rating, will give a continuous flow of 100° F. water. Sizing can be obtained by determining the maximum flow rate of the car wash hose before entering the chart below. To insure a continuous supply of 100° F. water, use a restricting thermostatically controlled mixing valve or similar valves to control the flow and assuring constant temperature.

100° F. GENERAL PURPOSE WATER FOR SERVICE STATIONS

TOTAL KW	CONTINUOUS FLOW, IN GPM @ 60°RISE
13.5	1.5
15	1.7
18	2.0
27	3.1
30	3.4
36	4.1
45	5.1
54	6.1

CRANE01015

SWIMMING POOLS

DUTYMASTER GUARANTEED HOT WATER SIZING GUIDE FOR SWIMMING POOLS

The water temperature of most swimming pools is maintained at 75°F. to 80°F.

Keeping a swimming pool at this temperature requires surprisingly little in the way of heating equipment. The biggest job is bringing the pool to temperature in a reasonable amount of time.

A warm-up time of 96 hours is suggested in order to make the most economical, but effective, installation. We also recommend the use of styrofoam, floating type insulation, while the pool is not in use. This will reduce both warm-up time and fuel costs. See Figure 1 for typical installation.

DUTYMASTER SWIMMING POOL SIZING				
Pool Surface Area Sq. Ft.	Approx. Pool Gallons-Avg. Depth 5½ Ft.	Number & Model DUTYMASTER Heater(s) for Pool Warm-up Time Shown		
		96 Hrs.	48 Hrs.	24 Hrs.
200	8,000	1–CS 42–27	1–CS 42–27	1–CS 42–27
300	11,000	1–CS 42–27	1–CS 42–27	1–CS 42–36
400	16,000	1–CS 42–27	1–CS 42–27	1–CS 42–45
500	21,000	1–CS 42–27	1–CS 42–36	1–CS 42–54
600	24,000	1–CS 42–27	1–CS 42–36	2–CS 42–45
700	29,000	1–CS 42–27	1–CS 42–45	2–CS 42–45
800	32,000	1–CS 42–36	1–CS 42–45	2–CS 42–45
900	37,000	1–CS 42–36	1–CS 42–54	2–CS 42–54
1000	41,000	1–CS 42–36	1–CS 42–54	2–CS 42–54
1200	49,000	1–CS 42–36	2–CS 42–45	2–CS 42–54
1400	58,000	1–CS 42–45	2–CS 42–45	4–CS 42–45
1600	66,000	1–CS 42–45	2–CS 42–54	4–CS 42–45
1800	74,000	1–CS 42–54	2–CS 42–54	4–CS 42–54
2000	83,000	1–CS 42–54	2–CS 42–54	4–CS 42–54

For Swimming Pool Heater Installation, See Page 23.

The above chart is based on °F. temperature rise and 15 ph wind velocity. For greater lesser difference between air d water temperature, use the llowing factor:

Temperature rise in degrees F.	Correction factor to be applied to pool capacity
35	1.4
30	1.2
25	1.0
20	0.8
15	0.6
10	0.4

1. It is recommended that pool heater selections be based on a 96 hour warm-up time.
2. For indoor pools, warm-up time will be approximately one-half that of an outdoor pool.

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SWIMMING POOL HEATER INSTALLATION

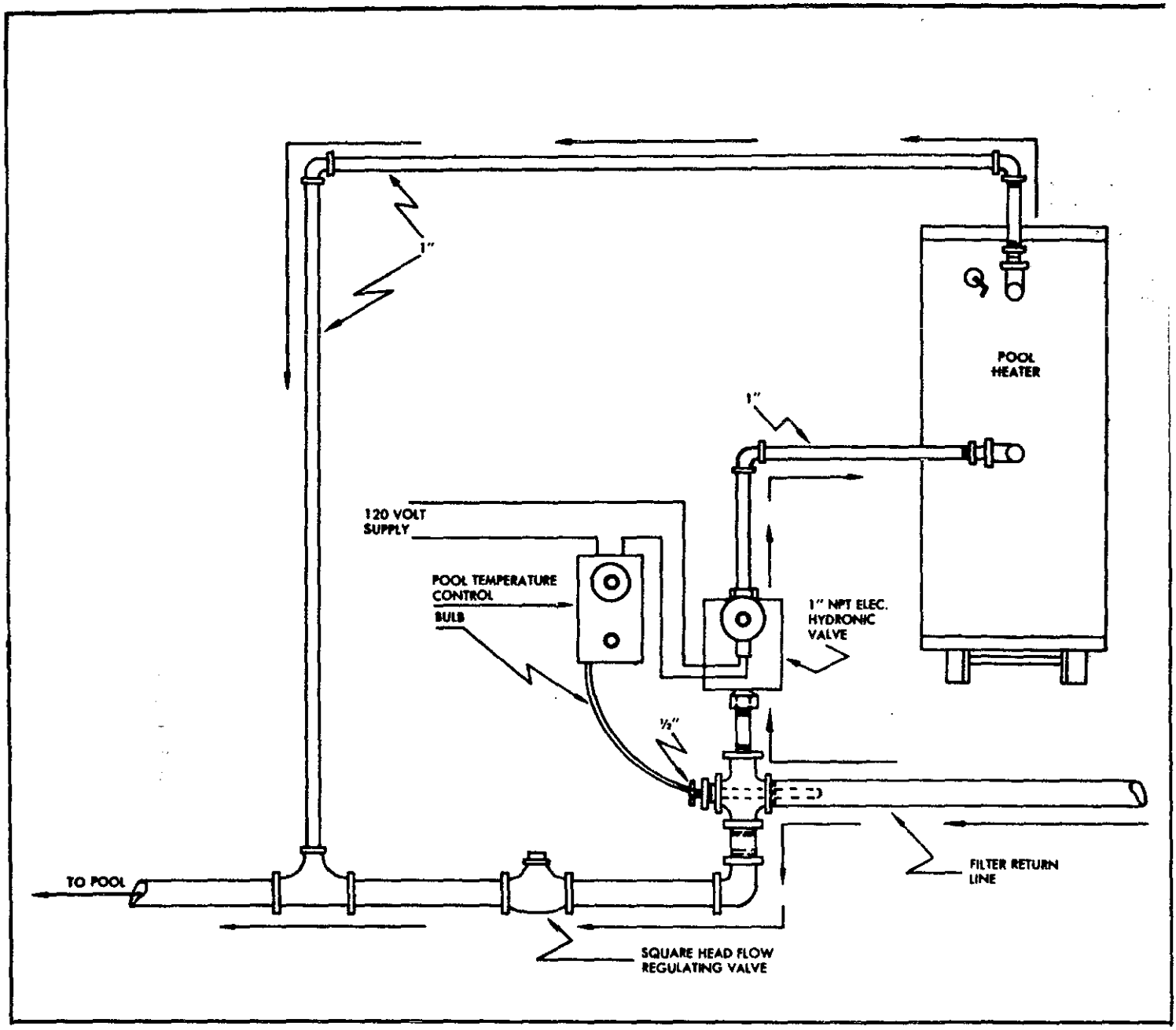


FIGURE 1

INDUSTRIAL PLANTS

This Dutymaster "GUARANTEED HOT WATER" sizing guide is for industrial plants covering the water required for general purpose use at 120° F. during employee clean-up periods. Other "special process" loads should be sized separately.

The employee cleanup period generally occurs twice daily, at noon and quitting time. An adequate supply of hot water is required for an approximate 10 minute period for every shift.

A Dutymaster system of free standing heaters can be used singularly or in manifold at a "point of use" location eliminating large auxiliary steam line, reducing stations and overly large horizontal storage tanks greatly, increasing the efficiency of the operation.

All that is required is a survey of the equipment hot water is to be furnished to, totaling the requirements and referring to the table, select the correct heater or heaters to be used.

Example: Industrial Plant washroom has the following equipment (10 min. cleanup time).

1. Two 54" Bradley Wash Fountain
2. Two Lavatories
3. One Slop Sink
4. One 36" Bradley Wash Fountain

Answer: Requirements for every cleanup period, taken from the General Purpose Water Consumption table, this page:

1.	Two 54" Bradley Wash Fountain	140 gal.
2.	Two Lavatories	10 gal.
3.	One Slop Sink	20 gal.
4.	One 36" Bradley Washfountain	40 gal.
	TOTAL	210 gal. 120° water

From table below, locate the heater or multiples of heaters that will come closest to furnishing sufficient amounts of 120° F. water. One CS 120–54 has 213 gallons available in a 10 minute period, which is also the model to recommend. Recovery is of secondary importance in this type of installation, as only 10 minutes recovery time is available during the the draw period. The storage capacity will be available before the next peak demand is required.

GENERAL PURPOSE WATER CONSUMPTION

EQUIPMENT	GALLONS REQUIRED*
Lavatory (Each)	5
Slop Sink	20
54" Bradley Wash Fountain	70
54" Bradley Wash Fountain (Half)	35
36" Bradley Wash Fountain	40
36" Bradley Wash Fountain (Half)	20
9 and 12 Pound Rag Washers	45
16 Pound Rag Washers	60

*Based on 10 minute requirements for Bradley Wash Fountain

AVAILABLE 120° F. GENERAL PURPOSE WATER*

TOTAL KW	TANK CAPACITY IN GALLONS		
	42	82	120
13.5	70	126	179
15	71	127	180
18	74	130	183
27	82	138	191
30	84	140	193
36	90	146	199
45	97	153	205
54	105	161	213

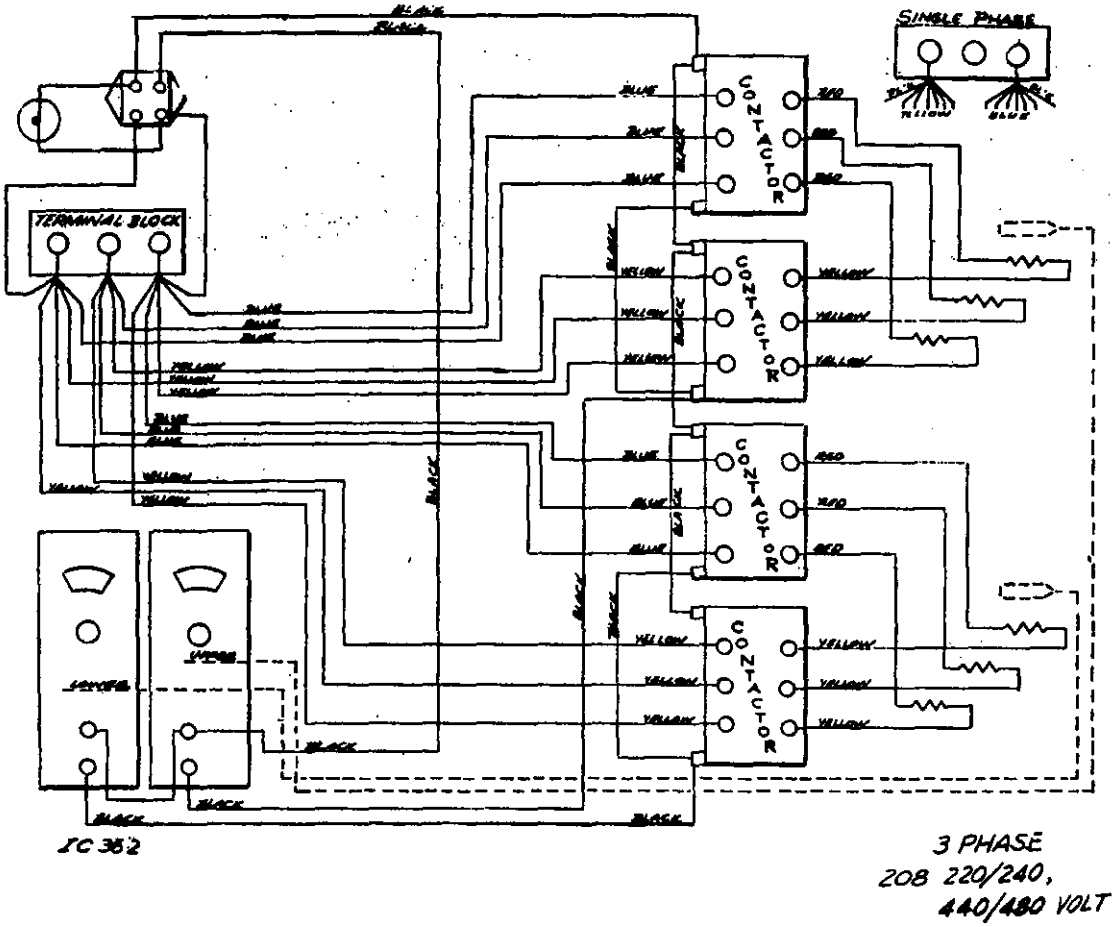
*Water stored at 180° F. and used at 120° F. with a 10 minute recovery period at 80° rise.

USEFUL TABLES

RECOVERY IN GALLONS PER HOUR AT VARIOUS TEMPERATURE RISES											
WATTAGE	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°
6000	62	49	41	35	30	27	25	22	20	19	17
9000	93	74	61	52	46	40	37	33	31	28	26
12000	123	98	82	70	61	54	49	45	41	38	35
13500	139	111	92	79	69	61	55	51	46	43	40
15000	154	123	102	87	76	67	61	56	51	47	44
18000	185	148	123	104	92	81	73	68	62	57	53
27000	277	222	184	157	138	122	110	102	93	86	79
30000	308	246	205	174	153	135	123	113	103	95	88
36000	369	296	246	209	184	162	147	136	124	115	105
45000	462	370	307	261	230	203	183	170	155	143	132
54000	554	444	369	313	276	243	220	204	186	172	158

Maximum water available in gallons in various periods of time. Based on 100° F. temperature rise.												
GAL. CAP.	K.W. CAP.	5 minutes	10 minutes	20 minutes	30 minutes	45 minutes	1 Hr.	2 Hr.	3 Hr.	Recovery GPM	Recovery GPH	Minutes to recover contents
4.5	6	5.4	7.5	11.7	16	22	28	53	78	.42	25	11
4.5	9	6.4	9.5	15.7	22	31	40	77	114	.62	37	7.5
4.5	12	7.4	11.5	19.7	28	40	52	101	150	.82	49	5.5
42	13.5	38	42	52	61	74	88	144	198	.9	55	47
82		70	74	84	43	106	121	176	231			91
120		100	104	114	123	136	150	206	360			134
42	15	39	44	54	64	79	95	158	220	1.0	62	42
82		71	76	86	96	111	127	190	252			82
120		101	106	116	126	141	157	220	282			120
4.5	18	9.3	15.3	27	39	57	76	149	222	1.2	73	4
42		40	46	58	70	88	107	180	257			35
82		72	78	90	102	120	139	212	289			68
120		102	108	120	132	150	169	242	319			100
42	27	43	52	70	88	119	144	254	364	1.8	110	24
82		75	84	102	120	141	176	286	396			46
120		105	114	132	150	181	206	316	426			67
42	30	44	54	74	94	124	157	280	403	2.0	123	21
82		76	86	106	126	156	189	312	435			41
120		106	116	136	156	186	219	342	465			60
42	36	46	58	82	106	142	181	318	465	2.4	147	18
82		78	90	114	138	174	213	340	497			34
120		108	120	144	168	204	243	380	527			50
42	45	49	64	94	124	169	217	400	583	3.0	183	14
82		81	96	126	156	201	249	432	615			28
120		111	126	156	186	231	279	462	645			40
42	54	52	52	71	108	145	200	474	694	3.7	220	12
82		84	103	140	177	232	286	506	726			22
120		114	133	170	207	262	316	534	756			33

DUTYMASTER STORAGE BOOSTER WIRING DIAGRAMS



THE DUTYMASTER COMMERCIAL ELECTRIC LINE

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Dutymaster

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CRANE

RESIDENTIAL AND COMMERCIAL WATER HEATERS

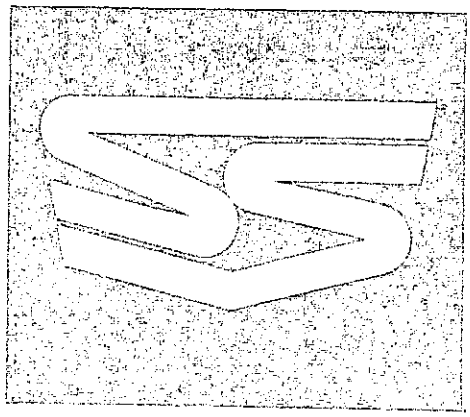
AMERICA'S LEADING DISTRIBUTOR OF PLUMBING, HEATING, AIR CONDITIONING AND INDUSTRIAL PRODUCTS

CRANE01027

STATE

ELECTRIC SERVICE MANUAL

water heaters



STATE STOVE & MFG. CO., INC. ■ ASHLAND CITY, TENN. 37015
■ HENDERSON, NEVADA 89015

CRANE01028

FACTS

FACTS ABOUT WATER

One gallon of fresh water 8.333 lbs.
One cubic foot of water 7.48 gallons
One cubic foot of water 62.428 lbs.
(at 39.2° F maximum density)
One cubic foot of water 59.83 lbs.
(at 212° F – boiling point)
One U. S. Gallon 231 cubic inches

The capacity of a cylinder in gallons is equal to the length in inches multiplied by the square of the diameter in inches x .0034.

A water column one foot high exerts a pressure of .4333 pounds per square inch.

Doubling the diameter of a pipe increases its capacity four times.

Ph { above 7.0 alkaline; 7.0 neutral; below 7.0 acid }

1 Grain per gallon = 17.1 parts per million

Water expands 4.34% heated from 40° to 212°.

BTU CONTENT OF FUELS

COAL	BTU's
1 lb.	10,000-15,000
1 Ton	25 million (Approx.)

ELECTRICITY	
1 Watt Hour	3.412
1 KW Hour	3,412

GAS	
1 lb. of Butane	21,300
1 Gal. of Butane	102,600
1 Cu. Ft. of Butane	3,260
1 Cu. Ft. of Manufactured	530
1 Cu. Ft. of Mixed	850
1 Cu. Ft. of Natural	1,075
1 lb. of Propane	21,600
1 Gal. of Propane	91,000
1 Cu. Ft. of Propane	2,570

OIL	
1 Gal. #1 Fuel	136,000
1 Gal. #2 Fuel	138,500
1 Gal. #3 Fuel	141,000
1 Gal. #5 Fuel	148,500
1 Gal. #6 Fuel	152,000

FACTS ABOUT ELECTRICITY

Amps (3 Phase) $\frac{KW \times 1000}{Volts \times 1.732}$

Amps (1 Phase) $\frac{KW \times 1000}{Volts}$

GPH = $\frac{KW \times 3412}{8.33 \times Temp.\ Rise}$

1 KW Hour will evaporate 3.5 lbs. of water from and at 212° F
1 KW Hour = 3412 BTU
1 BPH = 34.5 lbs. of steam at 212°
1 BPH = 33,475 BTU
1 BPH = 9,808 KW (10 KW)

STORAGE TANK CAPACITIES IN GALLONS

LENGTH IN FEET	*TANK DIAMETER – INCHES														
	20	22	24	30	36	42	48	54	60	66	72	78	84	90	96
1	16	20	24	37	53	72	94	120	145	180	210	250	290	330	375
2	32	40	48	74	106	144	188	240	290	360	420	500	580	660	750
3	48	60	72	110	159	216	282	360	435	540	630	750	870	990	1125
4	66	80	96	147	212	288	376	480	580	720	840	1000	1160	1320	1500
5	82	100	120	184	265	360	470	600	725	900	1050	1250	1450	1650	1875
6	98	120	144	220	317	432	564	720	870	1080	1260	1500	1740	1980	2250
7	114	140	168	257	370	504	658	840	1015	1260	1470	1750	2030	2310	2625
8	131	160	192	294	423	576	752	960	1160	1440	1680	2000	2320	2640	3000
9	147	180	216	330	476	648	846	1080	1305	1620	1890	2250	2610	2970	3375
10	163	200	240	367	529	720	940	1200	1450	1800	2100	2500	2900	3300	3750
11	180	220	264	404	582	792	1034	1320	1595	1980	2310	2750	3190	3630	4125
12	196	240	288	440	634	864	1128	1440	1740	2160	2520	3000	3480	3960	4500
13	212	260	312	477	687	936	1222	1560	1885	2340	2730	3250	3770	4290	4875
14	228	280	336	514	740	1008	1316	1680	2030	2520	2940	3500	4060	4620	5250
15	244	300	360	550	793	1080	1410	1800	2175	2700	3150	3750	4350	4950	5625
16	260	320	384	587	846	1152	1504	1920	2320	2880	3360	4000	4640	5280	6000

*To determine diameter when only the circumference is known, divide that figure by 3.1416 (π).

FULL-LOAD CURRENT IN AMPERES

K. W. RATING	NUMBER OF ELEMENTS	SINGLE – PHASE				THREE – PHASE			
		208V	220/240V	277V	440/480V	208V	220/240V	277V	440/480V
–6	3–2000W	29	27	22	14	17	16	13	9
–9	3–3000W	43	41	33	21	26	24	20	12
–12	3–4000W	58	55	43	28	34	32	25	17
–13.5	3–4500W	65	61	49	31	38	35	29	18
–15	3–5000W	72	69	55	34	42	40	32	20
–18	3–6000W	87	82	65	41	50	48	38	24
–27	6–4500W	130	123	98	62	75	71	57	36
–30	6–5000W	144	137	109	69	83	79	63	40
–36	6–6000W	173	164	130	82	100	95	75	48
–45	3–9000W 3–6000W	N.A. 3 phase only	205	163	103	125	119	95	60
–54	6–9000W	N.A. 3 phase only	246	195	123	150	142	113	71

ALLOWABLE CURRENT-CARRYING CAPACITIES (Amperes) OF INSULATED CONDUCTORS. Not More Than Three Conductors in Raceway or Direct Burial, based on 30 C, 86 F ambient (Condensed from National Electrical Code)

Max Oper Temp	60 C	75 C	85 C	110 C	125 C	200 C
	Types of Insulation					
	R, RW	RH, RHW Versatol SI8006 Super Coronol SI58007	Paper V-C (V) Varnish Cambric SI12352	V-C (AVA) Deltabeston SI57049 V-C (AVL) Deltabeston SI57120	AI AIA Silicone SI58210	A AA
Size AWG or MCM	RH-RW (wet loc.)	RH-RW (dry loc.)	V-C (AVB) Deltabeston SI57095			
	T, TW Flamenol SI58175	THW Flamenol SI58266	MI RHH Super Coronol SI58007 8 AWG & Larger			
14	15	15	25	30	30	30
12	20	20	30	35	40	40
10	30	30	40	45	50	55
8	40	45	50	60	65	70
6	55	65	70	80	85	95
4	70	85	90	105	115	120
3	80	100	105	120	130	145
2	95	115	120	135	145	165
1	110	130	140	160	170	190
0	125	150	155	190	200	225
00	145	175	185	215	230	250
000	165	200	210	245	265	285

SECTION III

TROUBLESHOOTING CHART - ELECTRIC HEATER

COMPLAINT	POSSIBLE CAUSE	REMEDY
WATER NOT HOT ENOUGH, OR INSUFFICIENT HOT WATER	Thermostat set too low.	Reset thermostat.
	Incorrect voltage.	Contact Utility.
	Incorrect electric connections.	Rewire properly.
	Scale on elements.	Remove and descale.
	Defective thermostat or element	Replace.
	"Off Peak" time switch not set properly.	Reset switch.
	Capacity of heater too small	Install proper size heater.
NO HOT WATER	Defective or blown fuse.	Replace fuse.
	Incorrect electric connection.	Rewire properly
	"Off Peak" time switch not set properly.	Reset switch.
	Loose connections or broken wires.	Rewire connections.
	Defective thermostat.	Replace thermostat.
	Manually controlled switch on "OFF" or "1" position.	Reset switch.
WATER TOO HOT	Thermostat set too high.	Reset thermostat.
	Incorrect connection.	Rewire properly.
	Defective thermostat	Replace thermostat.
	Grounded element.	Replace element.
BILLS TOO HIGH	Water consumption higher than anticipated.	Educate customer and/or install larger heater.
	Leaky faucet.	Repair faucet.
	Circulating systems.	Remove circulating system.
	Auxiliary equipment.	Remove auxiliary equipment.
	Location of heater.	Relocate heater.
	Pipe Size.	Reduce pipe size to proper size.
	Grounds.	Remove grounded components.
WATER LEAKS	Element mounting bolts loose.	Tighten bolts.
	Defective gaskets.	Replace gaskets.
	Loose pipe connections.	Tighten pipe connections.

CRANE01031

CYCLE OF OPERATION
DOUBLE ELEMENT MODELS (Residential)

There are two (2) types of thermostats used on electric water heaters, single and double throw thermostats.

The single throw thermostat has only one operating position, while the double throw type has two. Figure 1 shows the cycle of operation which begins with a tank full of cold water at 50 degrees F.

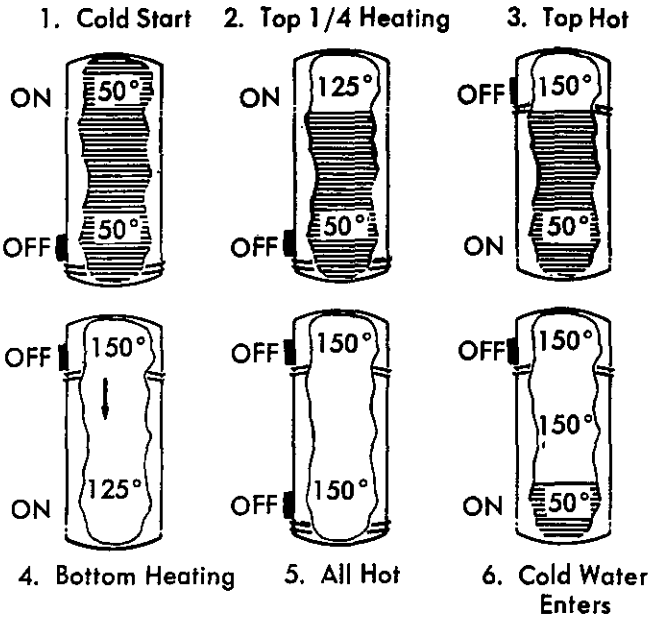


Figure 1 Operation of Upper and Lower Units

1. The upper thermostat senses cold water and has energized the upper unit. Although contacts on both thermostats are normally closed in response to the cold water, the double throw upper thermostat completes the circuit only to the upper heating unit. Because of the double throw action, power to the lower thermostat is cut off.

2. As the upper unit operates, it heats the water above it, approximately one quarter of the tank's capacity.

3. The water in the upper quarter of the tank is heated until it reaches the temperature set on the upper thermostat. (All thermostats are preset at the factory at 150 degrees F.). The upper thermostat then breaks the circuit to the upper heating unit and completes the circuit to the lower heating unit.

4. The lower unit then operates and heats the remainder of the water in the tank.

5. The lower thermostat breaks the circuit to the lower unit when the water in the lower portion of the tank has been heated to its setting. The entire tank is now filled with hot water and neither the upper or lower unit is energized.

6. As hot water is drawn from the top of the tank, cool water comes in at the bottom through the dip tube. The lower thermostat reacts to the cold entering water by closing its contacts, energizing the lower heating unit, heating the water as it enters the tank.

Off-Peak Service

Utilities are faced with a situation which is not common to the average business. When a customer closes a switch he expects the light to glow; the machine to run; or the food to cook. Therefore, the utility's equipment must be of sufficiently large capacity to handle a peak at the instant it occurs. This means that any load below the "peak" leaves a surplus of unused capacity. For that reason, interruptable service is sometimes sold at reduced rates. This lower rate usually applies to hours when the load is known to be below "peak".

The "controlled" water heating rate provides such "off-peak" service. It employs a separate meter in addition to the regular meter. This meter has a built-in, clock-operated switch which breaks the circuit to the lower heating unit of the water heater during hours of peak loads on the line.

For example, water heaters may be turned off during the evening when electrical distribution facilities are needed to serve electric ranges; or they may be kept off throughout the entire day where a utility has an extremely large daytime industrial load. In return for the privilege of taking the water heaters off the line at those times, the utility gives the customer a lower, or "off-peak" rate.

In some cases of this type, the entire household is metered at the low water heating rate during the water heater charging hours. Thus, the installation of a water heater can mean lower electric costs for all uses of electricity during those hours.

In most cases where two-unit heaters are used with controlled service, only the lower element is controlled, while the upper element is free to operate at regular household rate when the supply of hot water is more than 75% exhausted.

In many cases the upper unit is connected to the regular house meter, and any electricity used on that unit will be at the standard or regular rate.

CRANE01032

Thermostat Settings – Residential

Some users request that the thermostats be set lower than the standard setting of 150 degrees F. It should be kept in mind, however, that settings below 150 degrees F. can be two-sided.

On one hand, lower temperatures will add to the life span of the tank while, on the other hand, customers may complain of inadequate hot water. Complaints of inadequate water result in additional service calls which can become quite expensive.

When contemplating a lower than normal thermostat setting, please keep these general rules in mind:

1. Dishwashers require approximately 140 degrees – 160 degrees F. water for efficient operation.

2. Automatic clothes washers use from 20 to 52 gallons of hot water per load with an average of about 27 gallons. When the temperature is below 150 degrees F., the customer may not be satisfied with cleaning action of washer.

3. Effective water temperature at the taps can be lowered considerably by long uninsulated supply lines, expecially those routed through unheated raceways or through concrete slabs. This cooling effect is of less importance in the extreme southern states.

4. Water heaters may become inadequate if the maximum storage temperature is reduced from 150 degrees F. Usually a greater amount of hot water must be used to accomplish a certain result (such as a shower, tub bath, hand dishwashing, etc.) because the user expects a specific temperature. This reduces the effective capacity of the water heater.

Thermostats – Commercial

The heating elements operate under the control of thermostats which are factory set at 180° F. The thermostats operate automatically and can be adjusted to provide cooler water temperature.

Surface-mounted Thermostats:

The water temperature is controlled by close differential surface mounted thermostats which controls its own individual heating element. Over temperature protection is obtained with a manual reset high limit thermostat above each thermostat.

Low – 120°
Med. – 150°
Hi – 180°

Immersion Thermostats:

The water temperature is controlled by close differential, fast-acting immersion thermostat(s) which activates the control circuit of the heavy duty magnetic contactors which controls the power flow to the heating elements. Over temperature protection is obtained with manual reset high limit thermostat(s) which opens all ungrounded power circuits.

All electric commercial heaters have a red neon pilot light, wired to indicate that there is power to the heater, however, it is also wired so that the light will go out if the high limit thermostat is tripped.

TESTING PROCEDURES

The circuitry on residential water heaters have been basically the same for many years. These testing procedures and complaint lists should assist in diagnosing the trouble and making the proper repairs to restore operation with dispatch.

CIRCUIT TESTING PROCEDURES

Test Devices

There are two types of testers which can be used in locating electrically inoperative components on water heaters. One is a special voltage tester, and the other is a series test lamp, Figure 2.

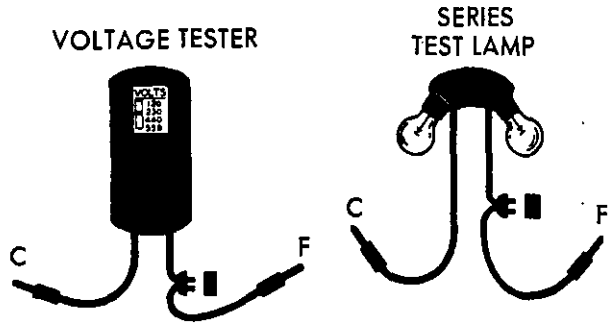


Figure 2

Neither type tester should be used on dn energized or "live" circuit. The tester should be connected to the nearest independent 120 volt outlet.

CAUTION

BEFORE MAKING ANY TESTS, TOUCH TERMINAL "C" TO A GROUND POINT SUCH AS A WATER PIPE, SINK FAUCET, OR CONDUIT. THE INDICATOR ON THE METER SHOULD INDICATE 120 VOLTS; AND THE BULBS IN THE LAMP SHOULD BURN AT HALF BRILLIANCY. IF THERE IS NO REACTION FROM THE TESTER WHEN TERMINAL "C" IS TOUCHED TO A GROUND POINT, DISCONNECT THE EXTENSION CORD, ROTATE THE PLUG ONE HALF TURN, AND REINSERT. BE SURE THAT TERMINAL "C", WHICH IS THE TEST LEAD OPPOSITE THE ONE WITH THE PLUG CAP, INDICATES 120 VOLTS TO GROUND.

Also, remember that when terminal "C" shows no voltage, terminal "F" is hot. Do not come in contact with it, or permit it to touch a ground point, until the plug has been reversed.

All tests on electric water heaters should be made with the power disconnected. A separately powered testing device should be used.

The 3 major causes for service calls on electric water heaters are:

1. An inoperative thermostat.
2. An inoperative element.
3. Blown fuses.

Before conducting any of the recommended testing procedures which are listed below, service technician should check several points of failure in the electric circuit outside of the heater itself.

1. Defective or blown fuses.
2. Loose fuses.
3. Disconnecting switch with worn contact blades or clips.
4. Open circuit between the heater and its source of electrical supply.
5. Defective switch inside the "controlled" meter. If this condition is found, call the Utility Company and report it.

If it is a "controlled" heater, the switch to the upper unit may be open, or the fuse or fuses to the upper unit may be loose or blown. Some misinformed people will intentionally open this switch or remove the fuses to keep the upper unit from turning on, believing it to be an economy measure.

The switch to the upper heating element on a "controlled" water heater should never be left in "open" position, nor the fuses removed or loosened.

If the circuit which feeds the upper unit is interrupted the lower unit will continue to function, possibly for months, possibly for only a day or so, depending on how much hot water is used. As long as the cold water does not reach the height of the upper thermostat, the lower unit will heat water. But, once the hot water is exhausted to a point where cold water reaches the level of the upper thermostat, that thermostat will close the circuit to the upper unit and disconnect the circuit to the lower unit and thermostat. If the feed to the upper unit circuit has been interrupted by removing fuses or opening the switch, the upper unit cannot heat, and the upper thermostat will not turn "off"; thus the circuit to the lower unit and thermostat will remain "open". From that time on, there will be no water heated by either unit until the circuit to the upper unit is restored. On a "controlled" water heater, the two circuits have separate sets of fuses and separate disconnecting switches. All fuses must be good, be securely in place, and both switches closed at all times, for satisfactory water service.

To Test The Upper Thermostat

Make the following tests with all current "OFF".

Pull the thermostat away from the tank and allow it to cool to approximately room temperature. Remove the wires from the thermostat terminals. Mark the wires in some manner to assure their reinstallation in the proper terminals. Using the tester, a closed circuit should exist (between the two terminals which control the upper heating unit).

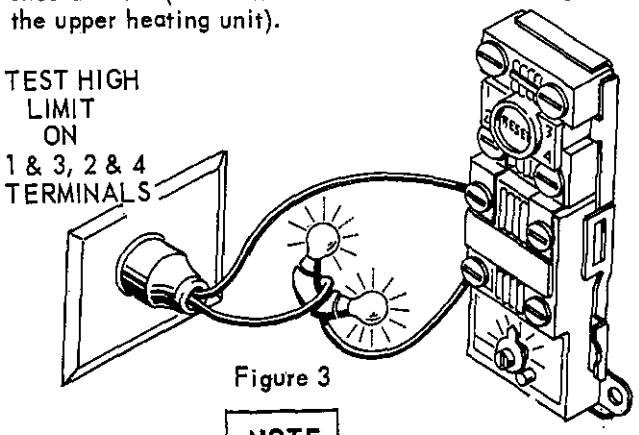


Figure 3

NOTE

The tester should be plugged into a nearby convenience outlet.

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To Test Lower Thermostat

Make the following test with all current "OFF".

Pull the thermostat away from the tank and allow it to cool to approximately room temperature. Remove the wires from the thermostat at terminals. Using the tester, a closed circuit should exist. If the lamp fails to light, current is not going through the thermostat and it must be replaced, provided the heating element is not open. Check for an open element before replacing the thermostat.

Electrical Overtemperature Switch

All electric water heaters have an electrical overtemperature switch, as of July 29, 1964, furnished as standard equipment. The function of the hi-limit switch is to cut all power to the water heater when the water temperature exceeds 195 degrees F.

The service technician should always check the hi-limit cut-off switch where there is a "No Hot Water" service report. If the switch has been tripped it can be reset by pressing the red button until a distinct click is heard.

THE SWITCH SHOULD NOT BE RESET, HOWEVER, UNTIL THE REASON FOR ITS CUT-OFF HAS BEEN DETERMINED AND CORRECTED.

CHECKING HEATING ELEMENT

Checking Upper Element

Make the following test with all current "OFF".

Remove the access panel from the front of the heater. Remove wires from element by placing the test prongs of the test lamp on the two (2) terminals of the heating element. If the lamp lights, the element is good; if the lamp fails to light, the element is open or defective and must be replaced.

After the element has been replaced, reconnect wiring; turn on electrical supply and check for operation.

Checking Lower Element

The lower heating element is checked as described in the UPPER ELEMENT paragraph. If element is good, make certain that the current to the heating element is not being interrupted by a time clock or the contacts of the upper thermostat.

Checking for a Grounded Element

Disconnect the heater current supply and remove both wires from the heating element. Place the "C" test lamp prong on one of the heating element terminals and the other test prong on the bare tank or the hex nut of the heating element. Check the other heating element.

If the test lamps light, the element is grounded and must be replaced.

Ordinarily, when an element grounds out, one of the main line fuses will blow, but it is possible to have a high resistance ground which will not blow fuses but will cause faulty operation. The testing procedure outlined will, in many cases, reveal a high resistance ground.

HEATING ELEMENT REPLACEMENT

When installing a new element, be sure the tank flange is clean and always use a new flange gasket which is included with the replacement unit.

Disassembly

1. Shut off power to water heater.
2. Remove wires to element. Drain water as required.
3. Remove element and gasket.

Assembly

1. Install new gasket and element.
2. Connect lead wires to heating unit.
3. Turn on water and completely fill tank.
4. Check for water leakage.
5. Turn on electric power.

CAUTION

TO PREVENT UNIT BURN-OUT BE SURE TANK IS FULL OF WATER. (BE SURE AT LEAST ONE HOT WATER FAUCET IS OPEN TO BLEED AIR FROM LINE, TO INSURE TANK IS FULL OF WATER.)

FAILURE OF IMMERSION UNITS CAUSED BY A DRY RUN CONDITION

Many of the immersion heating element failures are caused by the element being energized in a tank with insufficient water. Under these conditions the copper sheath deteriorates and the element fails in 1 to 3 minutes. This type of failure can be detected by noting the small globules of metal on the element. These globules indicate that the temperature of the sheath material reached about 1600 degrees F. and then melted.

Immersion Units "Singing"

On occasion a consumer may report that a water heater is noisy or singing. The sound to which they refer is somewhat akin to water in a tea pot which is just about to boil.

The sound is caused by the high wattage immersion units, usually above 2000 watts. The sound may or may not increase somewhat in intensity as long as the unit is energized.

This unit SHOULD NOT be replaced because of the noise. For one thing, the replacement unit will probably make the same sound as did the original unit unless the replacement is of lower wattage. Secondly, most competitive water heaters develop the same sound, and in many instances, the manufacturers forewarn their consumers of this possibility.

We suggest that rather than replace any "noisy" units, you instead advise the consumer that these units are acting normally and that the sound is simply the result of the efficiency of the high wattage design.

Unit Scaling

Scaling is caused by the precipitation of lime and other materials held in suspension in water under certain conditions. Increased temperatures accelerate precipitation and there is a marked increase in precipitation in waters of medium or high hardness of temperatures above 160 degrees F. In other words, the acceleration in precipitation is much higher at 160 degrees F. than it is at 120 degrees F.

Except in the most severe cases, the temperature change of the heating unit with the consequent expansion and contraction will crack off the scale and allow it to fall to the bottom of the heater. Since the element temperature rise is less than 5 degrees above the temperature of the water being heated, scale formation is held to a minimum.

IMPORTANT

IN HARD WATER AREAS, A WATER SOFTENER SHOULD BE INSTALLED TO HELP ELIMINATE THE SCALING CONDITION REGARDLESS OF WHETHER THE HEATER IS EQUIPPED WITH HIGH OR LOW WATTAGE UNITS.

Cleaning Elements

Scale and calcium deposits from water accumulate on heating elements. These deposits reduce element efficiency as they do not permit heat to pass effectively from element to water. Depending on the condition of the water in your area, plus temperature setting of thermostats, the period of time elapsing between cleaning periods will vary. In hard water areas, we recommend cleaning every 3 or 4 months, or as often as inspection deems necessary. In areas with moderately hard water, this interval may be longer; however, we recommend a periodic inspection.

If the heating elements require frequent attention due to excessive calcium deposits from extremely hard water, correct this condition by installing a water softener.

Remove the element for cleaning and clean it as outlined in step A or B:

A. Scrape all scale deposits off with a wire brush, or similar type of scale removing tool. Be careful not to damage, dent, cut or bend the element when cleaning.

B. Place the element in a pan of water and vinegar and boil until the element is clean.

FLUSHING THE TANK. It is recommended that at least 2 gallons of water be drained from the heater every month. This will flush both lime and sediment deposits from the bottom of the tank and lengthen the heater's service.

Standard Watts Input

The N.E.M.A. standard wattages for units are based upon 20 watts per gallon of tank capacity for the primary (lower) unit and 30 watts per gallon of tank capacity for the secondary (upper) unit. For example, on a 50 gallon water heater the standard wattage would be 50 X 20 = 1000W for the primary unit; and 50 X 30 = 1500W for the secondary unit.

Because of the difference in the number of hours charging time, utilities may vary their requirements for the unit wattage, such as on a quick recovery heater.

Recovery Rate

The recovery rate is that period of time required to raise a quantity of incoming cold water to the predetermined temperature setting of the thermostat.

Recovery rate of a heating element is:

1 KW (1000 watts) will raise
4 gallons of water 100 degrees F. in one hour.

For example, a standard 42 gallon, quick recovery water heater (4500 W., upper unit, 4500 W., lower unit) has a recovery rate of 18 gallons per hour.

With 50 degrees F. incoming cold water the entire 42 gallons of water will be heated to 150 degrees F. in just a little over 2 hours.

However, it must be remembered that the time required to heat all the water in the tank (recovery time) at any given time, might vary with a change in temperature of the incoming cold water.

Recovery time in the above example would be increased slightly, if the incoming cold water was 45 degrees F., or considerable less at 72 degrees F. But regardless of the incoming water temperatures 1 KW will always raise 4 gallons of water 100 degrees F. in one hour up to the limit of the thermostat setting, see the table below.

208 Volt Water Heaters

If a 236 volt heater is installed on a 208 volt service the actual wattage is approximately 75% of the rated wattage. Example: a 4500/4500 watt heater will actually produce only about 3500/3500 watts and the recovery rate will drop from 18 gallons an hour to 14 gallons an hour. With the use of the 4500 W./208 volt water heater, full rated wattage will be delivered and the recovery rate will be 18 gallons per hour with this size unit.

WATTAGE	RECOVERY IN GALLONS PER HOUR AT VARIOUS TEMPERATURE RISES										
	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°
1,000	10.3	8.2	6.8	5.8	5.1	4.5	4.1	3.8	3.5	3.2	2.9
1,500	16	12	10	9	8	7	6	6	5	5	4
2,000	21	16	14	12	10	9	8	7	7	6	6
3,000	31	25	20	17	15	14	12	11	10	9	9
4,000	41	33	27	23	20	18	16	15	14	13	12
5,000	52	41	34	29	26	23	20	19	18	16	15
6,000	62	49	41	35	30	27	25	22	20	19	17
9,000	93	74	61	52	46	40	37	33	31	28	26
12,000	123	98	82	70	61	54	49	45	41	38	35
13,500	139	111	92	79	69	61	55	51	46	43	40
15,000	154	123	102	87	76	67	61	56	51	47	44
18,000	185	148	123	104	92	81	73	68	62	57	53
27,000	277	222	184	157	138	122	110	102	93	86	79
30,000	308	246	205	174	153	135	123	113	103	95	88
36,000	369	296	246	209	184	162	147	136	124	115	105
45,000	462	370	307	261	230	203	183	170	155	143	132
54,000	554	444	369	313	276	243	220	204	186	172	158

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WATER LEAKS

If a tank leak develops, the complete water heater should be replaced. Experience has proved when a leak occurs, the use of tank plugs or other expedients is, at best a very temporary remedy. Where patch and plug repairs are made to correct tank leaks, the result is almost invariably unsatisfactory.

However, a leak in one or more of the tank fittings can easily be mistaken for a leak in the tank itself. Before a tank is replaced due to leaks, the water inlet, outlet, and relief valve connection should be examined closely.

Under conditions of high humidity, condensation may be mistaken for a leak. Condensation is likely to occur if the lower element of an electric water heater is burned out.

CORROSION

Service on water heaters is normally limited to the replacement of inoperative heating units or thermostats due to normal wear. Of course, there are a few additional difficulties which arise occasionally as a result of inadequate capacity or faulty installation. These reports are usually not a justifiable criticism of the water heater, since an undersized heater, or an improper installation, is obviously not a defect in the product.

There are also a few reports of corrosion and rusty water. An understanding of the varying characteristics of water, and of water supplies, should make it possible for the service technician to analyze and explain the circumstances involved in reports of rusty water.

WATER SUPPLIES

Water supplies in the United States vary in mineral content from the relatively soft waters of the coastal regions to the very hard waters of the mid-western limestone regions. Although hardness of water results from dissolved calcium and magnesium salts introduced in the water from mineral deposits, there are other sources of effective hardness such as absorbed and dissolved gases from the atmosphere. Carbon dioxide dissolved in the water reacts to form calcium and magnesium bicarbonates or temporary hardness. In general, this temporary hardness is removed when water is heated above 130° F. since the bicarbonates decompose to produce carbon dioxide gas and the carbonates which precipitate as a lime scale.

THE CONSTITUENTS OF WATER

Distilled, or pure water, consists of hydrogen and oxygen. Ordinary water usually contains certain impurities such as dissolved minerals and other foreign matter. These impurities are called dissolved solids.

The dissolved solids found in water includes the following: silica, iron, calcium, magnesium, sodium, potassium, bicarbonate, sulphate, chloride and nitrate.

Iron in the Water

Iron is dissolved from practically all rocks, and is frequently dissolved from iron pipes in sufficient quantity to be objectionable. Water that contains any significant amount of iron is especially objectionable. First, because the water which contains iron will have a rusty appearance after being exposed to the air, and also because of the stains it makes on plumbing fixtures and on clothing.

Magnesium and Calcium

The minerals, calcium and magnesium, cause hardness in water.

Bicarbonate

The carbon dioxide in most natural waters is present as bicarbonate and free carbon dioxide. Bicarbonate and carbonate are often reported to be alkaline. This alkalinity has an influence upon hardness and corrosiveness.

The pH Value in Water

The pH value is an arbitrary symbol adopted to express the degree of acidity or alkalinity of a solution. It is a mathematical expression of the hydrogen ion concentration which is of interest and importance with reference to the corrosiveness of water.

A low value of pH means a high concentration of hydrogen ions or acidity, and a high value of pH indicates a low concentration of hydrogen ions, or alkalinity. The pH value of neutral water is designated as 7.0. Low pH values can be one indication of corrosive water. The chart in Figure 4 presents a graphic explanation of the pH value.

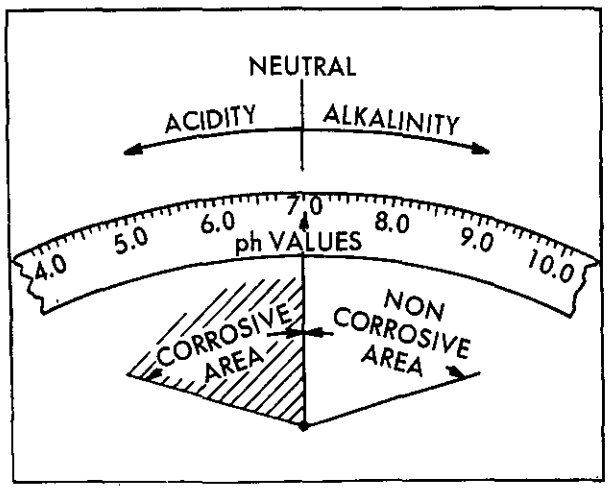


Figure 4

CRANE01038

Characteristics of Water

HARDNESS. Hardness is the characteristic of water that receives the most attention with reference to commercial use. Hardness is of interest to the service technician, because of its close relationship with corrosion.

Hardness is caused almost entirely by calcium and magnesium. Hardness in water is measured in parts per million, or "PPM". The PPM factor in water can run from zero to an extreme high of 800. The majority of water supplied in the United States is probably below 180 PPM. A commonly accepted standard is a residual hardness of about 100 PPM. Generally speaking, water with a hardness of 60 PPM or less is considered to be soft, Figure 5.

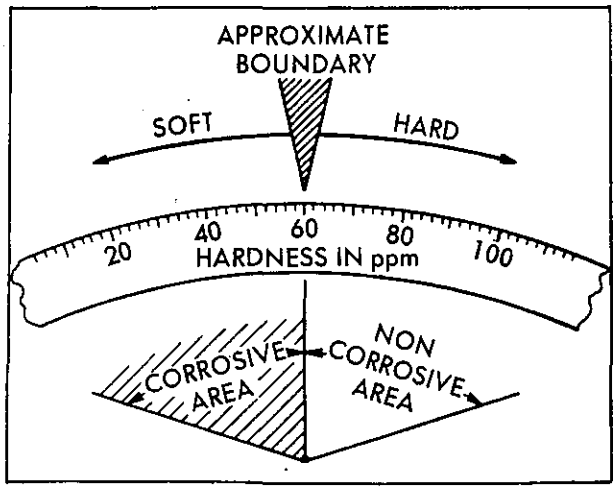


Figure 5

RED WATER. Water from well supplies often contain dissolved iron which, in amounts greater than .3 PPM, will cause the water to turn red. This is due to the precipitation of the iron following its oxidation. In a case of a private well supply, a glass of water might be clear when drawn, and turn yellow or red when it is exposed to the air. The trouble is probably due to iron dissolved in the water supply. The municipal water supply from reservoirs usually contains very little iron.

Another cause of red water is the action of iron bacteria which brings about the oxidation of dissolved iron and throws off a slimy red iron oxide. Inasmuch as chlorine is effective in killing the bacteria, this type of red water is usually associated primarily with private water supplies. Red water may also be the result of corrosion.

CORROSIVENESS. There are numerous factors which cause discolored water and the rusting of tanks and water lines. Some of these are: dissolved oxygen concentration, pH value, temperature, hardness, agitation, electrolytic action between dissimilar metals, and some others.

ODOR OR GASSING COMPLAINTS. A complaint of the odor of "Rotten Eggs" (Hydrogen sulphide) may be caused by certain types of mineral and harmless bacteria in the water, combined with the magnesium anode. In addition to the odor, this combination will often turn silverware black. This odor can usually be stopped by the removal of the anode and thoroughly flushing out the tank.

A complaint of gassing or sputtering at the faucets with extreme pressure usually indicates high mineral content (hardness) of the water. This condition is corrected by removing the anode rod and replacing it with a resistor type rod. The tank should be thoroughly flushed.

The reaction previously outlined can occur on any water heater equipped with a magnesium anode rod.

FLUSHING TANK

It is recommended that approximately two gallons of water be drained from the heater every two weeks. This will flush lime and sediment deposits from the bottom of the heater and lengthen the heater's life. To flush the tank, attach hose to 3/4" hose connection to the drain valve so that the water may be directed toward the drain where it will not cause damage. Open the drain valve.

DRAINING THE TANK

When it becomes necessary to completely drain the tank, open the drain valve at the bottom of the tank after attaching hose to 3/4" connection on the drain valve. Shut off water supply to the tank while it is draining. When heater is not used during winter months, drain water from tank and pipes to prevent freezing. Disconnect unions on both HOT and COLD connections for winter draining. Open hot water faucet to speed draining.

TEMPERATURE PRESSURE RELIEF VALVES

The expansion of water during heating must be dealt with in all water heater installations. When the water heated from 50 degrees F., to 150 degrees F., it expands slightly more than three per cent in volume. This condition demands that every domestic water heater installation be protected with a proper relief valve. Failure to use an approved relief valve will void the warranty.

A "Temperature and Pressure Relief Valve" will operate and relieve either excessive temperature or pressure. Pressure temperature relief valves afford the maximum protection to the water heater and to the user.

The pressure setting of the relief valve should not exceed the working pressure shown on the heater.

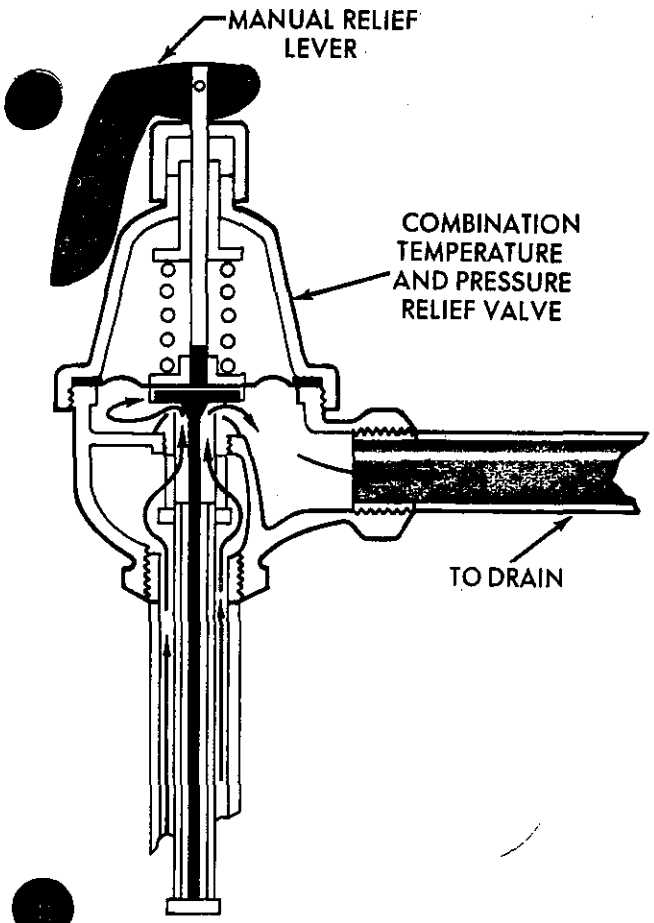


Figure 6

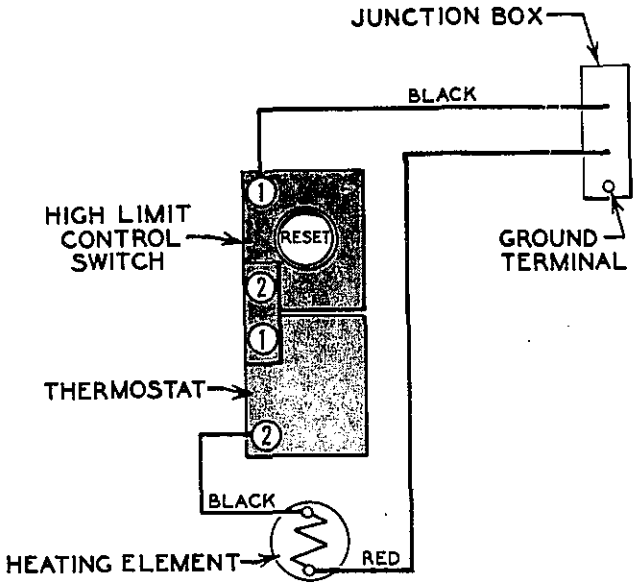
CAUTION

NEVER ATTACH A FURNACE COIL (OR OTHER AUXILIARY WATER HEATING EQUIPMENT) DIRECTLY TO THE ELECTRIC WATER HEATER. THE CONNECTION OF ANY SUCH EQUIPMENT TO THE WATER HEATER COULD DAMAGE THE HEATER THERMOSTAT AND WILL VOID THE WARRANTY.

Failure to install a properly rated ASME and AGA approved temperature and pressure relief valve will release the manufacturer from any claim which might result from excessive temperatures or water pressures.

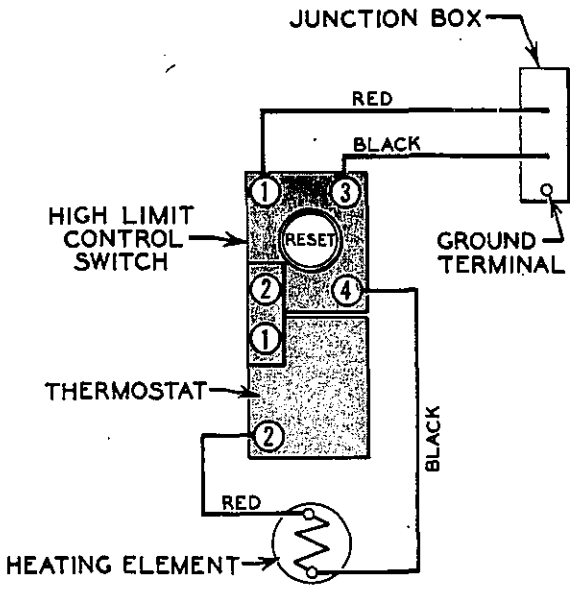
WIRING DIAGRAM

RESIDENTIAL



A-8 CIRCUIT

118 VOLT

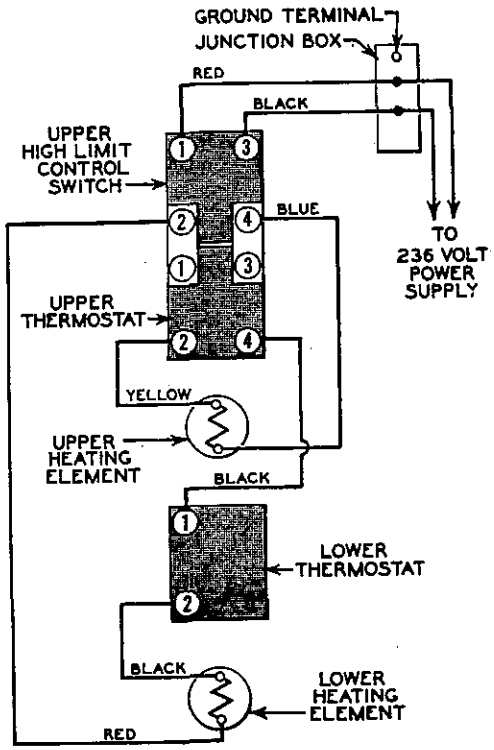


A-9 CIRCUIT

236 VOLT

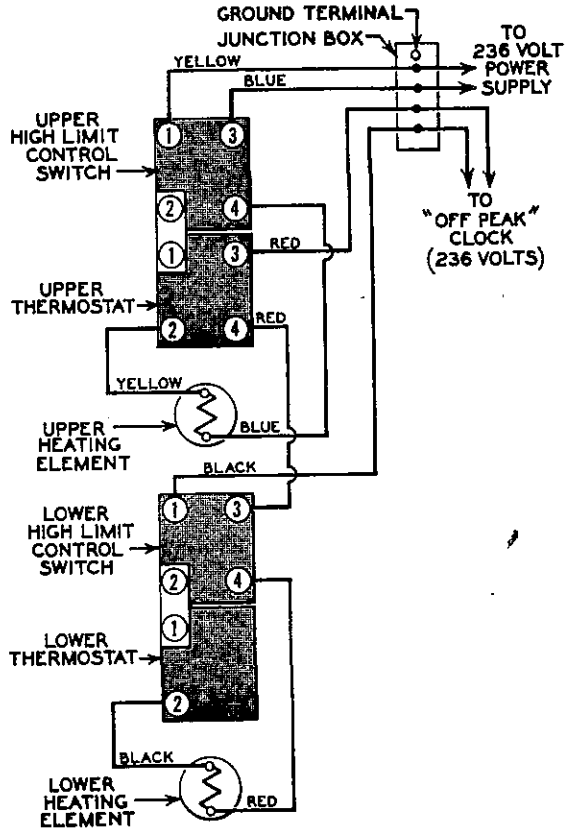
WIRING DIAGRAM

RESIDENTIAL



A–5 CIRCUIT
STANDARD 2 WIRE HOOK-UP

Simultaneous operation for the A-5 circuit. Remove the black wire from the #4 terminal of the upper thermostat, replace it on the #3 terminal of the upper thermostat. Note CAUTION



A–7 CIRCUIT
4 WIRE "OFF PEAK" HOOK-UP

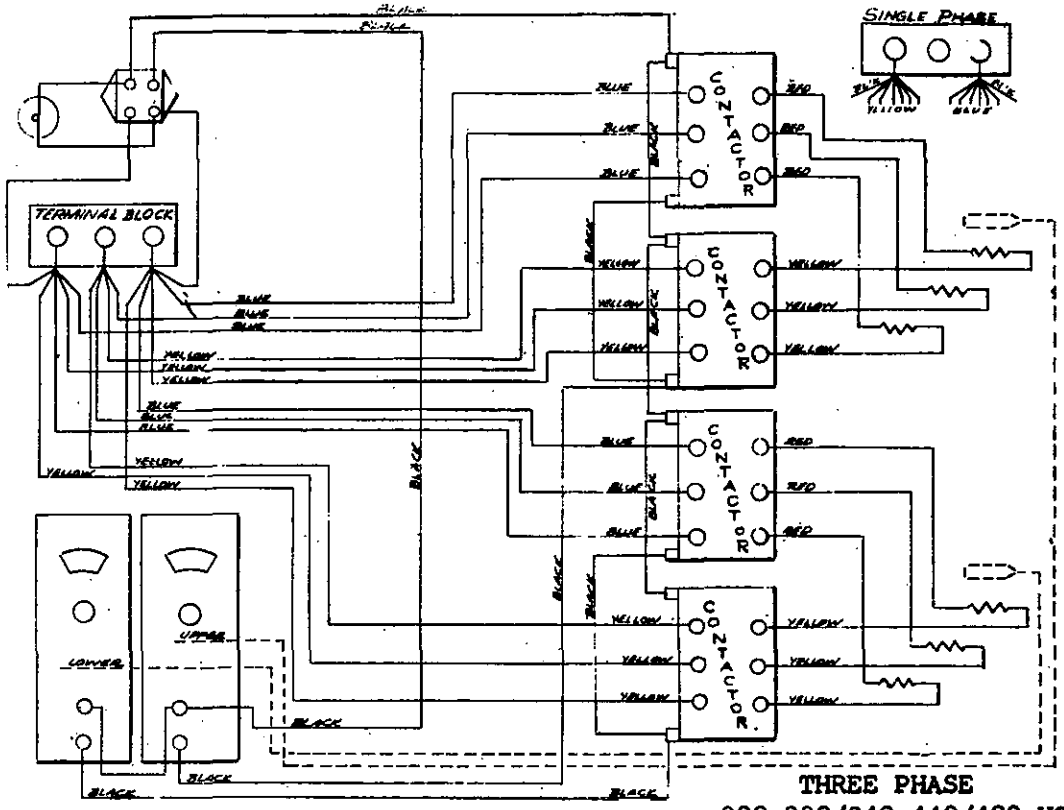
Simultaneous operation for the A-7 circuit. Remove the black wire from the #4 terminal of the upper thermostat, replace it on the #3 terminal of the upper thermostat. Note CAUTION

CAUTION

CONVERSION OF THE WATER HEATER TO SIMULTANEOUS OPERATION (IN WHICH BOTH HEATING ELEMENTS CAN OPERATE AT ONCE) SHOULD ONLY BE DONE AFTER APPROVAL IS GIVEN BY THE LOCAL ELECTRIC UTILITY AND A QUALIFIED ELECTRICIAN, SERIOUS DAMAGE CAN BE DONE TO THE ELECTRICAL SYSTEM OF THE HOME IF IT IS INADEQUATE TO CARRY THE CURRENT REQUIRED FOR THIS TYPE OF OPERATION.

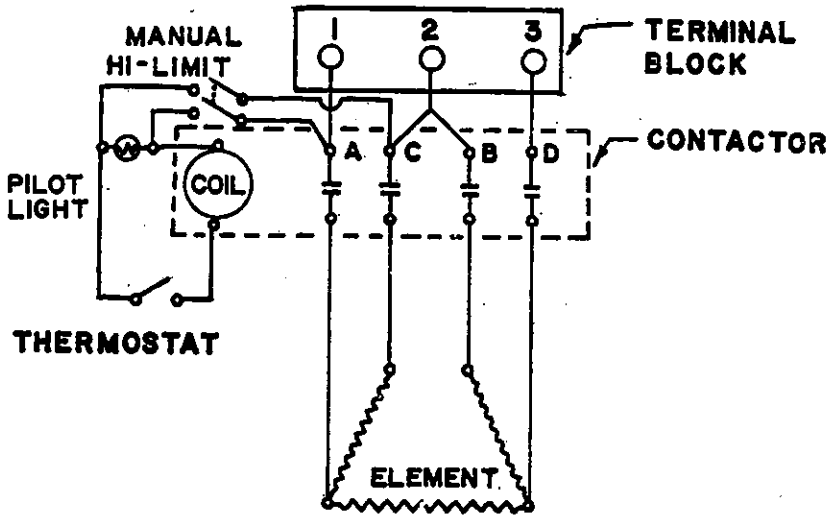
WIRING DIAGRAM

COMMERCIAL STORAGE BOOSTERS



THREE PHASE
208,220/240,440/480 VOLT

COMMERCIAL UNDERCOUNTER BOOSTER



FOR SINGLE PHASE CONNECTION MOVE WIRE "B"
TO TERMINAL "1" AND WIRE "C" TO TERMINAL "3"

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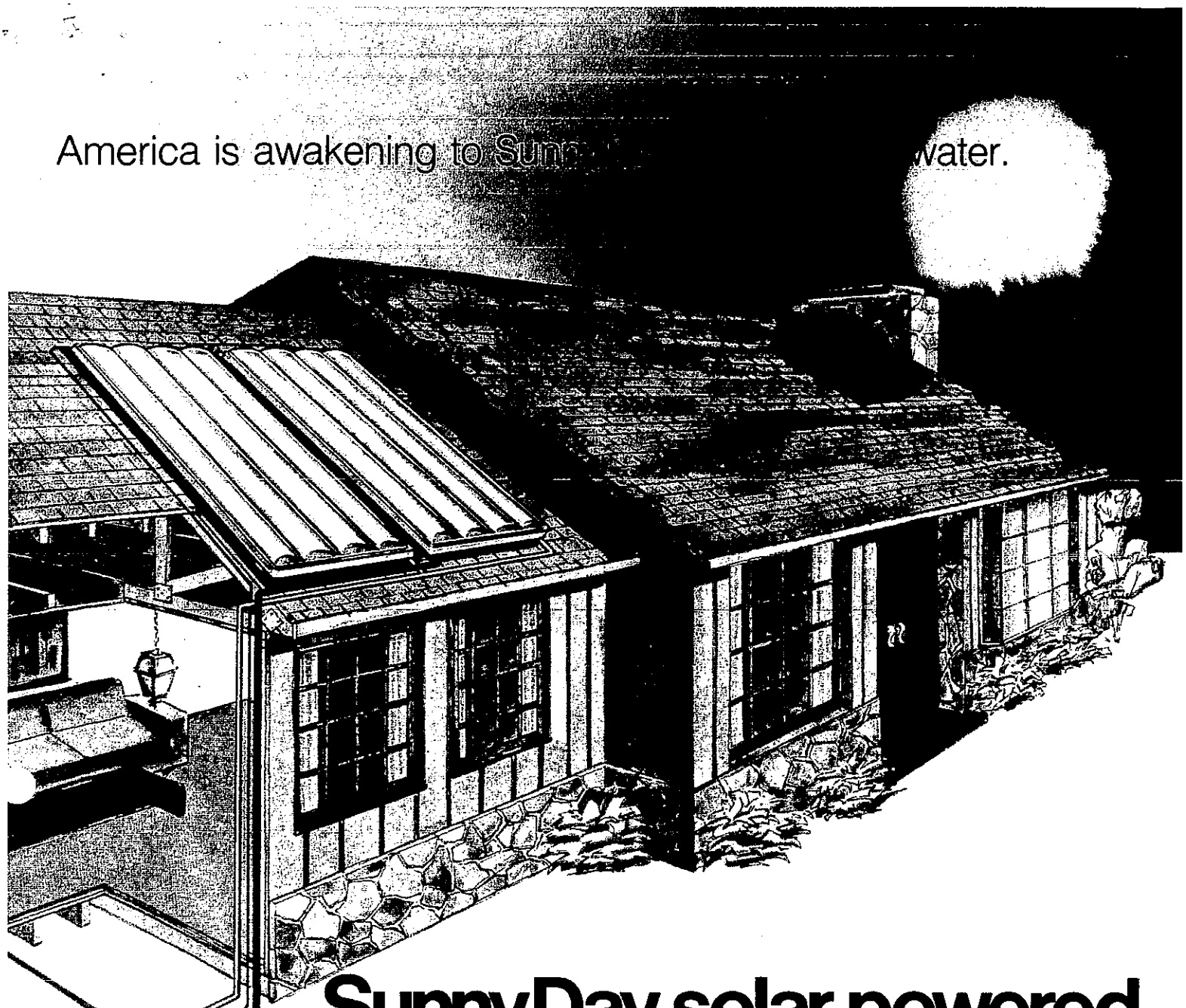
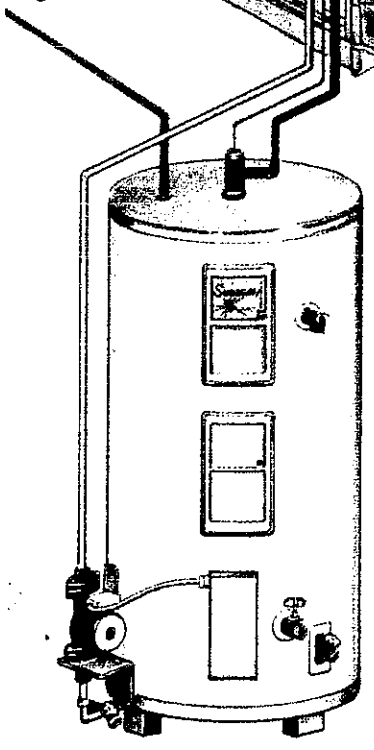
America is awakening to Sunn water.





SunnyDay solar powered water heating systems

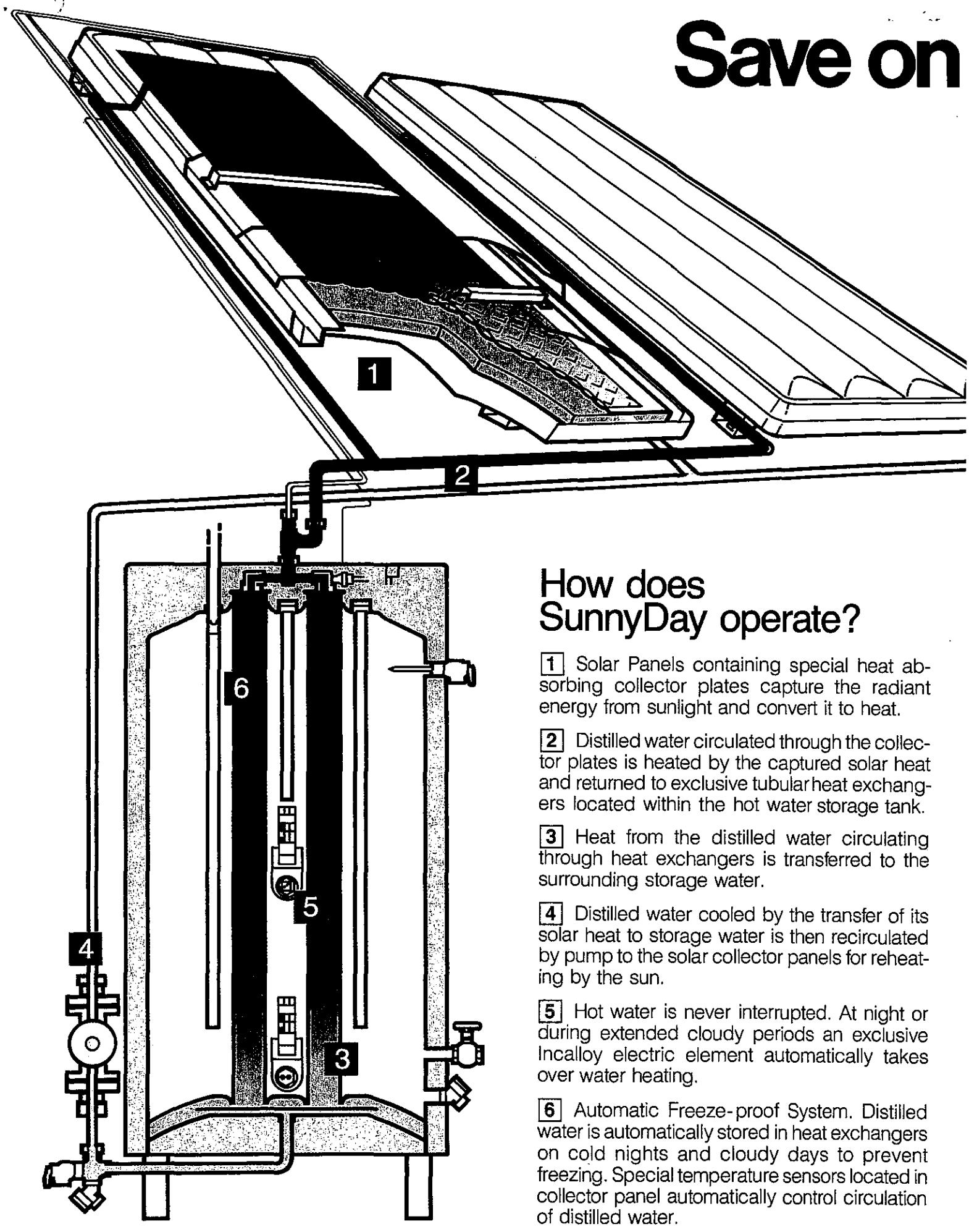
Wake up to a SunnyDay shower heated by the warmth of the sun. Take comfort in the knowledge that precious little irreplaceable earthly energy will be used in your water heating requirements throughout the day and night.

A practical alternative to the high cost of energy, Crane's SunnyDay Solar Powered Water Heaters tap the free, limitless energy of the sun to heat water in any climate and in any season.

CRANE SUPPLY COMPANY CRANE®

CRANE01044

Save on



How does SunnyDay operate?

1 Solar Panels containing special heat absorbing collector plates capture the radiant energy from sunlight and convert it to heat.

2 Distilled water circulated through the collector plates is heated by the captured solar heat and returned to exclusive tubular heat exchangers located within the hot water storage tank.

3 Heat from the distilled water circulating through heat exchangers is transferred to the surrounding storage water.

4 Distilled water cooled by the transfer of its solar heat to storage water is then recirculated by pump to the solar collector panels for reheating by the sun.

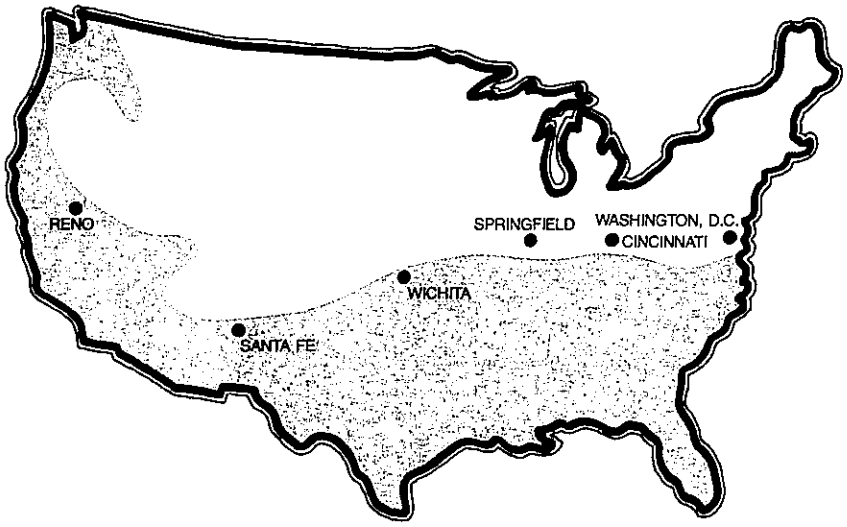
5 Hot water is never interrupted. At night or during extended cloudy periods an exclusive Incalloy electric element automatically takes over water heating.

6 Automatic Freeze-proof System. Distilled water is automatically stored in heat exchangers on cold nights and cloudy days to prevent freezing. Special temperature sensors located in collector panel automatically control circulation of distilled water.

CRANE01045

uel costs wherever you live with SunnyDay by CRANE®

SunnyDay is more than just a water heater. It is a complete, self contained system for collecting the radiant energy of the sun, converting it into heat and utilizing the solar heat to maintain your water at always the desired temperature.
The all-climate SunnyDay System heats water even when the outside temperature is below zero and continues to provide piping hot water at night and over extended cloudy periods. When sunshine is insufficient to produce solar energy, an exclusive Incalloy electric element automatically takes over to provide an uninterrupted supply of hot water. Generally, the more sunny days you have, the greater fuel savings you will enjoy.

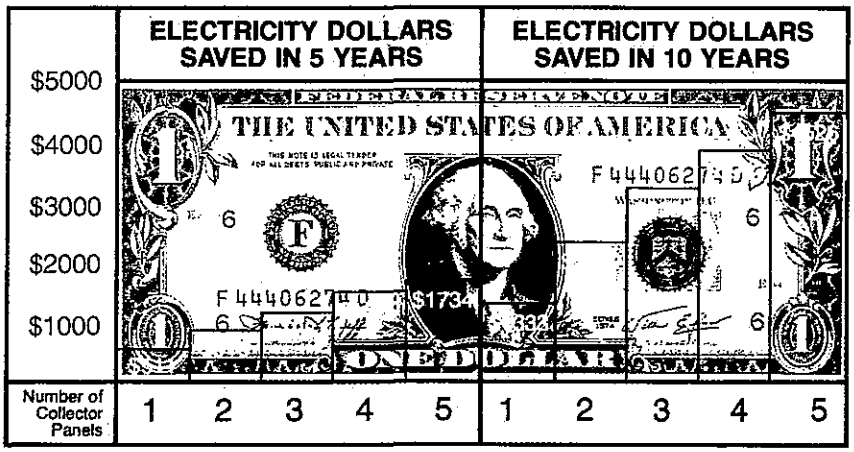


Will SunnyDay work in any climate?

No matter where you live SunnyDay can collect sufficient energy from the sun to heat your family's water. The all-climate system performs equally as well in Northern Minnesota as it does in Southern Florida. Even below zero temperatures do not prevent the system from functioning efficiently.

In order to determine what size tank would best satisfy your family's hot water requirements in your particular geographical location, consult the adjacent map and chart.

Number of People in Family	Tank Capacity Required Living in Shaded Area	Tank Capacity Required Living in Unshaded Area
Family of (4)	82 gallon SunnyDay	120 gallon SunnyDay
Family of (6)	120 gallon SunnyDay	120 gallon SunnyDay



*The figures in the savings chart were developed by computer using a formula researched by the University of Wisconsin and data on temperature, cloud cover, wind, etc. supplied by the United States Weather Bureau Station at St. Cloud, Minnesota and specifications from the manufacturer. Similar figures are available for 139 other locations in the U.S. from your CRANE SUPPLY branch.

How much will SunnyDay save?

Fuel savings will vary from location to location depending upon how many sunshine hours are experienced, number of collector panels installed and local utility rates. Your Crane dealer will be happy to calculate your anticipated savings.

However, a good test of the system's fuel saving potential is illustrated on the accompanying chart. A typical Northern Minnesota city was selected as the subject of our fuel saving chart because of the harsh climate and extreme temperature fluctuations were considered a formidable challenge. Those living in more temperate climates could expect even better fuel savings. Note that the number of solar collector panels installed has a great influence on the energy savings generated.

Chart is based upon a family of 4 living in a Northern Minnesota city. Family uses 826 gallons of 140 degree F. water per week (heated 100 degree F. incoming temperature) and paying $.0397 1KWH with a conservative 10% rate increase per year. SunnyDay's 120 gallon model is used in the calculations.

Standard components you'll receive with the SunnyDay system

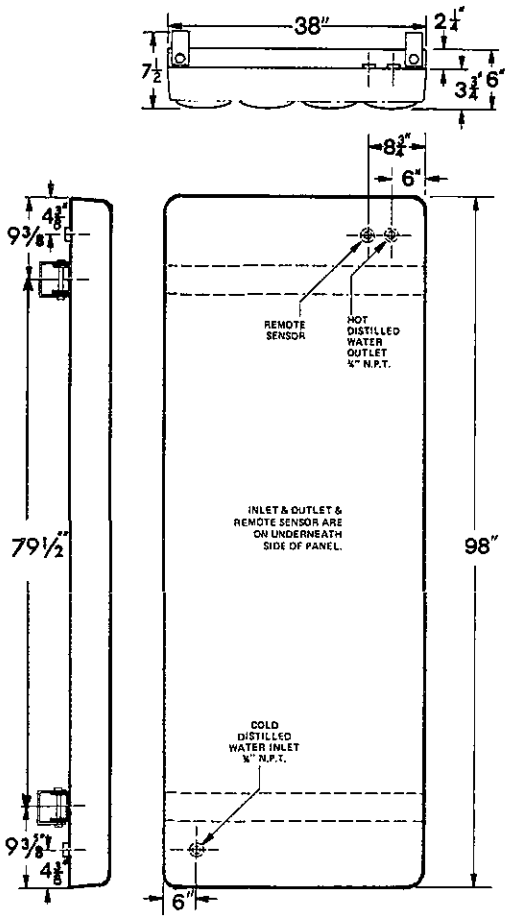
SunnyDay is a self-contained "system" complete with all the major components required for installation and operation. A basic single collector panel system contains:

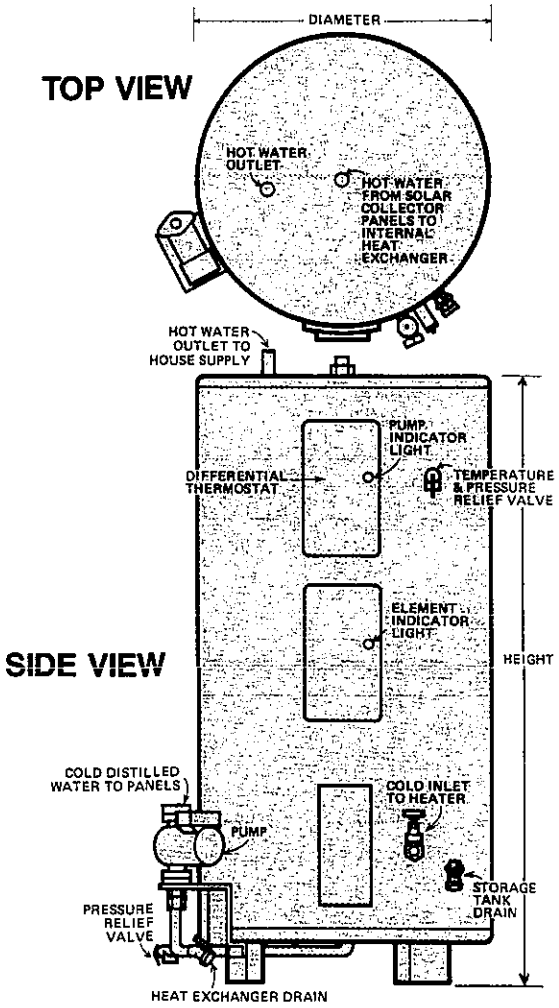
- 1 collector panel* complete with tilt braces and mounting hardware.
- SunnyDay storage tank with circulating pump, solar differential control, electric booster element and thermostat.
- Roof jack assemblies

Specifications and Dimensions

Model Number	Number of Collector Panels*	Tank Storage Capacity	Wattage (max.) 240 V AC (208 V AC)	Electric Element Recovery G.P.H.	Storage Tank Dimensions		Collector Panel Dimensions		Shipping Weight (includes one panel)
					Height	Diameter	Length	Width	
SunnyDay III CSD-82-1TS7	1	82	4500	18.4	55¾"	28"	98"	38"	860 lbs.†
SunnyDay IV CSD-120-1TS7	1	120	4500	18.4	73⅝"	28"	98"	38"	960 lbs.†

*Additional panels and mounting kits are available at extra cost
†Shipping weight of additional panels 309 lbs. each
Roof weight of panel with tilt-braces 180 lbs. each
Roof weight of panel less tilt-braces 156 lbs. each

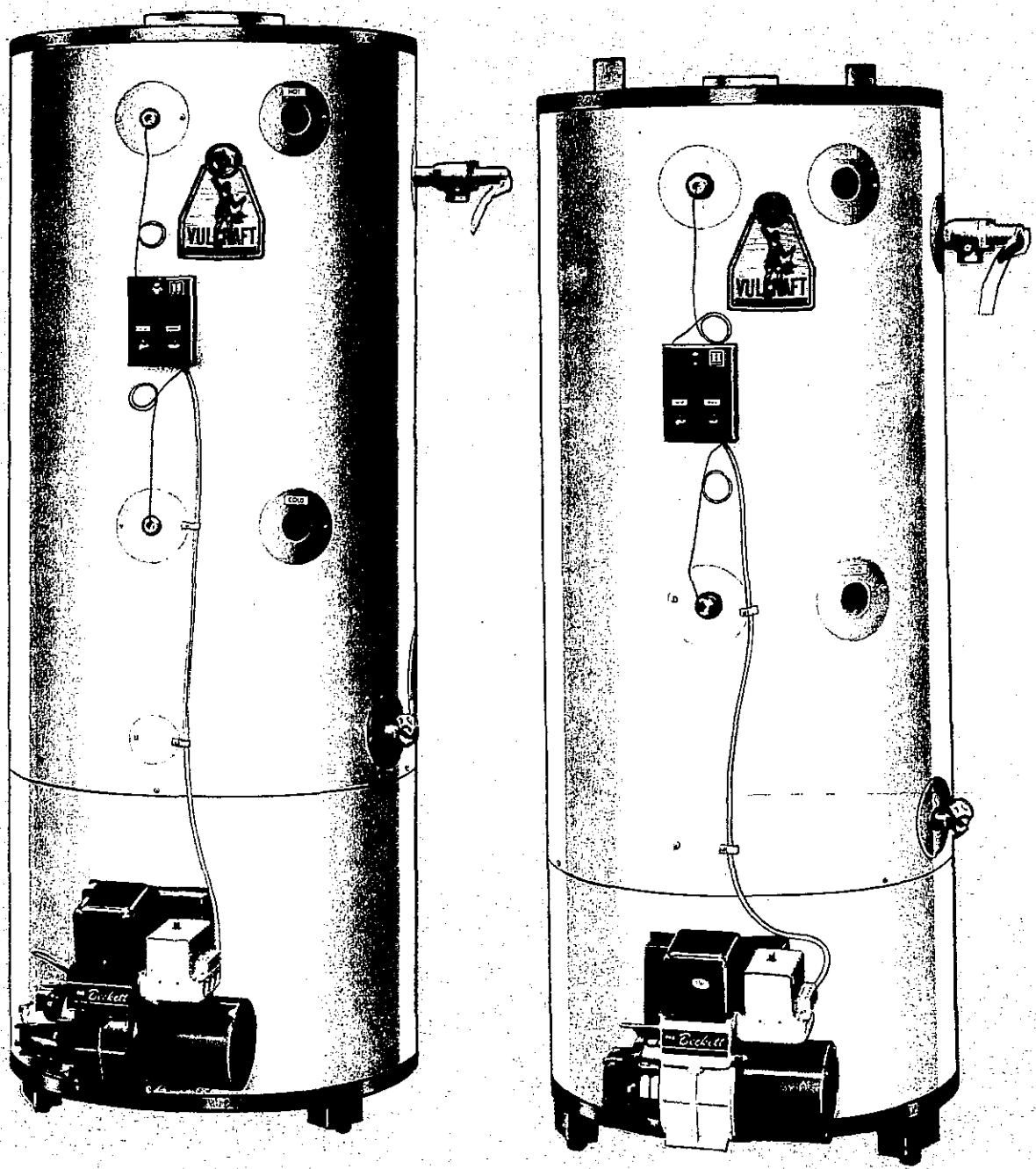




CRANE SUPPLY COMPANY
300 Park Ave. • New York, NY 10022

VULCRAFT

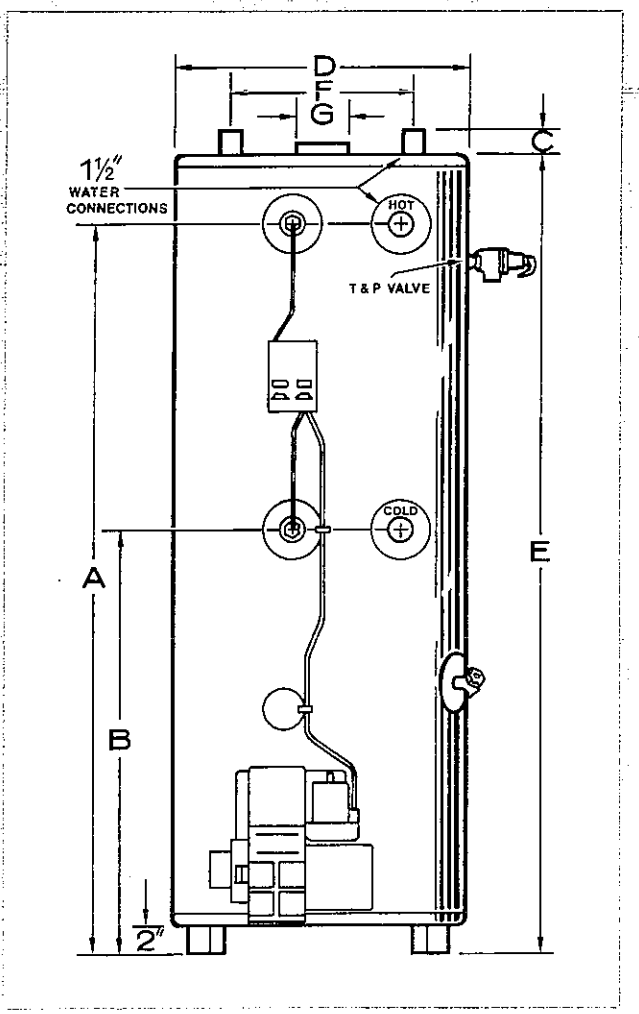
COMMERCIAL OIL FIRED GLASSLINED WATER HEATERS

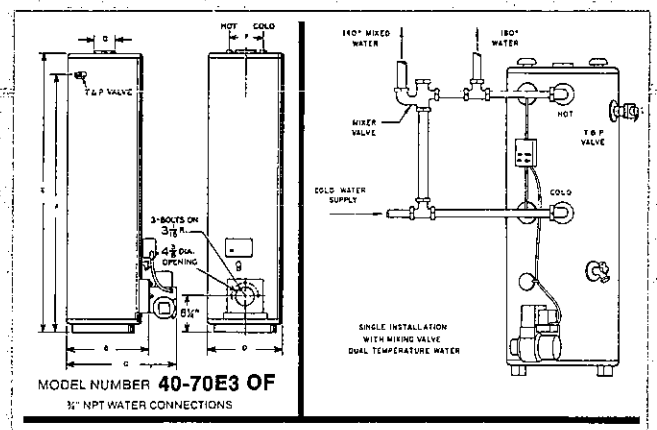


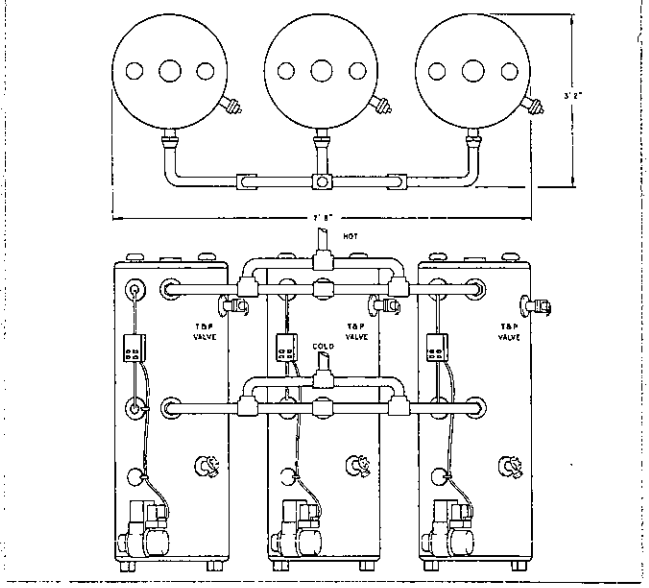
STATE STOVE & MFG. CO., INC. ☐ ASHLAND CITY, TENN. 37015

VULCRAFT

COMMERCIAL OIL FIRED
GLASSLINED
WATER HEATERS







MODEL	FIRING RATE G.P.H.	TANK STORAGE	INPUT BTU/HR	RECOVERY RATE 100° RISE	SHIPPING WEIGHT	DIMENSIONS IN INCHES							POWER REQ.	AMPS
						A	B	C	D	E	F	G		
80-199E30F	1.5	80	199,900	167.9	575	59¼	34	2	26	65¾	20	5	115V/60C/1PH	4.5
85-245E30F	1.75	85	245,000	205.8	640	66	36	2	28	72¼	20	6		4.5
100-280E30F	2.0	100	280,000	235.2	675	72	42	2	28	78¼	20	7		4.5
75-350E30F	2.5	75	350,000	294.	675	65	38	—	28	71¼	—	8		4.5
70-490E30F	3.5	70	490,000	411.6	750	67	40	—	28	73¼	—	10		5.5
40-70E30F	0.5	40	70,000	69	210	62	70	27½	18	67½	8	5		4.5

Models 85-245, 100-280, 75-350, 70-490 available with ASME Glasslined Tank upon request.

U. L. Listed Burner shipped unattached
THREE-YEAR LIMITED WARRANTY
T&P Valve factory installed

3 YEAR LIMITED WARRANTY

150 lbs. Hydrostatic Working Pres-----

CRANE01049

STORAGE BOOSTER 40-70E3 OF
OR
AUTOMATIC CIRCULATOR
MODELS 80-199E3 OF, 85-245E3 OF, 100-280E3 OF
INSTANTANEOUS BOOSTER
OR
AUTOMATIC CIRCULATOR
MODELS 75-350E3 OF, 70-490E3 OF

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Efficient and economical gun type with flame retention head. This assures successful burner operation, under minimum draft conditions. These burners are designed to fire from ½ gallon to 5 gallons of oil per hour.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

COMBUSTION CHAMBER—One piece molded light refractory that assures complete combustion for high CO_2 readings.

HAND HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank. Not available on 40-70E30F.

RELIEF VALVE—Each Vulcraft booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

ELECTROLYTIC PROTECTION—Multiple large extruded rods of highest quality magnesium provide maximum cathodic protection in all internal tank surfaces.

PRIMARY SAFETY CONTROL—Burner mounted cadmium cell for flame detection; constant spark ignition and 45 to 60 seconds safety switch timing.

BURNER

FUELS: Kerosene . . . #1 or #2 heat Fuel oil or diesel oil.

MOUNTINGS: Fixed Flange . . . attached with three nuts.

ELECTRICAL REQUIREMENT: 115 volts/60 cycles/single phase . . . Total load 12 amps or less.

TRANSFORMER: 10,000 volt ignition.

FUEL UNIT: Sundstrand . . . Single Stage Standard. Two Stage is optional.

FLAME RETENTION HEAD: Stainless Steel precision stamping that generates maximum fuel/air mixing for optimum efficiency.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations.

For maximum economy and utilization of floor space it is recommended that the large models (80-199 thru 70-490) be installed singly or in manifold multiples **without** using a storage tank in the majority of commercial installations. However, in certain installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) they should be installed either singly or in multiples with a storage tank.

Apartments—A complete line of heaters for the small apartment house to the large apartment complex with over 200 apartments.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The large models can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. They can furnish the necessary water for conveyor type dishwashers using up to 300 gallons/hour. The above applications are figured supplying 180°F. water.

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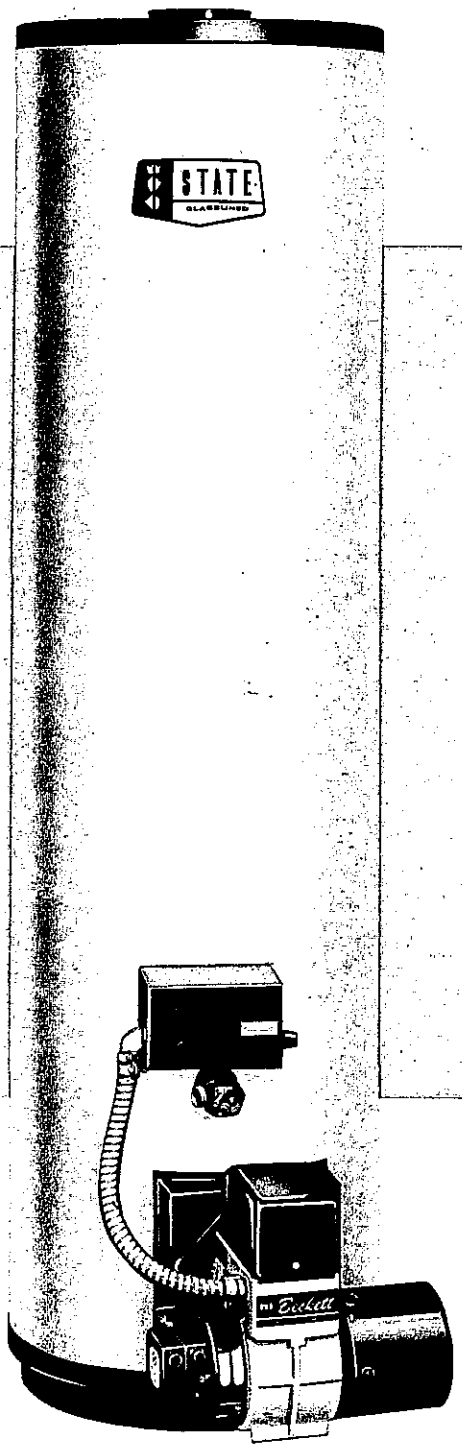
Presenting something NEW from STATE



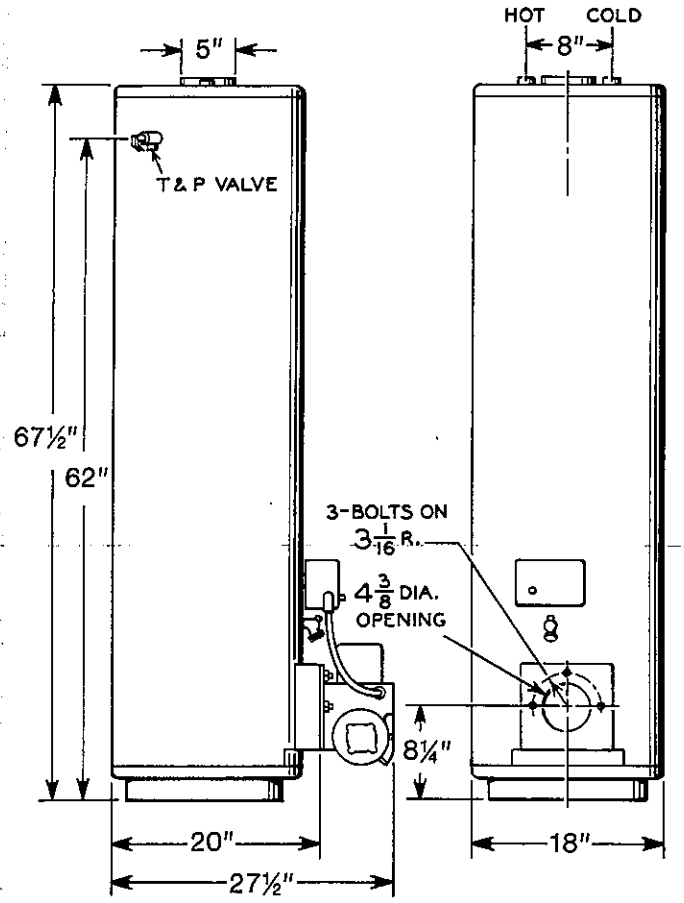
RESIDENTIAL OIL-FIRED water heater

Efficient and economical for homes requiring large quantities of high temperature water.

5-YEAR LIMITED WARRANTY

STATE STOVE & MFG. CO., INC. ■ ASHLAND CITY, TENN. 37015 ■ HENDERSON, NEVADA 89015

RESIDENTIAL OIL-FIRED WATER HEATER



¾" NPT WATER CONNECTIONS

MODEL NUMBER	**V-70-40-OF**
TANK STORAGE	40 GAL.
INPUT BTU/HR	70,000
FIRING RATE	0.5 GPH
RECOVERY RATE 100° F. RISE	69.0 GPH

5-YEAR LIMITED WARRANTY

ENGINEERING FEATURES

TANK—Internal 5" flue construction lined with durable high silica content glass best suited for residential applications involving large quantities of high temperature water.

BURNER—Efficient and economical gun type with flame retention head. This assures successful burner operation under minimum draft conditions.

COMBUSTION CHAMBER—One piece molded light refractory that assures complete combustion for high CO_2 readings.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

RELIEF VALVE—Each heater is supplied with factory installed ASME rated pressure-temperature relief valve.

ELECTROLYTIC PROTECTION—Multiple large extruded rods of highest quality magnesium provide maximum cathodic protection in all internal tank surfaces.

PRIMARY SAFETY CONTROL—Burner mounted cadmium cell for flame detection; constant spark ignition and 45 to 60 seconds safety switch timing.

ADJUSTABLE THERMOSTAT—with built in ECO and primary relay.

BURNER

FUELS: Kerosene...#1 or #2 heat Fuel oil or diesel oil.

MOUNTINGS: Fixed Flange...attached with three nuts.

ELECTRICAL REQUIREMENT: 115 volts/60 cycles/single phase...Total load 12 amps or less.

TRANSFORMER: 10,000 volt ignition.

FUEL UNIT: Sundstrand...Single Stage standard. Two Stage is optional.

FLAME RETENTION HEAD: Stainless Steel precision stamping that generates maximum fuel/air mixing for optimum efficiency.

Burner and Thermostat are factory prewired and shipped separately.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

STATE STOVE & MFG. CO., INC.
■ ASHLAND CITY, TENN. 37015
■ HENDERSON, NEVADA 89015

FORM NO. STO-1-875

CRANE01053

CRANE **Residential**

CRANE SUPPLY COMPANY

Gas-fired glasslined water heaters

AMBASSADOR II

SUPER ENERGY EFFICIENT

Ambassador II Super Energy Efficient Water Heaters represent the ultimate in energy conserving operation. Heaters meet stringent efficiency performance standards for energy consuming appliances set by H.U.D. ASHRAE standard 90-75, BOCA Code and new D.O.E. (Dept. of Energy) performance standards.

Economy in operation

FIBERGLASS INSULATION provides increased efficiency while conserving fuel.

MULTIPORT BURNER delivers quiet efficient combustion.

COMPACT DESIGN saves valuable space . . . enables low-cost installation.

Dependable long-life performance

The finest in **GLASS LINING** for superior tank life and water cleanliness.

High quality magnesium **ANODE ROD** assures long life and efficient operation.

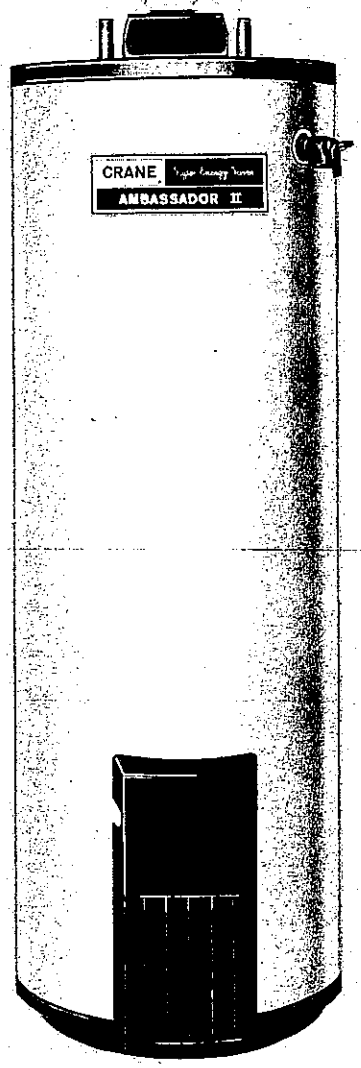
All heaters are DESIGN CERTIFIED by the American Gas Association.

Factory Installed A.S.M.E. rated **TEMPERATURE & PRESSURE** relief valve.

100% SAFETY CONTROL. Positive gas cut-off within seconds.

FLAME CONCENTRATOR PILOT features lint-free combustion.

EXTRA STRENGTH TANKS provide that important margin of safety.



5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-30-NERT9	C10-30-NERT9	30 gal.
C5-40-NERT9	C10-40-NERT9	40 gal.
C5-50-NERT9	C10-50-NERT9	50 gal.
C5-75-NERT9	C10-75-NERT9	75 gal.
C5-100-NERT9	C10-100-NERT9	100 gal.

AMBASSADOR II

SUPER ENERGY EFFICIENT
Gas-fired glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

Special ECO (Energy Cut Off) **feature** An A.G.A. design certified, factory installed heat-sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.

Anode rod Extruded magnesium rod suspended in the tank protects your heater against corrosion. 10 year models feature dual anode rods.

Multiport burner Offers increased efficiency. Burns natural and propane gases with quiet, efficient combustion. Aluminized steel construction provides effective protection from corrosive elements.

Non-linting pilot Low input design for economical operation. Incinerator type target pilot, self-cleaning (no lint screen necessary) to assure lint free and trouble free operation.

Triple Tested Tank Each tank is carefully tested three times during manufacture.

Fiberglass insulation An extra dense blanket of non-setting fiberglass surrounds tank and keeps heat loss to minimum—saves fuel.

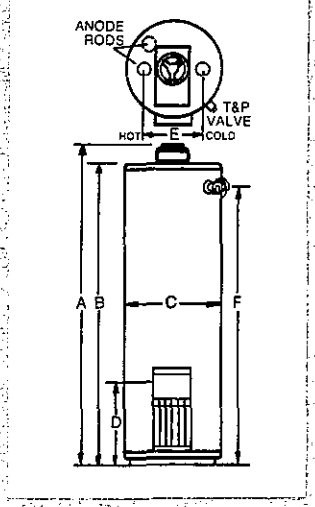
Set and forget temperature control Once the automatic control is set, you get a constant supply of hot water at your desired temperature.

Factory installed **A.S.M.E. RATED TEMPERATURE** and pressure relief valve. New side opening assures fast, convenient piping. Maximum Hydrostatic Working Pressure 150 PSI.

A.G.A Certification Design of all water heaters is certified by the American Gas Association Laboratories.

MODEL NO. 5 YR. LMT. WARRANTY	MODEL NO. 10 YR. LMT. WARRANTY	BTU INPUT NAT. GAS	REC. 100° RISE NAT. GAS	BTU INPUT LPG	REC. 100° RISE LPG	REC. G.P.H. 90° Rise D.O.E. D.O.E. TEST DATA	CAP. GALS.	SHIP. WT. LBS.	DIMENSIONS IN INCHES A	B	C	D	E	F	VENT SIZE
C5-30-NERT9	C10-30-NERT9	34,000	28.6	34,000	28.6	34.80	30	135	60½	57	16	15¼	8	52½	3
C5-40-NERT9	C10-40-NERT9	52,500	44.2	52,500	44.2	53.74	40	155	63¼	59½	18	15¼	8	54½	4
C5-50-NERT9	C10-50-NERT9	52,500	44.2	52,500	44.2	53.74	50	180	62¼	58½	20	15¼	8	53¼	4
C5-75-NERT9	C10-75-NERT9	55,000	46.3	55,000	46.3	56.30	75	245	63¾	60	24	15¼	8	55	4
C5-100-NERT9	C10-100-NERT9	75,100	63.1	75,100	63.1	75.11	100	400	72	68¼	26¼	19¼	14	54	4

Models listed above are for Natural Gas.—When ordering for Propane Gas, substitute letter "P" in place of letter "N". (Example: C5-30-PERT9)



FORM NO. CS-208-579-1

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N. Y. 10022

CRANE01055

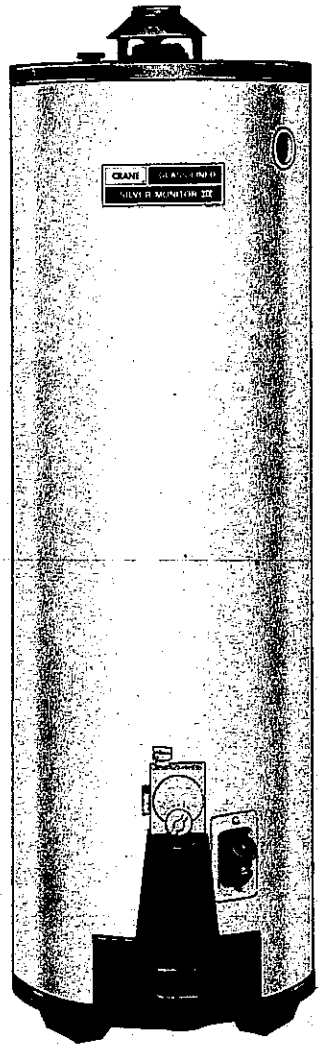
CRANE **Residential**

CRANE SUPPLY COMPANY

Gas-fired glasslined water heaters

ENERGY EFFICIENT

SILVER MONITOR III Energy Efficient Water Heaters meet stringent efficiency performance standards for energy consuming appliances set by H.U.D., ASHRAE STANDARD 90-75 and BOCA CODE, and new D.O.E. (Dept. of Energy) performance standards.



Economy in operation

FIBERGLASS INSULATION provides increased efficiency while conserving fuel.

MULTIPORT BURNER delivers quiet efficient combustion.

COMPACT DESIGN saves valuable space . . . enables low-cost installation.

Dependable long-life performance

The finest in **GLASS LINING** for superior tank life and water cleanliness.

High quality magnesium **ANODE ROD** assures long life and efficient operation.

All heaters are DESIGN CERTIFIED by the American Gas Association.

100% SAFETY CONTROL. Positive gas cut-off within seconds.

FLAME CONCENTRATOR PILOT features lint-free combustion.

EXTRA STRENGTH TANKS provide that important margin of safety.

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-30-NGRS9	C10-30-NGRS9	30 Gal.
C5-30-NGRT9	C10-30-NGRT9	30 Gal.
C5-40-NGRS9	C10-40-NGRS9	40 Gal.
C5-40-NGRT9	C10-40-NGRT9	40 Gal.
C5-50-NGRT9	C10-50-NGRT9	50 Gal.
C5-65-NGRT9	C10-65-NGRT9	65 Gal.
C5-100-NGRT9	C10-100-NGRT9	100 Gal.

Silver Monitor III

ENERGY EFFICIENT
Gas-fired glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

Special ECO (Energy Cut Off) **feature** An A.G.A. design certified, factory installed heat-sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.

Anode rod Extruded magnesium rod suspended in the tank protects your heater against corrosion.

Multiport burner Offers increased efficiency. Burns natural and propane gases with quiet, efficient combustion. Aluminized steel construction provides effective protection from corrosive elements.

Non-linting pilot Low input design for economical operation. Incinerator type target pilot, self-cleaning (no lint screen necessary) to assure lint free and trouble free operation.

Triple Tested Tank Each tank is carefully tested three times during manufacture.

Fiberglass insulation An extra dense blanket of non-setting fiberglass surrounds tank and keeps heat loss to minimum—saves fuel.

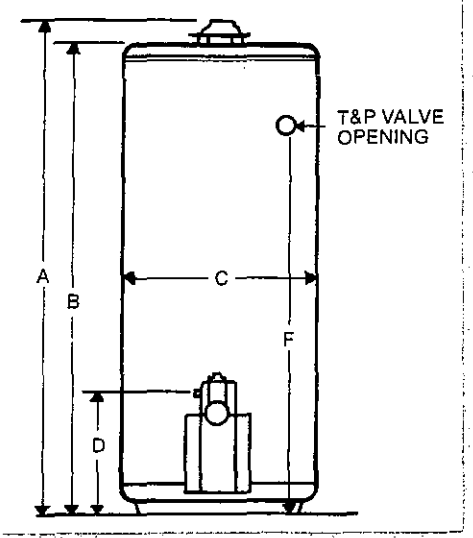
Set and forget temperature control Once the automatic control is set, you get a constant supply of hot water at your desired temperature.

T. & P. Valve opening separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. New side opening assures fast, convenient piping. Maximum Hydrostatic Working Pressure 150 PSI.

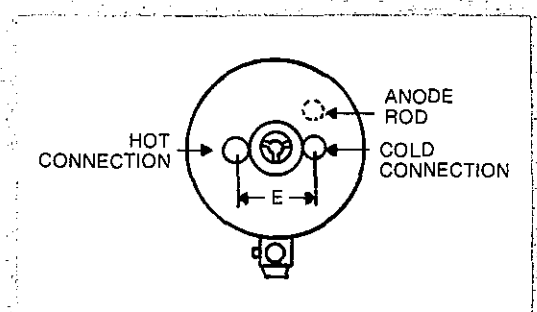
A.G.A Certification Design of all water heaters is certified by the American Gas Association Laboratories.

Model No. 5 Yr. Lmt. Warranty	Model No. 10 Yr. Lmt. Warranty	BTU Input Nat. Gas	Rec. 100° Rise Nat. Gas	BTU Input LPG	Rec. 100° Rise LPG	Rec. G.P.H. 90° Rise D.O.E. Test Data	Cap. Gals.	Ship. Wt. Lbs.	Dimensions in Inches A	B	C	D	E	F	Vent Size
C5-30-NGRS9	C10-30-NGRS9	20,000	16.8	20,000	16.8	20.5	30	115	49¼	45½	18	15¼	8	40½	3"
C5-30-NGRT9	C10-30-NGRT9	27,000	22.7	27,000	22.7	27.64	30	120	59½	56	16	15¼	8	51¼	3"
C5-40-NGRS9	C10-40-NGRS9	22,000	18.5	22,000	18.5	22.52	40	145	51¼	47¾	20	15¼	8	42¼	3"
C5-40-NGRT9	C10-40-NGRT9	30,000	25.2	30,000	25.2	30.71	40	140	59¾	56¼	18	15¼	8	51¼	3"
C5-50-NGRT9	C10-50-NGRT9	32,000	26.9	32,000	26.9	32.75	50	170	59¾	56¼	20	15¼	8	51¼	3"
C5-65-NGRT9	C10-65-NGRT9	36,000	30.2	36,000	30.2	36.85	65	200	63¼	59¾	22	15¼	8	54	3"
C5-100-NGRT9	C10-100-NGRT9	40,000	33.6	40,000	33.6	40.94	100	400	72	68¼	26¼	15¼	8	57	4"

Models listed above are for Natural Gas.—When ordering for Propane Gas, Substitute Letter "P" in Place of Letter "N." (EXAMPLE: C5-30-PGRT9)



All models are equipped with GAS PRESSURE REGULATOR as required by new A.N.S.I. Standards.



FORM NO. CS-205-579-1

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N. Y. 10022

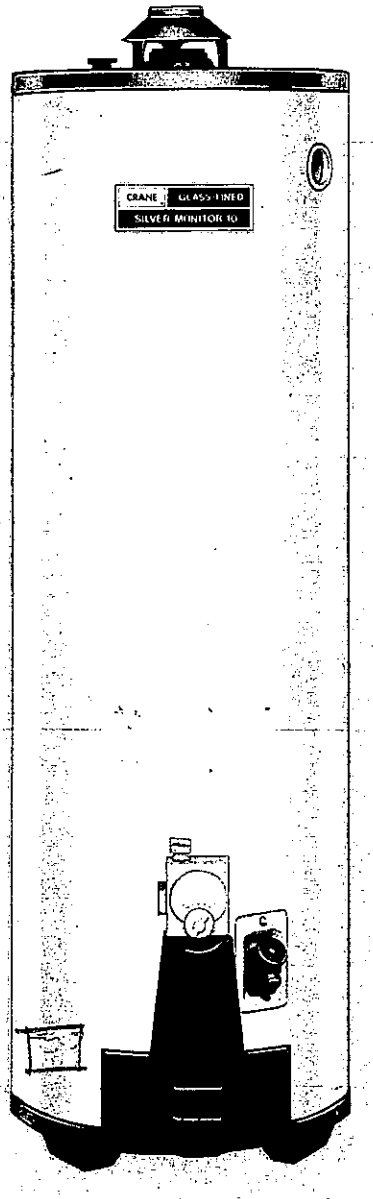
CRANE01057

CRANE **Residential**

CRANE SUPPLY COMPANY

Gas-fired glasslined water heaters

Silver Monitor



SILVER MONITOR Regular and Stubby Water Heaters . . . engineered for utility and safety . . . provide years of trouble-free service PLUS plenty of hot water for family and home needs . . . WHEN YOU NEED IT! Check these advantages.

Economy in operation

FIBERGLASS INSULATION provides increased efficiency while conserving fuel.

MULTIPORT BURNER delivers quiet efficient combustion.

COMPACT DESIGN saves valuable space . . . enables low-cost installation.

Dependable long-life performance

The finest in **GLASS LINING** for superior tank life and water cleanliness.

High quality magnesium **ANODE ROD** assures long life and efficient operation.

All heaters are DESIGN CERTIFIED by the American Gas Association.

100% SAFETY CONTROL. Positive gas cut-off within seconds.

FLAME CONCENTRATOR PILOT features lint-free combustion.

EXTRA STRENGTH TANKS provide that important margin of safety.

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-20-NSRS8	C10-20-NSRS8	20 Gal.
C5-20-NSRT8	C10-20-NSRT8	20 Gal.
C5-30-NSRS8	C10-30-NSRS8	30 Gal.
C5-30-NSRT8	C10-30-NSRT8	30 Gal.
C5-40-NSRS8	C10-40-NSRS8	40 Gal.
C5-40-NSRT8	C10-40-NSRT8	40 Gal.
C5-50-NSRT8-3	C10-50-NSRT8-3	50 Gal.
C5-50-NSRT8-4	C10-50-NSRT8-4	50 Gal.
C5-75-NSRT8	C10-75-NSRT8	75 Gal.
C5-100-NSRT8-4	C10-100-NSRT8-4	100 Gal.

Silver Monitor

Gas-fired glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

Special ECO (Energy Cut Off) **feature** An A.G.A. design certified, factory installed heat-sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.

Anode rod Extruded magnesium rod suspended in the tank protects your heater against corrosion.

Multiport burner Offers increased efficiency. Burns natural and propane gases with quiet, efficient combustion. Aluminized steel construction provides effective protection from corrosive elements.

Non-linting pilot Low input design for economical operation. Incinerator type target pilot, self-cleaning (no lint screen necessary) to assure lint free and trouble free operation.

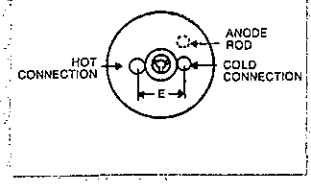
Triple Tested Tank Each tank is carefully tested three times during manufacture.

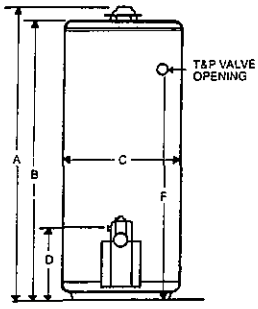
Fiberglass insulation An extra dense blanket of non-setting fiberglass surrounds tank and keeps heat loss to minimum—saves fuel.

Set and forget temperature control Once the automatic control is set, you get a constant supply of hot water at your desired temperature.

T. & P. Valve opening separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. New side opening assures fast, convenient piping. Maximum Hydrostatic Working Pressure 150 PSI.

A.G.A Certification Design of all water heaters is certified by the American Gas Association Laboratories.





Model No. 5 Yr. Lmt. Warranty	Model No. 10 Yr. Lmt. Warranty	BTU Input Nat. Gas	Rec. 100° Rise Nat. Gas	BTU Input LPG	100° Rise LPG	Cap. Gals.	Ship. Wt. Lbs.	Dimensions in Inches A	B	C	D	E	F	Vent Size
C5-20-NSRS8	C10-20-NSRS8	28,000	23.5	28,000	23.5	20	100	44½	41½	16	15¼	8	36½	3"
C5-20-NSRT8	C10-20-NSRT8	28,000	23.5	28,000	23.5	20	95	56¾	53¼	14	15¼	8	36½	3"
C5-30-NSRS8	C10-30-NSRS8	42,000	35.3	37,000	31.0	30	115	48½	45½	18	15¼	8	40½	*3"
C5-30-NSRT8	C10-30-NSRT8	44,000	37.0	37,000	31.0	30	120	59	56	16	51¼	8	51¼	*3"
C5-40-NSRS8	C-10-40-NSRS8	42,000	35.3	37,000	31.0	40	145	50¾	47¾	20	15¼	8	42½	*3"
C5-40-NSRT8	C10-40-NSRT8	46,000	38.6	40,000	33.6	40	140	59½	56½	18	15¼	8	51¼	*3"
C5-50-NSRT8-3	C10-50-NSRT8-3	46,000	38.6	40,000	33.6	50	170	59½	56½	20	15¼	8	51	*3"
C5-50-NSRT8-4	C10-50-NSRT8-4	55,000	46.2	42,000	35.3	50	180	64	59	20	15¼	8	53	†*3"
C5-75-NSRT8	C10-75-NSRT8	75,000	63.0	55,000	46.2	75	245	63¼	60	24	15¼	8	54	4"
C5-100-NSRT8-4	C10-100-NSRT8-4	75,100	63.1	70,000	50.8	100	400	72¼	68¼	26	19¼	14	57	4"

Models listed above are for Natural Gas.—When ordering for Propane Gas, Substitute Letter "P" in Place of Letter "N." (EXAMPLE: C5-30-PSRT8)

*4" Draft Hood where code requires

† 3" Outlet Draft Hood Has Provisions for connecting to 4" Vent Pipe.

10-Year Models include additional Anodic Protection. Full terms of Limited Warranty may be found in this catalog.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

All models are equipped with GAS PRESSURE REGULATOR as required by new A.N.S.I. Standards

FORM NO: CS-203-579-1

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N. Y. 10022

CRANE01059

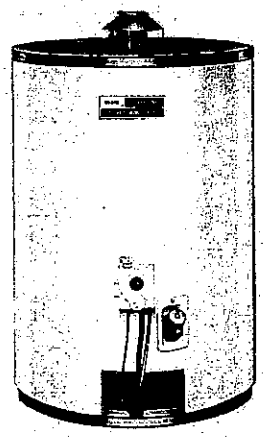
CRANE **Residential**

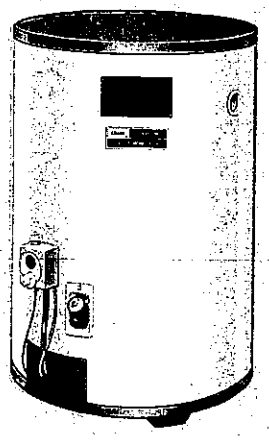
CRANE SUPPLY COMPANY

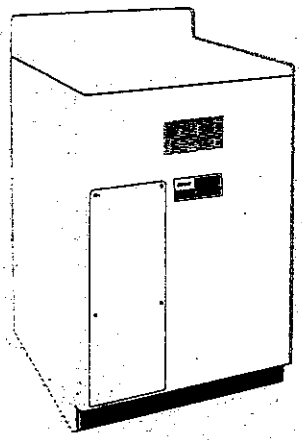
Lowboy, undercounter & table top gas-fired glasslined water heaters

Silver Monitor

SILVER MONITOR Lowboy, Undercounter and Table Top Water Heaters . . . engineered for utility and safety . . . provide years of trouble-free service PLUS plenty of hot water for family and home needs . . . WHEN YOU NEED IT! Check these advantages.







Economy in operation

FIBERGLASS INSULATION provides increased efficiency, while conserving fuel.

MULTIPORT BURNER delivers quiet efficient combustion.

COMPACT DESIGN saves valuable space . . . enables low-cost installation.

Dependable long-life performance

The finest in **GLASS LINING** for superior tank life and water cleanliness.

High quality magnesium **ANODE ROD** assures long life and efficient operation.

All heaters are **DESIGN CERTIFIED** by the American Gas Association.

100% SAFETY CONTROL. Positive gas cut-off within seconds.

FLAME CONCENTRATOR PILOT features lint-free combustion.

EXTRA STRENGTH TANKS provide that important margin of safety.

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-30-NSLS8	C10-30-NSLS8	30 Gal.
C5-40-NSLS8	C10-40-NSLS8	40 Gal.
C5-30-NSUS8	C10-30-NSUS8	30 Gal.
C5-40-NSUS8	C10-40-NSUS8	40 Gal.
C5-30-NST48	C10-30-NST48	30 Gal.

Silver Monitor

Lowboy, undercounter & table top gas-fired glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

Special ECO (Energy Cut Off) **feature** An A.G.A. design certified, factory installed heat-sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.

Anode rod Extruded magnesium rod suspended in the tank protects your heater against corrosion.

Multiport burner Offers increased efficiency. Burns natural and propane gases with quiet, efficient combustion. Aluminized steel construction provides effective protection from corrosive elements.

Non-linting pilot Low input design for economical operation. Incinerator type target pilot, self-cleaning (no lint screen necessary) to assure lint free and trouble free operation.

Triple Tested Tank Each tank is carefully tested three times during manufacture.

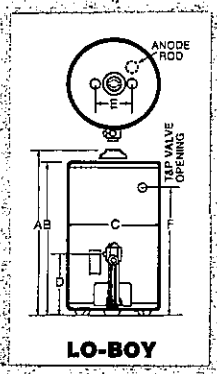
Fiberglass insulation An extra dense blanket of non-setting fiberglass surrounds tank and keeps heat loss to minimum—saves fuel.

Set and forget temperature control Once the automatic control is set, you get a constant supply of hot water at your desired temperature.

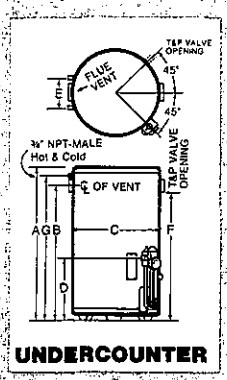
T. & P. Valve opening separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. New side opening assures fast, convenient piping. Maximum Hydrostatic Working Pressure 150 PSI.

A.G.A Certification Design of all water heaters is certified by the American Gas Association Laboratories.

		LO-BOY		UNDERCOUNTER		TABLE TOP
5 YR. LMT. WARRANTY MODEL NO.		C5-30-NSLS8	C5-40-NSLS8	C5-30-NSUS8	C5-40-NSUS8	C5-30-NST48
10 YR. LMT. WARRANTY MODEL NO.		C10-30-NSLS8	C10-40-NSLS8	C10-30-NSUS8	C10-40-NSUS8	C10-30-NST48
CAPACITY IN GALS.		30	40	30	40	30
B.T.U. INPUT PER HR.	NAT.-MFD.-MIXED	30,000	33,000	30,000	33,000	30,000
	BUT.-PROP.	30,000	33,000	30,000	33,000	30,000
RECOVERY G.P.H. 100° RISE		25.2	27.7	25.2	27.7	25.2
DIMENSIONS IN INCHES	A	33½"	39¼"	34¼"	40"	36"
	B	30½"	36¼"	31¼"	37"	24"
	C	24"	24"	24"	24"	25"
	D	15¼"	15¼"	15¼"	15¼"	39½"
	E	8"	8"	8"	8"	8"
	F	24¼"	30"	24¼"	30"	
	G			31¾"	37½"	
	VENT SIZE	3"	3"	3"	3"	3"
SHIPPING WEIGHT IN LBS.		140	160	150	170	185



LO-BOY



UNDERCOUNTER

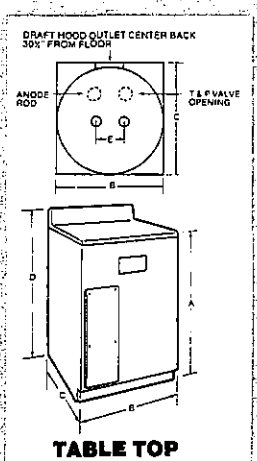


TABLE TOP

¾" Water Inlets & Outlets TABLE TOP-VENT OPENINGS 30¼" FROM FLOOR

Models listed above are for Natural Gas.—When ordering for Propane Gas, Substitute Letter "P" in Place of Letter "N".
(EXAMPLE: C5-30-PSLS8)

10-Year models include additional Anodic Protection. Full terms of Limited Warranty may be found in this catalog.

In keeping with our policy of continuous product improvement, we reserve the right to make minor changes without prior notice.

FORM NO. CS-204-579-1

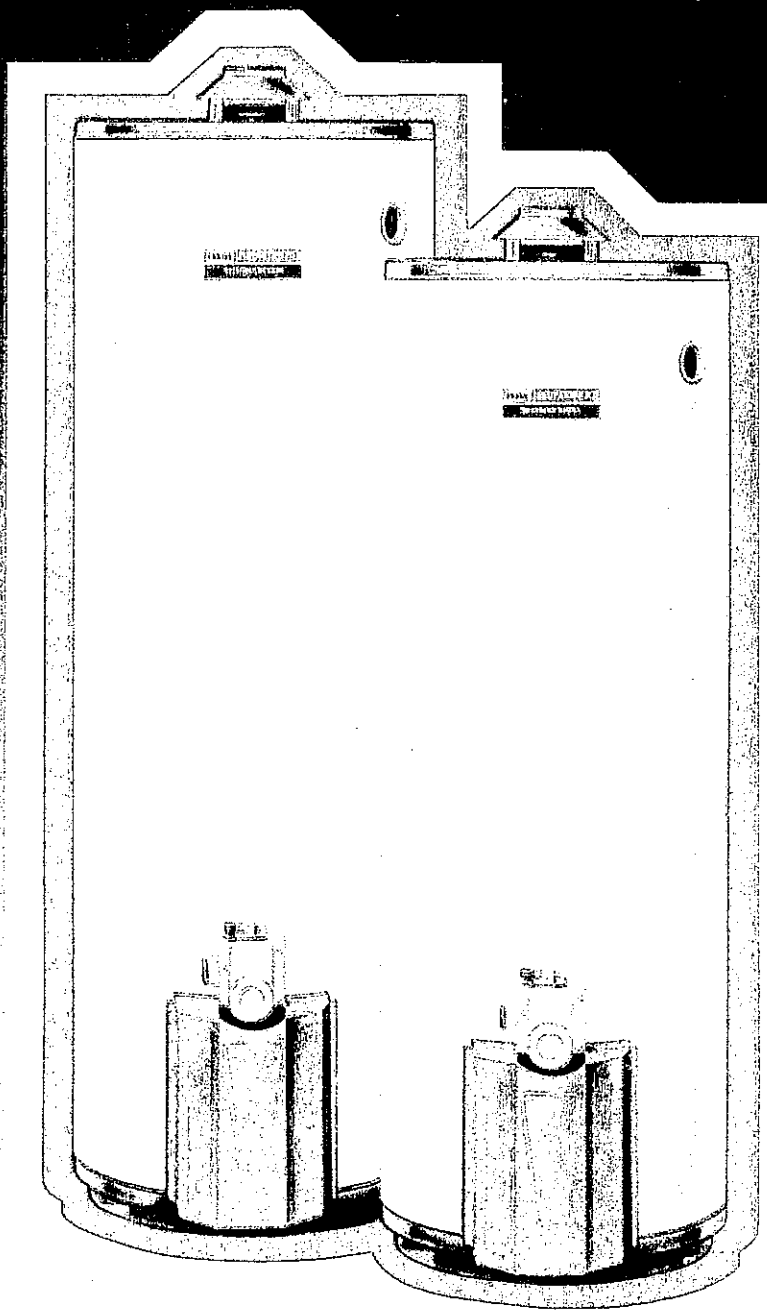
CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N. Y. 10022

CRANE01061

ENERGY SAVERS

CRANE®



[illegible] insulation surrounding tanks maintains high water temperature longer. Burners are required to work less frequently with a resulting dramatic fuel savings.

Of course, Superior II tanks are coated with clean, smooth protective glass on all interior surfaces.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

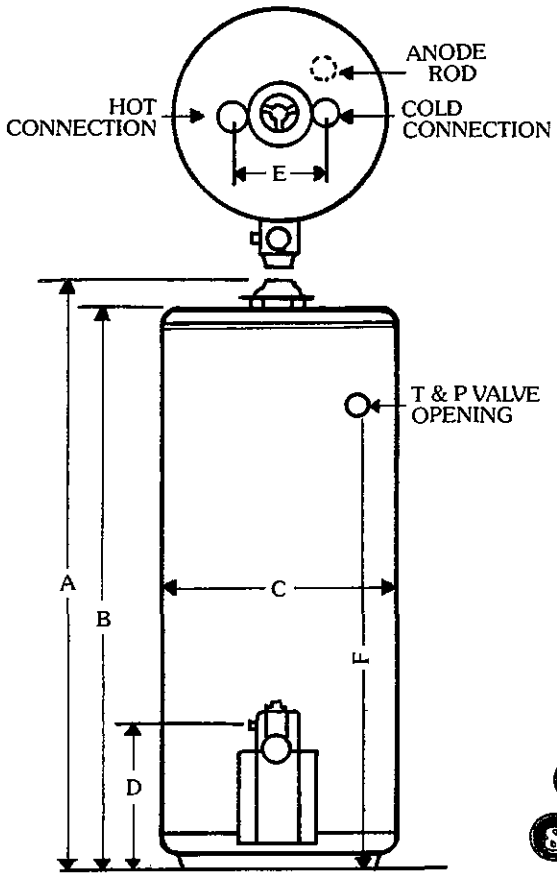
CRANE01062

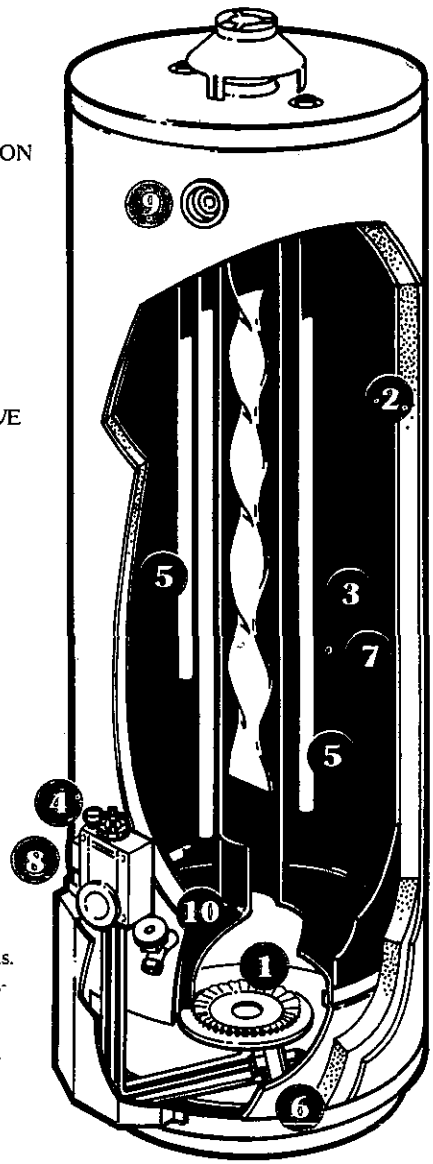
CRANE® SUPERIOR II

Energy Conserving Gas Water Heaters

Featuring Dramatic Fuel Saving Performance

Meets ASHRAE efficiency standard 90-75 and H.U.D. standards.





All models are equipped with GAS PRESSURE REGULATOR as required by new A.N.S.I. Standards.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

10 Year Models Have Additional Anodic Protection. Full terms of Limited Warranty may be found in this catalog.

1. **Super efficient multiport burner.** Heats water faster—reduces fuel consumption by working less. Aluminized steel construction provides effective protection from corrosive elements.
2. **Super dense fiberglass insulation.** An extra dense blanket of non-settling fiberglass surrounds tank keeping standby heat loss to minimum and saves fuel.
3. **Glasslined tanks.** The complete inner surface of every tank is lined with coating of vitrified glass, permanently bonded under intense heat (1600°F) to insure clean, rust-free water throughout a longer tank life.
4. **Special ECO (Energy Cut Off) feature.** An A.G.A. design certified, factory installed heat sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.
5. **Dual anode rod protection.** Two extruded magnesium rods suspended in tank protect heater from corrosion.
6. **Non-linting pilot.** Low input design for economical operation. Incinerator type target pilot, self cleaning (no lint screen necessary) to assure lint free and trouble free operation.
7. **Triple tested tanks.** Each tank is carefully tested three times during manufacture.
8. **Set and forget temperature control.** Once automatic control is set, you get a constant supply of hot water at your desired temperature.
9. **T.&P. valve opening.** Separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. New side opening assures fast, convenient piping. Maximum hydrostatic working pressure 150 PSI.
10. **Brass boiler drain.** Long shank pattern, solid brass boiler drain provides long life and easy hose connection.
11. **A.G.A. certification.** Design of all water heaters is certified by the American Gas Association Laboratories.

MODEL NO. 5 YEAR LIMITED WARRANTY	MODEL NO. 10 YEAR LIMITED WARRANTY	BTU INPUT NAT. GAS	RECOVERY 100° RISE NAT. GAS MFG.	RECOVERY 100° RISE NAT. GAS A.G.A.	BTU INPUT LPG	RECOVERY 100° RISE LPG MFG.	RECOVERY 100° RISE LPG A.G.A.	CAP. GALS.	SHIP WT. LBS.	A HT. INCL. HOOD	B HT. LESS HOOD	C DIA.	D HT. GAS INLET	E INLET OUTLET C TO G	F HT. T&P	VENT SIZE
CG5-30-NRT7	CG10-30-NRT7	32,500	29.2	27.3	32,500	29.2	27.3	30	145	59"	56"	18"	15¼"	8"	52½"	3"
CG5-40-NRT7	CG10-40-NRT7	40,000	35.9	33.6	40,000	35.9	33.6	40	165	61¼"	58"	20"	15¼"	8"	52¾"	3"
CG5-50-NRT7	CG10-50-NRT7	40,000	35.9	33.6	40,000	35.9	33.6	50	190	61¾"	58½"	22"	15¼"	8"	53"	3"
CG5-65-NRT7	CG10-65-NRT7	46,000	41.4	38.6	42,000	37.8	35.3	65	220	62¾"	59½"	24"	15¼"	8"	53¾"	3"
CG5-75-NRT7	CG10-75-NRT7	60,000	54.0	50.4	55,000	54.0	46.2	75	255	63¾"	60"	26"	15¼"	8"	55"	4"
CG5-100-NRT7	CG10-100-NRT7	75,100	67.6	63.1	70,000	49.5	58.8	100	430	72"	68¼"	28"	19¼"	14"	54"	4"

Models listed above are for Natural Gas.—When ordering for Propane Gas, Substitue Letter "P" in Place of Letter "N". (Example: CG5-30-PRT7)
*4" Draft Hood where code requires.

CRANE SUPPLY COMPANY • 300 PARK AVENUE • NEW YORK, N.Y. 1002_

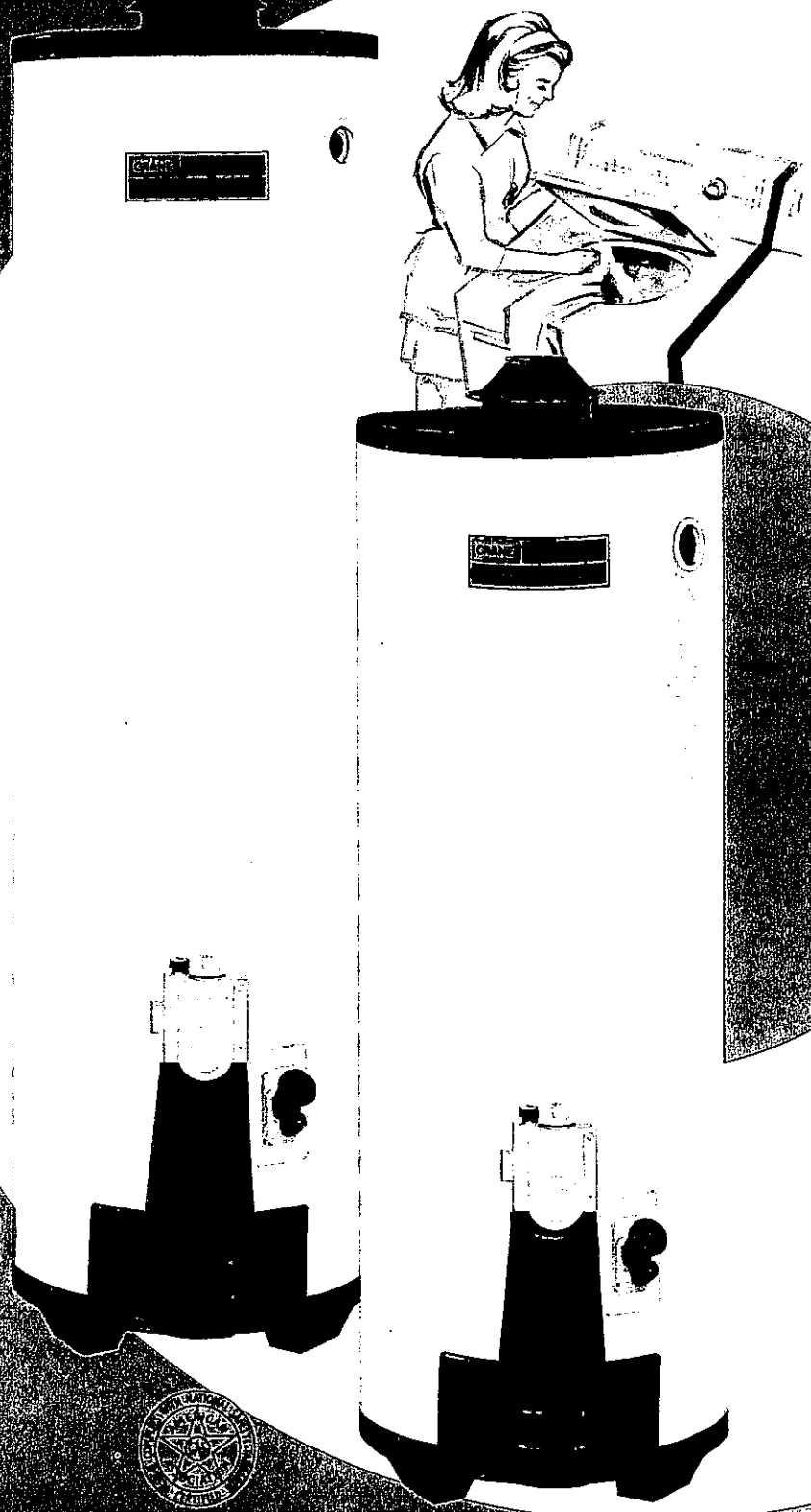
CRANE01063

CRANE SUPPLY COMPANY

CRANE

Silver Monitor

GAS-FIRED GLASSLINED WATER HEATERS



5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-20-NRT7	C10-20-NRT7	20 Gal.
C5-30-NRS7	C10-30-NRS7	30 Gal.
C5-30-NRT7	C10-30-NRT7	30 Gal.
C5-40-NRS7	C10-40-NRS7	40 Gal.
C5-40-NRT7	C10-40-NRT7	40 Gal.
C5-50-NRT7-3	C10-50-NRT7-3	50 Gal.
C5-50-NRT7-4	C10-50-NRT7-4	50 Gal.
C5-50-NRT7-5	C10-50-NRT7-5	50 Gal.
C5-75-NRT7	C10-75-NRT7	75 Gal.
C5-100-NRT7	C10-100-NRT7	100 Gal.

SILVER MONITOR Regular and Stubby Water Heaters . . . engineered for utility and safety . . . provide years of trouble-free service PLUS plenty of hot water for family and home needs . . . WHEN YOU NEED IT! Check these advantages.

ECONOMY IN OPERATION!

- FIBERGLASS INSULATION provides increased efficiency while conserving fuel.
- MULTIPORT BURNER delivers quiet, efficient combustion.
- COMPACT DESIGN saves valuable space . . . enables low-cost installation.

DEPENDABLE LONG-LIFE PERFORMANCE!

- The finest in GLASS LINING for superior tank life and water cleanliness.
- High quality magnesium ANODE ROD assures long life and efficient operation.
- All heaters are CERTIFIED by the American Gas Association.
- 100% SAFETY CONTROL. Positive gas cut-off within seconds.
- FLAME CONCENTRATOR PILOT features lint-free combustion.
- EXTRA STRENGTH TANKS provide that important margin of safety.

CRANE01064

CRANE®

■ **GLASSLINED TANKS** The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

■ **SPECIAL ECO** (Energy Cut Off) **FEATURE** An A.G.A. design certified, factory installed heat-sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.

■ **ANODE ROD** Extruded magnesium rod suspended in the tank protects your heater against corrosion.

■ **MULTIPORT BURNER** Offers increased efficiency. Burns natural and propane gases with quiet, efficient combustion. Aluminized steel construction provides effective protection from corrosive elements.

■ **NON-LINTING PILOT** Low input design for economical operation. Incinerator type target pilot, self-cleaning (no lint screen necessary) to assure lint free and trouble free operation.

■ **TRIPLE TESTED TANK** Each tank is carefully tested three times during manufacture.

■ **FIBERGLASS INSULATION** An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum — saves fuel.

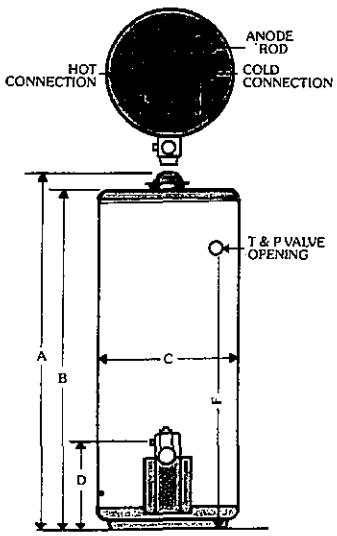
■ **SET AND FORGET TEMPERATURE CONTROL** Once the automatic control is set, you get a constant supply of hot water at your desired temperature.

■ **T. & P. VALVE OPENING** Separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. New side opening assures fast, convenient piping. Maximum Hydrostatic Working Pressure 150 PSI.

■ **A.G.A. CERTIFICATION** Design of all water heaters is certified by the American Gas Association Laboratories.

All models are equipped with GAS PRESSURE REGULATOR as required by new A.N.S.I. Standards.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.



Model No. 5 Yr. Lmt. Warranty	Model No. 10 Yr. Lmt. Warranty	BTU Input Nat. Gas	Rec. 100° Rise Nat. Gas	BUT Input LPG	100° Rise LPG	Cap. Gals.	Ship. Wt. Lbs.	Dimensions in Inches A	B	C	D	E	F	Vent Size
C5-20-NRT7	C10-20-NRT7	28,000	23.5	28,000	23.5	20	100	56¼	53¼	14	15¼	8	49	3"
C5-30-NRS7	C10-30-NRS7	42,000	35.3	37,000	31.0	30	115	48½	45½	18	15¼	8		*3"
C5-30-NRT7	C10-30-NRT7	44,000	37.0	37,000	31.0	30	120	59	56	16	15¼	8	51¼	*3"
C5-40-NRS7	C10-40-NRS7	42,000	35.3	37,000	31.0	40	145	50¾	47¾	20	15¼	8		*3"
C5-40-NRT7	C10-40-NRT7	46,000	38.6	40,000	33.6	40	140	59½	56½	18	15¼	8	51¼	*3"
C5-50-NRT7-3	C10-50-NRT7-3	46,000	38.6	40,000	33.6	50	170	59½	56½	20	15¼	8	51	*3"
C5-50-NRT7-4	C10-50-NRT7-4	55,000	46.2	42,000	35.3	50	180	64	59	20	15¼	8	53	†*3"
C5-50-NRT7-5	C10-50-NRT7-5	65,000	54.6	55,000	42.6	50	190	64	60¼	20	15¼	8	55	4"
C5-75-NRT7	C10-75-NRT7	75,000	63.0	55,000	46.2	75	245	63¼	60	24	15¼	8	54	4"
C5-100-NRT7	C10-100-NRT7	75,100	63.1	70,000	50.8	100	400	72¼	68¼	26	19¼	14	57	4"

Models listed above are for Natural Gas. — When ordering for Propane Gas, Substitute Letter "P" in Place of Letter "N." (EXAMPLE: C5-30-PRT7)
*4" Draft Hood where code requires
†3" Outlet Draft Hood Has Provisions for connecting to 4" Vent Pipe.
10-Year Models include additional Anodic Protection.
Full terms of Limited Warranty may be found in this catalog.

CRANE®

FORM NO. CS 202 177-1

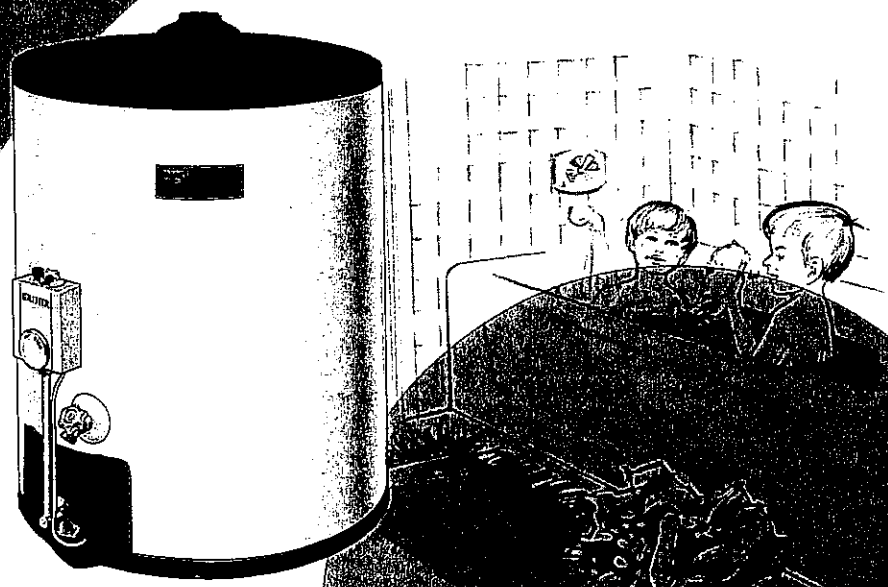
CRANE01065

CRANE

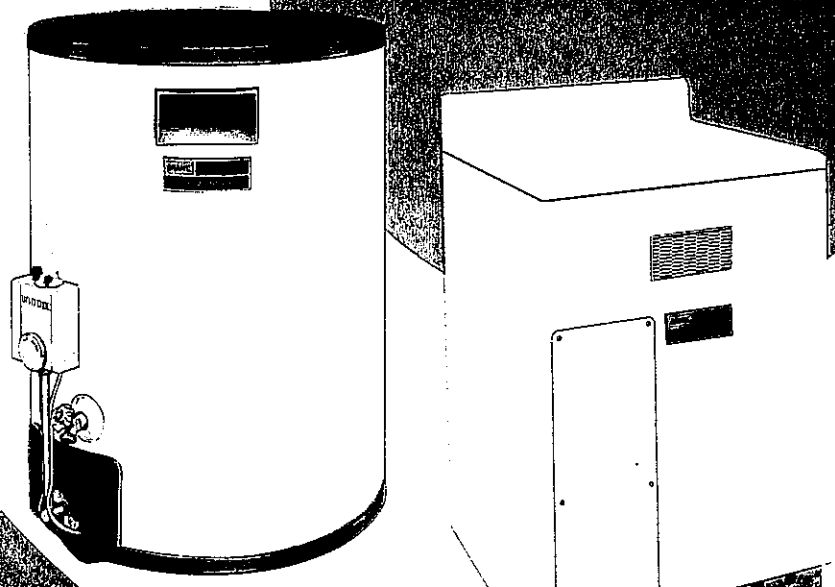
CRANE Silver Monitor

LOWBOY, UNDERCOUNTER & TABLE TOP GAS-FIRED GLASSLINED WATER HEATERS

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-30-NLS7	C10-30-NLS7	30 Gal.
C5-40-NLS7	C10-40-NLS7	40 Gal.
C5-30-NUS7	C10-30-NUS7	30 Gal.
C5-40-NUS7	C10-40-NUS7	40 Gal.
C5-30-NT47	C10-30-NT47	30 Gal.



LOWBOY



UNDERCOUNTER

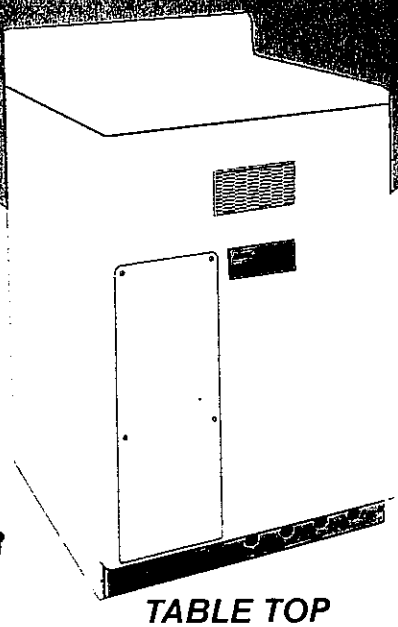


TABLE TOP

SILVER MONITOR Lowboy, Undercounter and Table Top Water Heaters . . . engineered for utility and safety . . . provide years of trouble-free service PLUS plenty of hot water for family and home needs . . . WHEN YOU NEED IT! Check these advantages.

ECONOMY IN OPERATION!

- **FIBERGLASS INSULATION** provides maximum efficiency in the conservation of fuel.
- **MULTI-PORT BURNER** delivers quiet, efficient combustion.
- **COMPACT DESIGN** saves valuable space . . . enables low-cost installation.

DEPENDABLE LONG-LIFE PERFORMANCE!

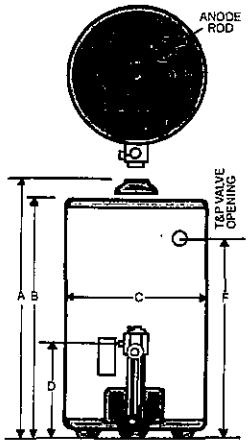
- The finest in **GLASS LINING** for superior tank life and water cleanliness.
- High quality magnesium ANODE ROD assures long life and efficient operation.
- All heaters are CERTIFIED by the American Gas Association.
- 100% SAFETY CONTROL. Positive gas cut-off within seconds.
- FLAME CONCENTRATOR PILOT features lint-free combustion.
- EXTRA STRENGTH TANKS provide that important margin of safety.

COMPLIES WITH NATIONAL SAFETY AMERICAN GAS ASSOCIATION

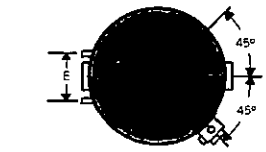
CRANE01066

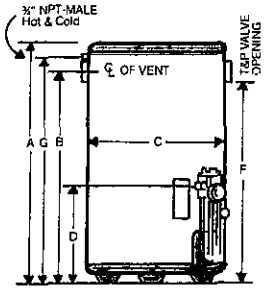
CRANE®

All models are equipped with GAS PRESSURE REGULATOR as required by new A.N.S.I. Standards.

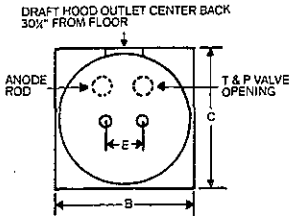


LOWBOY





UNDERCOUNTER



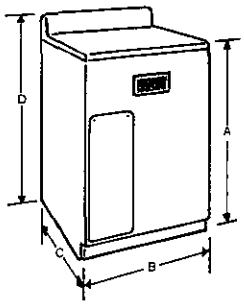


TABLE TOP

■ **GLASSLINED TANKS** The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

■ **SPECIAL ECO** (Energy Cut Off) **FEATURE** An A.G.A. design certified, factory installed heat-sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.

■ **ANODE ROD** Extruded magnesium rod suspended in the tank protects your heater against corrosion.

■ **MULTIPORT BURNER** Offers increased efficiency. Burns natural and propane gases with quiet, efficient combustion. Aluminized steel construction provides effective protection from corrosive elements.

■ **NON-LINTING PILOT** Low input design for economical operation. Incinerator type target pilot, self-cleaning (no lint screen necessary) to assure lint free and trouble free operation.

■ **TRIPLE TESTED TANKS** Each tank is carefully tested three times during manufacture.

■ **FIBERGLASS INSULATION** An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum — saves energy.

■ **SET AND FORGET TEMPERATURE CONTROL** Once the automatic control is set, you get a constant supply of hot water at your desired temperature.

■ **T. & P. VALVE OPENING** Separate ¾" N.P.T. opening provided for installation of Temperature—Pressure relief valve. Maximum Hydrostatic Working Pressure 150 PSI.

■ **A.G.A. CERTIFICATION** Design of all water heaters is certified by the American Gas Association Laboratories.

		LO-BOY		UNDERCOUNTER		TABLE TOP
5 YR. LMT. WARRANTY MODEL NO.		C5-30-NLS7	C5-40-NLS7	C5-30-NUS7	C5-40-NUS7	C5-30-NT47
10 YR. LMT. WARRANTY MODEL NO.		C10-30-NLS7	C10-40-NLS7	C10-30-NUS7	C10-40-NUS7	C10-30-NT47
CAPACITY IN GALS.		30	40	30	40	30
B.T.U. INPUT PER HR.	NAT.-MFD.-MIXED	30,000	33,000	30,000	33,000	30,000
	BUT.-PROP.	30,000	33,000	30,000	33,000	30,000
RECOVERY G.P.H. 100° RISE		25.2	27.7	25.2	27.7	25.2
DIMENSIONS IN INCHES	A	33½"	39¼"	34¼"	40"	36"
	B	30½"	36¼"	31¼"	37"	24"
	C	24"	24"	24"	24"	25"
	D	15¼"	15¼"	15¼"	15¼"	39½"
	E	8"	8"	8"	8"	8"
	F	24¼"	30"	24¼"	30"	
	G			31¾"	37½"	
	VENT SIZE	3"	3"	3"	3"	3"
SHIPPING WEIGHT IN LBS.		140	160	150	170	185

¾" Water Inlets & Outlets TABLE TOP-VENT OPENINGS 30¼" FROM FLOOR

Models listed above are for Natural Gas.—When ordering for Propane Gas, Substitute Letter "P" in Place of Letter "N". (EXAMPLE: C5-30-PLS7)

10-Year models include additional Anodic Protection.

Full terms of Limited Warranty may be found in this catalog.

CRANE®

CRANE **Residential**

CRANE SUPPLY COMPANY

Electric glasslined water heaters

AMBASSADOR II

SUPER ENERGY EFFICIENT

Ambassador II Super Energy Efficient Water Heaters represent the ultimate in energy conserving operation. Heaters meet stringent efficiency performance standards for energy consuming appliances set by H.U.D., ASHRAE standard 90-75, BOCA Code and new D.O.E. (Dept. of Energy) performance standards.

Economy in operation

SUPER DENSE FIBERGLASS INSULATION provides increased efficiency while conserving fuel.

LONG LIFE INCOLOY ELEMENTS won't burn out in sand, lime or even air.

Dependable long-life performance

The finest in **GLASSLINING** for superior tank life and water cleanliness.

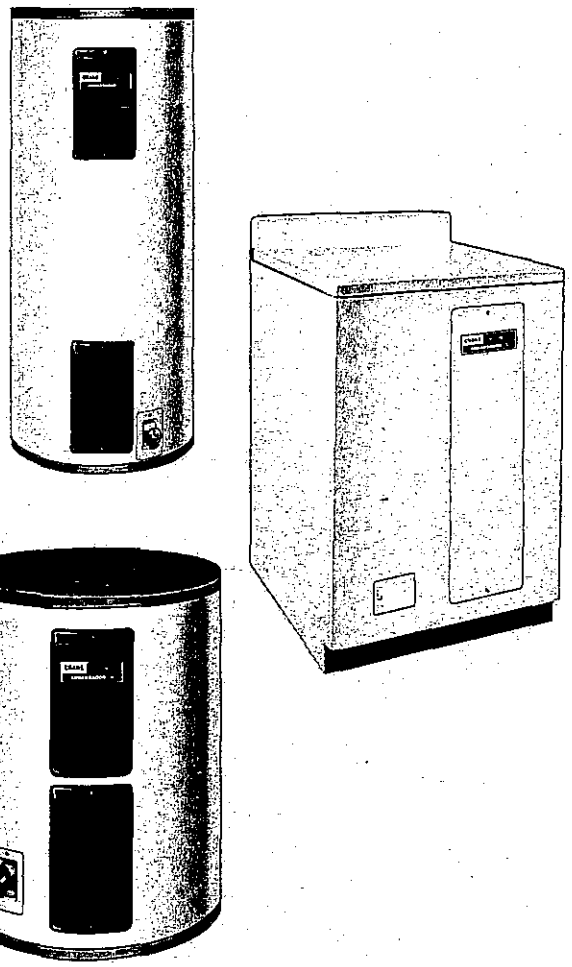
High quality magnesium **DUAL ANODE ROD** protection assures long life and efficient operation.

SET AND FORGET THERMOSTAT provides constant supply of hot water at desired temperature.

EXTRA STRENGTH TANKS insure long life and that important margin of safety.

Factory Installed A.S.M.E. rated **TEMPERATURE & PRESSURE** relief valve.

UL LISTED all models comply with safety specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.



5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-30-2ERS7	C10-30-2ERS7	30 gal.
C5-42-2ERS7	C10-42-2ERS7	42 gal.
C5-52-2ERS7	C10-52-2ERS7	52 gal.
C5-66-2ERS7	C10-66-2ERS7	66 gal.
C5-82-2ERS7	C10-82-2ERS7	82 gal.
C5-120-2ERS7	C10-120-2ERS7	120 gal.
C5-30-2ET48	C10-30-2ET48	30 gal.
C5-40-2ET48	C10-40-2ET48	40 gal.
C5-50-2ET48	C10-50-2ET48	50 gal.
C5-30-2ELS8	C10-30-2ELS8	30 gal.
C5-40-2ELS8	C10-40-2ELS8	40 gal.
C5-50-2ELS8	C10-50-2ELS8	50 gal.

AMBASSADOR II

SUPER ENERGY EFFICIENT
Electric glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.
Special ECO (Energy Cut-Off) **feature** A special UL listed, factory installed heat sensitive device cuts off ALL power to heater should tank water temperature reach 210°F.
Dual Anode rod Extruded magnesium rods suspended in the tank protect your heater against corrosion.

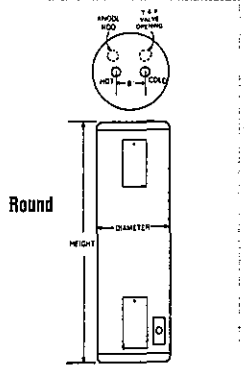
Long Life incoloy elements won't burn out in sand, lime or even air.
Welded steel couplings No internal threads to cause nipple leaks.
Triple tested tanks Each tank is carefully tested three times during manufacture.
Fiberglass insulation An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum—saves energy.
Set and forget thermostat control Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature. Maximum Hydrostatic Working Pressure 150 PSI.

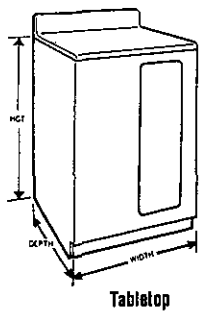
Factory installed **A.S.M.E. RATED TEMPERATURE** and pressure relief valve.
UL Listed All models comply with Safety Specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

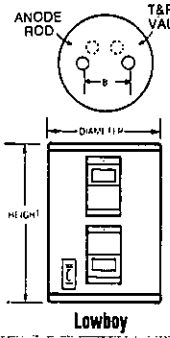
5 Year Lmt. Warranty Model No.	10 Year Lmt. Warranty Model No.	Type Element	*Wattage Maximum 240V AC (208V AC)	Recovery G.P.H. 100 Rise A.N.S.I. Method		Recovery G.P.H. 90 Rise D.O.E. Method		Cap. Gals.	Dimensions In inches			Ship. Wt. Lbs.
				Sim. Oper.	Non-Sim. Oper.	Sim. Oper.	Non-Sim. Oper.		Htg.	Diam.	Width	
Round												
C5- 30-2ERS7	C10- 30-2ERS7	double	3,800	31.13	15.56	34.23	17.11	30	40½	20	–	105
C5- 42-2ERS7	C10- 42-2ERS7	double	3,800	31.13	15.56	34.23	17.11	42	50¼	20	–	125
C5- 52-2ERS7	C10- 52-2ERS7	double	4,500	36.86	18.43	40.53	20.27	52	52½	22	–	155
C5- 66-2ERS7	C10- 66-2ERS7	double	4,500	36.86	18.43	40.53	20.27	66	54	24	–	180
C5- 82-2ERS7	C10- 82-2ERS7	double	4,500	36.86	18.43	40.53	20.27	82	64	24	–	220
C5-120-2ERS7	C10-120-2ERS7	double	4,500	36.86	18.43	40.53	20.27	120	65	28	–	315
Tabletop												
C5- 30-2ET48	C10- 30-2ET48	double	4,500	36.86	18.43	40.53	20.27	30	36	25	24	155
C5- 40-2ET48	C10- 40-2ET48	double	4,500	36.86	18.43	40.53	20.27	40	36	25	24	170
C5- 50-2ET48	C10- 50-2ET48	double	4,500	36.86	18.43	40.53	20.27	50	36	25	24	185
Lowboy												
C5- 30-2ELS8	C10- 30-2ELS8	double	4,500	36.86	18.43	40.53	20.27	30	30	22	–	105
C5- 40-2ELS8	C10- 40-2ELS8	double	4,500	36.86	18.43	40.53	20.27	40	30½	24	–	135
C5- 50-2ELS8	C10- 50-2ELS8	double	4,500	36.86	18.43	40.53	20.27	50	32	26¼	–	155

*Maximum wattage shown here are available when specified.
Double element wattages are based on simultaneous operation and must be specified—otherwise heater elements are wired to operate independently in an interlocking circuit.
All wattage must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4:1 g.p.h. per 1000 watts input.





Tabletop



Lowboy

FORM NO. CS-207-579-1

CRANE
CRANE SUPPLY COMPANY · 300 PARK AVENUE · NEW YORK, N.Y. 10022

CRANE01069

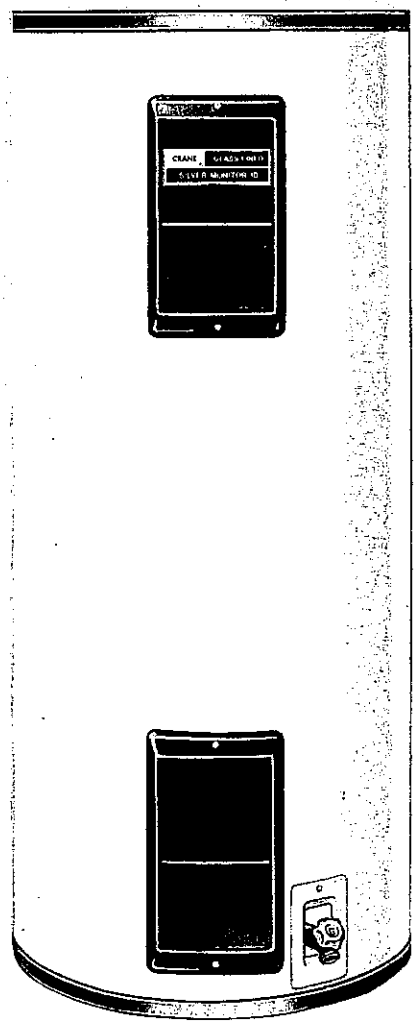
CRANE **Residential**

CRANE SUPPLY COMPANY

Electric glasslined water heaters

Silver Monitor

The attractively styled glasslined SILVER MONITOR ELECTRIC will deliver an abundant supply of clean, piping hot water throughout years of economical trouble-free service. Check these advantages.



Economy in operation!

Immersed **HEATING ELEMENTS** transfer heat directly into water for maximum efficiency.
FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!
COMPACT DESIGN takes less space, enables low-cost installation.

Dependable long-life performance!

The finest in **GLASS LINING** for superior tank life and water cleanliness.
Magnesium **ANODE ROD** protects tank interior against corrosion.
Snap-on **THERMOSTAT** automatically controls water temperature . . . assures continuous trouble-free service.
UL LISTED All models comply with safety specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.
SUPER STRENGTH TANKS provide long life and that important margin of safety.

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-30-1SRS7	C10-30-1SRS7	30 Gal.
C5-30-2SRS7	C10-30-2SRS7	30 Gal.
C5-42-1SRS7	C10-42-1SRS7	42 Gal.
C5-42-2SRS7	C10-42-2SRS7	42 Gal.
C5-52-1SRS7	C10-52-1SRS7	52 Gal.
C5-52-2SRS7	C10-52-2SRS7	52 Gal.
C5-66-2SRS7	C10-66-2SRS7	66 Gal.
C5-82-2SRS7	C10-82-2SRS7	82 Gal.
C5-100-2SRS7	C10-100-2SRS7	100 Gal.
C5-120-2SRS7	C10-120-2SRS7	120 Gal.

Silver Monitor

Electric glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

Special ECO (Energy Cut-Off) features A special UL listed, factory installed heat sensitive device cuts off **ALL** power to heater should tank water temperature reach 210°F.

Anode rod Extruded magnesium rod suspended in the tank protects your heater against corrosion.

Highly efficient threaded elements Immersion type heating elements put all heat directly into water for greater efficiency. Pressure sealed to prevent leaking.

Welded steel couplings No internal threads to cause nipple leaks.

T. & P. Valve opening Separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. Maximum Hydrostatic Working Pressure 150 PSI.

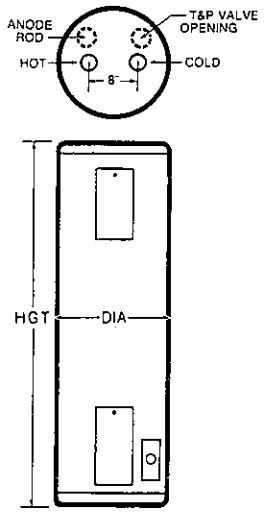
Triple tested tanks Each tank is carefully tested three times during manufacture.

Fiberglass insulation An extra dense blanket of nonsettling fiberglass surrounds tank and keeps heat loss to minimum—saves fuel.

Set and forget thermostat control Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature.

UL Listed All models comply with Safety Specifications outlined in Underwriters' Laboratories Inc. Standards for Safety, UL174.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice



5 year Lmt. Warranty Model No.*	10 Year Lmt. Warranty Model No.	Type Element	Wattage Maximum 240V AC 208V AC	Recovery G.P.H. Based On 240V Max.	Cap Gals.	Dimensions in Inches Hgt.	Diam.	Ship. Wt. Lbs.
C5-30-1SRS7	C10-30-1SRS7	Single	6,000	24.6	30	37½	20	100
C5-30-2SRS7	C10-30-2SRS7	Double	9,000*	36.9	30	37½	20	100
C5-42-1SRS7	C10-42-1SRS7	Single	6,000	24.6	42	47½	20	115
C5-42-2SRS7	C10-42-2SRS7	Double	12,000*	49.2	42	47½	20	120
C5-52-1SRS7	C10-52-1SRS7	Single	6,000	24.6	52	50½	22	150
C5-52-2SRS7	C10-52-2SRS7	Double	12,000*	49.2	52	50½	22	150
C5-66-2SRS7	C10-66-2SRS7	Double	12,000*	49.2	66	52¼	24	180
C5-82-2SRS7	C10-82-2SRS7	Double	12,000*	49.2	82	58½	24	215
C5-100-2SRS7	C10-100-2SRS7	Double	12,000*	49.2	100	57¾	28	300
C5-120-2SRS7	C10-120-2SRS7	Double	12,000*	49.2	120	63	28	315

10-Year models include additional Anodic Protection.
Full terms of Limited Warranty may be found in this catalog.
Maximum wattages shown here are available when specified.
*(Double element wattages are based on simultaneous operation and must be specified—otherwise heater elements are wired to operate independently in an interlocking circuit.)
All wattages must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 g.p.h. per 1000 watts input.

FORM NO. CS300-979

CRANE **CRANE SUPPLY COMPANY** 300 PARK AVENUE NEW YORK, N.Y. 10022

CRANE01071

CRANE **Residential**

CRANE SUPPLY COMPANY

Tall electric glasslined water heaters

Silver monitor

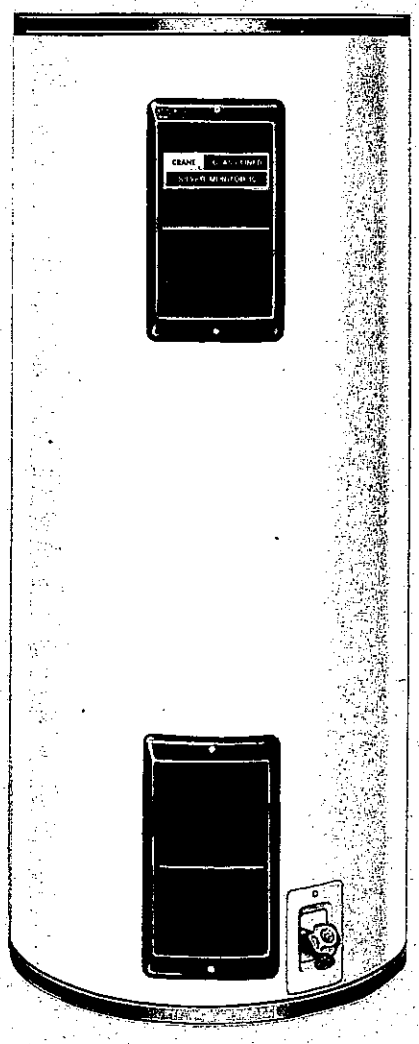
SILVER MONITOR TALL ELECTRICS are a favorite choice for residential installations. These compactly designed, quality built water heaters provide years of economical, trouble-free performance. Check these advantages.

Economy in operation

The finest in **GLASS LINING** for superior tank life and water cleanliness.
Immersed **HEATING ELEMENTS** transfer heat directly into water for maximum efficiency.
FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!
COMPACT DESIGN takes less space, enables low-cost installation.

Dependable long-life performance

Magnesium **ANODE ROD** protects tank interior against corrosion.
UL LISTED All models comply with safety specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174



5 YEAR MODELS	CAPACITY
C5-30-1SRT7	30 Gal.
C5-30-2SRT7	30 Gal.
C5-42-1SRT7	42 Gal.
C5-42-2SRT7	42 Gal.
C5-52-1SRT7	52 Gal.
C5-52-2SRT7	52 Gal.

Silver Monitor

Tall electric glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600 F.) to insure clean, rust-free water throughout a longer tank life.

Special ECO (Energy Cut-Off) feature A special UL listed, factory installed heat sensitive device cuts off **ALL** power to heater should tank water temperature reach 210°F.

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Welded steel couplings No internal threads to cause nipple leaks.

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Set and forget thermostat control Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature. Maximum Hydrostatic Working Pressure 150 PSI.

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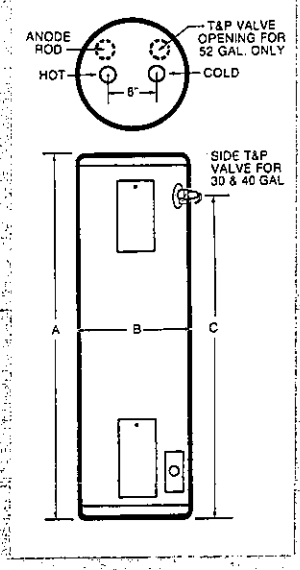
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.



5 Year Lmt. Warranty Model No.	Type Element	Cap. Gals.	Elem. *Watt (max.) 240V AC	Rec. G.P.H. 240V (Max.)	Dimensions (Inches) A	B	C	Inlets & Outlets (Inches)	Ship. Wt. Lbs.
C5-30-1SRT7	Single	30	5000	20.5	44¾	18	39½	¾	110
C5-30-2SRT7	Double	30	10000	41.0	44¾	18	39½	¾	115
C5-42-1SRT7	Single	42	5000	20.5	58½	18	53¾	¾	120
C5-42-2SRT7	Double	42	10000	41.0	58½	18	53¾	¾	125
C5-52-1SRT7	Single	52	6000	24.6	58½	20		¾	140
C5-52-2SRT7	Double	52	12000	49.2	58½	20		¾	140

*Maximum wattages shown here are available when specified.
(Double element wattages are based on simultaneous operation and must be specified—otherwise heater elements are wired to operate independently in an interlocking circuit.)

All wattages must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 g.p.h. per 1000 watts input.

Full terms of limited warranty may be found in this catalog.

FORM NO. CS-304-579-1

CRANE **CRANE SUPPLY COMPANY** 300 PARK AVENUE NEW YORK, N.Y. 10022

CRANE01073

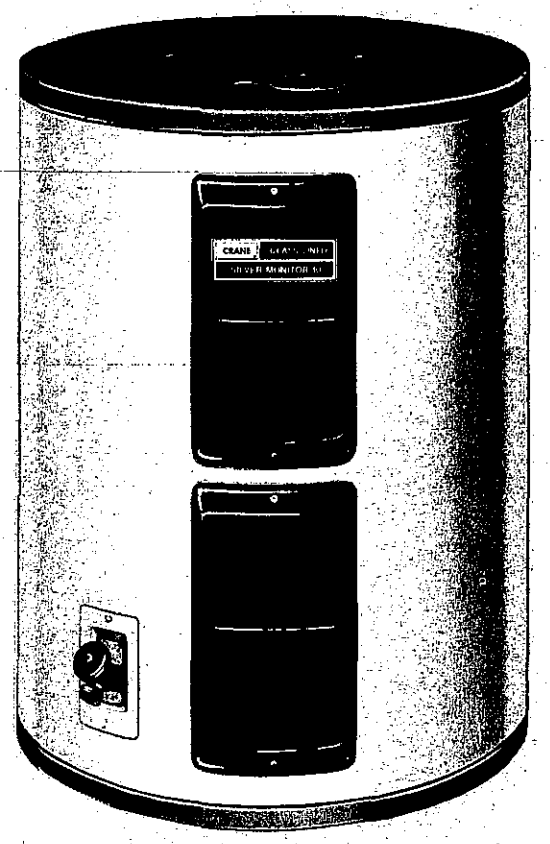
CRANE **Residential**

CRANE SUPPLY COMPANY

Under counter electric glasslined water heaters

Silver Monitor

These compact SILVER MONITOR ELECTRICS are especially designed for use wherever space is more limited than hot water needs. A low silhouette plus large storage capacity assures an abundant supply of hot water for family and home throughout years of safe, efficient trouble-free service. Check these advantages.



Economy in operation

Immersed **HEATING ELEMENTS** transfer heat directly into water for maximum efficiency.

FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!

COMPACT DESIGN takes less space, enables low-cost installation.

Dependable long-life performance

The finest in **GLASS LINING** for superior tank life and water cleanliness.

Magnesium **ANODE ROD** protects tank interior against corrosion.

THERMOSTAT automatically controls water temperature . . . assures continuous trouble-free service.

SUPER STRENGTH TANKS provide long life and that important margin of safety.

UL LISTED All models comply with safety specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety.

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-20-1SLS7	C10-20-1SLS7	20 Gal.
C5-20-2SLS7	C10-20-2SLS7	20 Gal.
C5-30-1SLS7	C10-30-1SLS7	30 Gal.
C5-30-2SLS7	C10-30-2SLS7	30 Gal.
C5-40-1SLS7	C10-40-1SLS7	40 Gal.
C5-40-2SLS7	C10-40-2SLS7	40 Gal.
C5-50-1SLS7	C10-50-1SLS7	50 Gal.
C5-50-2SLS7	C10-50-2SLS7	50 Gal.

Silver Monitor

Under counter electric glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

Special ECO (Energy Cut-Off) feature A special UL listed, factory installed heat sensitive device cuts off **ALL** power to heater should tank water temperature reach 210°F.

Anode rod Extruded magnesium rod suspended in the tank protects your heater against corrosion.

Highly efficient threaded elements Immersion type heating elements put all heat directly into water for greater efficiency. Pressure sealed to prevent leaking.

Welded steel couplings No internal threads to cause nipple leaks.

T. & P. Valve opening Separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. Maximum Hydrostatic Working Pressure 150 PSI.

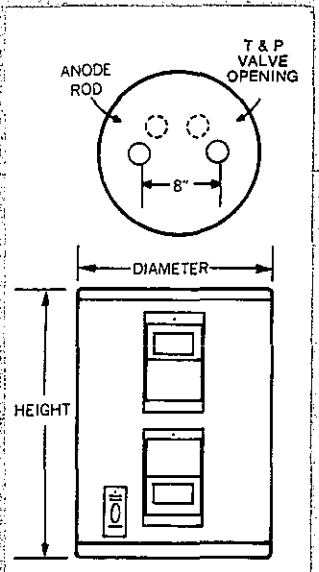
Triple tested tanks Each tank is carefully tested three times during manufacture.

Fiberglass insulation An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum—saves energy.

Set and forget thermostat control Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature.

UL Listed All models comply with Safety Specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.



Side T&P valve opening 26½" from bottom of tank on 20 gallon model only.

5 Year Lmt. Warranty Model No.	10 Year Lmt. Warranty Model No.	Type Element	Wattage Maximum 240V AC (208V AC)	Recovery G.P.H. Based On 240V Max.	Cap. Gals.	Dimensions In Inches Hgt.	Dimensions In Inches Diam.	Ship Wt. Lbs.
C5-20-1SLS7	C10-20-1SLS7	Single	3000	12.3	20	31¼	16	70
C5-20-2SLS7	C10-20-2SLS7	Double	4500	18.5	20	31¼	16	70
C5-30-1SLS7	C10-30-1SLS7	Single	4500	18.5	30	31	20	95
C5-30-2SLS7	C10-30-2SLS7	Double	9000	36.9	30	31	20	100
C5-40-1SLS7	C10-40-1SLS7	Single	6000	24.6	40	31¼	24	125
C5-40-2SLS7	C10-40-2SLS7	Double	12000	49.2	40	31¼	24	130
C5-50-1SLS7	C10-50-1SLS7	Single	6000	24.6	50	31½	26	145
C5-50-2SLS7	C10-50-2SLS7	Double	12000	49.2	50	31½	26	150

10-Year Models include additional Anodic Protection. Full terms of Limited Warranty may be found in this catalog.

Maximum wattages shown here are available when specified.
* (Double element wattages are based on simultaneous operation and must be specified—otherwise heater elements are wired to operate independently in an interlocking circuit.)
All wattages must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 g.p.h. per 1000 watts input.

FORM NO. C5-303-579-1

CRANE®

CRANE SUPPLY COMPANY 300 PARK AVENUE NEW YORK, N. Y. 10022

CRANE01075

CRANE **Residential**

CRANE SUPPLY COMPANY

Midget electric glasslined water heaters

Silver Monitor

The SILVER MONITOR MIDGET ELECTRIC water heater is ideally suited for use wherever space is more limited than hot water needs. Though small in size, it is a GIANT in performance which means years of safe, efficient service. Just check these advantages.

Economy in operation

The finest in **GLASS LINING** for superior tank life and water cleanliness.

Immersed **HEATING ELEMENTS** transfer heat directly into water for maximum efficiency.

FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!

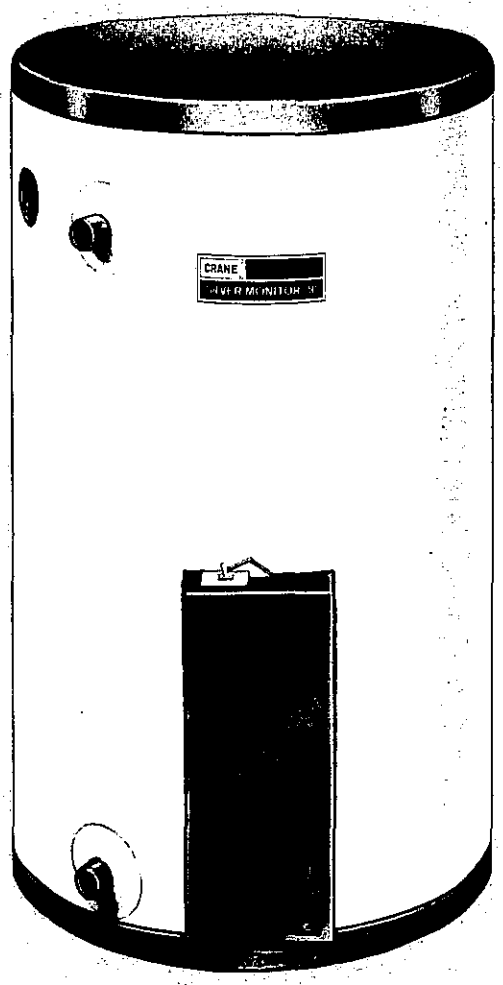
COMPACT DESIGN takes less space, enables low-cost installation.

Dependable long-life performance

Magnesium **ANODE ROD** protects tank interior against corrosion.

UL LISTED All models comply with safety specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.

NO DIP TUBE required due to use of side-bottom cold water inlet.



5 YEAR MODELS	CAPACITY
C5-6-1SMS7-K	6 Gal.
C5-10-1SMS7-K	10 Gal.
C5-17-1SMS7-K	17 Gal.
C5-20-1SMS7-K	20 Gal.
C5-30-1SMS7-K	30 Gal.

Silver Monitor

Midget electric glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

Special ECO (Energy Cut-Off) feature A special UL listed, factory installed heat sensitive device cuts off **ALL** power to heater should tank water temperature reach 210°F.

Anode rod Extruded magnesium rod suspended in the tank protects your heater against corrosion.

Highly efficient heating elements Immersion type heating elements put all heat directly into water for greater efficiency. Pressure sealed to prevent leaking.

Welded steel couplings No internal threads to cause nipple leaks.

No dip tube Side-bottom cold water inlet with internal diffusers eliminates need for dip tube. This inlet position also permits easy installation of FHA approved temperature and pressure relief valve.

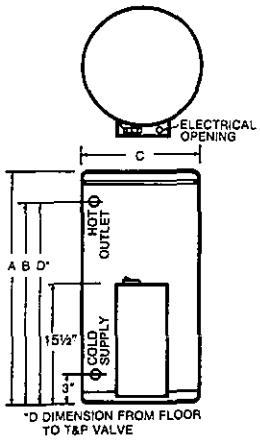
Triple tested tanks Each tank is carefully tested three times during manufacture.

Fiberglass insulation An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum—saves energy.

Set and forget thermostat control Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature. Maximum Hydrostatic Working Pressure 150 PSI.

UL Listed All models comply with Safety Specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.



5 Year Lmt. Warranty Model No.	Type Element	Elem. Watt (Max.) 120V	Rec. G.P.H. 120V (Max.)	Cap. Gals.	Dimensions (inches) A	B	C	D	Inlets & Outlets (Inches)	Ship. Wt. Lbs.
C5-6-1SMS7-K	Single	2000	8.2	6	17	12¾	14	12¾	¾	40
C5-10-1SMS7-K	Single	2000	8.2	10	17	11¾	16	11¾	¾	50
C5-17-1SMS7-K	Single	2000	8.2	17	27½	22¾	16	22¾	¾	65
C5-20-1SMS7-K	Single	2000	8.2	20	27½	16½	20	16½	¾	80
C5-30-1SMS7-K	Single	2000	8.2	30	29½	24½	20	24½	¾	100

Maximum wattages shown here are available when specified.
* (Double element wattages are based on simultaneous operation and must be specified—otherwise heater elements are wired to operate independently in an interlocking circuit.)
All wattages must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 g.p.h. per 1000 watts input.
Full terms of limited warranty may be found in this catalog.

FORM NO. C5-302-579-1

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE NEW YORK, N. Y. 10022

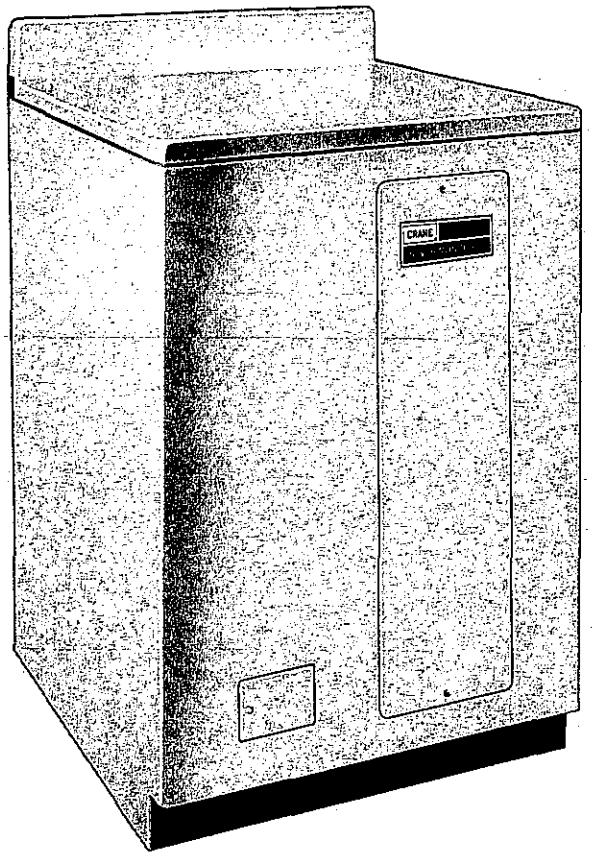
CRANE01077

CRANE **Residential**

CRANE SUPPLY COMPANY

Table top electric glasslined water heaters

The popular SILVER MONITOR TABLE TOP ELECTRIC not only meets all your hot water needs, but becomes an ideal companion for your other table top appliances. Its stain-resistant, porcelain top, with integral back splash and recessed base, makes an ideal extra work space. Check these advantages.



Economy in operation

Immersed **HEATING ELEMENTS** transfer heat directly into water for maximum efficiency.

FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!

COMPACT DESIGN takes less space, enables low-cost installation.

Dependable long-life performance

The finest in **GLASS LINING** for superior tank life and water cleanliness.

Magnesium **ANODE ROD** protects tank interior against corrosion.

THERMOSTAT automatically controls water temperature . . . assures continuous trouble-free service.

SUPER STRENGTH TANKS provide long life and that important margin of safety.

UL LISTED All models comply with safety specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety,

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-30-1ST17	C10-30-1ST17	30 Gal.
C5-30-2ST17	C10-30-2ST17	30 Gal.
C5-40-1ST17	C10-40-1ST17	40 Gal.
C5-40-2ST17	C10-40-2ST17	40 Gal.
C5-50-1ST47	C10-50-1ST47	50 Gal.
C5-50-2ST47	C10-50-2ST47	50 Gal.

silver monitor

Table top electric glasslined water heaters

Glasslined tanks The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

Special ECO (Energy Cut-Off) feature A special UL listed, factory installed heat sensitive device cuts off **ALL** power to heater should tank water temperature reach 210°F.

Anode rod Extruded magnesium rod suspended in the tank protects your heater against corrosion.

Highly efficient heating elements Immersion type heating elements put all heat directly into water for greater efficiency. Pressure sealed to prevent leaking.

Welded steel couplings No internal threads to cause nipple leaks.

T. & P. Valve opening Separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. Maximum Hydrostatic Working Pressure 150 PSI.

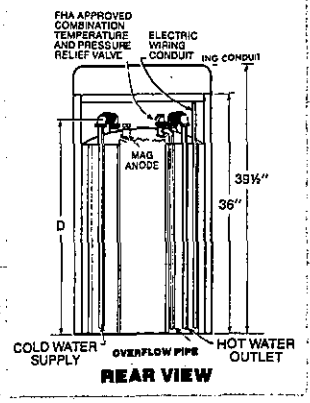
Triple tested tanks Each tank is carefully tested three times during manufacture.

Fiberglass insulation An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum—saves energy.

Set and forget thermostat control Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature.

UL Listed All models comply with Safety Specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

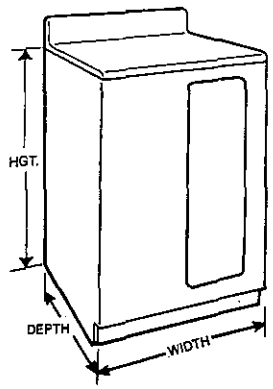


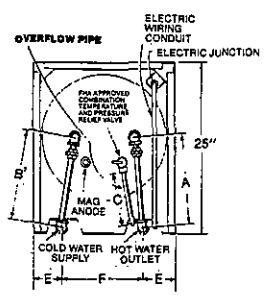
REAR VIEW

5 Year Lmt. Warranty Model No.*	10 Year Lmt. Warranty Model No.	Type Element	Wattage Maximum 240V AC 208V AC	Recovery G.P.H. Based On 240V Max.	Cap. Gals.	Dimensions In Inches Hgt.	Wd.	Dp.	Ship. Wt. Lbs.
C5-30-1ST17	C10-30-1ST17	Single	6,000	24.6	30	36	21	25	140
C5-30-2ST17	C10-30-2ST17	Double	9,000*	36.9	30	36	21	25	145
C5-40-1ST17	C10-40-1ST17	Single	6,000	24.6	40	36	21	25	150
C5-40-2ST17	C10-40-2ST17	Double	12,000*	49.2	40	36	21	25	155
C5-50-1ST47	C10-50-1ST47	Single	6,000	24.6	50	36	24	25	180
C5-50-2ST47	C10-50-2ST47	Double	12,000*	49.2	50	36	24	25	180

10-Year models include additional Anodic Protection. Full terms of Limited Warranty may be found in this catalog.

Maximum wattages shown here are available when specified.
* (Double element wattages are based on simultaneous operation and must be specified—otherwise heater elements are wired to operate independently in an interlocking circuit.)
All wattages must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 g.p.h. per 1000 watts input.





TOP VIEW

ROUGH-IN DIMENSIONS IN INCHES

21" Models	A	B	C	D	E	F
30 gal.	12	12	13	32	3	15
40 gal.	16¾	16¾	11¾	33	3	15
24" Models	**A**	**B**	**C**	**D**	**E**	**F**
50 gal.	13¼	10¾	12¼	33	3	18

FORM NO. CS301-579-1

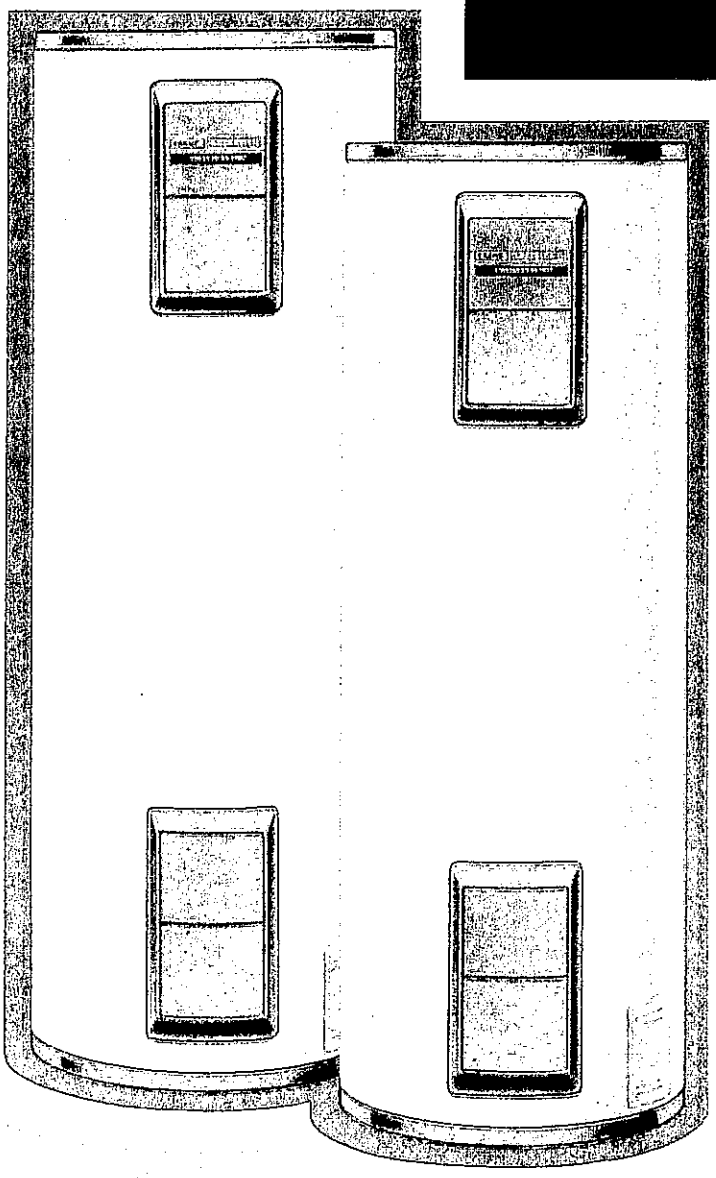
CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE NEW YORK, N. Y. 10022

CRANE01079

•ENERGY SAVERS

CRANE®



Thick, double-dense fiberglass insulation surrounding tank locks in heat normally lost through jacket. Elements are required to work less with a resulting dramatic energy savings.

Of course, Superior II Tanks are coated with clean, smooth protective glass on all interior surfaces.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

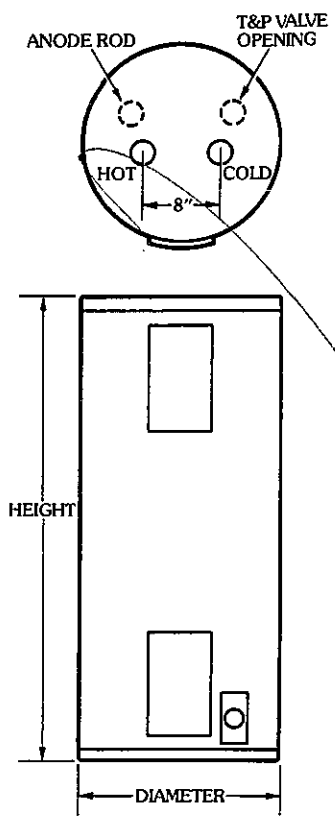
CRANE01080

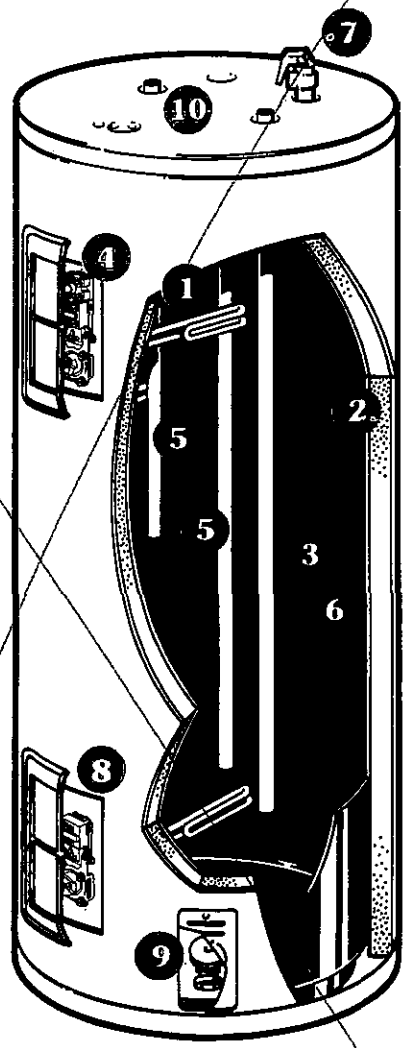
CRANE® SUPERIOR II

Energy Conserving Electric Water Heaters

Featuring Dramatic Energy Saving Performance

Meets ASHRAE efficiency standard 90-75 and H.U.D. standards.





1. **Burn Out Resistant "Lime-Guard" Elements.** Resist burnout from lime, sand and even air. Heat water faster and reduce fuel consumption by working less.

2. **Super Dense Fiberglass Insulation.** A double dense blanket of non-settling fiberglass surrounds tank keeping standby heat loss to minimum and saving energy.

3. **Glasslined Tanks.** The complete inner surface of every tank is lined with coating of vitrified glass, permanently bonded under intense heat (1600°F) to insure clean, rust-free water throughout a longer tank life.

4. **Special ECO (Energy Cut Off) Feature.** A special UL listed, factory installed heat sensitive device cuts off All power to heater should tank water temperature reach 210°F.

5. **Dual Anode Rod Protection.** Two extruded magnesium rods suspended in tank protect heater from corrosion.

6. **Triple Tested Tanks.** Each tank is carefully tested three times during manufacture.

7. **T&P Valve Opening.** Separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. Maximum hydrostatic working pressure 150 PSI.

8. **Set and Forget Thermostat.** Once automatic control is set, you get a constant supply of hot water at your desired temperature.

9. **Brass Boiler Drain.** Long shank pattern, solid brass boiler drain provides long life and easy hose connection.

10. **Welded Steel Couplings.** Assures leak-free water line connection.

11. **U.L. Listed.** All models comply with safety specifications outlined under Underwriters' Laboratories, Inc. Standards for Safety, UL174.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

10 Year Models Have Additional Anodic Protection

Maximum wattages shown here are available when specified.

*(Double element wattages are based on simultaneous operations and must be specified—otherwise heater elements are wired to operate independently in an interlocking circuit.)

All wattages must conform to local codes and utility requirements. Should maximum permissible wattages in your area be less than above, recovery can be determined at the rate of 4.1 g.p.h. per 1000 watts input.

Full terms of limited warranty may be found in this catalog.

See revisions models & sizes

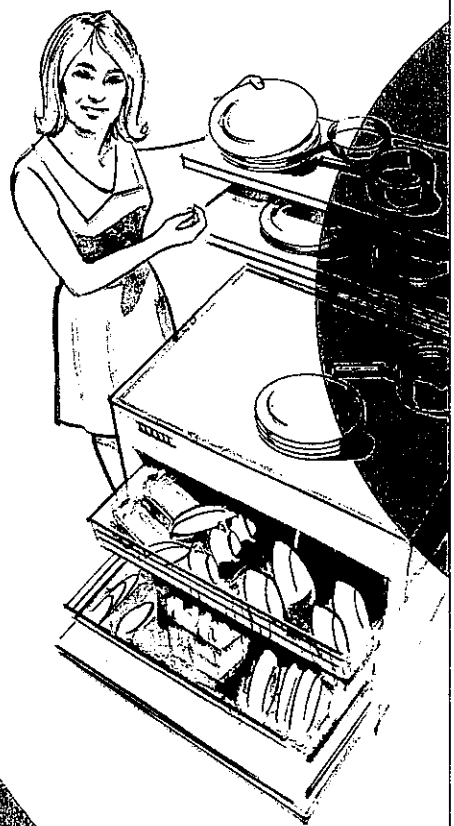
MODEL NO. 5 YEAR LIMITED WARRANTY	MODEL NO. 10 YEAR LIMITED WARRANTY	TYPE ELEMENT	WATTAGE MAXIMUM 240V AC 208V AC	RECOVERY G.P.H. BASED ON 240V MAX.	CAP. GALS.	DIMENSIONS IN INCHES HGT.	DIAM.	SHIP WT. LBS.
CE5-30-2RS7	CE10-30-2RS7	Double	9000	36.9	30	40½	20	105
CE5-42-2RS7	CE10-42-2RS7	Double	12000	49.2	42	50¼	20	125
CE5-52-2RS7	CE10-52-2RS7	Double	12000	49.2	52	52½	22	155
CE5-82-2RS7	CE10-82-2RS7	Double	12000	49.2	82	64	24	220
CE5-120-2RS7	CE10-120-2RS7	Double	12000	49.2	120	65	28	315

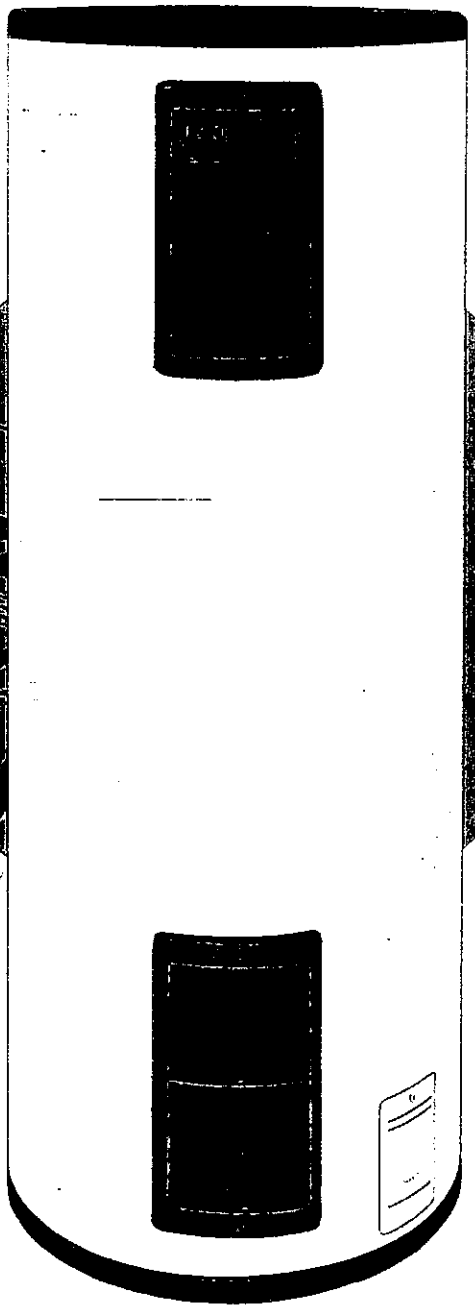
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

Silver Monitor

ELECTRIC GLASSLINED WATER HEATERS

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-30-1RS7	C10-30-1RS7	30 Gal.
C5-30-2RS7	C10-30-2RS7	30 Gal.
C5-42-1RS7	C10-42-1RS7	42 Gal.
C5-42-2RS7	C10-42-2RS7	42 Gal.
C5-52-1RS7	C10-52-1RS7	52 Gal.
C5-52-2RS7	C10-52-2RS7	52 Gal.
C5-66-2RS7	C10-66-2RS7	66 Gal.
C5-82-2RS7	C10-82-2RS7	82 Gal.
C5-100-2RS7	C10-100-2RS7	100 Gal.
C5-120-2RS7	C10-120-2RS7	120 Gal.





The attractively styled glass-lined SILVER MONITOR ELECTRIC will deliver an abundant supply of clean, piping hot water throughout years of economical trouble-free service. Its quiet operation and no vent design make it perfect for locating in kitchens, rumpus rooms, finished rooms and the like. Check these advantages.

ECONOMY IN OPERATION!

- Immersed HEATING ELEMENTS transfer heat directly into water for maximum efficiency.
- FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!
- COMPACT DESIGN saves floor space, enables low-cost installation.

DEPENDABLE LONG-LIFE PERFORMANCE!

- The finest in GLASS LINING for superior tank life and water cleanliness.
- Magnesium ANODE ROD protects tank interior against corrosion.
- Snap-on THERMOSTAT automatically controls water temperature . . . assures continuous trouble-free service.
- UL LISTED All models comply with safety specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.
- SUPER STRENGTH TANKS provide long life and that important margin of safety.

CRANE®

■ **GLASSLINED TANKS** The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

■ **SPECIAL ECO (Energy Cut-Off) FEATURE** A special UL listed, factory installed heat sensitive device cuts off **ALL** power to heater should tank water temperature reach 210°F.

■ **ANODE ROD** Extruded magnesium rod suspended in the tank protects your heater against corrosion.

■ **HIGHLY EFFICIENT THREADED ELEMENTS** Immersion type heating elements put all heat directly into water for greater efficiency. Pressure sealed to prevent leaking.

■ **WELDED STEEL COUPLINGS** No internal threads to cause nipple leaks.

■ **T. & P. VALVE OPENING** Separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. Maximum Hydrostatic Working Pressure 150 PSI.

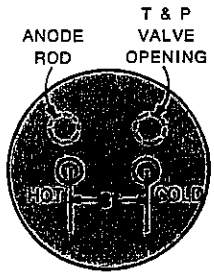
■ **TRIPLE TESTED TANKS** Each tank is carefully tested three times during manufacture.

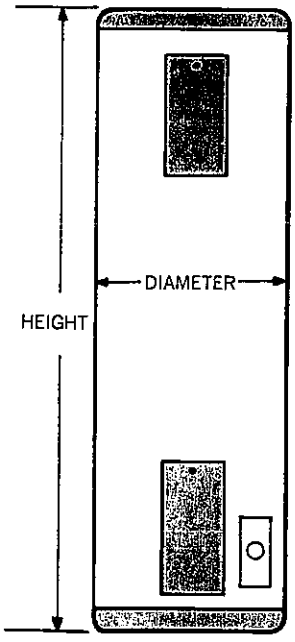
■ **FIBERGLASS INSULATION** An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum — saves fuel.

■ **SET AND FORGET THERMOSTAT CONTROL** Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature.

■ **UL LISTED** All models comply with Safety Specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.





¾" WATER INLETS & OUTLETS

REDUCE BY 2" 9/24/79

5 Year Lmt. Warranty Model No.*	10 Year Lmt. Warranty Model No.	Type Element	Wattage Maximum 240V AC 208V AC	Recovery G.P.H. Based On 240V Max.	Cap. Gals.	Dimensions In Inches		Ship. Wt. Lbs.
						Hgt.	Diam.	
C5-30-1RS7	C10-30-1RS7	Single	6,000	24.6	30	37½	20	100
C5-30-2RS7	C10-30-2RS7	Double	9,000*	36.9	30	37½	20	100
C5-42-1RS7	C10-42-1RS7	Single	6,000	24.6	42	47½	20	115
C5-42-2RS7	C10-42-2RS7	Double	12,000*	49.2	42	47½	20	120
C5-52-1RS7	C10-52-1RS7	Single	6,000	24.6	52	50½	22	150
C5-52-2RS7	C10-52-2RS7	Double	12,000*	49.2	52	50½	22	150
C5-66-2RS7	C10-66-2RS7	Double	12,000*	49.2	66	52¼	24	180
C5-82-2RS7	C10-82-2RS7	Double	12,000*	49.2	82	62	24	215
C5-100-2RS7	C10-100-2RS7	Double	12,000*	49.2	100	57¾	28	300
C5-120-2RS7	C10-120-2RS7	Double	12,000*	49.2	120	63	28	315

10-Year models include additional Anodic Protection.
Full terms of Limited Warranty may be found in this catalog.

Maximum wattages shown here are available when specified.
*(Double element wattages are based on [illegible] otherwise heater elements are wired [illegible]
All wattages meet conform to [illegible]
[illegible] wattages in your area so that [illegible]
of 41 g.p.h. per 1000 watts input.

CRANE SUPPLY COMPANY [illegible]

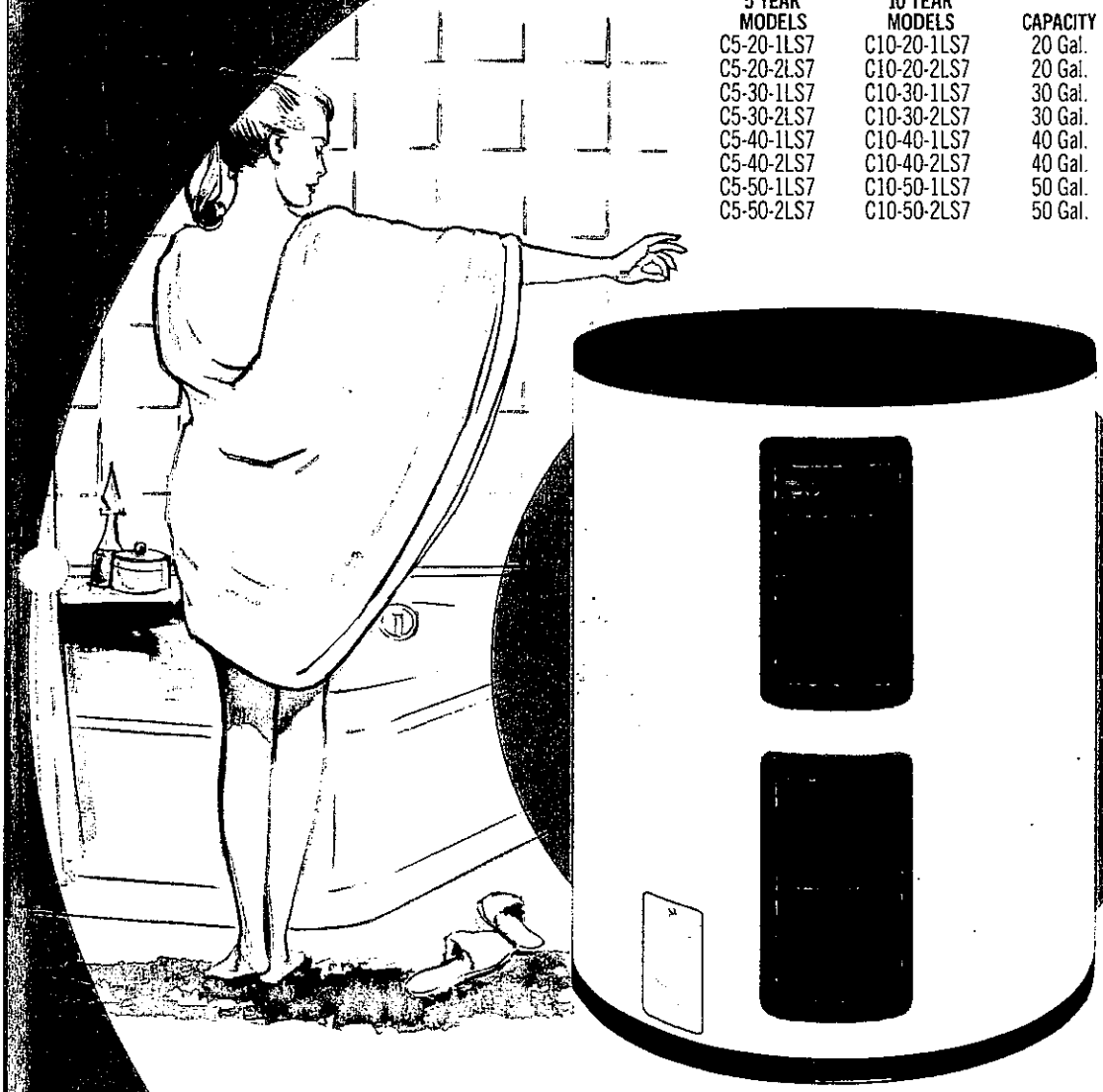
CRANE®

FORM NO. CS300-177-1

CRANE01083

UNDER COUNTER
ELECTRIC GLASSLINED WATER HEATERS

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-20-1LS7	C10-20-1LS7	20 Gal.
C5-20-2LS7	C10-20-2LS7	20 Gal.
C5-30-1LS7	C10-30-1LS7	30 Gal.
C5-30-2LS7	C10-30-2LS7	30 Gal.
C5-40-1LS7	C10-40-1LS7	40 Gal.
C5-40-2LS7	C10-40-2LS7	40 Gal.
C5-50-1LS7	C10-50-1LS7	50 Gal.
C5-50-2LS7	C10-50-2LS7	50 Gal.



These compact SILVER MONITOR ELECTRICS are especially designed for use wherever space is more limited than hot water needs. A low silhouette plus large storage capacity assures an abundant supply of hot water for family and home throughout years of safe, efficient trouble-free service. Check these advantages.

ECONOMY IN OPERATION!

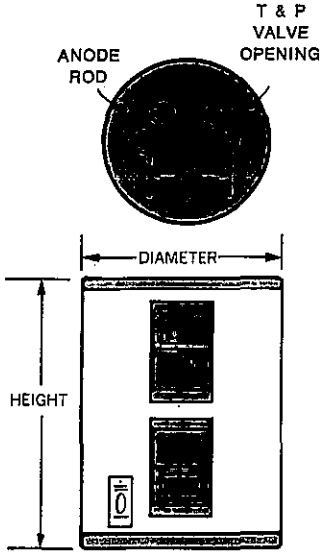
- Immersed HEATING ELEMENTS transfer heat directly to water for maximum
- Magnesium ANODE ROD protects tank interior against corrosion.
- Snap-on THERMOSTAT automatically controls water temperature . . . assures continuous trouble-free service.
- UL LISTED All models comply with safety specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.
- SUPER STRENGTH TANKS provide long life and that important margin of safety.

CRANE01084

CRANE®

- **GLASSLINED TANKS** The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.
- **SPECIAL ECO (Energy Cut-Off) FEATURE** A special UL listed, factory installed heat sensitive device cuts off **ALL** power to heater should tank water temperature reach 210°F.
- **ANODE ROD** Extruded magnesium rod suspended in the tank protects your heater against corrosion.
- **HIGHLY EFFICIENT THREADED ELEMENTS** Immersion type heating elements put all heat directly into water for greater efficiency. Pressure sealed to prevent leaking.
- **WELDED STEEL COUPLINGS** No internal threads to cause nipple leaks.
- **T. & P. VALVE OPENING** Separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. Maximum Hydrostatic Working Pressure 150 PSI.
- **TRIPLE TESTED TANKS** Each tank is carefully tested three times during manufacture.
- **FIBERGLASS INSULATION** An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum — saves energy.
- **SET AND FORGET THERMOSTAT CONTROL** Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature.
- **UL LISTED** All models comply with Safety Specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.



¾" WATER INLETS & OUTLETS

5 Year Lmt. Warranty Model No.*	10 Year Lmt. Warranty Model No.	Type Element	Wattage Maximum 240V AC (208V AC)	Recovery G.P.H. Based On 240V Max.	Cap. Gals.	Dimensions In Inches		Ship. Wt. Lbs.
						Hgt.	Diam.	
C5-20-1LS7	C10-201LS7	Single	3000	12.3	20	30	16	70
C5-20-2LS7	C10-20-2LS7	Double	6000	24.6	20	30	16	75
C5-30-1LS7	C10-30-1LS7	Single	4500	18.5	30	31	20	95
C5-30-2LS7	C10-30-2LS7	Double	9000	36.9	30	31	20	100
C5-40-1LS7	C10-40-1LS7	Single	6000	24.6	40	31¼	24	125
C5-40-2LS7	C10-40-2LS7	Double	12000	49.2	40	31¼	24	130
C5-50-1LS7	C10-50-1LS7	Single	6000	24.6	50	31½	26	145
C5-50-2LS7	C10-50-2LS7	Double	12000	49.2	50	31½	26	150

10-Year Models include additional Anodic Protection.
Full terms of Limited Warranty may be found in this catalog.

CRANE®

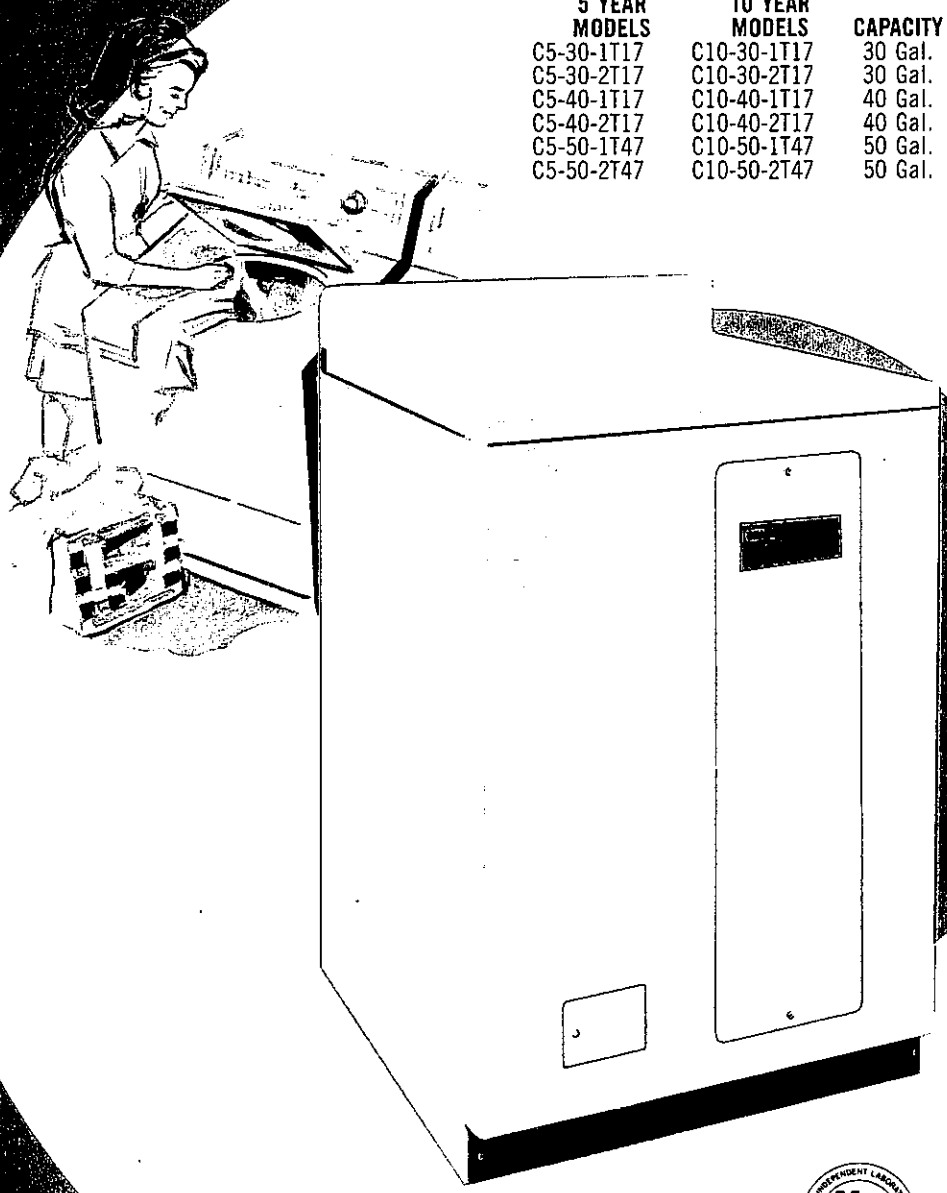
FORM NO. C5-303-177-1

CRANE01085

Silver Line

TABLE TOP
ELECTRIC GLASSLINED WATER HEATERS

5 YEAR MODELS	10 YEAR MODELS	CAPACITY
C5-30-1T17	C10-30-1T17	30 Gal.
C5-30-2T17	C10-30-2T17	30 Gal.
C5-40-1T17	C10-40-1T17	40 Gal.
C5-40-2T17	C10-40-2T17	40 Gal.
C5-50-1T47	C10-50-1T47	50 Gal.
C5-50-2T47	C10-50-2T47	50 Gal.



The popular SILVER LINE FOR TABLE TOP ELECTRIC [illegible] meets all your hot water [illegible] but becomes an ideal compa[illegible]ion for your other table top appliances. Its stain-resistant porcelain top, with integral back splash and recessed base, makes an ideal extra work space. Check these advantages.

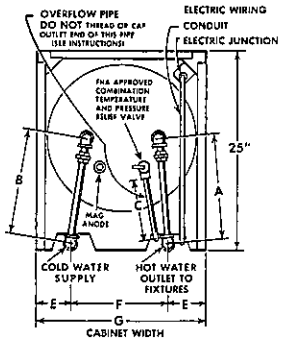
ECONOMY IN OPERATION

- Immersed HEATING ELEMENTS [illegible]
- [illegible]
- [illegible]
- [illegible]
- [illegible] water [illegible]
- Magnesium ANODE ROD protects tank interior against corrosion.
- Snap-on THERMOSTAT automatically controls water temperature . . . assures continuous trouble-free service.
- UL LISTED All models comply with safety specifications outlined in Underwriters Laboratories, Inc. Standards for Safety, UL174.
- SUPER STRENGTH TANKS provide long life and that important margin of safety.

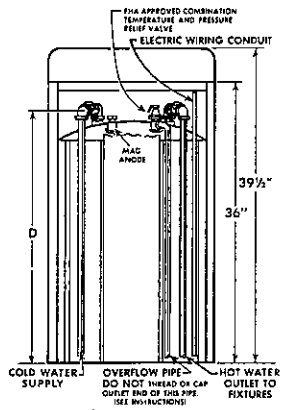
CRANE01086

CRANE®

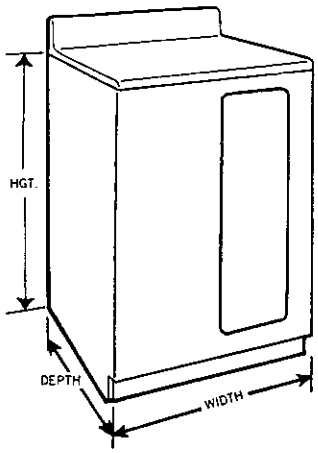
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.



TOP VIEW



REAR VIEW



¾" WATER INLETS & OUTLETS

■ **GLASSLINED TANKS** The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

■ **SPECIAL ECO (Energy Cut-Off) FEATURE** A special UL listed, factory installed heat sensitive device cuts off **ALL** power to heater should tank water temperature reach 210°F.

■ **ANODE ROD** Extruded magnesium rod suspended in the tank protects your heater against corrosion.

■ **HIGHLY EFFICIENT HEATING ELEMENTS** Immersion type heating elements put all heat directly into water for greater efficiency. Pressure sealed to prevent leaking.

■ **WELDED STEEL COUPLINGS** No internal threads to cause nipple leaks.

■ **T. & P. VALVE OPENING** Separate ¾" N.P.T. opening provided for installation of Temperature-Pressure relief valve. Maximum Hydrostatic Working Pressure 150 PSI.

■ **TRIPLE TESTED TANKS** Each tank is carefully tested three times during manufacture.

■ **FIBERGLASS INSULATION** An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum — saves fuel.

■ **SET AND FORGET THERMOSTAT CONTROL** Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature.

■ **UL LISTED** All models comply with Safety Specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.

* ROUGH-IN DIMENSIONS IN INCHES

21" Models	A	B	C	D	E	F
30 gal.	12	12	13	32	3	15
40 gal.	16¾	16¾	11¾	33	3	15
24" Models	**A**	**B**	**C**	**D**	**E**	**F**
50 gal.	13¼	10¾	12¼	33	3	18

5 Year Lmt. Warranty Model No.*	10 Year Lmt. Warranty Model No.	Type Element	Wattage Maximum 240V AC 208V AC	Recovery G.P.H. Based On 240V Max.	Cap. Gals.	Dimensions In Inches Hgt.	Wd.	Dp.	Ship. Wt. Lbs.
C5-30-1T17	C10-30-1T17	Single	6,000	24.6	30	36	21	25	140
C5-30-2T17	C10-30-2T17	Double	9,000*	36.9	30	36	21	25	145
C5-40-1T17	C10-40-1T17	Single	6,000	24.6	40	36	21	25	150
C5-40-2T17	C10-40-2T17	Double	12,000*	49.2	40	36	21	25	155
C5-50-1T47	C10-50-1T47	Single	6,000	24.6	50	36	24	25	180
C5-50-2T47	C10-50-2T47	Double	12,000*	49.2	50	36	24	25	180

10-Year models include additional Anodic Protection.
Full terms of Limited Warranty may be found in this catalog.

CRANE®

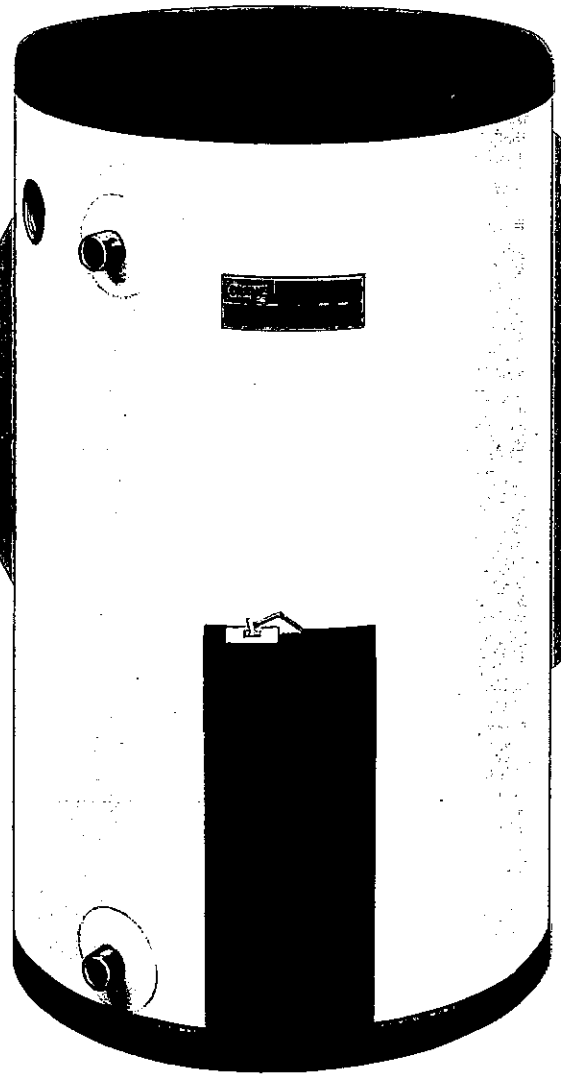
FORM NO. CS301-177-1

CRANE01087

ilver Monitor

MIDGET
ELECTRIC GLASSLINED WATER HEATERS

5 YEAR MODELS	CAPACITY
C5-6-1MS7-K	6 Gal.
C5-10-1MS7-K	10 Gal.
C5-17-1MS7-K	17 Gal.
C5-20-1MS7-K	20 Gal.
C5-20-1MT7-K	20 Gal.
C5-20-2MT7-K	20 Gal.
C5-30-1MS7-K	30 Gal.
C5-30-2MS7-K	30 Gal.
C5-40-1MS7-K	40 Gal.
C5-40-2MS7-K	40 Gal.



The SILVER MONITOR MIDGET ELECTRIC water heater is ideally suited for use wherever space is more limited than hot water needs. Though small in size, it is a GIANT in performance which means years of safe, efficient service. Just check these advantages.

ECONOMY IN OPERATION!

- The finest in GLASS LINING for greater tank life and [illegible]
- [illegible] HEATING ELEMENTS transfer heat directly into water for maximum efficiency.
- FIBERGLASS INSULATION forms a positive heat barrier . . . saves fuel!
- COMPACT DESIGN takes less space, enables low-cost installation.

DEPENDABLE LONG-LIFE PERFORMANCE!

- Magnesium ANODE ROD protects tank interior against corrosion.
- UL LISTED All models comply with safety specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.
- NO DIP TUBE required due to use of side-bottom cold water inlet.

CRANE01088

CRANE®

■ **GLASSLINED TANKS** The complete inner surface of every tank is lined with an extra thick coating of vitrified glass, permanently bonded under intense heat (1600°F.) to insure clean, rust-free water throughout a longer tank life.

■ **SPECIAL ECO (Energy Cut-Off) FEATURE** A special UL listed, factory installed heat sensitive device cuts off **ALL** power to heater should tank water temperature reach 210°F.

■ **ANODE ROD** Extruded magnesium rod suspended in the tank protects your heater against corrosion.

■ **HIGHLY EFFICIENT HEATING ELEMENTS** Immersion type heating elements put all heat directly into water for greater efficiency. Pressure sealed to prevent leaking.

■ **WELDED STEEL COUPLINGS** No internal threads to cause nipple leaks.

■ **NO DIP TUBE** Side-bottom cold water inlet with internal diffusers eliminates need for dip tube. This inlet position also permits easy installation of FHA approved temperature and pressure relief valve.

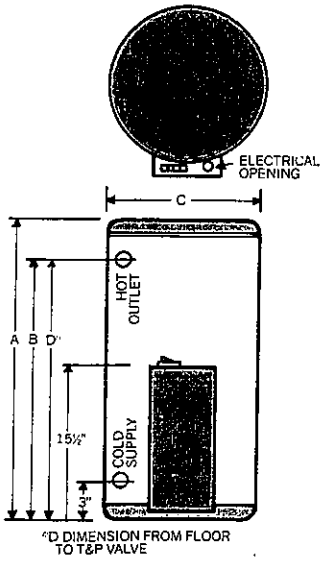
■ **TRIPLE TESTED TANKS** Each tank is carefully tested three times during manufacture.

■ **FIBERGLASS INSULATION** An extra dense blanket of non-settling fiberglass surrounds tank and keeps heat loss to minimum — saves energy.

■ **SET AND FORGET THERMOSTAT CONTROL** Once the thermostat is properly set, you get a constant supply of hot water at your desired temperature. Maximum Hydrostatic Working Pressure 150 PSI.

■ **UL LISTED** All models comply with Safety Specifications outlined in Underwriters' Laboratories, Inc. Standards for Safety, UL174.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.



*D DIMENSION FROM FLOOR TO T&P VALVE

Inlet and outlet connections ¾"

5 Year Lmt. Warranty Model No.	Type Element	Elem. Watt (Max.) 120V	Rec. G.P.H. 120V (Max.)	Cap. Gals.	Dimensions (inches A	B	C	D	Inlets & Outlets (Inches)	Ship. Wt. Lbs.
C5-6-1MS7-K	Single	2000	8.2	6	17	12¾	14	12¾	¾	40
C5-10-1MS7-K	Single	2000	8.2	10	17	11¾	16	11¾	¾	50
C5-17-1MS7-K	Single	2000	8.2	17	27½	22¾	16	22¾	¾	65
C5-20-1MS7-K	Single	2000	8.2	20	27½	16½	20	16½	¾	80
C5-20-1MT7-K	Single	2000	8.2	20	31¾	25¼	16	25¼	¾	75
C5-20-2MT7-K	Double	4000	16.4	20	31¾	25¼	16	25¼	¾	75
C5-30-1MS7-K	Single	2000	8.2	30	29½	24½	20	24½	¾	100
C5-30-2MS7-K	Double	4000	16.4	30	29½	24½	20	24½	¾	100
C5-40-1MS7-K	Single	2000	8.2	40	47¼	42½	20	42½	¾	110
C5-40-2MS7-K	Double	4000	16.4	40	47¼	42½	20	42½	¾	115

Full terms of limited warranty may be found in this catalog.

Maximum wattages shown here are available when specified.
*(Double element wattages are based on [illegible] otherwise heater elements are wired to [illegible]
All wattages must conform to local code [illegible] missible wattages in your area be less than [illegible] of 4.1 g.p.h. per 1000 watts input.

CRANE SUPPLY COMPANY [illegible]

CRANE®

FORM NO. C5-302-177-1

CRANE01089

CRANE **Commercial**

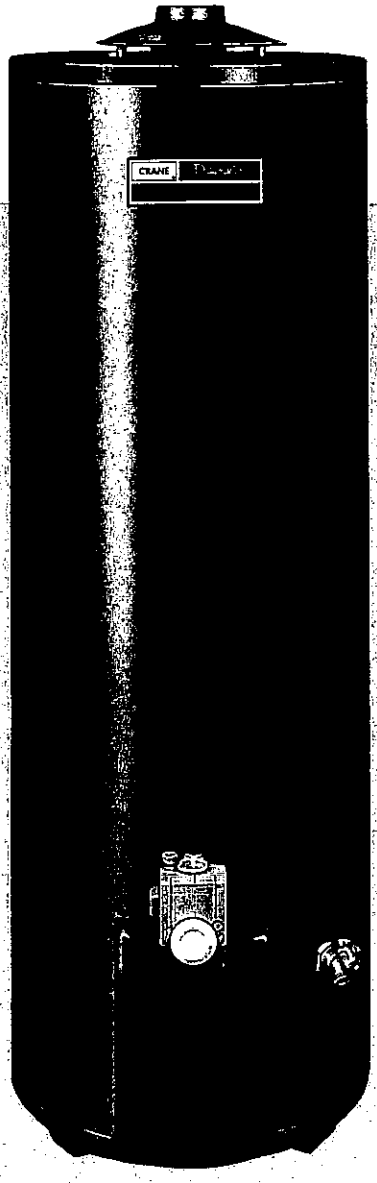
CRANE SUPPLY COMPANY

D-50-65-9

D-75-75-9 / D-100-75-9

Dutymaster Mark II

Commercial gas fired glasslined storage booster



The DUTYMASTER Commercial Water Heaters are gas fired storage boosters certified by the American Gas Association for supplying hot water both as a "Type A Booster" and as a "Type B Storage Heater". When used singularly or in manifolded multiples as a Type B Storage Heater they are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems.

Engineering features

TANK—Internal, single flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—DUTYMASTER's well-proved "Crown of Flame" multiport burner gives quiet efficient combustion.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible clean-out located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely mechanical control system provides positive control and safety shut off—avoiding down time due to failure of electrical components. In the event of pilot outage, 100% shut-off safety valve cuts off all gas supply to burner and pilot.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ECO (ENERGY CUTOFF)—An A.G.A. certified, factory installed heat-sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

The DUTYMASTER SERIES is design certified by the American Gas Association.

Dutymaster Mark II

Gas fired glasslined storage booster with 3-year limited warranty

Model D-50-65-9
D-75-75-9/D-100-75-9

Application information

The following information is intended only as a general guide of typical installations for which the DUTYMASTER is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the DUTYMASTER be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. In given circumstances, however, it can be installed either singly or in multiples with an auxiliary storage tank.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Apartment buildings with up to ten units equipped with automatic washing equipment and one shower head with two to three gallons per minute flow rate.

Restaurants and Institutional Food Service—The DUTYMASTER is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

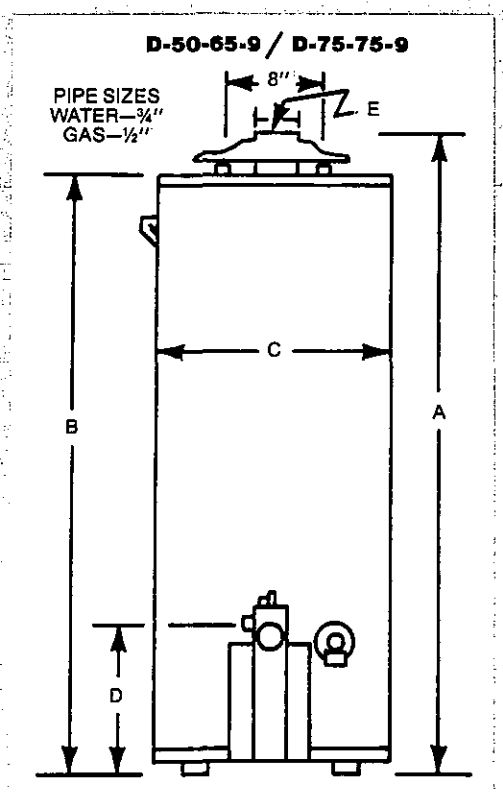
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

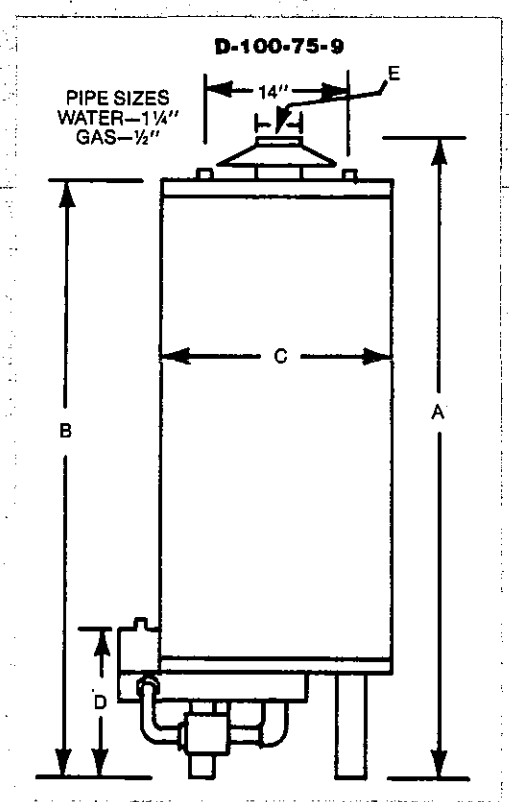
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

150 lbs. hydrostatic working pressure

Optionally equipped with E.C.O. instead of T & P valve.
¾" N.P.T. tapping for T & P valve furnished on all models.

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	GAS. CONNECTION	SHIP. WT. LBS.
D-50-65-9	50	65,000	55,000	54	46	64	60¼	20	15¼	4	½"	190
D-75-75-9	75	75,000	55,000	63	46	63¾	60	24	15¼	4	½"	245
D-100-75-9	100	75,100	75,100	63.1	63.1	71	67¼	26	18	4	½"	400





Form D-1/3-79

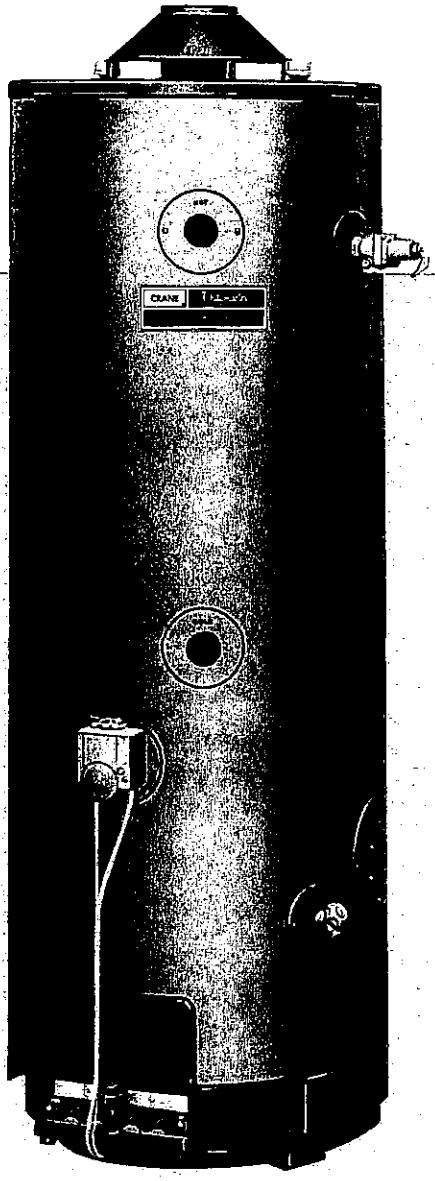
CRANE **Commercial**

CRANE SUPPLY COMPANY

D-75-120-9

Dutymaster Mark II

Commercial gas fired glasslined storage booster



1 The 75-120 is a gas-fired storage booster with 75-gallon tank capacity and 120,000 BTU/hour input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 75-120 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as a "Type A Booster" with separate storage tank the 75-120 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-75-120-9

The 75-120 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-75-120-9

Gas fired glasslined storage booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 75-120 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 75-120 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. In given circumstances, however, it can be installed either singly or in multiples **with** an auxiliary storage tank.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Apartment buildings with up to ten units equipped with automatic washing equipment and one shower head with two to three gallons per minute flow rate.

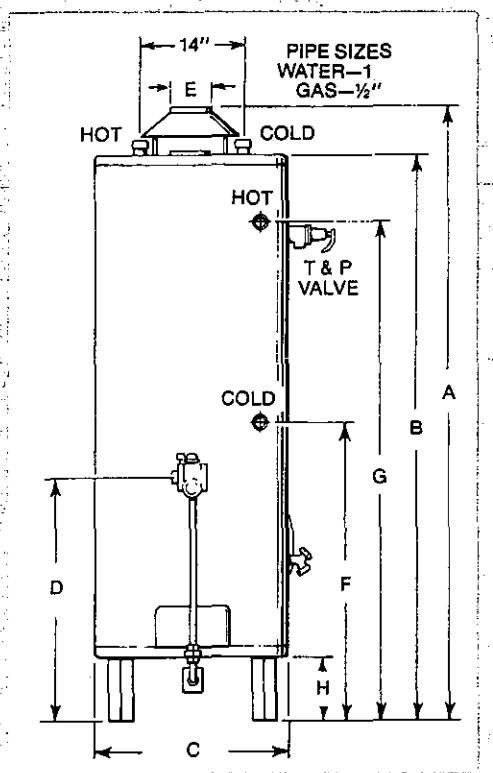
Restaurants and Institutional Food Service—The 75-120 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

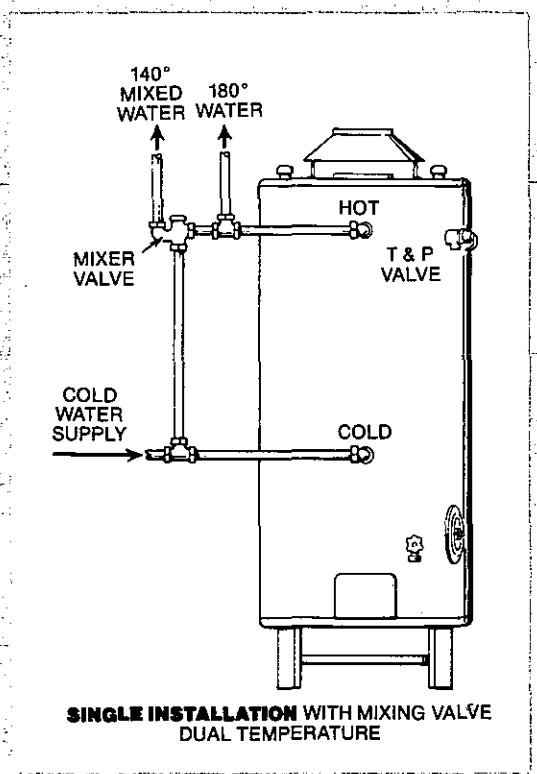
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

150 lbs. hydrostatic working pressure

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-75-120-9	75	120,000	120,000	101	101	72½	67¼	24	26	5	33	58	5¼	½"	500





SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

Form D-14/3-79

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01093

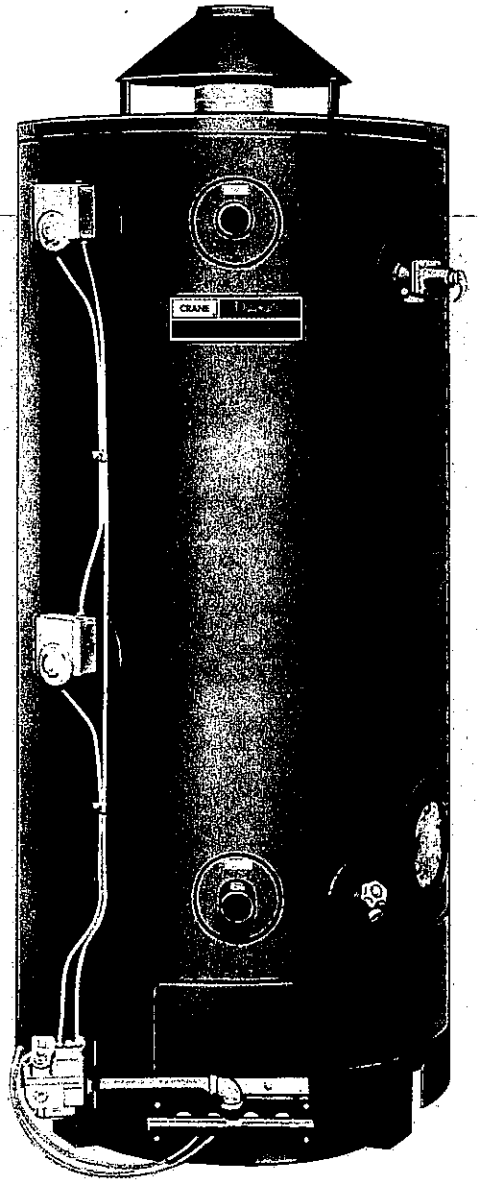
CRANE Commercial

CRANE SUPPLY COMPANY

D-80-180

Dutymaster Mark II

Commercial gas fired glasslined storage booster



1 The 80-180 is a gas fired storage booster with 80-gallon tank capacity and 180,000 BTU/hour input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-180 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as "Type A Booster" with separate storage tank the 80-180 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pliot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F MODEL NO. D-80-180

The 80-180 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dish-washing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-80-180

Gas fired glasslined storage booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 80-180 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-180 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 12 units per heater. If used in apartments with 2 baths 9 units per heater.

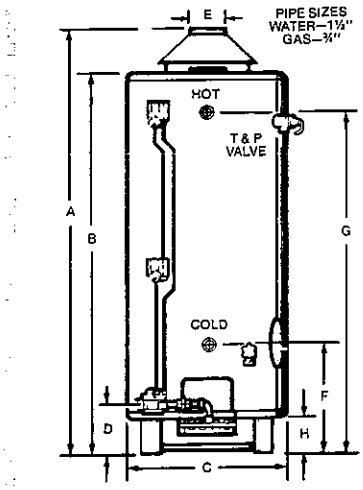
Restaurants and Institutional Food Service—The 80-180 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

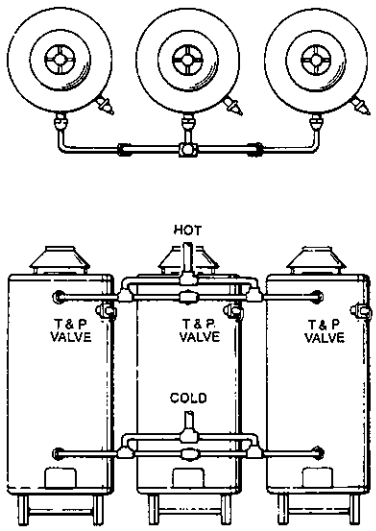
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

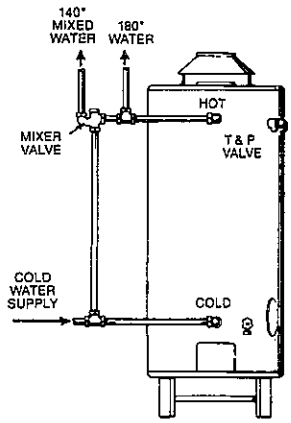
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

150 lbs. hydrostatic working pressure

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-80-180	80	180,000	180,000	151.2	151.2	69	62½	26	5¾	5	16¼	55½	5¼	¾"	550







SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

FORM D-3/3-79

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01095

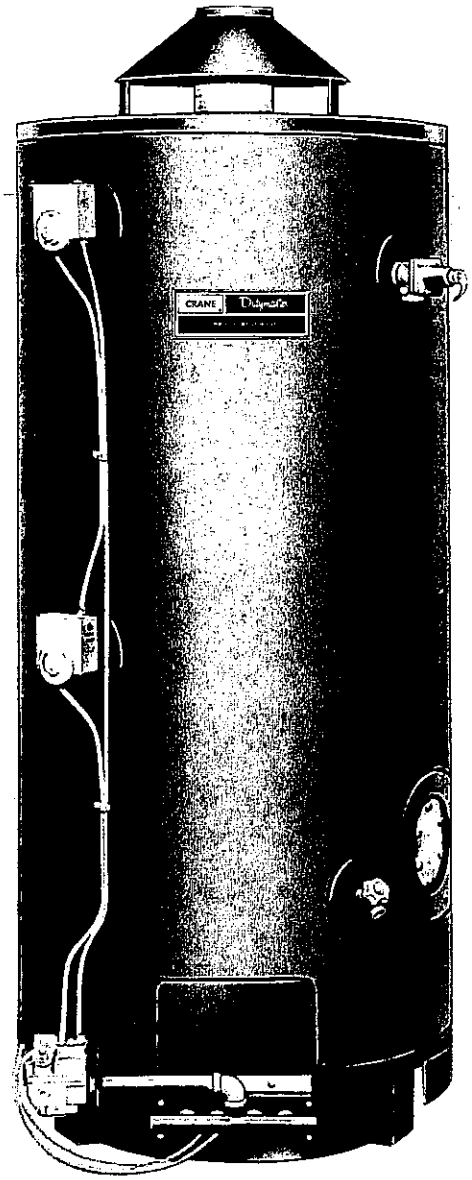
CRANE **Commercial**

CRANE SUPPLY COMPANY

D-80-180-R

Dutymaster Mark II

Commercial gas fired glasslined storage booster



1 The 80-180 is a gas fired storage booster with 80-gallon tank capacity and 180,000 BTU/hour input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-180 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as "Type A Booster" with separate storage tank the 80-180 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F MODEL NO. D-80-180-R

The 80-180 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-80-180-R

Gas fired glasslined storage booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 80-180 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-180 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 12 units per heater. If used in apartments with 2 baths 9 units per heater.

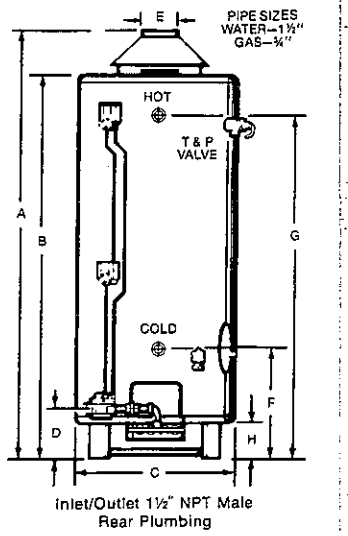
Restaurants and Institutional Food Service—The 80-180 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

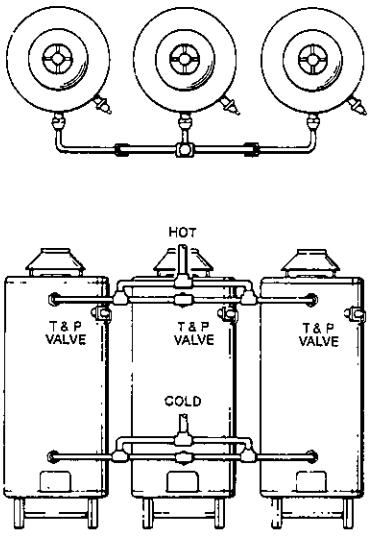
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

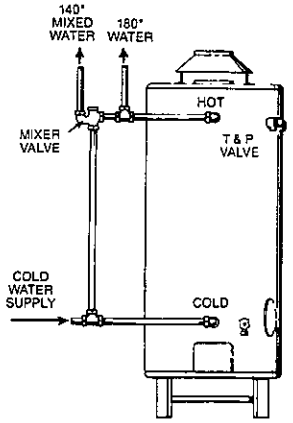
150 lbs. hydrostatic working pressure

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-80-180-R	80	180,000	180,000	151.2	151.2	69	62½	26	5¾	5	16¼	55½	5¼	¾"	550



Inlet/Outlet 1½" NPT Male
Rear Plumbing





SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

FORM D-4/3-79

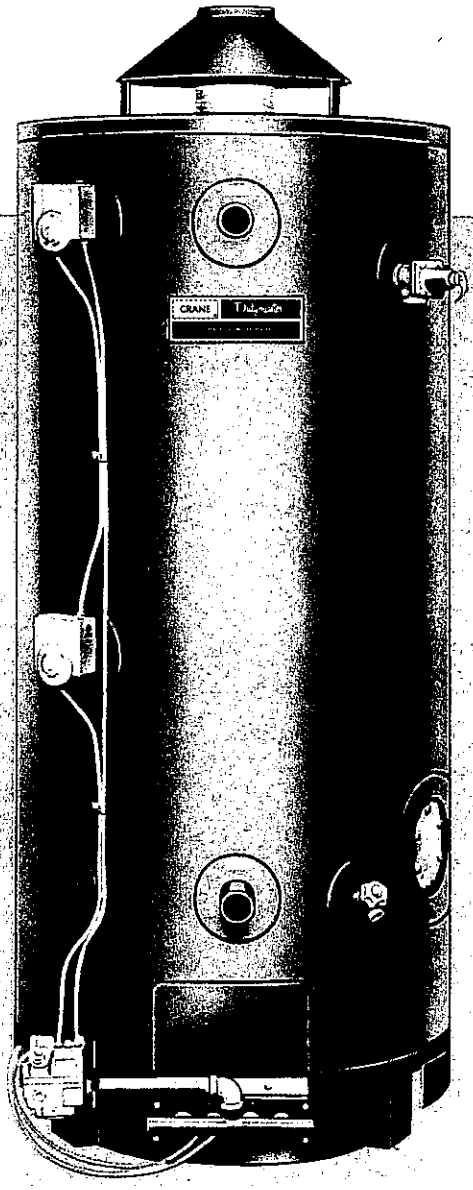
CRANE | Commercial

CRANE SUPPLY COMPANY

D-80-199

Dutymaster Mark II

Commercial gas fired glasslined storage booster



1 The 80-199 is a gas fired storage booster with 80-gallon tank capacity and 199,000 BTU/hour input. Design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-199 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as "Type A Booster" with separate storage tank the 80-199 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

ALL MODELS will be shipped equipped with a factory-installed ASME rated pressure-temperature relief valve unless otherwise specified.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-80-199

The 80-199 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-80-199

Gas fired glasslined storage booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 80-199 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-199 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 14 units per heater. If used in apartments with 2 baths 10 units per heater.

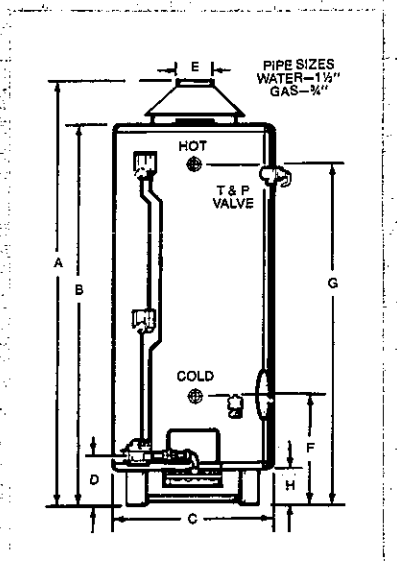
Restaurants and Institutional Food Service—The 80-199 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

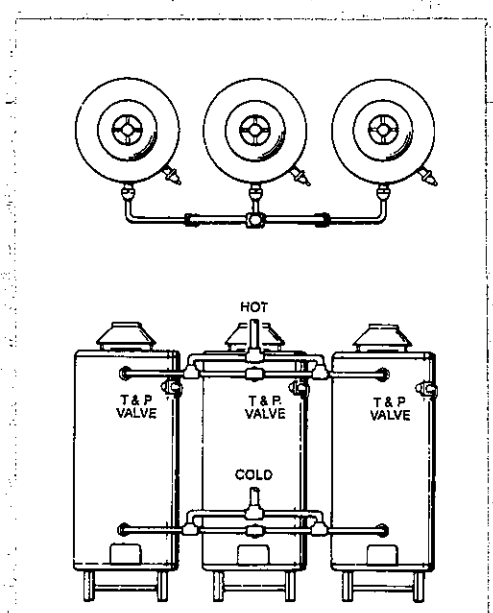
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

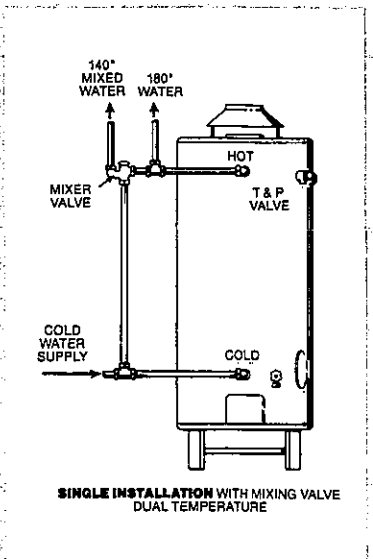
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

150 lbs. hydrostatic working pressure

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-80-199	80	199,990	199,990	168	168	70	62½	26	5¾	6	16¼	55½	5¼	¾"	565







SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

FORM D-13/3-79

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01099

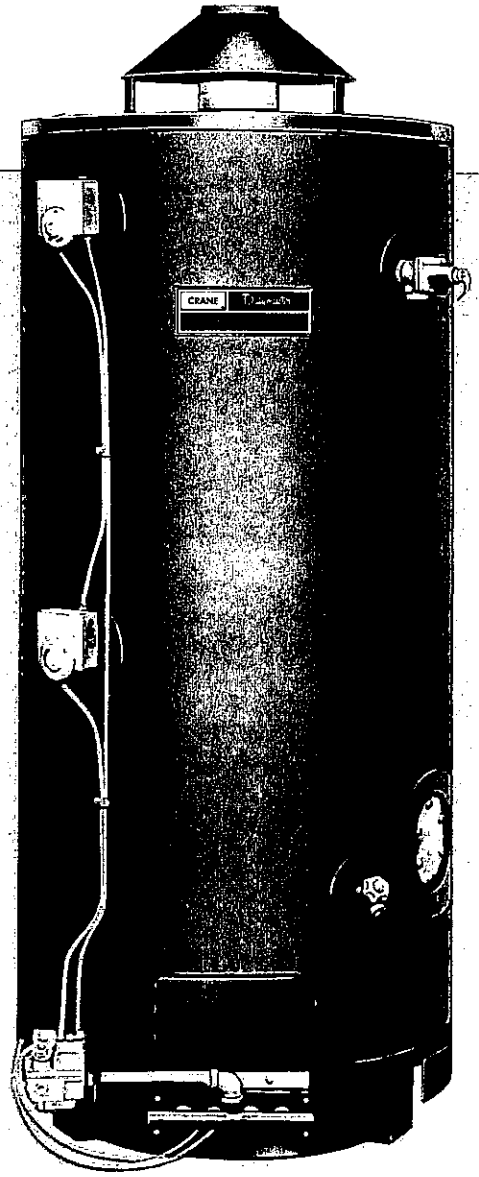
CRANE Commercial

CRANE SUPPLY COMPANY

D-80-199-R

Dutymaster Mark II

Commercial gas fired glasslined storage booster



1 The 80-199 is a gas fired storage booster with 80-gallon tank capacity and 199,000 BTU/hour input, Design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-199 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as "Type A Booster" with separate storage tank the 80-199 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

ALL MODELS will be shipped equipped with a factory-installed ASME rated pressure-temperature relief valve unless otherwise specified.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-80-199-R

The 80-199 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-80-199-R

Gas fired glasslined storage booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 80-199 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-199 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 14 units per heater. If used in apartments with 2 baths 10 units per heater.

Restaurants and Institutional Food Service—The 80-199 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

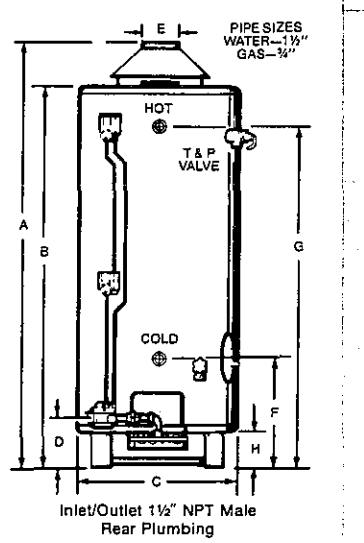
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

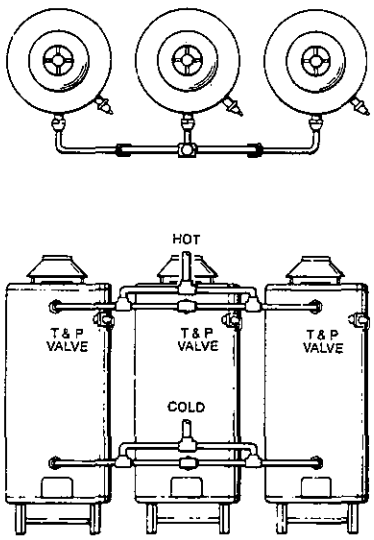
150 lbs. hydrostatic working pressure

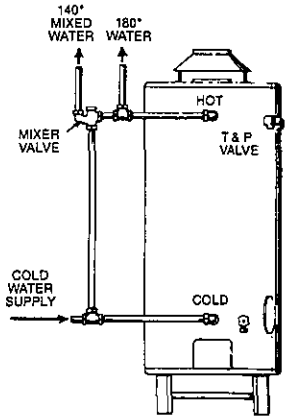
Optionally equipped with E.C.O. instead of T & P valve.
¾" spud for T & P valve furnished on all models

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-80-199-R	80	199,990	199,990	168	168	70	62½	26	5¾	6	16¼	55½	5¼	¾"	565



Inlet/Outlet 1½" NPT Male
Rear Plumbing





SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

FORM D-13/3-79

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01101

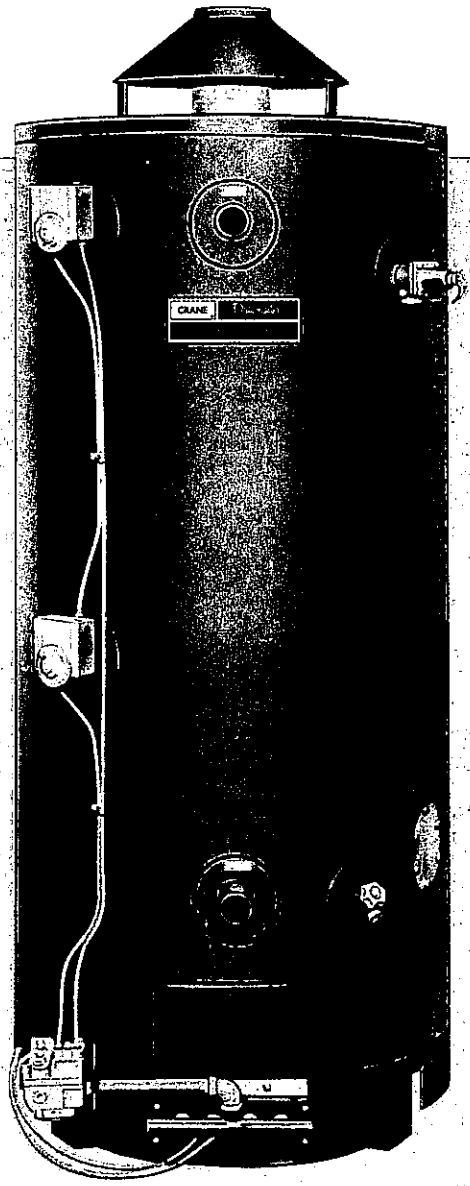
CRANE Commercial

CRANE SUPPLY COMPANY

D-100-199-T
D-100-270-T

Dutymaster Mark II

Commercial gas fired glasslined storage booster



1 The 100-gallon booster is available in two models. Model 100-199 (199,900 BTU) where heaters of less than 200,000 BTU must be used. Model 100-270 (270,000 BTU) where heaters of more than 200,000 BTU may be used. The two models are otherwise identical. The 100's are certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 100's are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as a "Type A Booster" with separate storage tank the 100's are designed so as to provide sufficient gravity circulation and no circulation pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NOS. D-100-199-T/ D-100-270-T

The 100's are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Gas fired glasslined storage booster with 3-year limited warranty

Model D-100-199-T
D-100-270-T

Application information

The following information is intended only as a general guide of typical installations for which the 100's are suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 100's be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 19 units per heater. If used in apartments with 2 baths 14 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 100's can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 100's can furnish the necessary water for conveyor type dishwashers using up to 162 gallons/hour. The above applications are figured supplying 180° F. water.

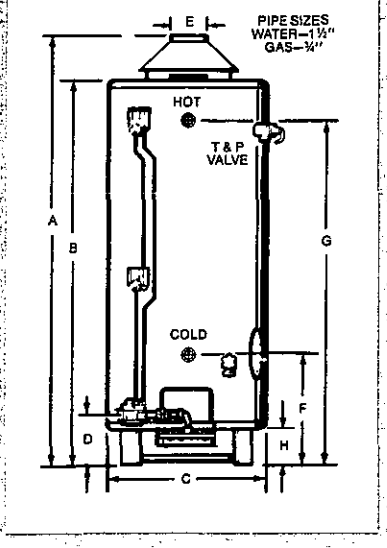
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

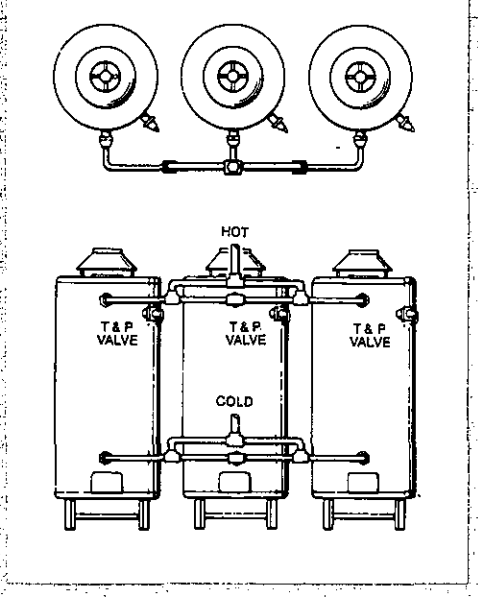
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

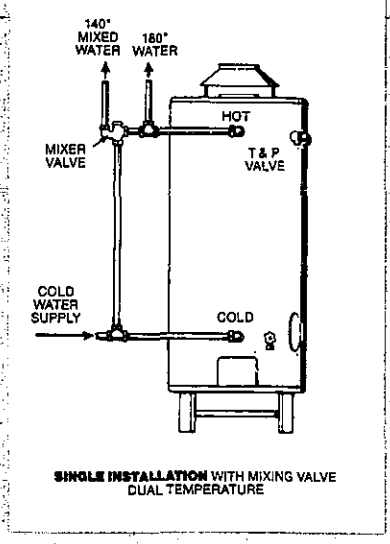
150 lbs. hydrostatic working pressure

Available in glasslined ASME model, 3-year limited warranty only. Order No. D-100-270-8 ASME. Shipping Weight 860 lbs.

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-100-199-T	100	199,990	199,990	168	168	81¾	73¼	28	6½	7	16¼	66¼	5¼	¾"	650
D-100-270-T	100	270,000	270,000	227	227	81¾	73¼	28	6½	7	16¼	66¼	5¼	¾"	650







SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE

FORM D-6/3-79

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01103

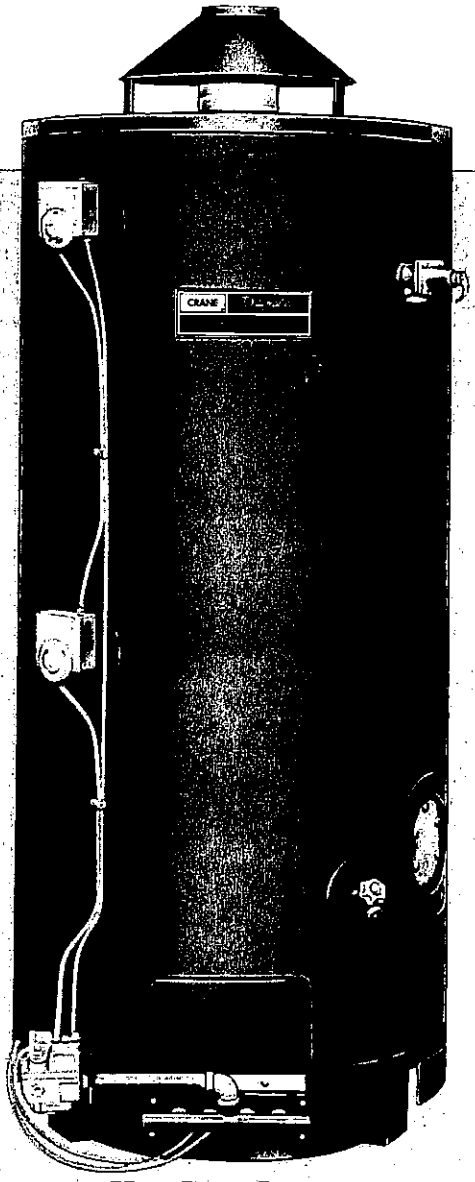
CRANE | Commercial

CRANE SUPPLY COMPANY

D-100-199-S
D-100-260-S

Dutymaster Mark II

Commercial gas fired glasslined storage booster



1 The 100-gallon booster is available in two models. Model 100-199 (199,990 BTU) where heaters of less than 200,000 BTU must be used. Model 100-260 (260,000 BTU) where heaters of more than 200,000 BTU may be used. The two models are otherwise identical. The 100's are certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 100's are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as a "Type A Booster" with separate storage tank the 100's are designed so as to provide sufficient gravity circulation and no circulation pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Single port upshot burner with flame spreader provides even distribution of heat to tank bottom and flueways. Universally suited for the gases listed.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or rear, hot and cold water connections.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NOS. D-100-199-S/ D-100-260-S

The 100's are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-100-199-S
D-100-260-S

Gas fired glasslined storage booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 100's are suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 100's be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 18 units per heater. If used in apartments with 2 baths 13 units per heater.

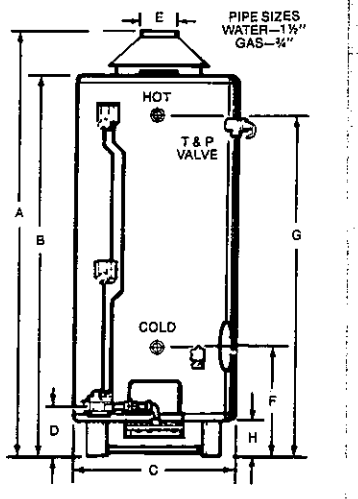
Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 100's can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 100's can furnish the necessary water for conveyor type dishwashers using up to 162 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

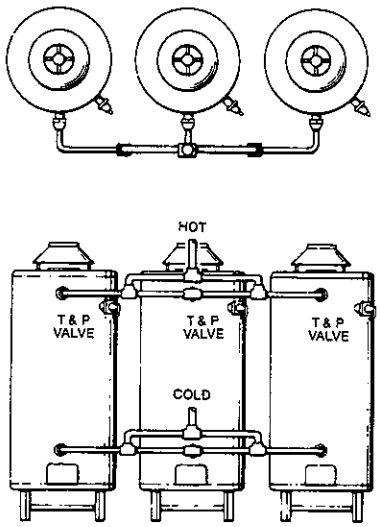
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

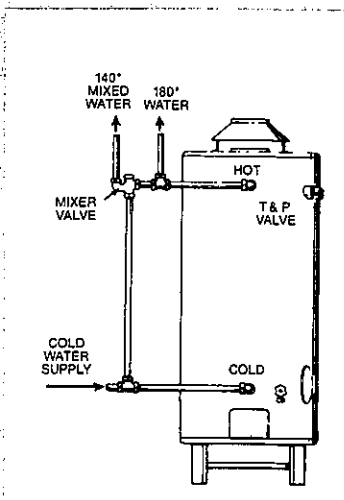
150 lbs. hydrostatic working pressure

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-100-199-S	100	199,990	199,990	168	168	70½	63	30	6½	6	16¼	53¼	5¼	¾"	565
D-100-260-S	100	260,000	260,000	218	218	70½	63	30	6½	6	16¼	53¼	5¼	¾"	565



Inlet/Outlet 1½" NPT Male
Rear Plumbing





SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

FORM D-7/3-79

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01105

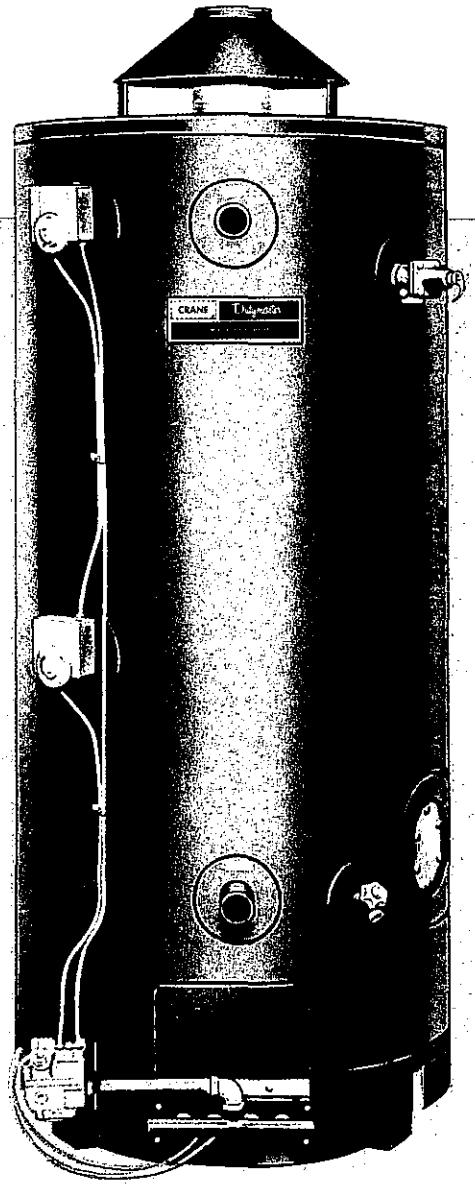
CRANE Commercial

CRANE SUPPLY COMPANY

D-85-250

Dutymaster Mark II

Commercial gas fired glasslined storage booster



1 The 85-gallon booster model 85-250 (250,000 BTU) is certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 85-250 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as a "Type A Booster" with separate storage tank the 85-250 is designed so as to provide sufficient gravity circulation and no circulation pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-85-250

The 85-250 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-85-250

Gas fired glasslined storage booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 85-250 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 85-250 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 17 units per heater. If used in apartments with 2 baths 12 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 85-250 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 85-250 can furnish the necessary water for conveyor type dishwashers using up to 150 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

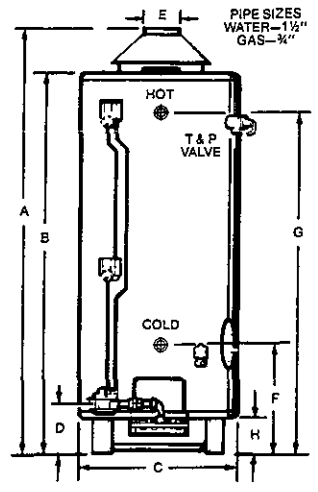
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

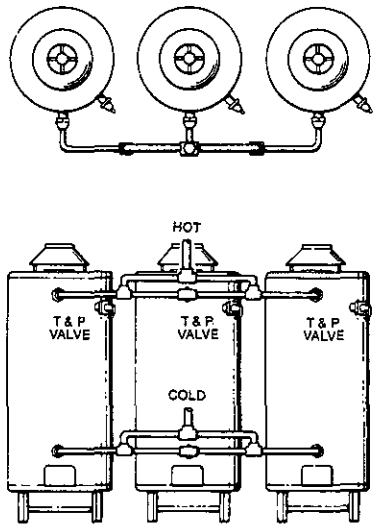
150 lbs. hydrostatic working pressure

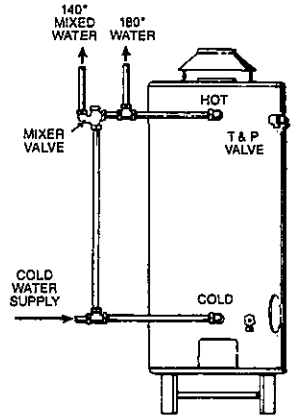
Optionally equipped with E.C.O. instead of T & P valve.
1" N.P.T. tapping for T & P valve furnished on all models.

Available in glasslined ASME model, 3-year limited warranty only. Order No. D-85-250-8 ASME. Shipping Weight 775 lbs.

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-85-250	85	250,000	250,000	210	210	73	66½	28	6½	6	16¼	60¼	5¼	¾	600







SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE

FORM D-5 3/79

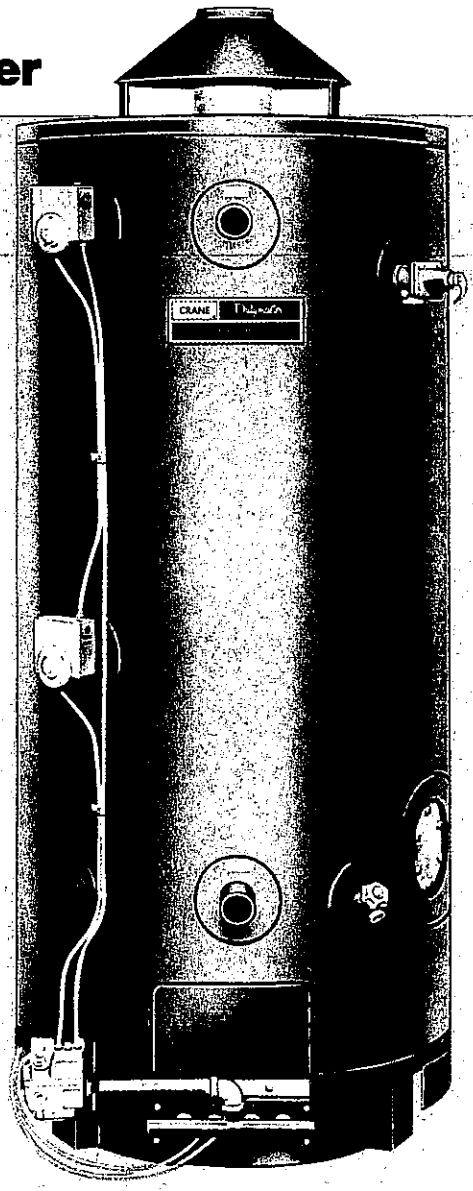
CRANE | **Commercial**

CRANE SUPPLY COMPANY

D-75-360

Dutymaster Mark II

Commercial gas fired glasslined instantaneous booster



1 The 75-360 is a gas fired instantaneous booster with 75-gallon tank capacity and 360,000 BTU/hr. input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous Heater and as (b) a Type A Circulating Tank Heater.

2 When used singly or in manifolded multiples as an "Automatic Instantaneous Heater" the 75-360 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

3 When used as a Type A Automatic Circulating Tank Heater installed singly or in manifolded multiples with separate storage tank. The 75-360 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

COMBUSTION CHAMBER—The tank skirt of this high input model is lined with PYROLITE ceramic insulators to guard against burn-out and corrosion.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NOS. D-75-360

The 75-360 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-75-360

Gas fired glasslined instantaneous booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 75-360 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 75-360 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 25 units per heater. If used in apartments with 2 baths 18 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 75-360 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 75-360 can furnish the necessary water for conveyor type dishwashers using up to 216 gallons/hour. The above applications are figured supplying 180°F. water.

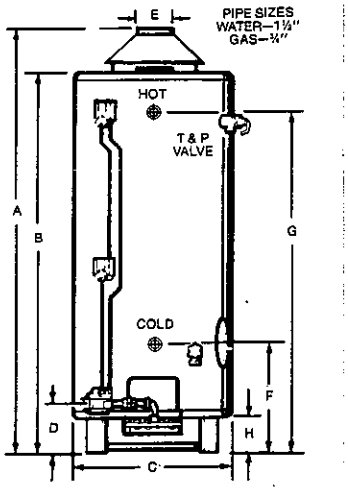
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

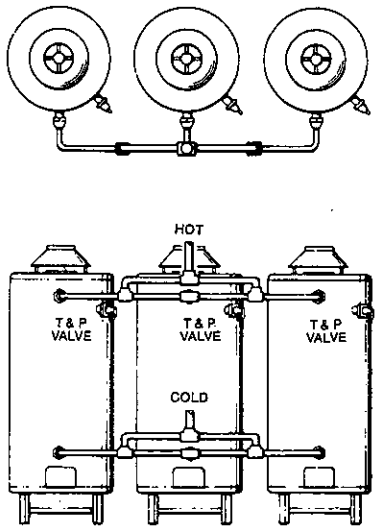
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

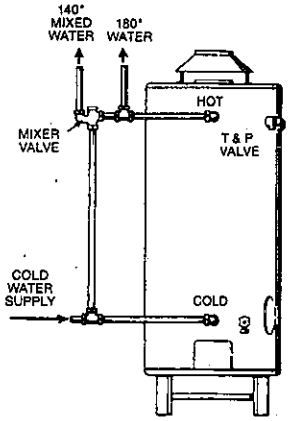
150 Lbs. hydrostatic working pressure.

Available in glasslined ASME model, 3-year limited warranty only. Order No. D-75-360-8 ASME. Shipping Weight 1020 lbs.

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-75-360	75	360,000	360,000	302	302	73¾	66¼	28	9½	8	19	60	8	¾"	650







SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

FORM D-8/3-79

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01109

Dutymaster Mark II

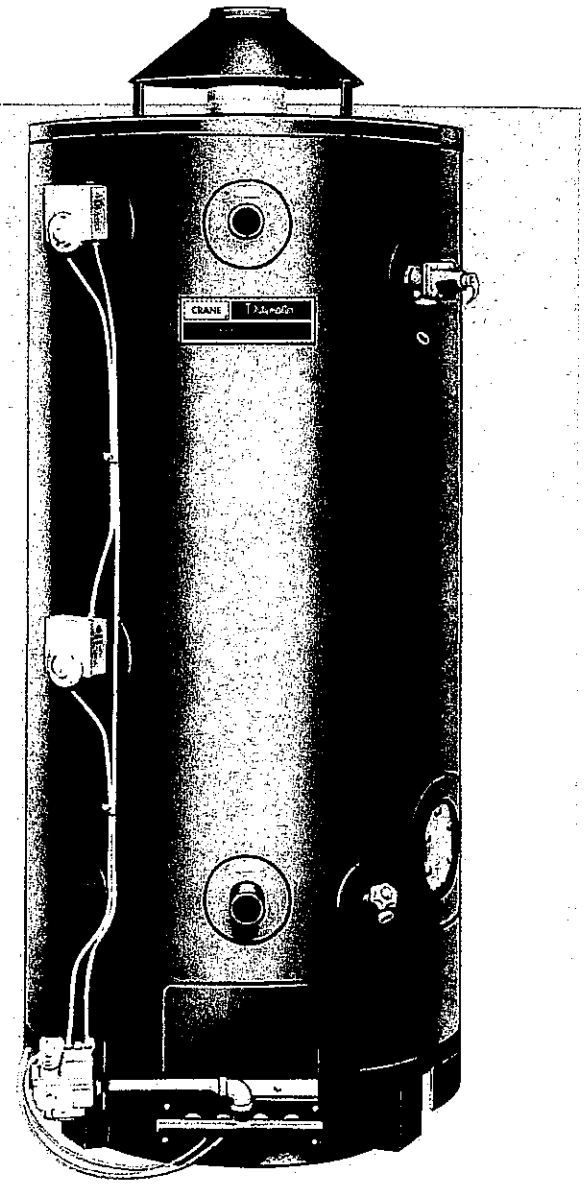
CRANE

CRANE SUPPLY COMPANY

Commercial

D-70-500

Commercial gas fired glasslined instantaneous booster



1 The 70-500 is a gas fired instantaneous booster with 70-gallon tank capacity and 500,000 BTU/hr. input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous Heater and as (b) a Type A Automatic Circulating Tank Heater.

2 When used singly or in manifold multiples as an "Automatic Instantaneous Heater" the 70-500 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

3 When used as a Type A Automatic Circulating Tank Heater installed singly or in manifolded multiples with separate storage tank. The 70-500 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

COMBUSTION CHAMBER—The tank skirt of this high input model is lined with PYROLITE ceramic insulators to guard against burn-out and corrosion.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-70-500

The 70-500 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-70-500

Gas fired glasslined instantaneous booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 70-500 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 70-500 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 35 units per heater. If used in apartments with 2 baths 25 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 70-500 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 70-500 can furnish the necessary water for conveyor type dishwashers using up to 300 gallons/hour. The above applications are figured supplying 180°F. water.

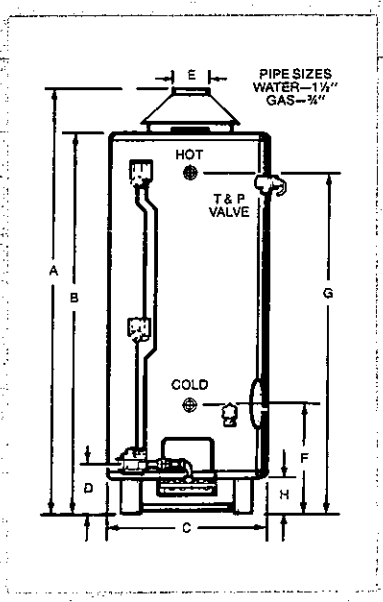
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

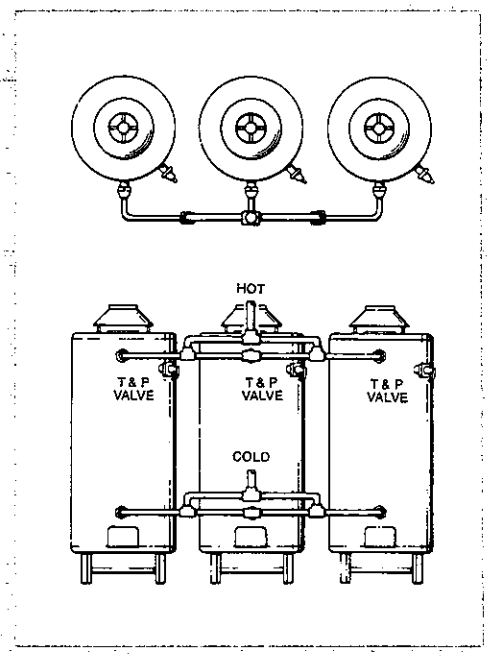
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

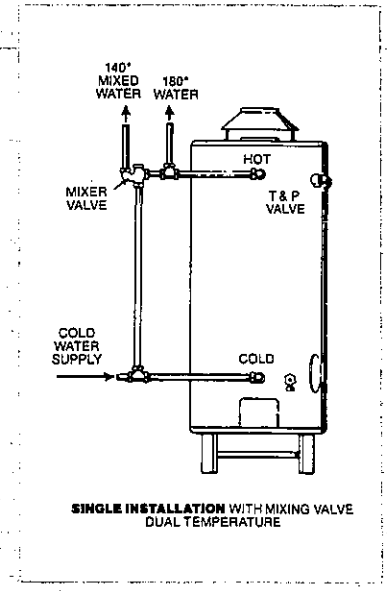
150 lbs. hydrostatic working pressure.

Available in glasslined ASME model, 3-year limited warranty only. Order No. D-70-500-8 ASME. Shipping Weight 1050 lbs.

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-70-500	70	500,000	480,000	420	403	71¾	66¼	28	9½	10	19	60	8	1″	700







SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE

FORM D-9/3-79

CRANE®

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01111

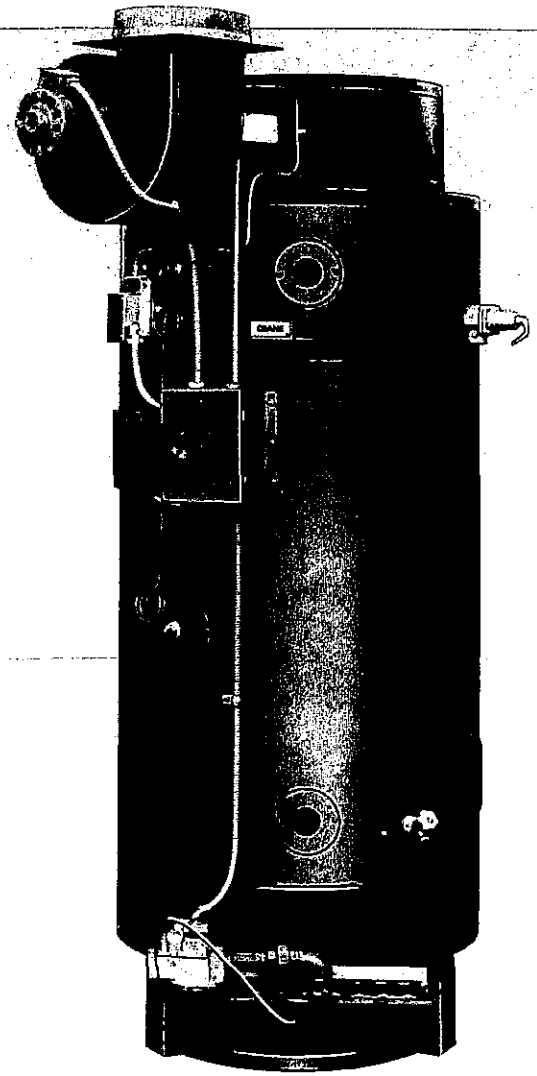
CRANE | Commercial

CRANE SUPPLY COMPANY

D-70-725

Dutymaster Mark II

Commercial gas fired glasslined instantaneous booster or automatic circulator



1 The 70-725 is a gas fired instantaneous booster with 70-gallon tank capacity and 725,000 BTU/hr. input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous Heater and as (b) a Type A Automatic Circulating Tank Heater.

2 When used singly or in manifold multiples as an "Automatic Instantaneous Heater" the 70-725 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

3 When used as a Type A Automatic Circulating Tank Heater installed singly or in manifolded multiples with separate storage tank. The 70-725 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

COMBUSTION CHAMBER—The tank skirt of this high input model is lined with PYROLITE ceramic insulators to guard against burn-out and corrosion.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Dutymaster booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

POWER VENT—Blower assures positive venting. Double safety system shuts the heater down in case of flue blockage.

ELECTROLYTIC PROTECTION—Multiple large extruded rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-70-725

The 70-725 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-70-725

Gas fired glasslined instantaneous booster or automatic circulator with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installations for which the 70-725 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 70-725 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 75 units per heater. If used in apartments with 2 baths 54 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 70-725 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 70-725 can furnish the necessary water for conveyor type dishwashers using up to 435 gallons/hour. The above applications are figured supplying 180°F. water.

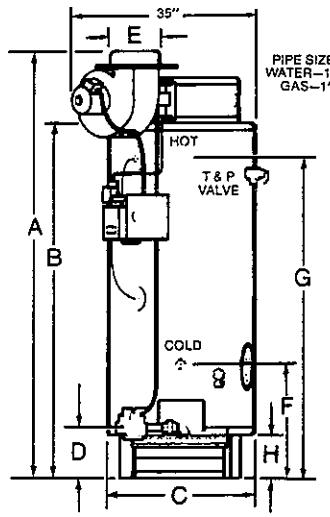
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

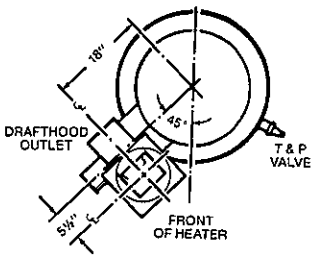
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

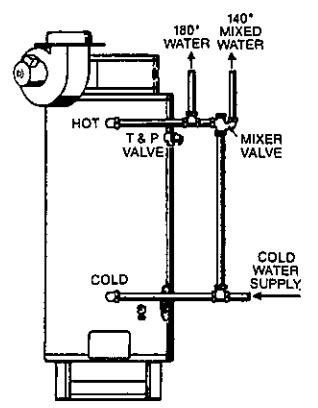
150 lbs. hydrostatic working pressure

Available in glasslined ASME Model, 3-year limited warranty only. Order No. D-70-725-8 ASME. Shipping weight 1,150 lbs.

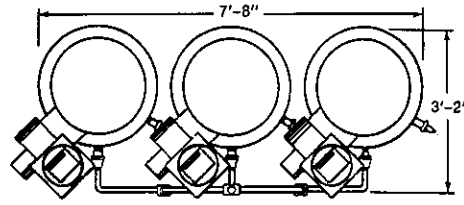
MODEL	CAP. U.S. GALS.	B.T.U. HR. NAT.	B.T.U. HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-70-725	70	725,000	725,000	609	609	78¾	66¼	28	9½	10	19	60	8	1″	800

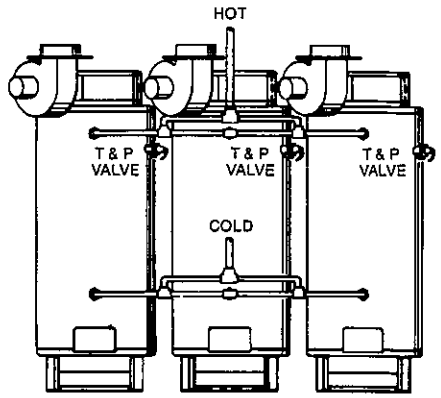






SINGLE INSTALLATION with mixing valve dual temperature water





FORM D-13/3-79

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE

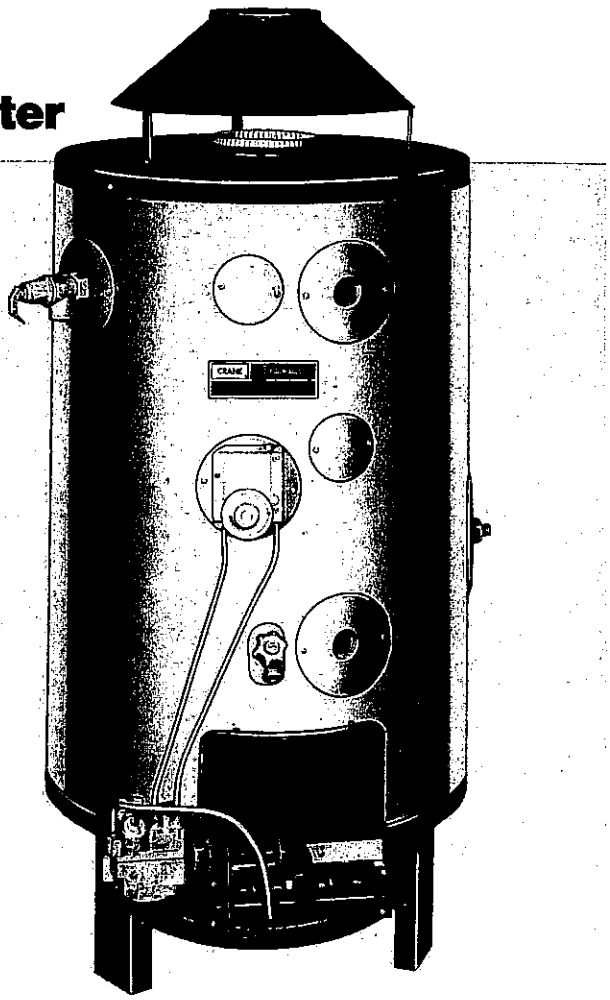
CRANE SUPPLY COMPANY

Commercial

D-150-7

Dutymaster Mark II

Commercial gas fired glasslined instantaneous booster



1 The D150 is a gas fired instantaneous booster design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water.

2 When used as an Automatic Instantaneous booster its 150,000 BTU input makes this heater ideal for short periods of heavy demand.

3 The design is intended for installation in series with a Storage Booster to raise general purpose 140° water to 180° sanitizing water for restaurants or similar uses.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-150-7

The D-150 is design certified by the Amrican Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-150-7

Gas fired glasslined instantaneous booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installation for which the D-150 is suited. For more detailed engineering information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

The D150 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The D150 can supply all hot water requirements for any door or hood type commercial dishwasher when incoming water is 80°F. or above. If incoming water is pre-heated to 140°F. the D150 can furnish the necessary water for conveyor type dishwashers using up to 315 gallons/hour. The above applications are figured supplying 180°F. water.

Service Stations—The D150 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

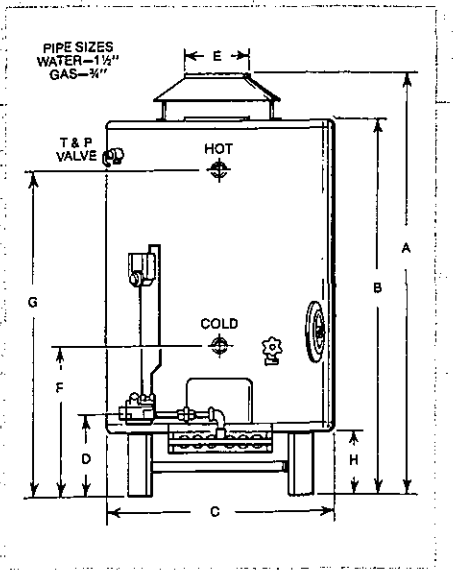
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

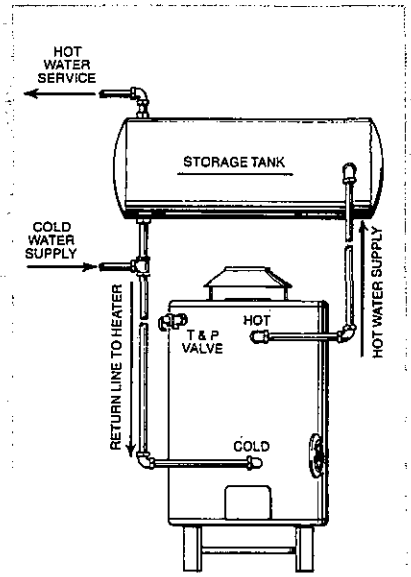
The design is intended for installation in series with a storage booster to raise general purpose 140° water to 180° sanitizing water for restaurants or other similar uses.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice. ¾" spud for T & P valve furnished on all models.

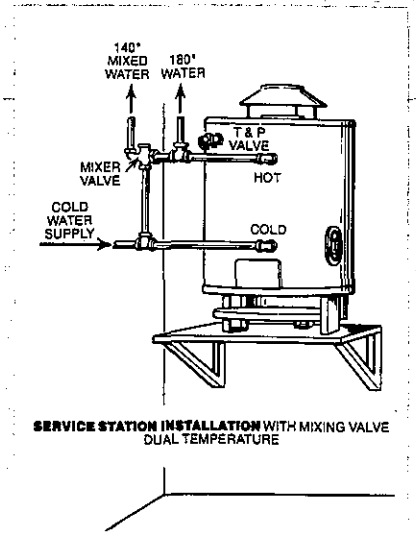
150 lbs. hydrostatic working pressure

MODEL	CAP. U.S. GALS.	B.T.U./HR. NAT.	B.T.U./HR. PROP.	G.P.H. 100° RISE NAT.	G.P.H. 100° RISE PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-150-7	25	150,000	150,000	126.1	126.1	48¾	41¼	22	8½	18¼	35½	8	¾"	250	





SINGLE INSTALLATION WITH STORAGE TANK
GRAVITY FLOW CIRCULATION



SERVICE STATION INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

Form D-10/3-79

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01115

CRANE

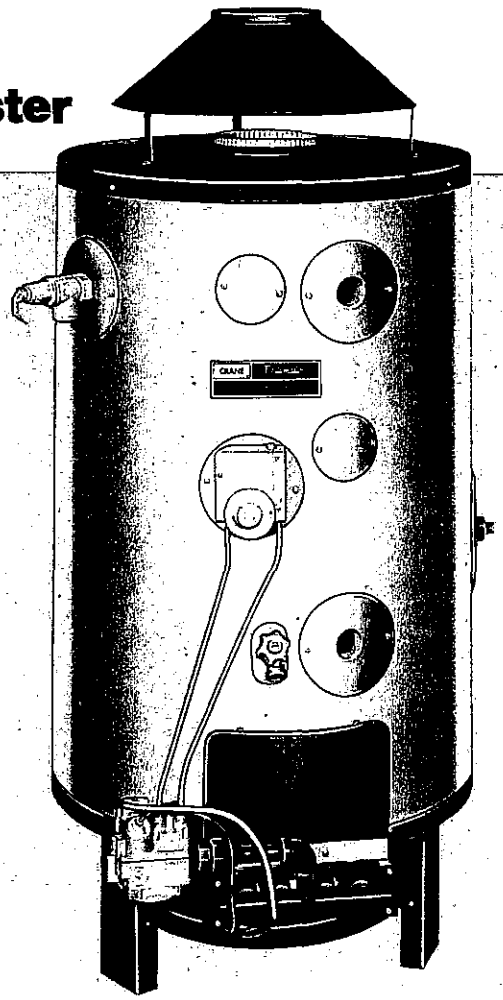
CRANE SUPPLY COMPANY

Commercial

D-199-7 / D-225-7

Dutymaster Mark II

Commercial gas fired glasslined instantaneous booster



1 The D225 is a gas fired instantaneous booster design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water. Model D199 (199,900 BTU) where heaters of less than 200,000 BTU must be used.

2 When used as an Automatic Instantaneous booster its 225,000 BTU input makes this heater ideal for short periods of heavy demand.

3 The design is intended for installation in series with a Storage Booster to raise general purpose 140° water to 180° sanitizing water for restaurants or siimilar uses.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NOS. D-199-7 / D-225-7

The D-199 & 225 models are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-199-7 / D-225-7

Gas fired glasslined instantaneous booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installation for which the D225 is suited. For more detailed engineering information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

The D225 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The D225 can supply all hot water requirements for any door or hood type commercial dishwasher when incoming water is 40°F. or above. If incoming water is pre-heated to 140°F. the D225 can furnish the necessary water for conveyor type dishwashers using up to 473 gallons/hour. The above applications are figured supplying 180°F. water.

Service Stations—The D225 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

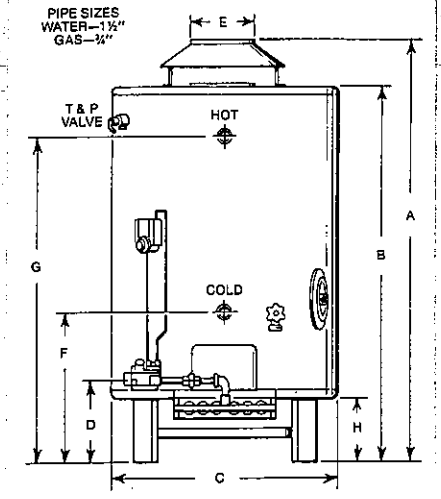
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

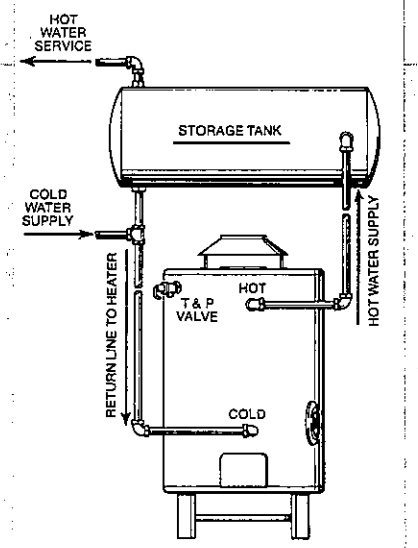
The design is intended for installation in Series with a storage booster to raise general purpose 140° water to 180° sanitizing water for restaurants or other similar uses.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

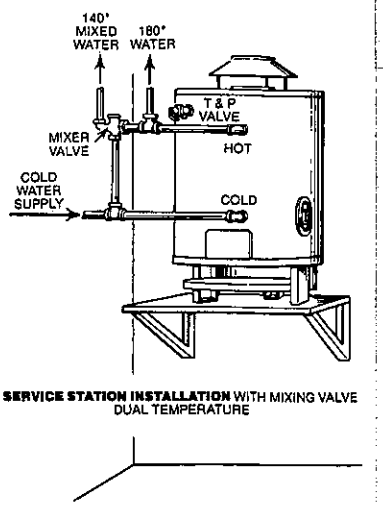
150 lbs. hydrostatic working pressure

MODEL	CAP. U.S. GALS.	B.T.U./HR.		G.P.H. 100° RISE		DIMENSIONS (IN.)								GAS CONNECTION	SHIP. WT. LBS.
		NAT.	PROP.	NAT.	PROP.	A	B	C	D	E	F	G	H		
D-199-7	30	199,900	199,900	167.2	167.2	46½	39½	28	10	7	18½	33½	8	¾"	400
D-225-7	30	225,000	225,000	189	189	46½	39½	28	10	7	18½	33½	8	¾"	400





SINGLE INSTALLATION WITH STORAGE TANK
GRAVITY FLOW CIRCULATION



SERVICE STATION INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

Form D-11/3-79

CRANE®

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01117

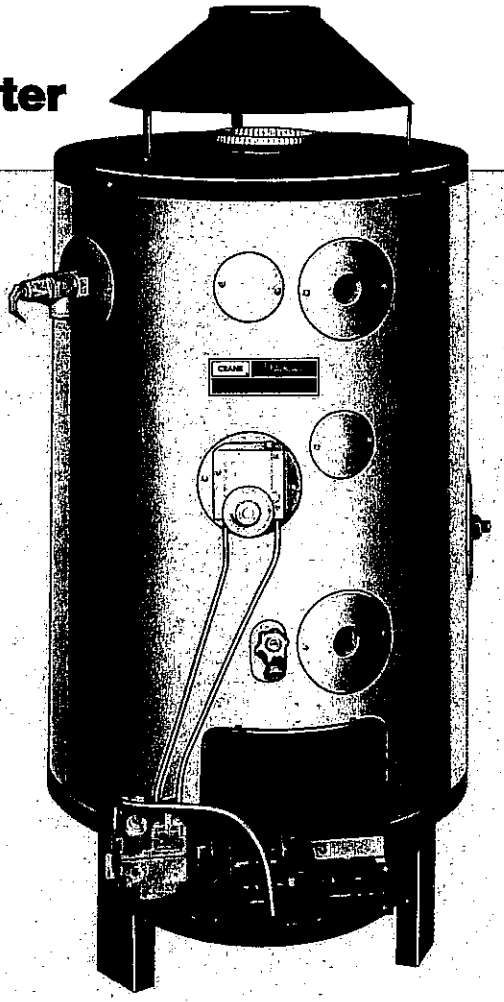
CRANE | Commercial

CRANE SUPPLY COMPANY

D-310-7

Dutymaster Mark II

Commercial gas fired glasslined instantaneous booster



1 The D310 is a gas fired instantaneous booster design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water.

2 When used as an Automatic Instantaneous booster its 310,000 BTU input makes this heater ideal for short periods of heavy demand.

3 The design is intended for installation in series with a Storage Booster to raise general purpose 140° water to 180° sanitizing water for restaurants or similar uses.

Engineering features

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater wihin seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-310-7

The D310 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

Dutymaster Mark II

Model D-310-7

Gas fired glasslined instantaneous booster with 3-year limited warranty

Application information

The following information is intended only as a general guide of typical installation for which the D310 is suited. For more detailed engineering information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

The D310 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Restuarants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The D310 can supply all hot water requirements for any door or hood type commercial dishwasher when incoming water is 40°F. or above. If incoming water is pre-heated to 140°F. the D310 can furnish the necessary water for conveyor type dishwashers using up to 650 gallons/hour. The above applications are figured supplying 180°F. water.

Service Stations—The D310 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

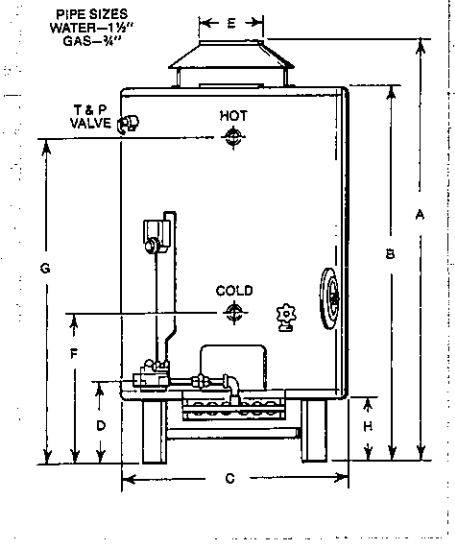
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

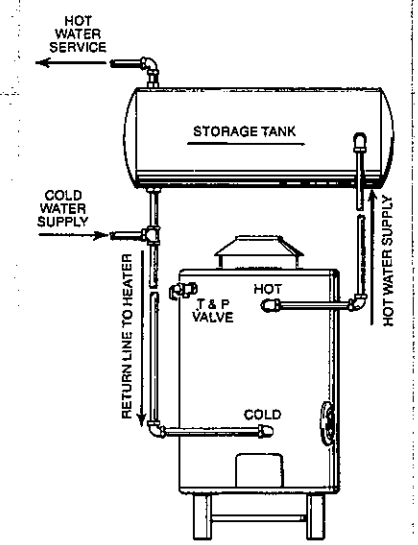
The design is intended for installation in series with a storage booster to raise general purpose 140° water to 180° sanitizing water for restaurants or other similar uses.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

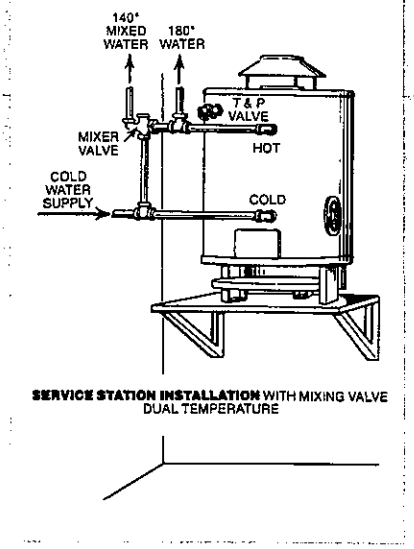
150 lbs. hydrostatic working pressure

MODEL	CAP. U.S. GALS.	B.T.U./HR. G.P.H. 100° RISE NAT.	PROP.	NAT.	PROP.	DIMENSIONS (IN.) A	B	C	D	E	F	G	H	GAS CONNECTION	SHIP. WT. LBS.
D-310-7	35	310,000	290,000	260.5	242	52½	46½	28	10	8	18½	40½	8	¾"	440





SINGLE INSTALLATION WITH STORAGE TANK
GRAVITY FLOW CIRCULATION



SERVICE STATION INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE

Form D-12/3-79

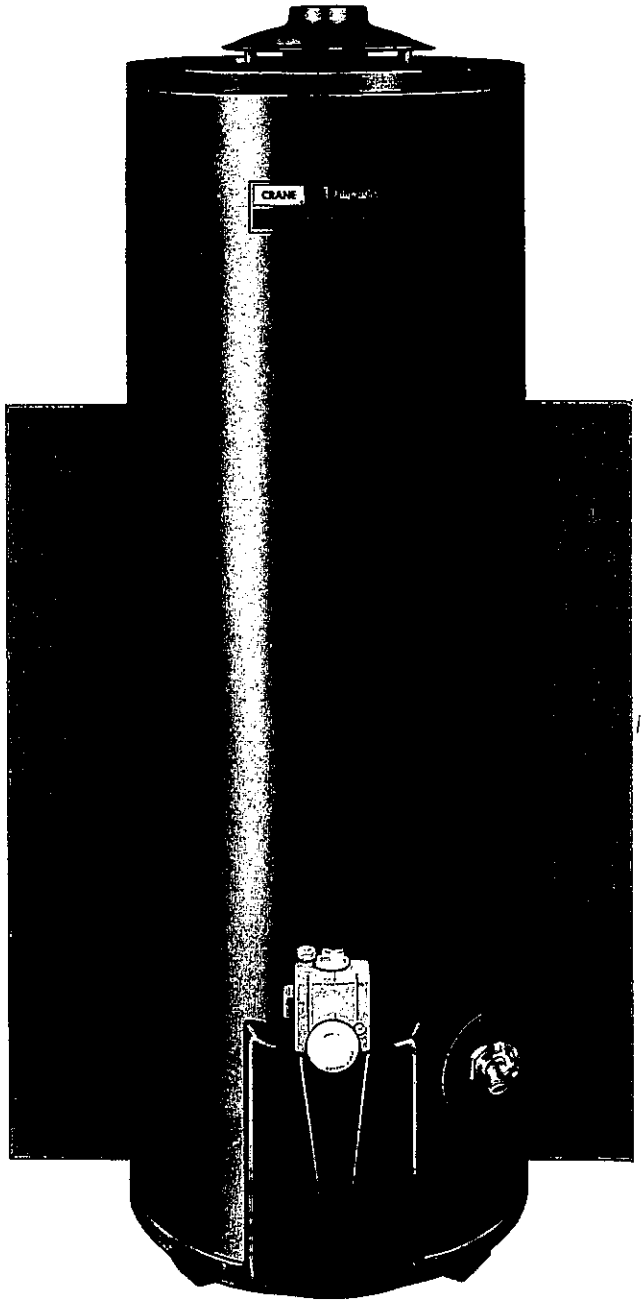
CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01119

D50-65C ••• D75-75C
D100-75CW ••• D100-90CW

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED STORAGE BOOSTER



The DUTYMASTER Commercial Water Heaters are gas fired storage boosters certified by the American Gas Association for supplying hot water both as a "Type A Booster" and as a "Type B Storage Heater". When used singularly or in manifolded multiples as a Type B Storage Heater they are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems.

ENGINEERING FEATURES

TANK—Internal, single flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—DUTYMASTER's well-proved "Crown of Flame" multiport burner gives quiet efficient combustion.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible clean-out located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely mechanical control system provides positive control and safety shut off—avoiding down time due to failure of electrical components. In the event of pilot outage, 100% shut-off safety valve cuts off all gas supply to burner and pilot.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ECO (ENERGY CUT OFF)—An A.G.A. certified, factory installed heat-sensitive device shuts off ALL gas flow to burner and pilot should tank water temperature reach 210°F.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

The DUTYMASTER SERIES is design certified by the American Gas Association.

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

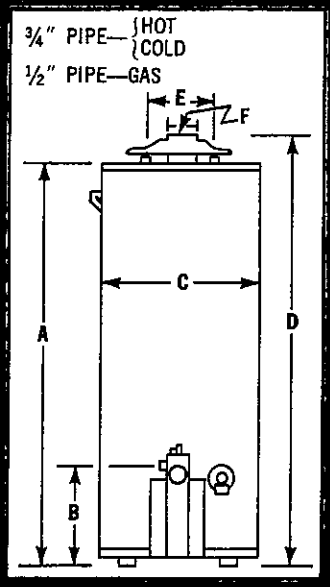
D50-65C ••• D75-75C
D100-75CW ••• D100-90CW

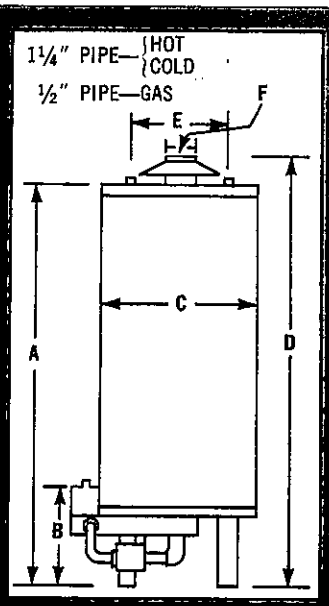
DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.





MODEL		50-65	75-75	100-75	100-90
STOR. CAP.		50	75	100	100
B.T.U./HR.	NAT.	65,000	75,000	75,100	90,000
	PROP.	55,000	55,000	70,000	80,000
G.P.H. 100° RISE	NAT.	54	63	63	75.5
	PROP.	46	46	58	67
A		59½"	61⅛"	68⅛"	68⅛"
B		16½"	16½"	19¾"	19¾"
C		20"	24"	26¼"	26¼"
D		62¼"	63⅞"	72¼"	80⅜"
E		8"	8"	14"	14"
F (VENT)		4"	4"	4"	4"
GAS CONNECTION		½"	½"	½"	½"
SHIPPING WEIGHT		182	226	400	400

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the DUTYMASTER is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the DUTYMASTER be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. In given circumstances, however, it can be installed either singly or in multiples with an auxiliary storage tank.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Apartment buildings with up to ten units equipped with automatic washing equipment and one shower head with two to three gallons per minute flow rate.

Restaurants and Institutional Food Service—The DUTYMASTER is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

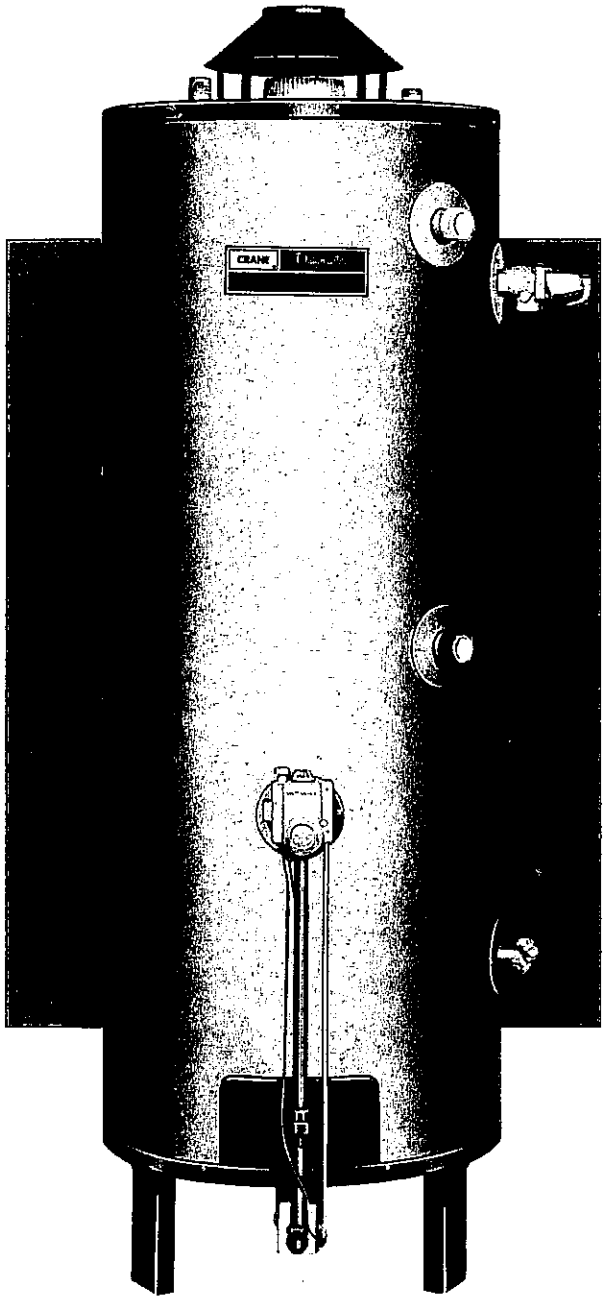
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 75-120 is a gas-fired storage booster with 75-gallon tank capacity and 120,000 BTU/hour input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 75-120 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a "Type A Booster" with separate storage tank the 75-120 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Single port upshot burner with stainless steel flame spreader specifically designed for this heater's maximum efficiency at its input.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Dutymaster booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extruded rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D75-120C

The 75-120 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

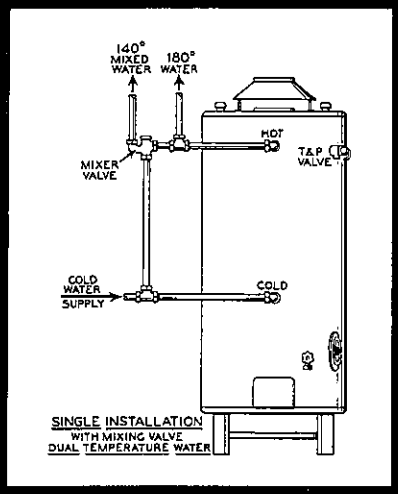
COMMERCIAL

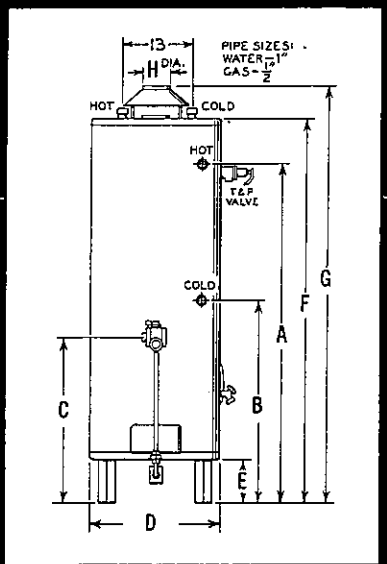
D75-120C

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.





MODEL		D75-120C
STOR. CAP.		75
B.T.U./HR.	NAT.	120,000
	PROP.	100,000
G.P.H. 100° RISE	NAT.	101
	PROP.	84
A		62⅝"
B		37⅝"
C		30¼"
D		24"
E		8"
F		71½"
G		77½"
H (VENT)		5"
GAS CONNECTION		¾"
SHIPPING WEIGHT		500 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 75-120 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 75-120 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. In given circumstances, however, it can be installed either singly or in multiples with an auxiliary storage tank.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Apartment buildings with up to ten units equipped with automatic washing equipment and one shower head with two to three gallons per minute flow rate.

Restaurants and Institutional Food Service—The 75-120 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®

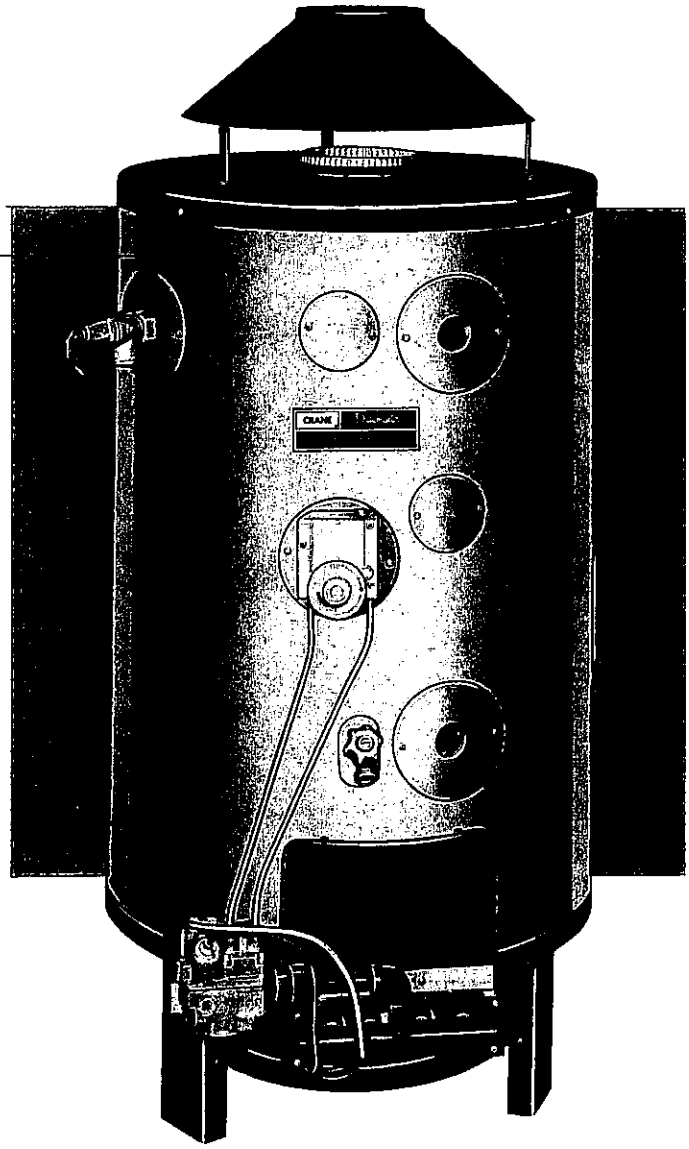
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

D20-150C

DISCONTINUE ?

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 20-150 is a gas fired instantaneous booster certified by the American Gas Asssociation and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous heater and as (b) a Type A Automatic Circulating Tank Heater.

2. When used as an Automatic Instantaneous booster its 150,000 BTU input and 20-gallon storage capacity make this heater ideal for short periods of heavy demand. Much more so than heaters with comparable BTU input but with greatly reduced storage capacity. The 20-150 may also be used with a mixing valve to supply **both** 180°F. and 140°F. water.

3. When used as a Type A Automatic Circulating Tank heater the 20-150 is so constructed that it may be installed as a gravity circulating system **without** a circulating pump and the additional wiring and piping this requires.

4. The 20-150 may also be installed in series with a DUTYMASTER Storage Booster to raise 140°F. water to 180°F. sanitizing water for restaurants or similar usage.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D20-150C

The 20-150 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

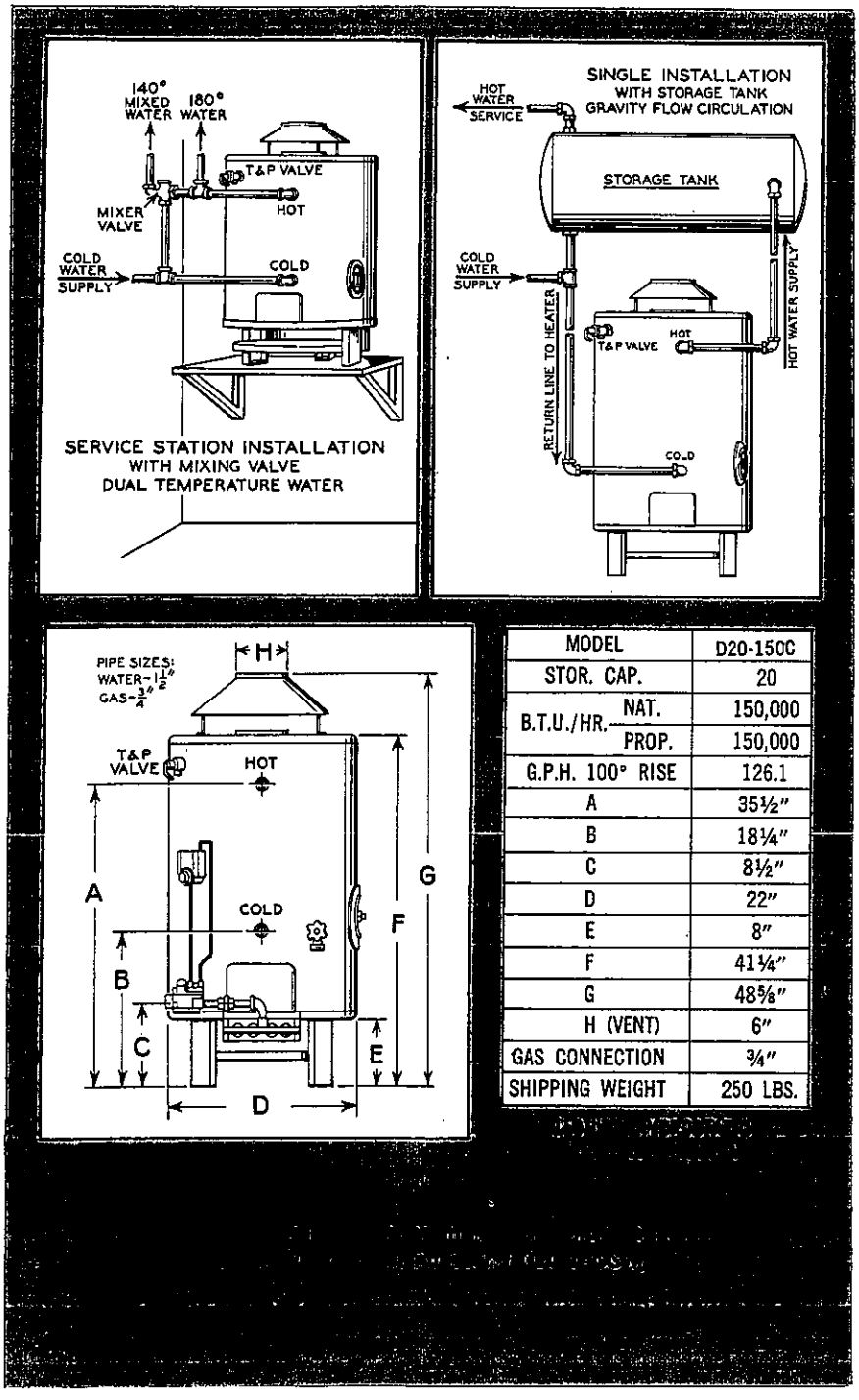
D20-150C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.



MODEL	D20-150C
STOR. CAP.	20
B.T.U./HR.— NAT.	150,000
B.T.U./HR.— PROP.	150,000
G.P.H. 100° RISE	126.1
A	35½"
B	18¼"
C	8½"
D	22"
E	8"
F	41¼"
G	48⅝"
H (VENT)	6"
GAS CONNECTION	¾"
SHIPPING WEIGHT	250 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installation for which the 20-150 is suited. For more detailed engineering information please consult the DUTY-MASTER Commercial Water Heating Engineering Handbook.

The 20-150 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Service Stations—The 20-150 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

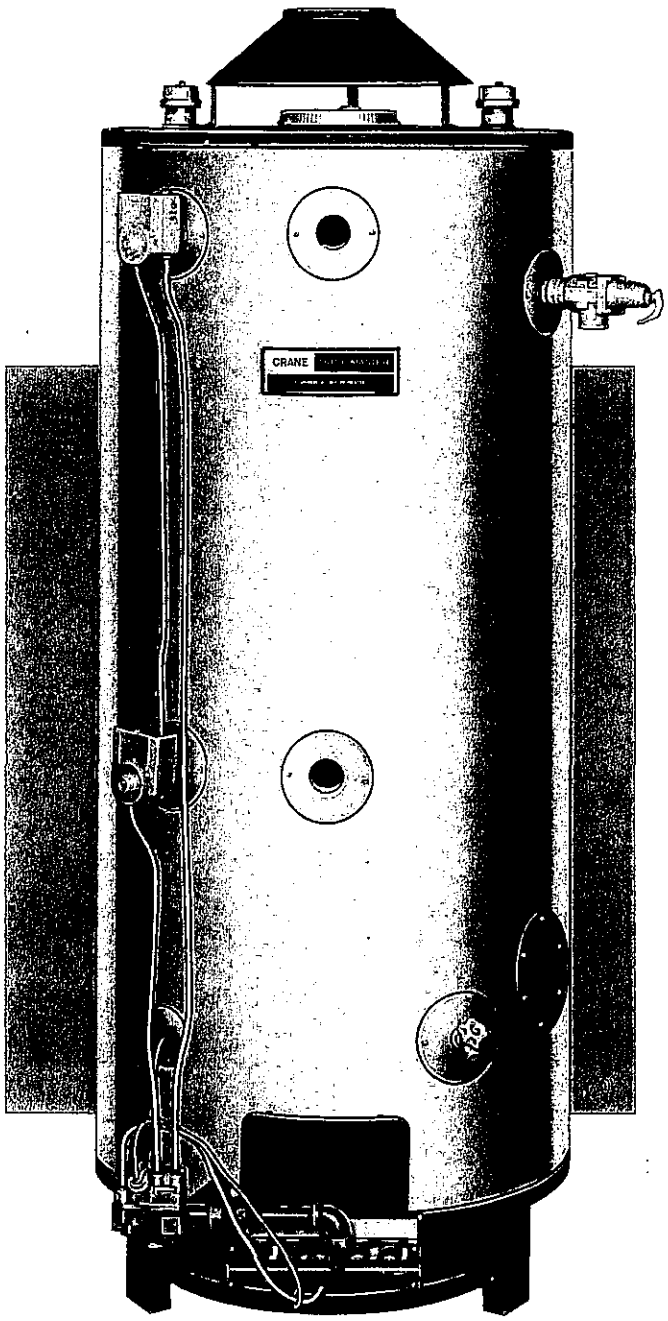
Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y.

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 80-180 is a gas fired storage booster with 80-gallon tank capacity and 180,000 BTU/hour input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-180 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as "Type A Booster" with separate storage tank the 80-180 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D80-180C

The 80-180 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

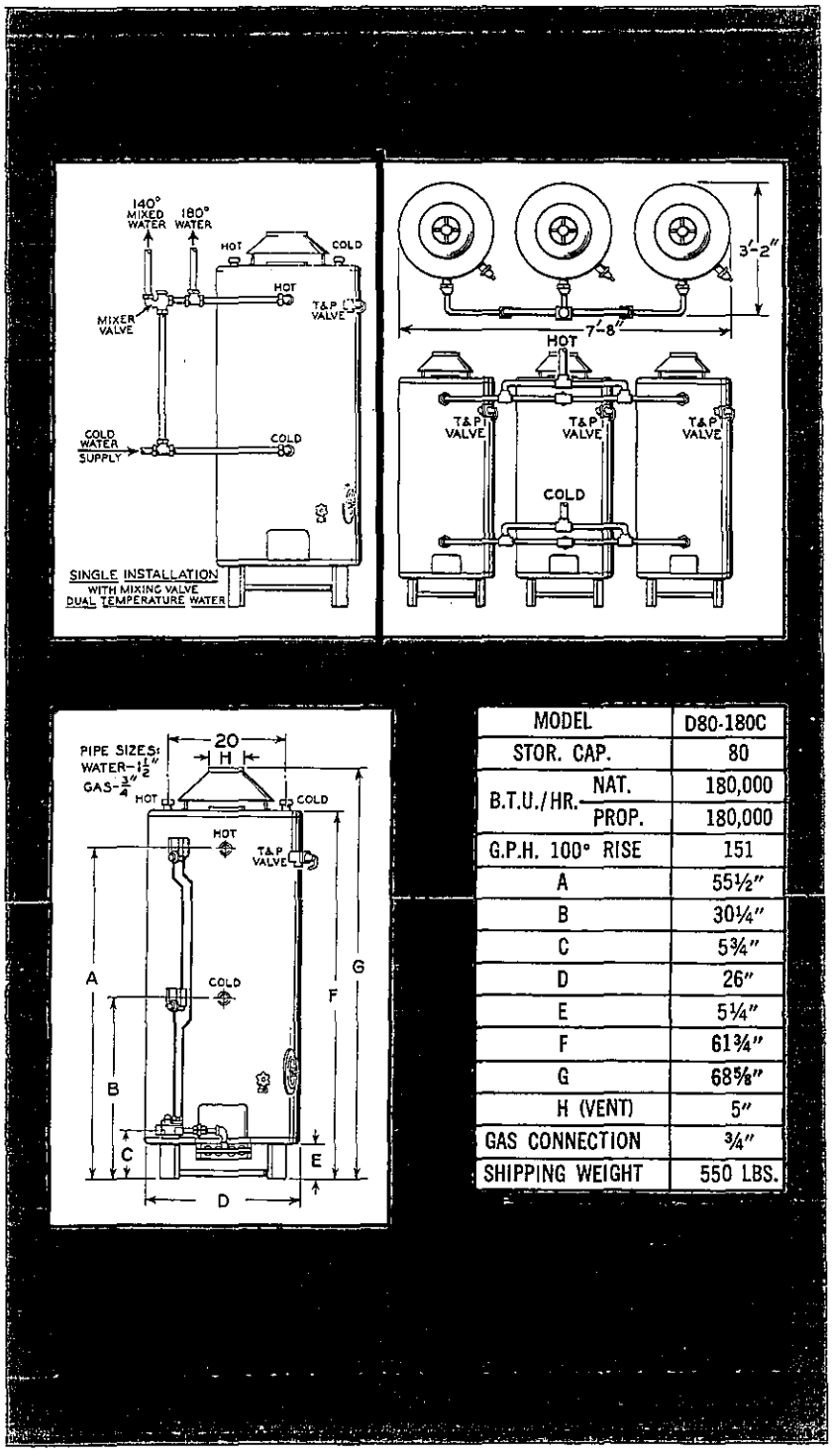
D80-180C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.



MODEL		D80-180C
STOR. CAP.		80
B.T.U./HR.	NAT.	180,000
	PROP.	180,000
G.P.H. 100° RISE		151
A		55½"
B		30¼"
C		5¾"
D		26"
E		5¼"
F		61¾"
G		68⅝"
H (VENT)		5"
GAS CONNECTION		¾"
SHIPPING WEIGHT		550 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 80-180 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-180 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 12 units per heater. If used in apartments with 2 baths 9 units per heater.

Restaurants and Institutional Food Service—The 80-180 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

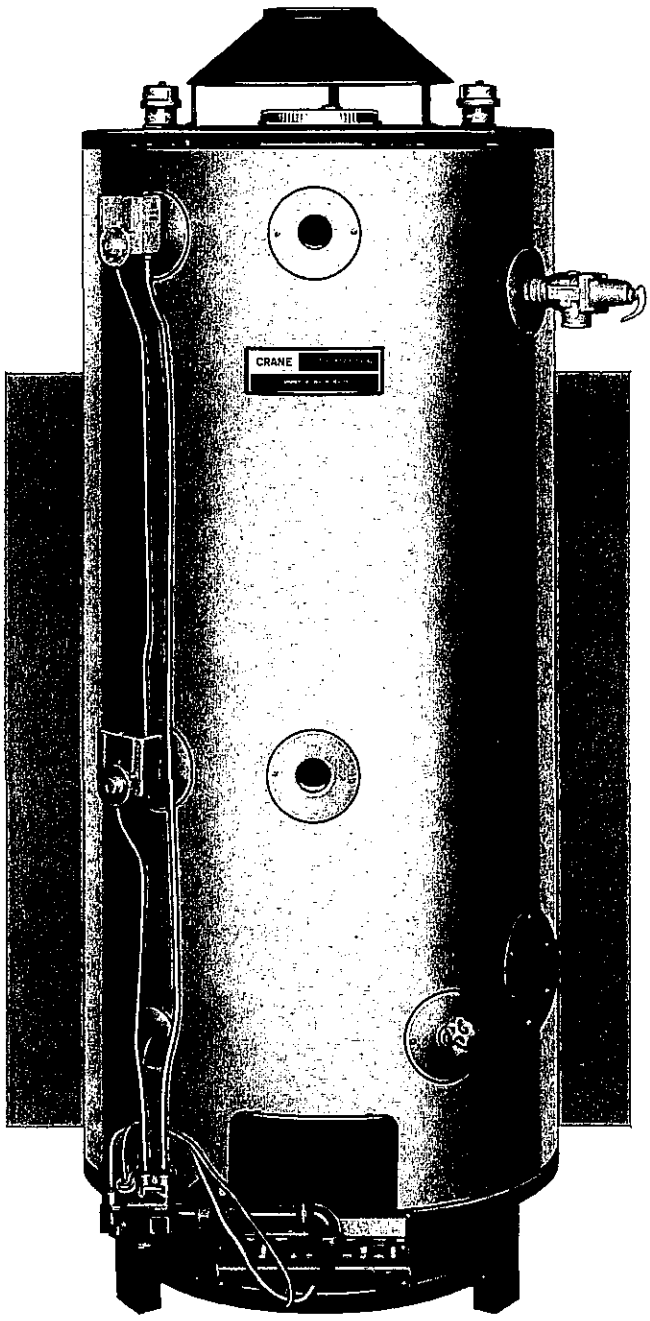
CRANE01127

COMMERCIAL

D80-180CW

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 80-180 is a gas fired storage booster with 80-gallon tank capacity and 180,000 BTU/hour input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-180 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as "Type A Booster" with separate storage tank the 80-180 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D80-180CW

The 80-180 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

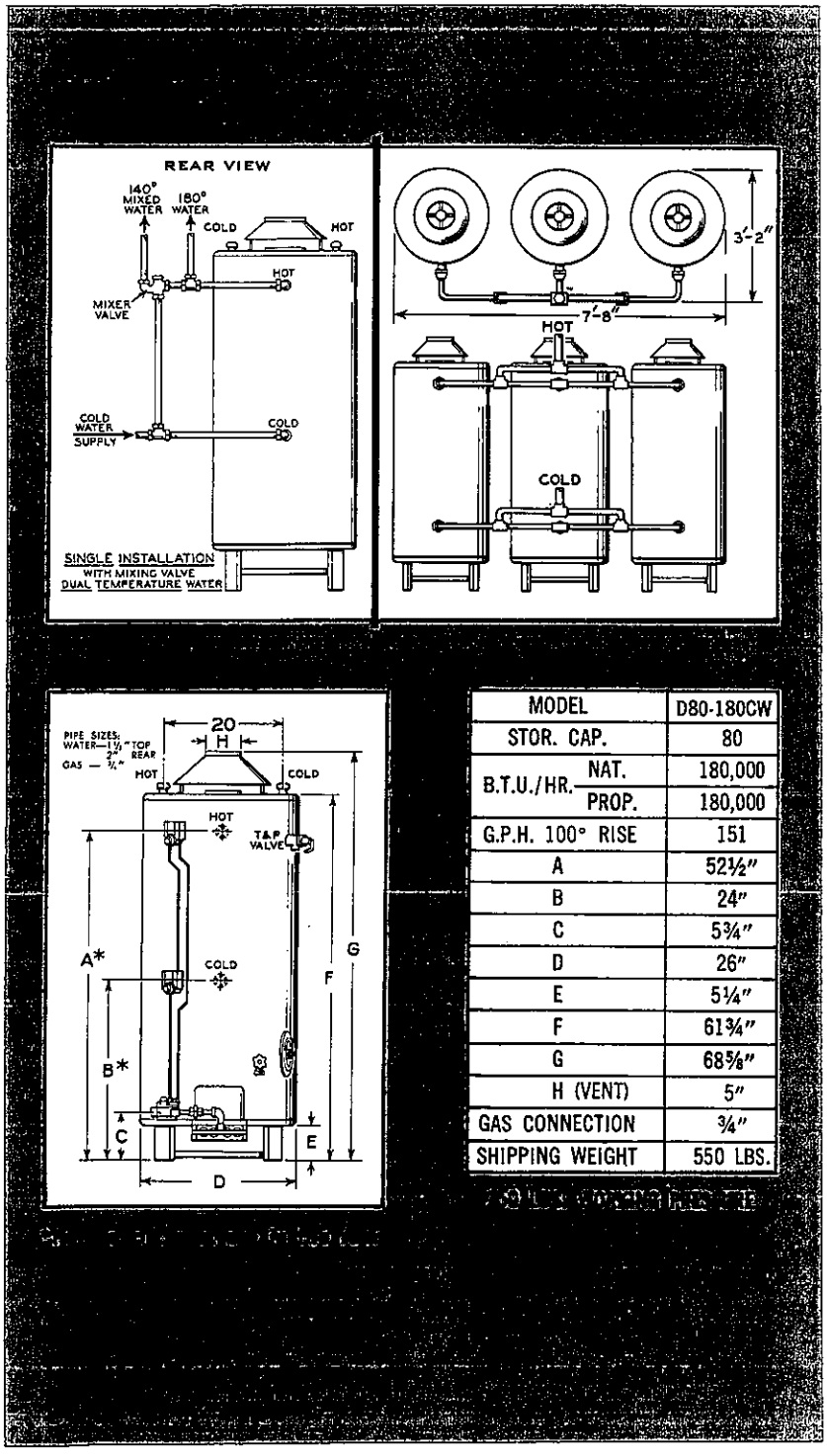
D80-180CW

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.



MODEL		D80-180CW
STOR. CAP.		80
B.T.U./HR.	NAT.	180,000
	PROP.	180,000
G.P.H. 100° RISE		151
A		52½"
B		24"
C		5¾"
D		26"
E		5¼"
F		61¾"
G		68⅝"
H (VENT)		5"
GAS CONNECTION		¾"
SHIPPING WEIGHT		550 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 80-180 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-180 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 12 units per heater. If used in apartments with 2 baths 9 units per heater.

Restaurants and Institutional Food Service—The 80-180 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

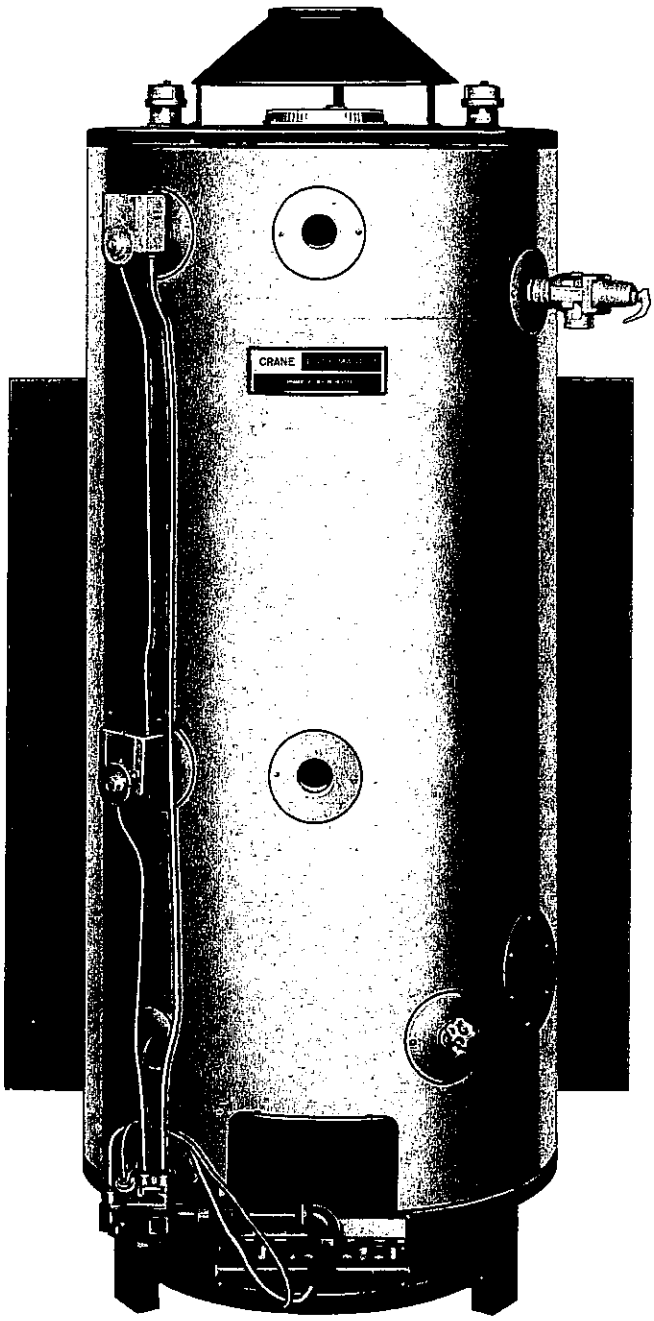
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 80-199 is a gas fired storage booster with 80-gallon tank capacity and 199,000 BTU/hour input, Design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-199 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as "Type A Booster" with separate storage tank the 80-199 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

ALL MODELS will be shipped equipped with a factory-installed ASME rated pressure-temperature relief valve unless otherwise specified.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D80-199C

The 80-199 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

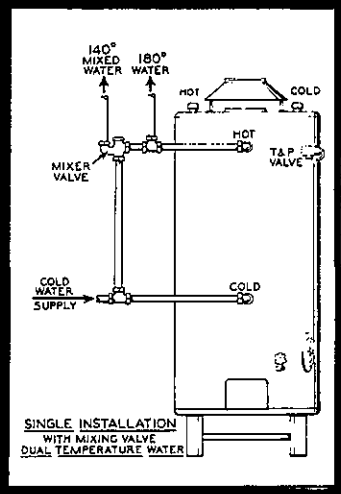
CRANE
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

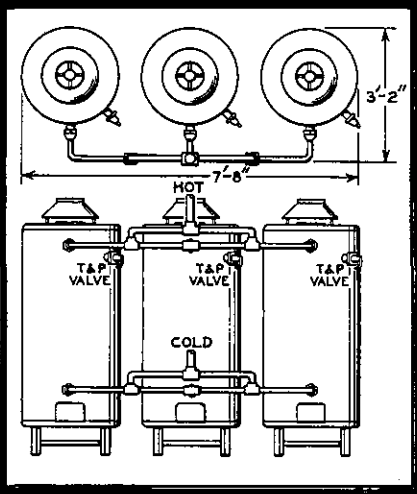
COMMERCIAL

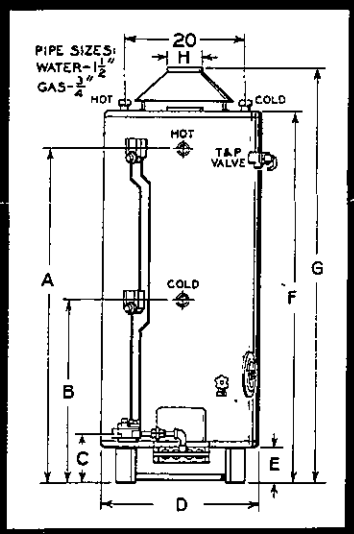
D80-199C

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY
Full terms of Limited Warranty may be found in this catalog.







MODEL	80-199
STOR. CAP.	80
B.T.U./HR. NAT.	199,000
B.T.U./HR. PROP.	199,000
G.P.H. 100° RISE	167.5
A	55½"
B	30¼"
C	5¾"
D	26"
E	5¼"
F	61⅝"
G	67⅞"
H (VENT)	6"
GAS CONNECTION	¾"
SHIPPING WEIGHT	550 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 80-199 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-199 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 14 units per heater. If used in apartments with 2 baths 10 units per heater.

Restaurants and Institutional Food Service—The 80-199 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

FORM NO. D15/3-76

CRANE
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 1[illegible]

CRANE01131

COMMERCIAL

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

D80-199CW

1. The 80-199 is a gas fired storage booster with 80-gallon tank capacity and 199,000 BTU/hour input. Design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and a Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 80-199 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as "Type A Booster" with separate storage tank the 80-199 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

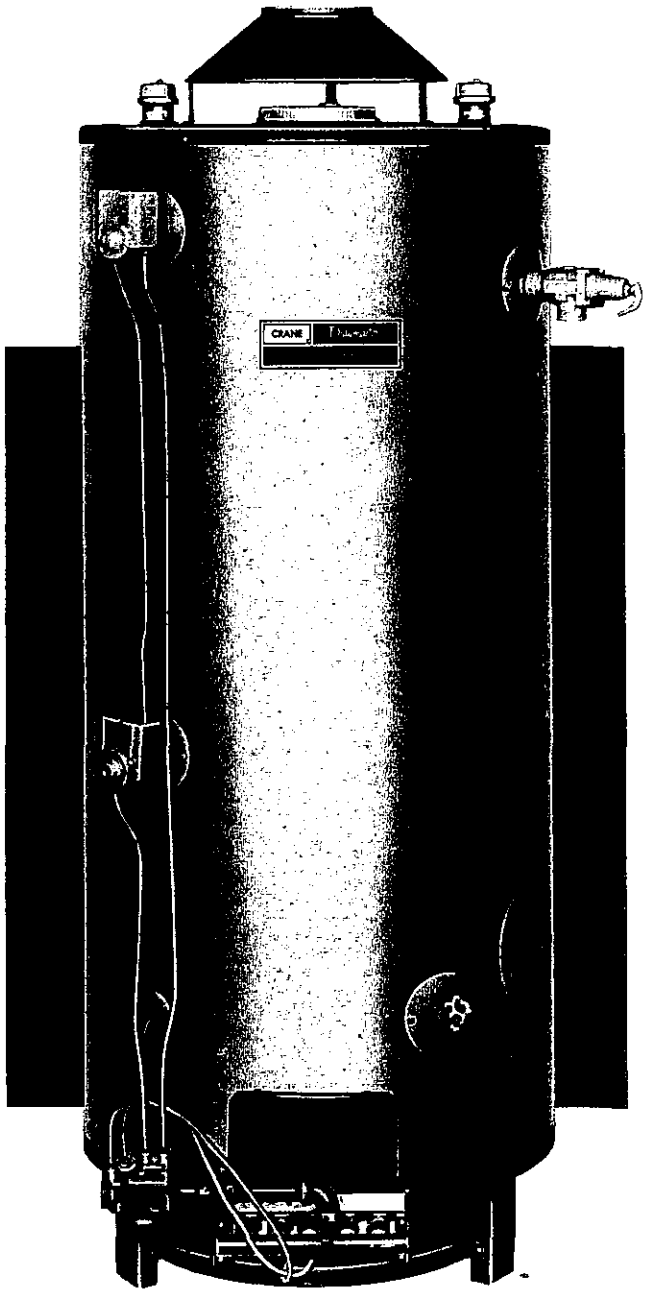
HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

ALL MODELS will be shipped equipped with a factory-installed ASME rated pressure-temperature relief valve unless otherwise specified.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or rear, hot and cold water connections.



3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D80-199CW

The 80-199 is design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

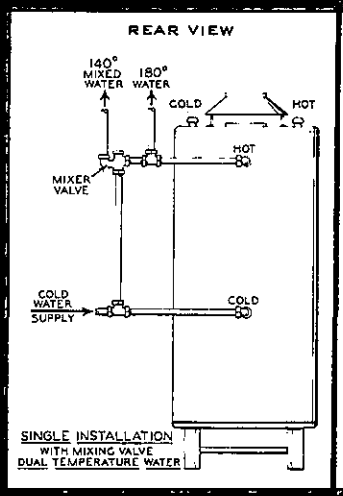
D80-199CW

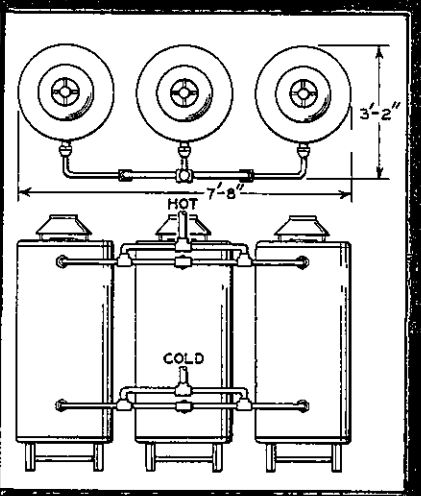
DUTYMASTER
MARK II

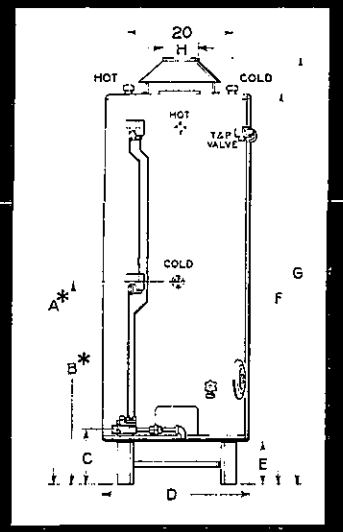
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.







MODEL		80-199
STOR. CAP.		80
B.T.U./HR.	NAT.	199,000
	PROP.	199,000
G.P.H. 100° RISE		167.5
A		52"
B		23½"
C		5¾"
D		26"
E		5¼"
F		61⅝"
G		67⅞"
H (VENT)		6"
GAS CONNECTION		¾"
SHIPPING WEIGHT		550 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 80-199 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 80-199 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 14 units per heater. If used in apartments with 2 baths 10 units per heater.

Restaurants and Institutional Food Service—The 80-199 is ideally suited for boosting water temperatures from 120°F. to 140°F. to the necessary 180°F. It can also be used as a free standing heater when equipped with a mixing valve supplying 180°F. water to the stationary rack dishwashing machines and 140°F. water for general purpose.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

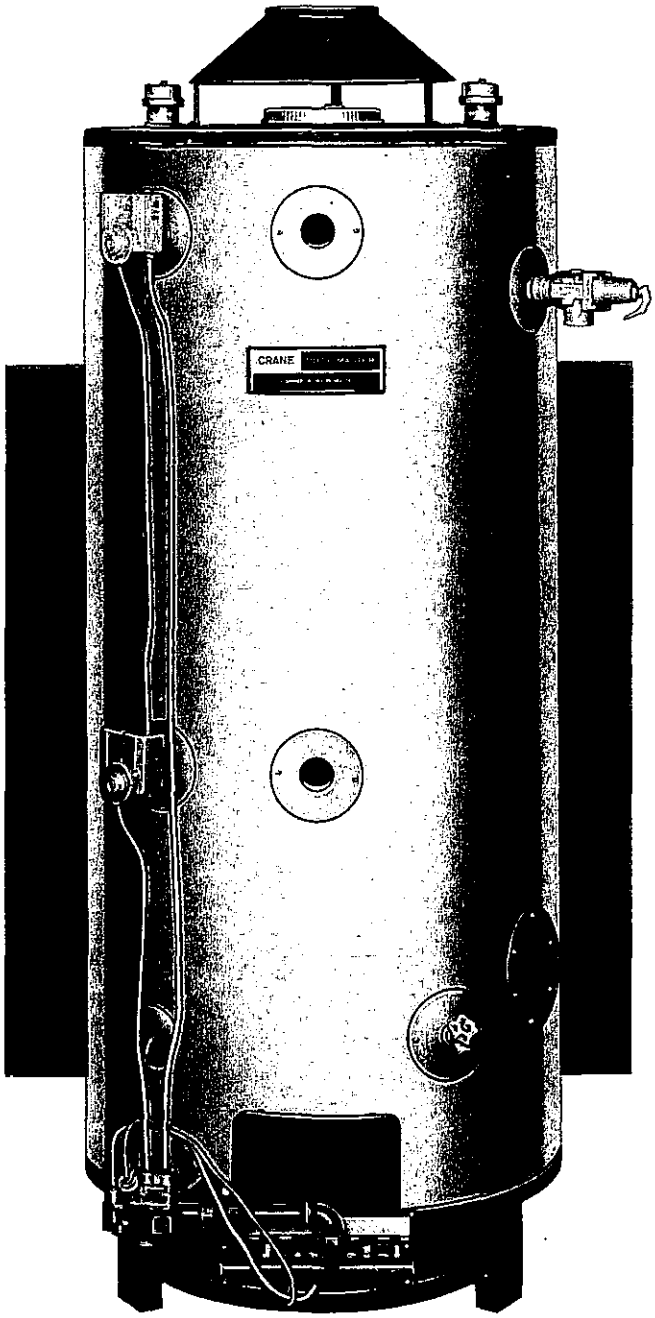
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

D85-250C

DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 85-gallon booster model 85-250 (250,000 BTU) is certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 85-250 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a "Type A Booster" with separate storage tank the 85-250 is designed so as to provide sufficient gravity circulation and no circulation pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D85-250C

The 85-250 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

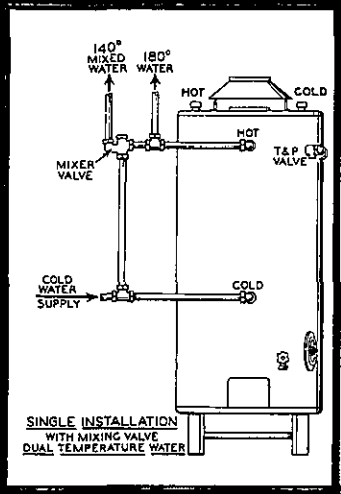
COMMERCIAL

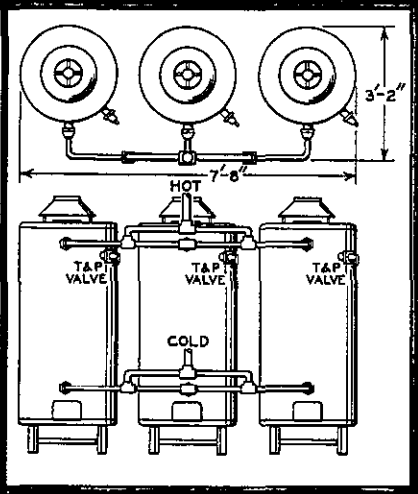
D85-250C

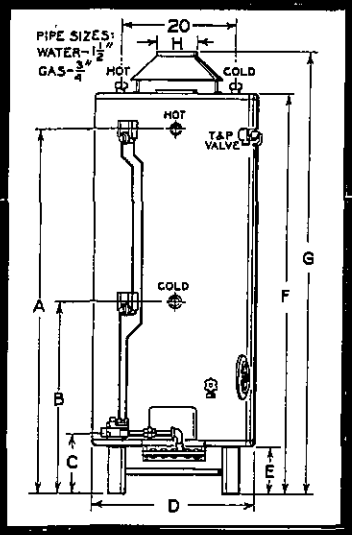
DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.







MODEL		85-250
TANK CAP. (GAL.)		85
B.T.U./HR.	NAT.	250,000
	PROP.	250,000
G.H.P. 100° RISE		210
A		63"
B		33"
C		9½"
D		28"
E		8"
F		69¼"
G		76¼"
H (VENT)		6"
GAS CONNECTION		¾"
SHIPPING WEIGHT		600 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 85-250 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 85-250 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 17 units per heater. If used in apartments with 2 baths 12 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 85-250 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 85-250 can furnish the necessary water for conveyor type dishwashers using up to 150 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

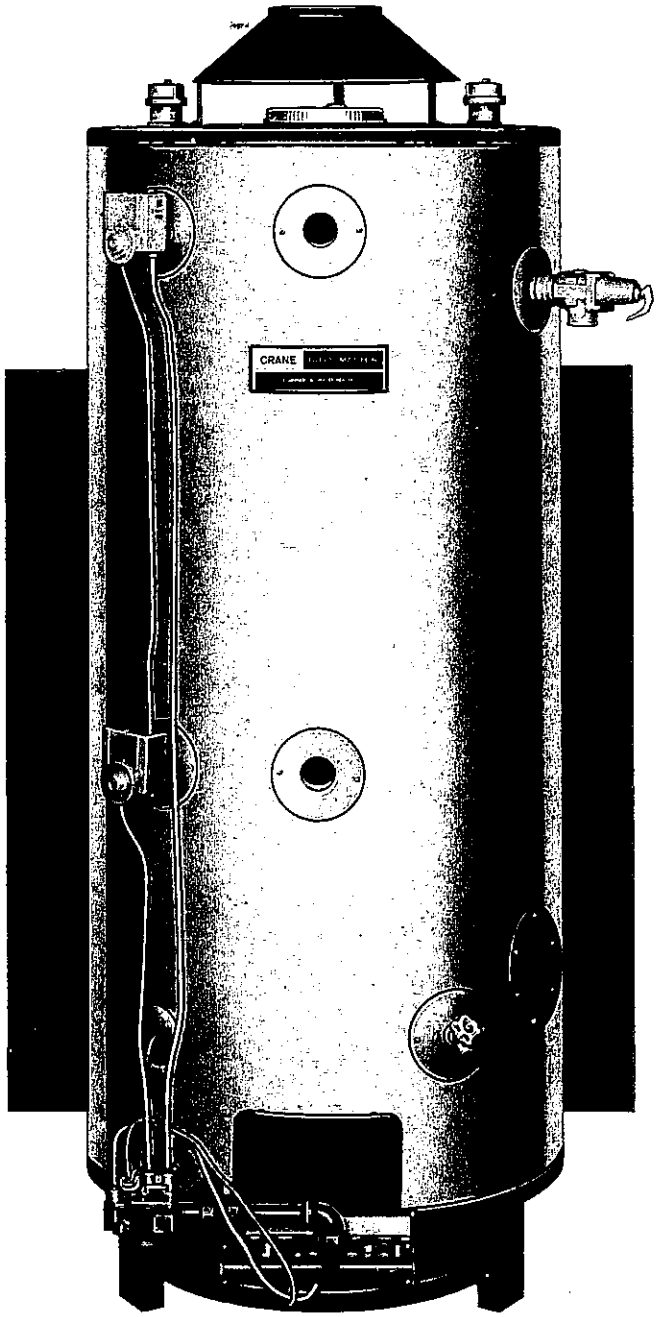
CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 1002

D100-199C / D100-270C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER



1. The 100-gallon booster is available in two models. Model 100-199 (199,900 BTU) where heaters of less than 200,000 BTU must be used. Model 100-270 (270,000 BTU) where heaters of more than 200,000 BTU may be used. The two models are otherwise identical. The 100's are certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 100's are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a "Type A Booster" with separate storage tank the 100's are designed so as to provide sufficient gravity circulation and no circulation pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or side, hot and cold water connections.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NOS. D100-199C/D100-270C

The 100's are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

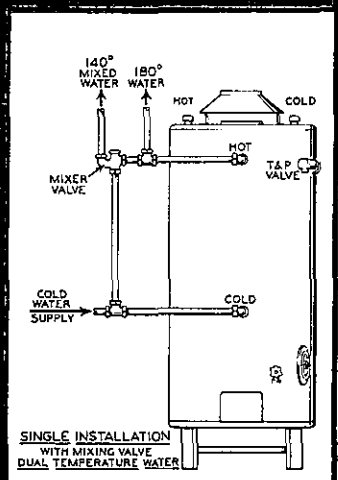
D100-199C / D100-270C

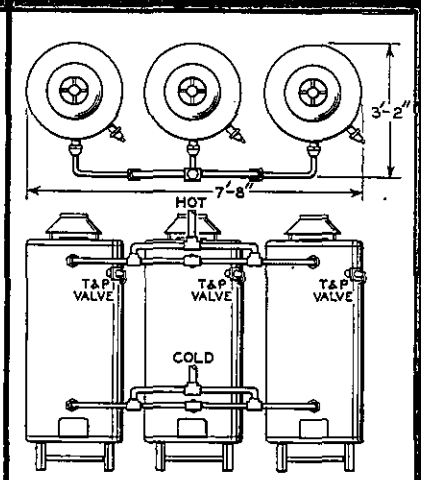
DUTYMASTER
MARK II

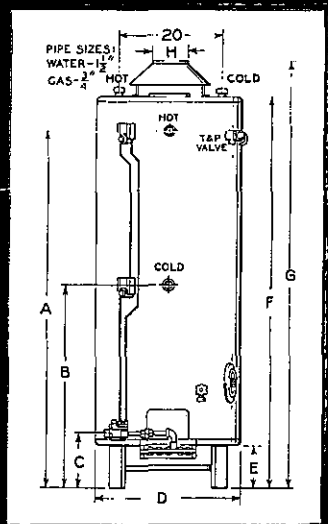
COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.







MODEL		100-199	100-270
STOR. CAP.		100	
B.T.U./HR.	NAT.	199,900	270,000
	PROP.	199,900	270,000
G.P.H. 100° RISE		168	227
A		69"	
B		39"	
C		9½"	
D		28"	
E		8"	
F		75"	
G		82"	
H (VENT)		7"	
GAS CONNECTION		¾"	
SHIPPING WEIGHT		650 LBS.	

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 100's are suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 100's be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 19 units per heater. If used in apartments with 2 baths 14 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 100's can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 100's can furnish the necessary water for conveyor type dishwashers using up to 162 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®

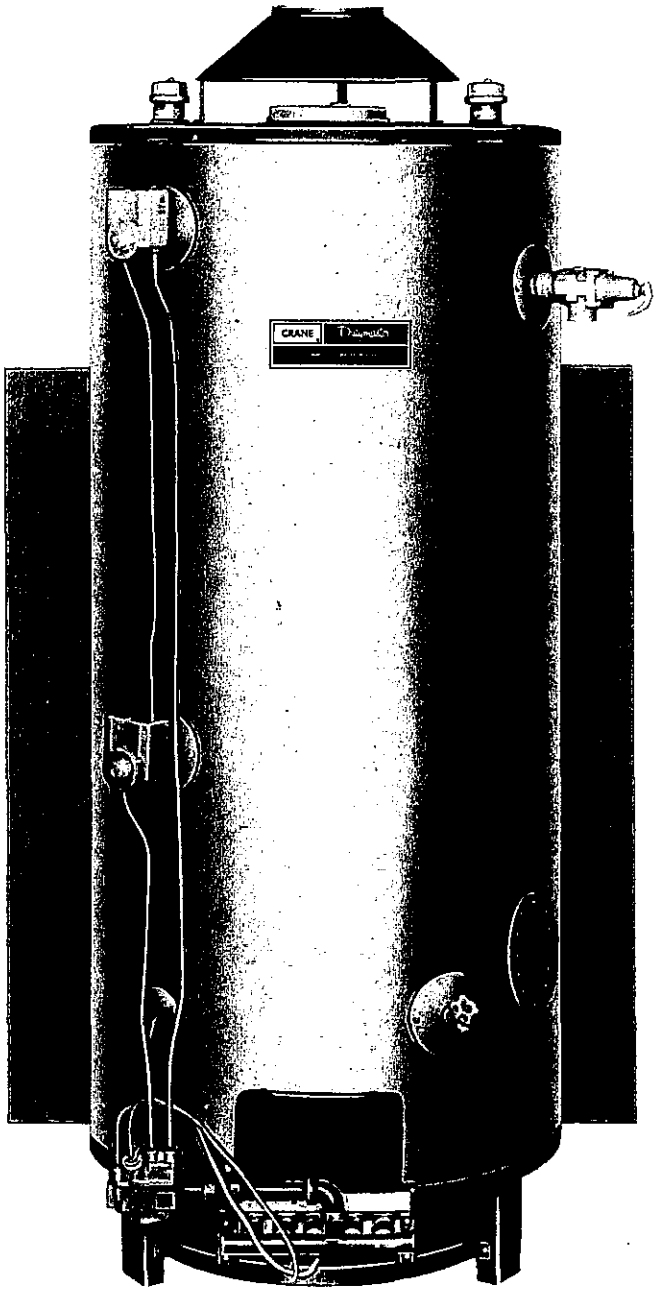
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y.

COMMERCIAL

D100-199CW / D100-260CW

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED STORAGE BOOSTER



1. The 100-gallon booster is available in two models. Model 100-199 (199,900 BTU) where heaters of less than 200,000 BTU must be used. Model 100-260 (260,000 BTU) where heaters of more than 200,000 BTU may be used. The two models are otherwise identical. The 100's are certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as a "Type A Booster" and as a "Type B Storage Heater". When used singly or in manifolded multiples as a Type B Storage Heater the 100's are so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a "Type A Booster" with separate storage tank the 100's are designed so as to provide sufficient gravity circulation and no circulation pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Single port upshot burner with flame spreader provides even distribution of heat to tank bottom and flueways. Universally suited for the gases listed.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

WATER CONNECTION—Choice of top or rear, hot and cold water connections.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NOS. D100-199CW/D100-260CW

The 100's are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

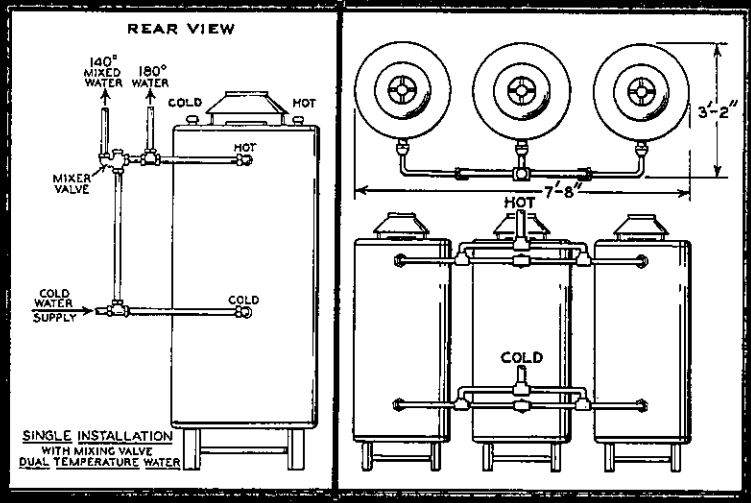
D100-199CW / D100-260CW

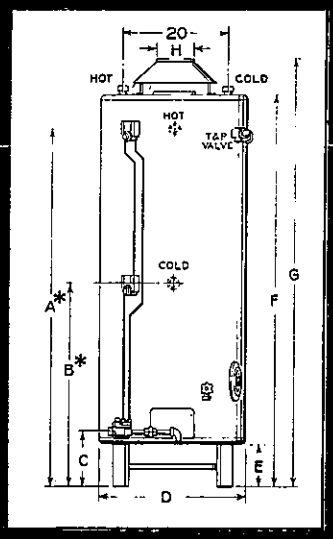
DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.





MODEL		100-199	100-260
STOR. CAP.		100	
B.T.U./HR.	NAT.	199,900	260,000
	PROP.	199,900	260,000
G.P.H. 100° RISE		168	218
A		51½"	
B		21"	
C		6"	
D		30¼"	
E		6¾"	
F		66¼"	
G		74"	
H (VENT)		6"	
GAS CONNECTION		¾"	
SHIPPING WEIGHT		565 LBS.	

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 100's are suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 100's be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Typical installations for approximate sizing of the heater are as follows:

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 18 units per heater. If used in apartments with 2 baths 13 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 100's can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 100's can furnish the necessary water for conveyor type dishwashers using up to 162 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®

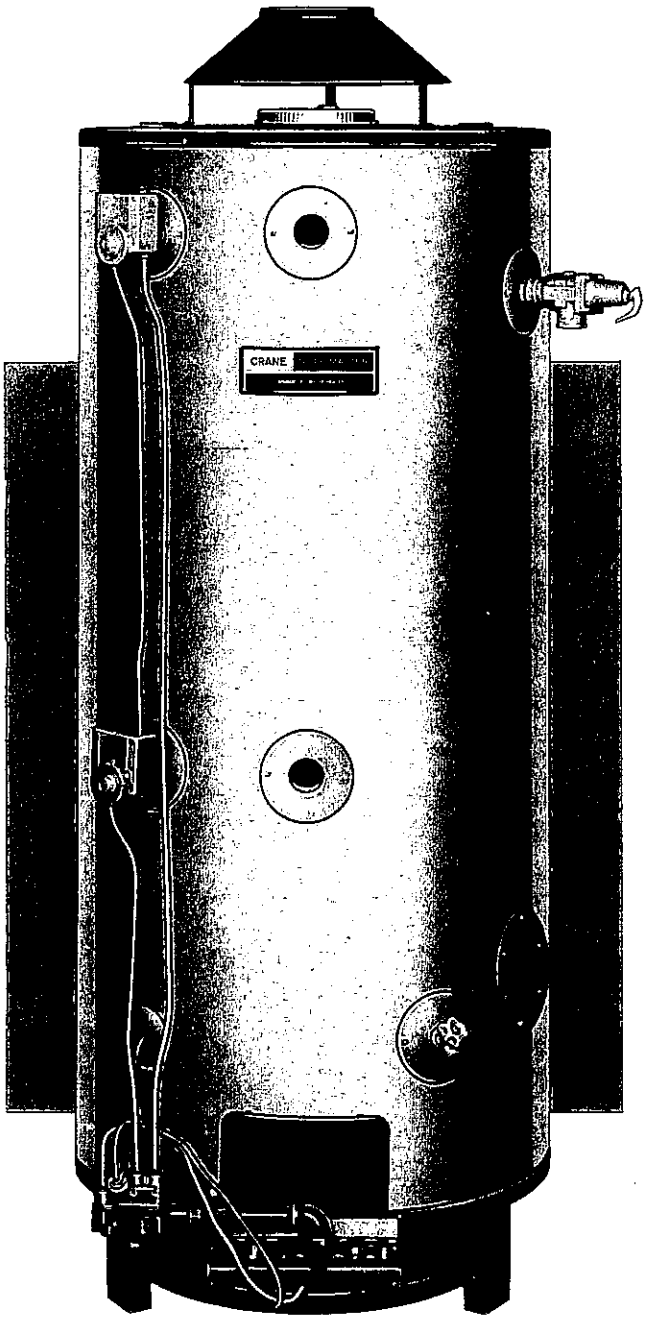
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10

COMMERCIAL

D75-360C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER



1. The 75-360 is a gas fired instantaneous booster with 75-gallon tank capacity and 360,000 BTU/hr. input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous Heater and as (b) a Type A Circulating Tank Heater.

2. When used singly or in manifolded multiples as an "Automatic Instantaneous Heater" the 75-360 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

3. When used as a Type A Automatic Circulating Tank Heater installed singly or in manifolded multiples with separate storage tank. The 75-360 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

COMBUSTION CHAMBER—The tank skirt of this high input model is lined with PYROLITE ceramic insulators to guard against burn-out and corrosion.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NOS. D75-360C

The 75-360 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

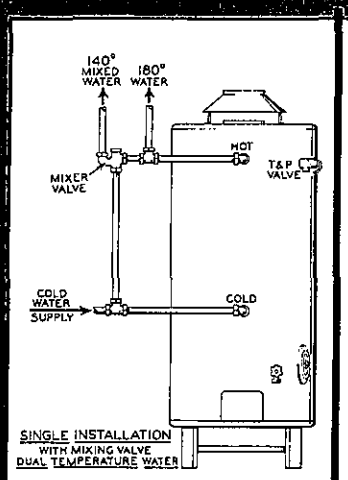
D75-360C

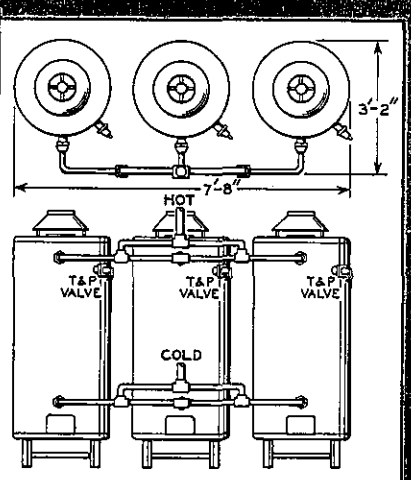
DUTYMASTER
MARK II

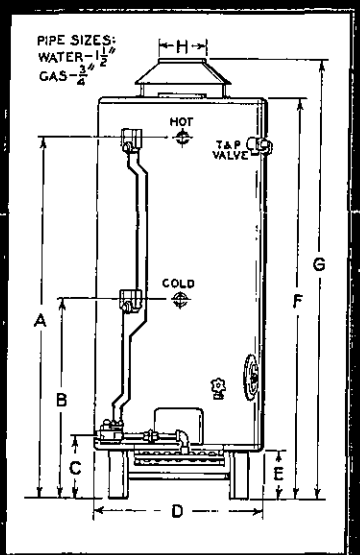
COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.







MODEL		D75-360C
STOR. CAP.		75
B.T.U./HR.	NAT.	360,000
	PROP.	360,000
G.P.H. 100° RISE		302
A		60"
B		33"
C		9½"
D		28"
E		8"
F		66¼"
G		72⅞"
H (VENT)		8"
GAS CONNECTION		¾"
SHIPPING WEIGHT		650 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 75-360 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 75-360 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 25 units per heater. If used in apartments with 2 baths 18 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 75-360 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 75-360 can furnish the necessary water for conveyor type dishwashers using up to 216 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®
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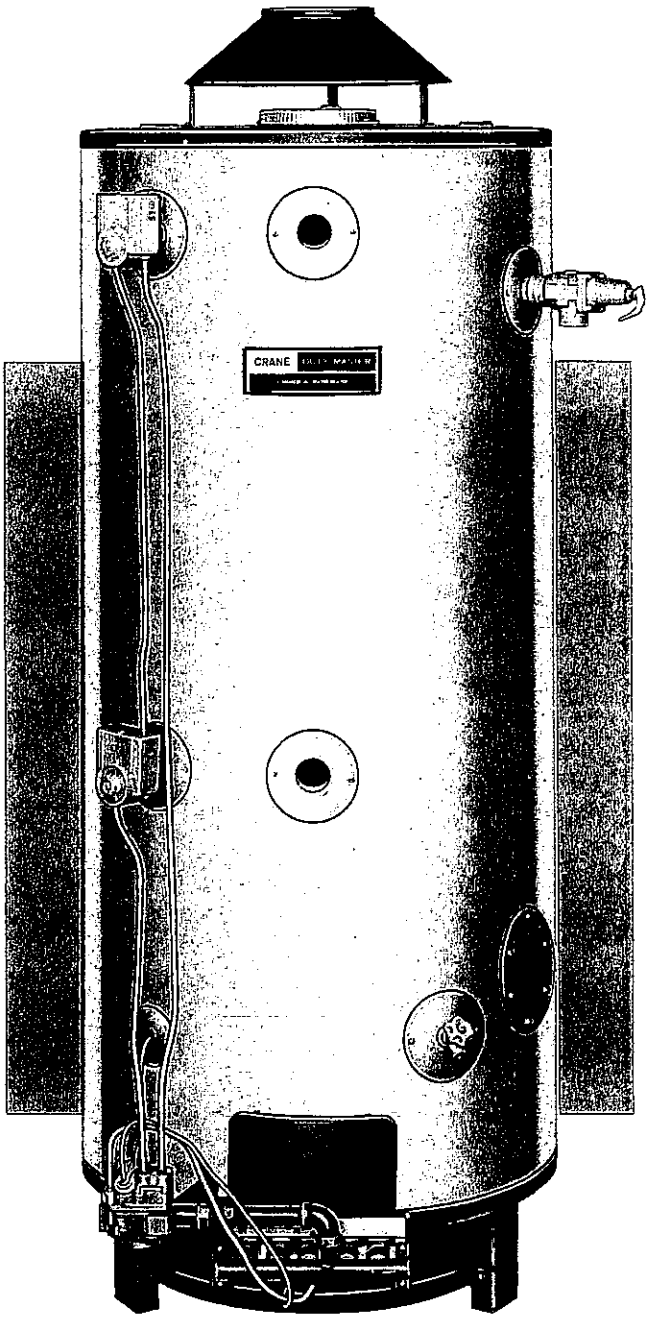
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

D70-500C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER



1. The 70-500 is a gas fired instantaneous booster with 70-gallon tank capacity and 500,000 BTU/hr. input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous Heater and as (b) a Type A Automatic Circulating Tank Heater.

2. When used singly or in manifold multiples as an "Automatic Instantaneous Heater" the 70-500 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

3. When used as a Type A Automatic Circulating Tank Heater installed singly or in manifolded multiples with separate storage tank. The 70-500 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

COMBUSTION CHAMBER—The tank skirt of this high input model is lined with PYROLITE ceramic insulators to guard against burn-out and corrosion.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D70-500C

The 70-500 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

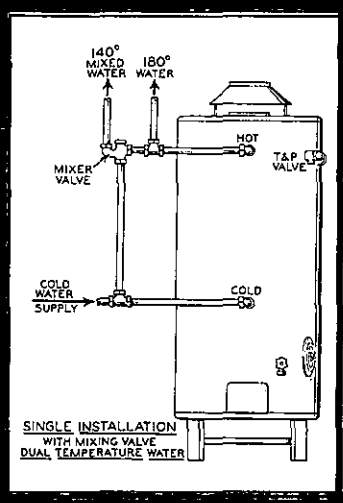
D70-500C

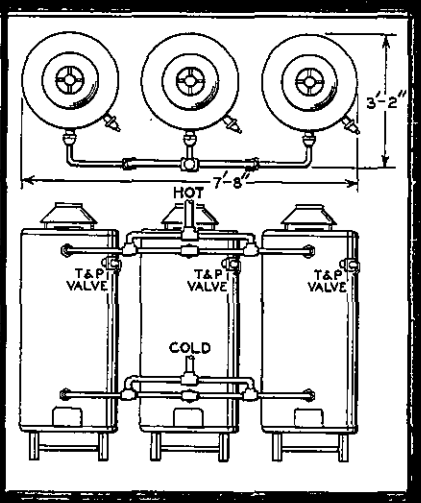
DUTYMASTER
MARK II

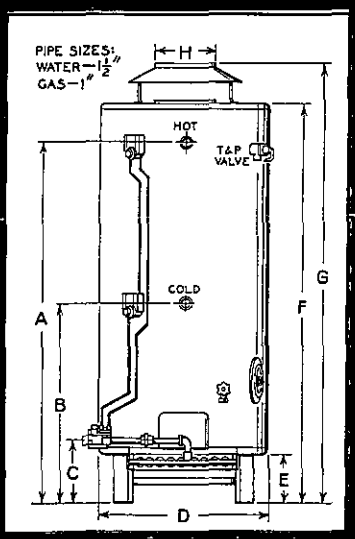
COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.







MODEL		D70-500C
STOR. CAP.		70
B.T.U./HR.	NAT.	500,000
	PROP.	480,000
G.P.H. 100° RISE	NAT.	420
	PROP.	403
A		60"
B		33"
C		10"
D		28"
E		8"
F		66¼"
G		72⅝"
H (VENT)		10"
GAS CONNECTION		1"
SHIPPING WEIGHT		700 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 70-500 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 70-500 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 35 units per heater. If used in apartments with 2 baths 25 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 70-500 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 70-500 can furnish the necessary water for conveyor type dishwashers using up to 300 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®
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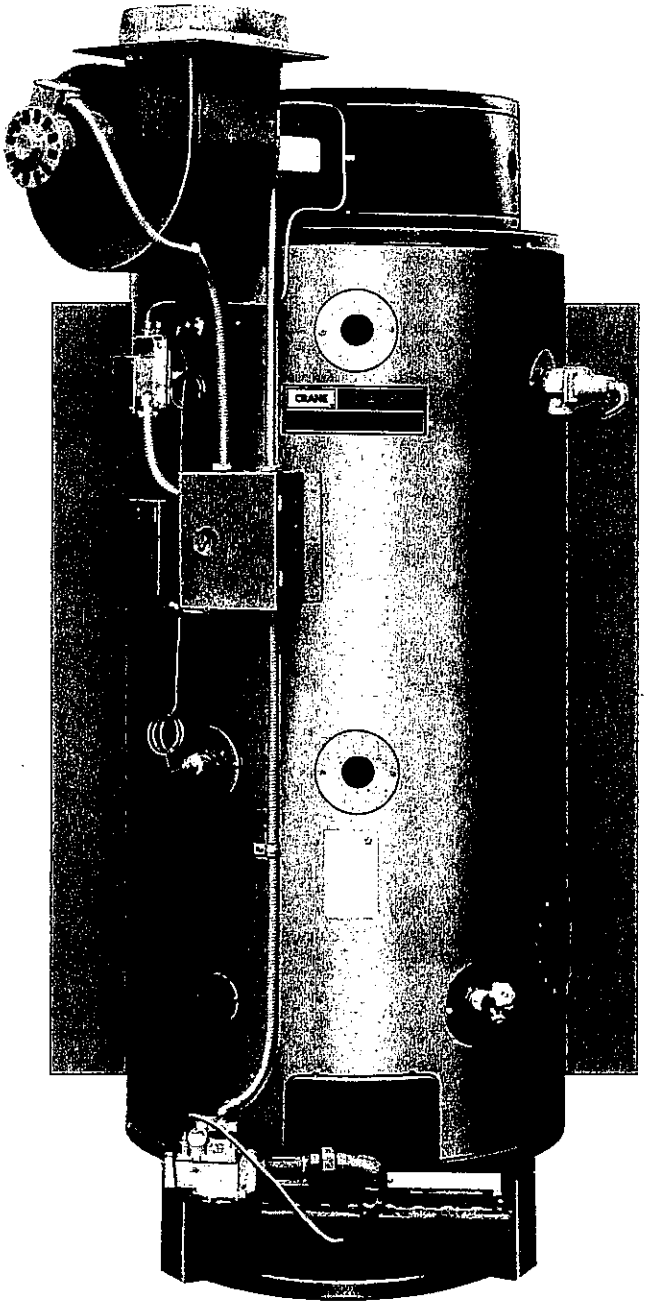
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

D70-725C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER OR AUTOMATIC CIRCULATOR



1. The 70-725 is a gas fired instantaneous booster with 70-gallon tank capacity and 725,000 BTU/hr. input, certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water both as (a) an Automatic Instantaneous Heater and as (b) a Type A Automatic Circulating Tank Heater.

2. When used singly or in mainfold multiples as an "Automatic Instantaneous Heater" the 70-725 is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

3. When used as a Type A Automatic Circulating Tank Heater installed singly or in manifolded multiples with separate storage tank. The 70-725 is designed so as to provide sufficient gravity circulation and no circulating pump is required.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

COMBUSTION CHAMBER—The tank skirt of this high input model is lined with PYROLITE ceramic insulators to guard against burn-out and corrosion.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Dutymaster booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

POWER VENT—Blower assures positive venting. Double safety system shuts the heater down in case of flue blockage.

ELECTROLYTIC PROTECTION—Multiple large extruded rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D70-725C

The 70-725 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

D70-725C

DUTYMASTER

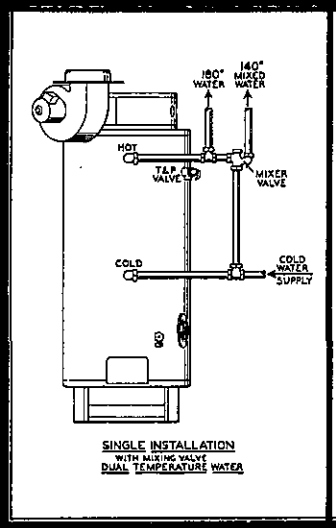
MARK II

COMMERCIAL GAS FIRED GLASSLINED

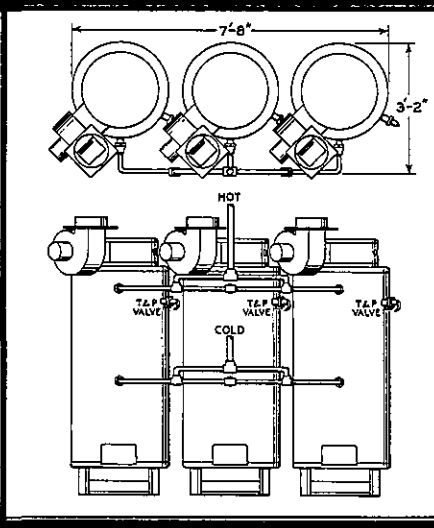
INSTANTANEOUS BOOSTER OR AUTOMATIC CIRCULATOR

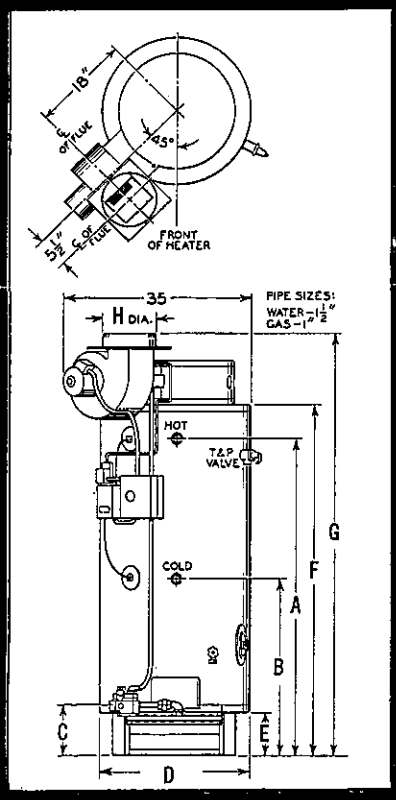
3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.



SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE WATER





MODEL		D70-725C
TANK CAP (GALS)		70
B.T.U./HR.	NAT.	725,000
	PROP.	725,000
G.P.H. 100° RISE	NAT.	609
	PROP.	609
A		60"
B		33"
C		10"
D		28"
E		8"
F		66¼"
G		78¾"
H (VENT)		10"
GAS CONNECTION		1"
SHIPPING WEIGHT		800 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installations for which the 70-725 is suited. For more detailed engineering and application information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

For maximum economy and utilization of floor space it is recommended that the 70-725 be installed singly or in manifolded multiples **without** using a storage tank in the majority of commercial installations. However, in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples **with** a storage tank of 300 gallons to 1200 gallons.

Apartments—Average size apartments with no automatic washing equipment and standard shower heads up to 75 units per heater. If used in apartments with 2 baths 54 units per heater.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The 70-725 can supply all hot water requirements for any door or hood type commercial dishwasher plus normal hot water requirements, when a mixing valve is used. The 70-725 can furnish the necessary water for conveyor type dishwashers using up to 435 gallons/hour. The above applications are figured supplying 180°F. water.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®
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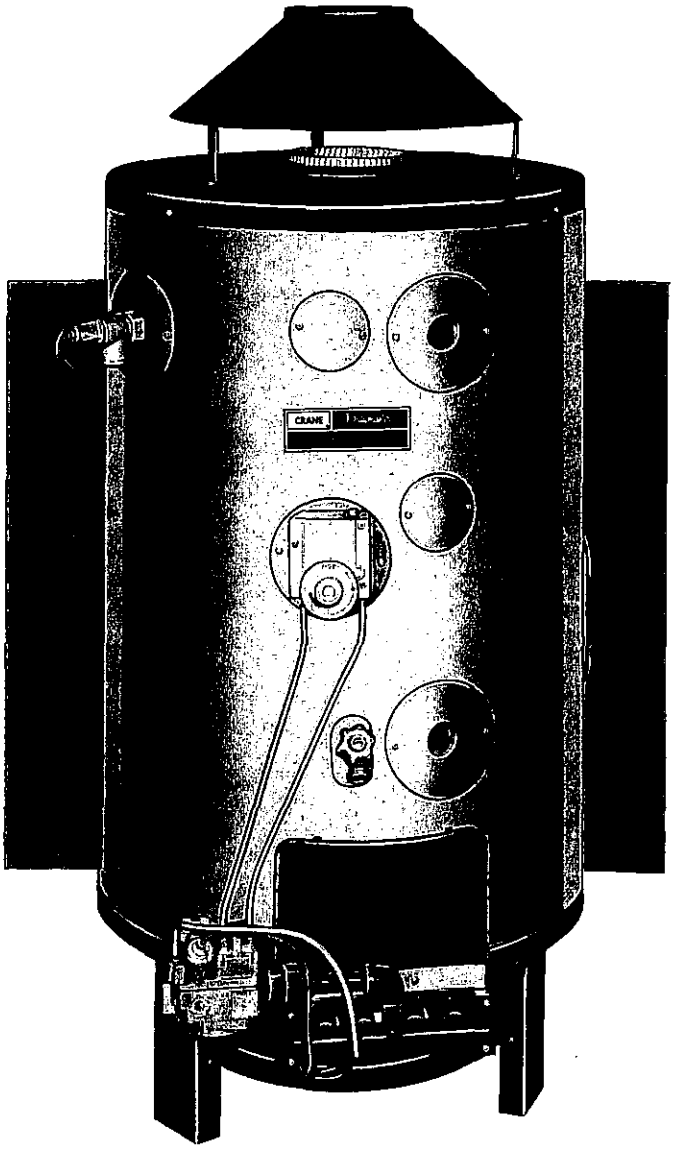
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

D150C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER



1. The D150 is a gas fired instantaneous booster design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water.

2. When used as an Automatic Instantaneous booster its 150,000 BTU input makes this heater ideal for short periods of heavy demand.

3. The design is intended for installation in series with a Storage Booster to raise general purpose 140° water to 180° sanitizing water for restaurants or similar uses.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D150

The D150 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

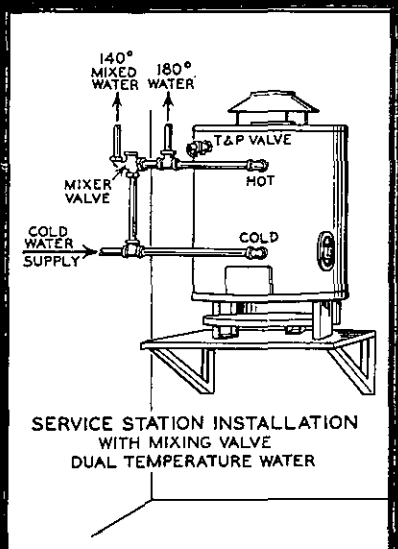
D150C

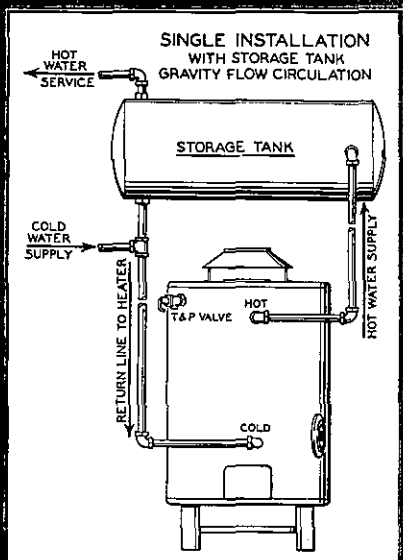
DUTYMASTER
MARK II

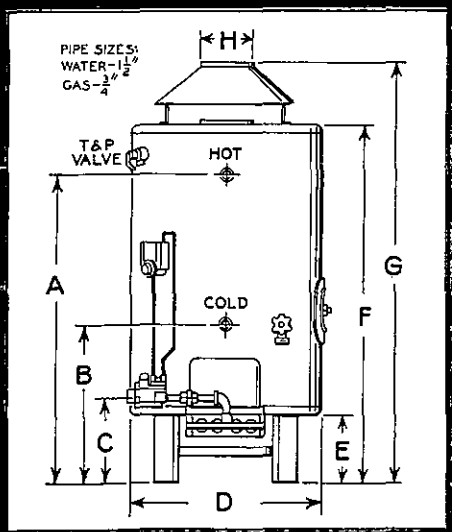
COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.







MODEL		D150
B.T.U./HR.	NAT.	150,000
	PROP.	150,000
G.P.H. 100° RISE		126.1
A		35½"
B		18¼"
C		8½"
D		22"
E		8"
F		41¼"
G		48⅝"
H (VENT)		6"
GAS CONNECTION		¾"
SHIPPING WEIGHT		250 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installation for which the D150 is suited. For more detailed engineering information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

The D150 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The D150 can supply all hot water requirements for any door or hood type commercial dishwasher when incoming water is 80°F. or above. If incoming water is pre-heated to 140°F. the D150 can furnish the necessary water for conveyor type dishwashers using up to 315 gallons/hour. The above applications are figured supplying 180°F. water.

Service Stations—The D150 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE®

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300 PARK AVENUE
NEW YORK, N. Y. 100

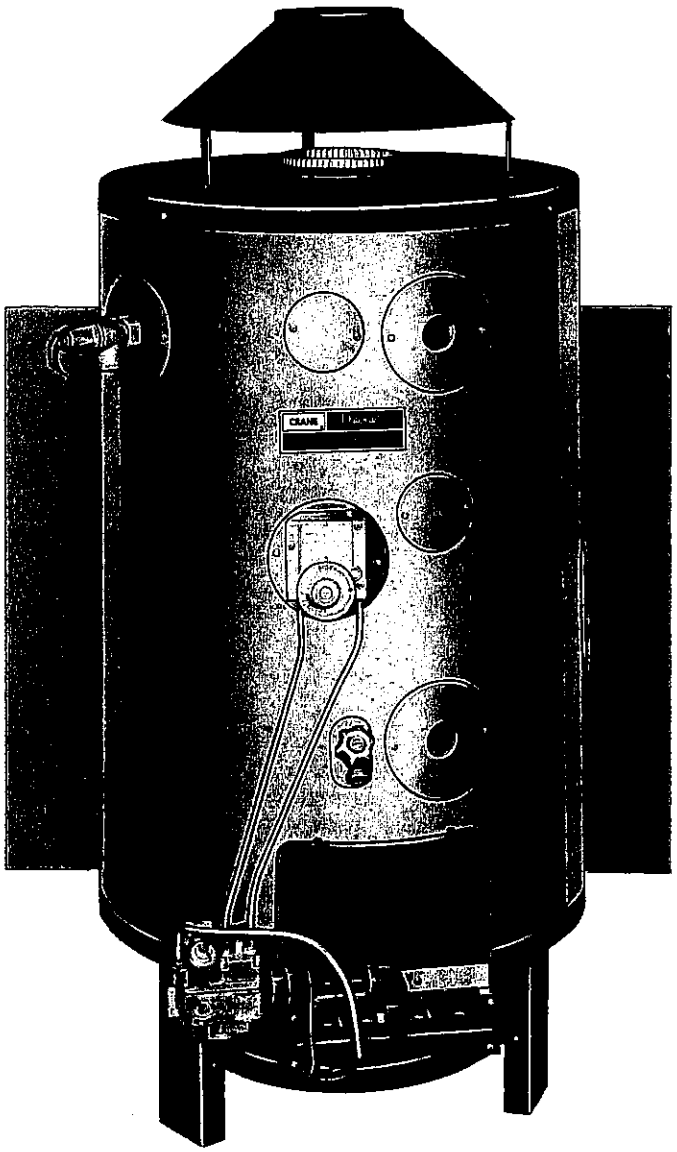
CRANE01147

COMMERCIAL

D199C / D225C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER



1. The D225 is a gas fired instantaneous booster design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water. Model D199 (199,900 BTU) where heaters of less than 200,000 BTU must be used.

2. When used as an Automatic Instantaneous booster its 225,000 BTU input makes this heater ideal for short periods of heavy demand.

3. The design is intended for installation in series with a Storage Booster to raise general purpose 140° water to 180° sanitizing water for restaurants or similar uses.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NOS. D199C/D225C

These "D" models are design certified by the American Gas Association Laboratories and are constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

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CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

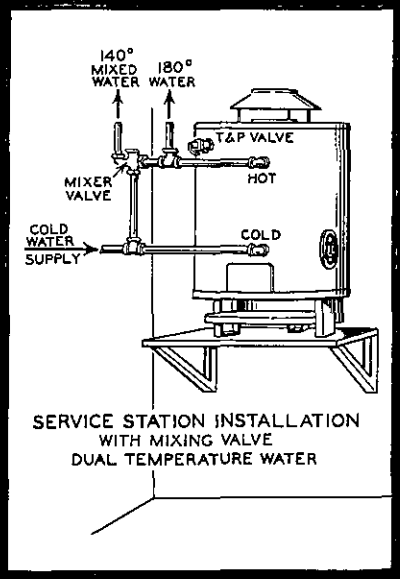
D199C / D225C

DUTYMASTER
MARK II

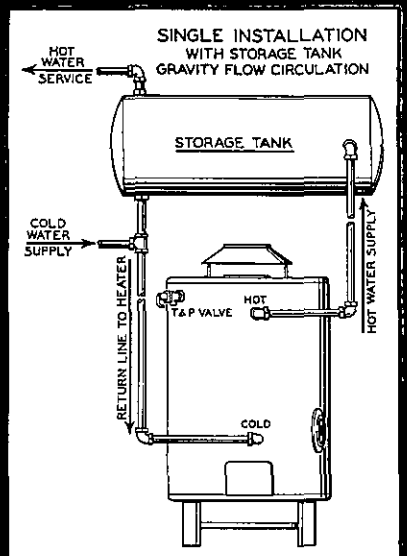
COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

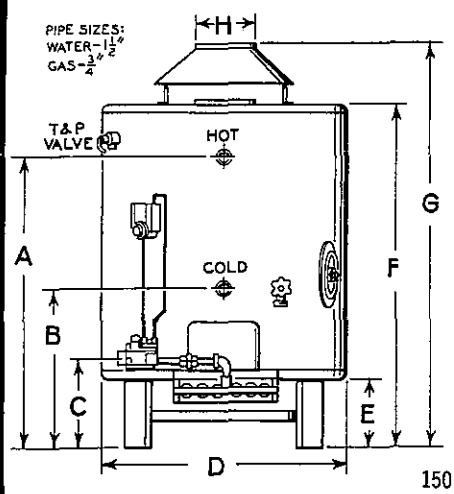
3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.



SERVICE STATION INSTALLATION
WITH MIXING VALVE
DUAL TEMPERATURE WATER





MODEL		D199	D225
B.T.U./HR.	NAT.	199,900	225,000
	PROP.	199,900	225,000
G.P.H. 100° RISE		168	189
A		33½"	
B		18⅜"	
C		10"	
D		28"	
E		8"	
F		39⅜"	
G		46⅜"	
H (VENT)		7"	
GAS CONNECTION		¾"	
SHIPPING WEIGHT		400 LBS.	

150 LBS. HYDROSTATIC WORKING PRESSURE

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installation for which the D225 is suited. For more detailed engineering information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

The D225 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The D225 can supply all hot water requirements for any door or hood type commercial dishwasher when incoming water is 40°F. or above. If incoming water is pre-heated to 140°F. the D225 can furnish the necessary water for conveyor type dishwashers using up to 473 gallons/hour. The above applications are figured supplying 180°F. water.

Service Stations—The D225 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

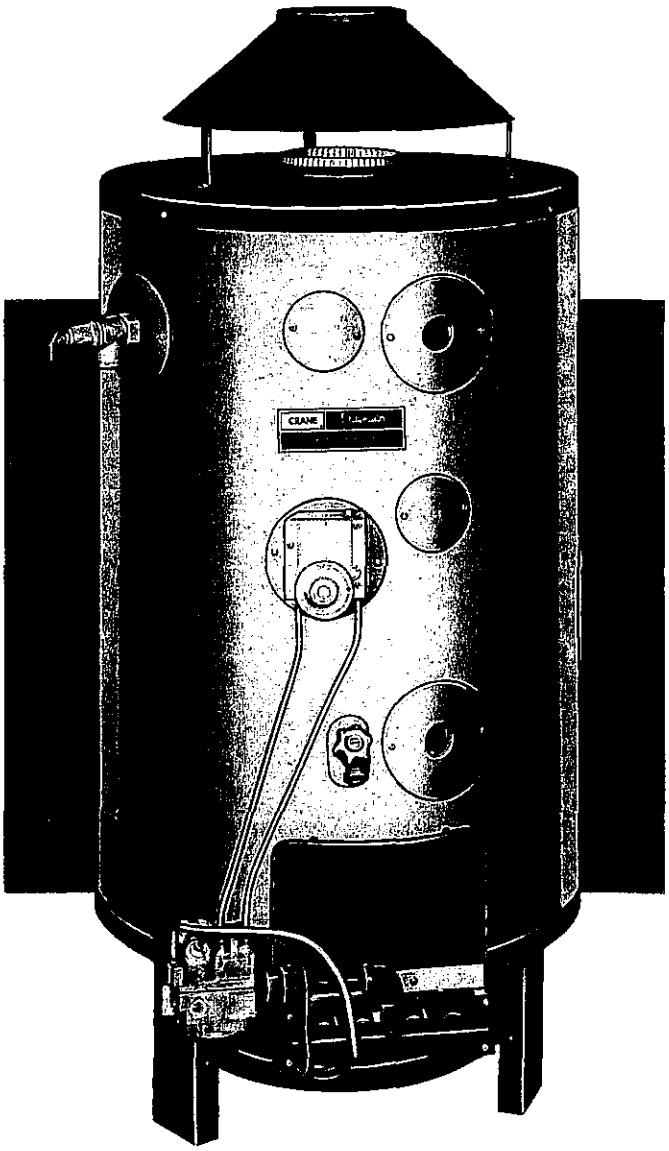
CRANE®
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10C

COMMERCIAL

D310C

DUTYMASTER
MARK II

COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER



1. The D310 is a gas fired instantaneous booster design certified by the American Gas Association and the National Sanitation Foundation for supplying 180°F. water.

2. When used as an Automatic Instantaneous booster its 310,000 BTU input makes this heater ideal for short periods of heavy demand.

3. The design is intended for installation in series with a Storage Booster to raise general purpose 140° water to 180° sanitizing water for restaurants or similar uses.

ENGINEERING FEATURES

TANK—Internal, multi-flue construction lined with durable high silica content glass best suited for commercial water heater applications involving large quantities of high temperature water.

BURNER—Battery of patented design tubular units provide even distribution of heat to tank bottom and flue ways. Silent operation, with each burner performing at its optimum efficiency. Battery of burners contained in easily removable single unit tray.

FIBERGLASS INSULATION—Insulated with thick sheet fiberglass, cannot pack down. Assures efficient insulation for the life of the heater.

HAND-HOLE CLEANOUT—Easily accessible cleanout located on front of tank for periodic removal of lime, scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE—Each Crane booster heater is supplied with factory installed ASME rated pressure-temperature relief valve.

NON-ELECTRIC CONTROL SYSTEM—A completely gas operated mechanical control system provides positive control and safety shut-off—avoiding down time due to failure of electrical components or supply. In the event of pilot outage the safety valve shuts off all gas supply to heater within seconds.

ELECTROLYTIC PROTECTION—Multiple large extended rods of highest quality magnesium provide maximum cathodic protection of all internal tank surfaces.

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D310C

The D310 is design certified by the American Gas Association Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

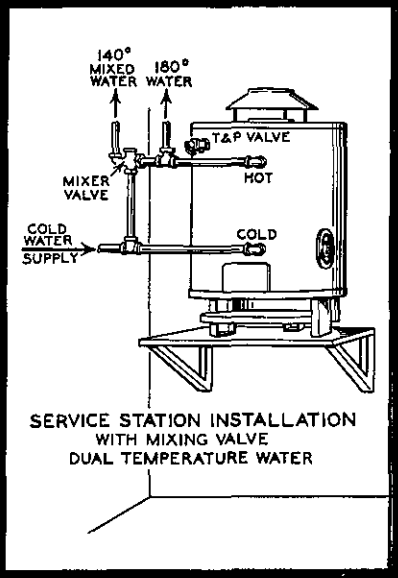
COMMERCIAL

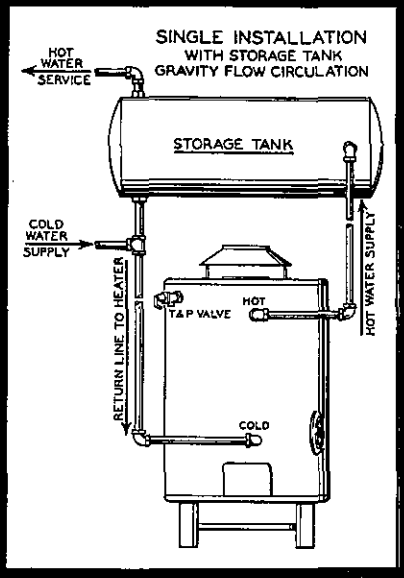
D310C

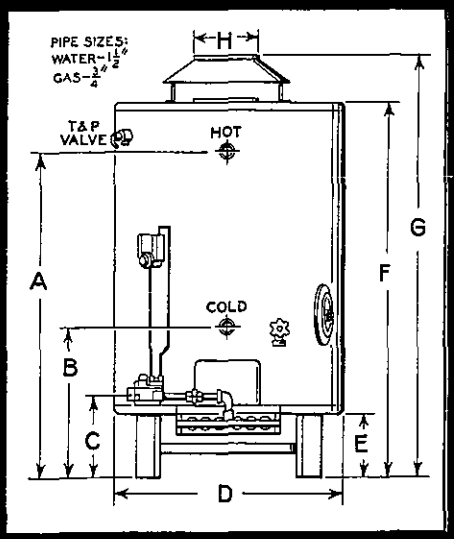
DUTYMASTER
MARK II
COMMERCIAL GAS FIRED GLASSLINED
INSTANTANEOUS BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.







MODEL		D310
B.T.U./HR.	NAT.	310,000
	PROP.	290,000
G.P.H. 100° RISE	NAT.	260.5
	PROP.	242
A		40½"
B		18⅜"
C		10"
D		28"
E		8"
F		46⅜"
G		52½"
H (VENT)		8"
GAS CONNECTION		¾"
SHIPPING WEIGHT		440 LBS.

APPLICATION INFORMATION

The following information is intended only as a general guide of typical installation for which the D310 is suited. For more detailed engineering information please consult the DUTYMASTER Commercial Water Heating Engineering Handbook.

The D310 is particularly suited for smaller motels, restaurants, apartments and similar low-demand commercial installations. Its small size combined with exceptionally high recovery for this size unit makes it ideal for many replacement jobs or as an addition for existing water systems whose demand has grown larger than the original specifications.

Restaurants and Institutional Food Service—Hot water requirements for this type of installation usually determined by dishwashing needs. The D310 can supply all hot water requirements for any door or hood type commercial dishwasher when incoming water is 40°F. or above. If incoming water is pre-heated to 140°F. the D310 can furnish the necessary water for conveyor type dishwashers using up to 650 gallons/hour. The above applications are figured supplying 180°F. water.

Service Stations—The D310 is ideally suited for service stations that offer some car or engine cleaning service. For tough cleaning jobs heater can be operated at 180°F. while a mixing valve will provide warm water for other uses. Low weight of heater allows easy installation off the floor as required by law.

Final sizing of all installations should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

CRANE
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 100

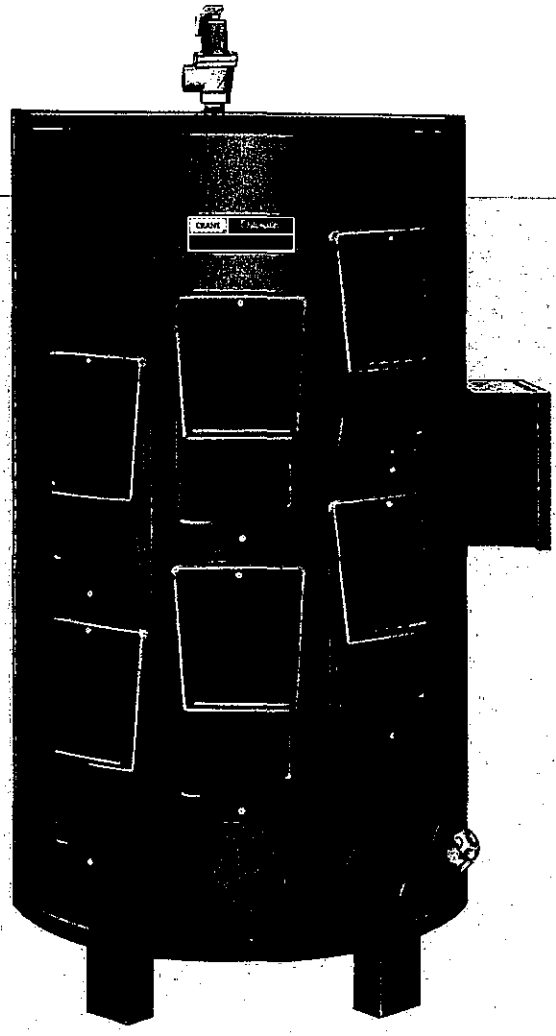
CRANE **Commercial**

CRANE SUPPLY COMPANY

D-52-I

Dutymaster Mark II

Commercial electric glasslined storage booster



1 The Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a storage Heater. When used singly or in manifolded multiples as a storage heater this heater is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as a Booster with separate storage tank this heater is designed so as to provide sufficient gravity circulation and no circulation pump is required.

Engineering features

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

THERMOSTATS—Immersion type thermostats using contactor relays.

WIRING—Completely pre-wired ready for installation.

SAFETY SIGNAL LIGHT
HI-LIMIT ENERGY CUT-OFF
Also available in 1-Year Limited Warranty Models.

Complete, ready for installation

Available for 208*, 220/240, 277 Volt, 440/480 Volt, Single Phase, Three Phase, 60 Cycle, A.C.

Also available with surface mounted thermostats without contactors

*See specification chart, reverse side for exception.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-52-I

The D-52 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

All Crane commercial electric water heaters meet 1975 Energy Standards as prescribed, as well as ASHRAE 90-75 standards and the BOCA energy conservation codes.

Dutymaster Mark II

Model D-52-I

Electric glasslined storage booster with 3-year limited warranty

Application information

For maximum economy and utilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

Typical installations

Apartments
Restaurants
Institutional Food Service
Farms
Motels
Factories
and other commercial installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

For 277, 440/480 volts check price sheet for additional charge.

6—36 KW Models. Available with SURFACE MOUNTED thermostats without contactors. Add suffix "S" to model number. Example D-52-36-S

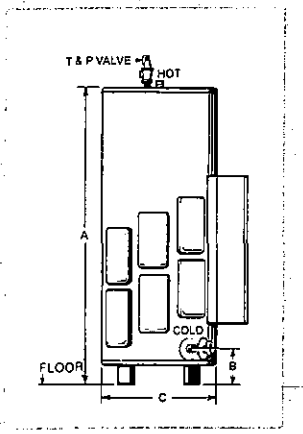
6, 9, 12 KW Models Not Available in NSF Models.

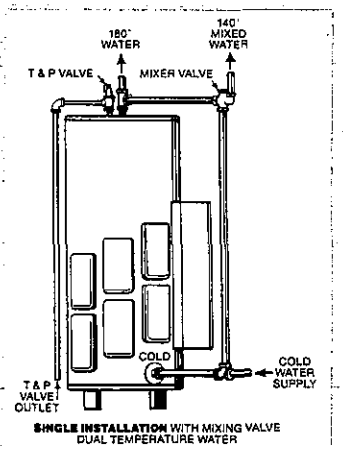
Add two inches to overall height on all NSF Models.

150 Lbs. Hydrostatic Working Pressure

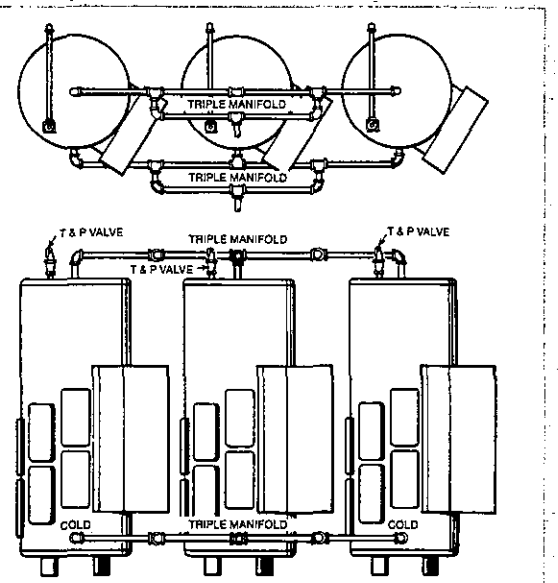
	RECOVERY CAPACITY GALS./HR. @ DEGREES F. RISE													
MODEL	WATTAGE	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	NO. OF ELEMENTS	SHIP WEIGHT
D-52-6-I	6000	62	49	41	35	30	27	25	22	20	19	17	1	330
D-52-9-I	9000	93	74	61	52	46	40	37	33	31	28	26	2	330
D-52-12-I	12000	123	98	82	70	61	54	49	45	41	38	35	3	330
D-52-13.5-I	13500	139	111	92	79	69	61	55	51	46	43	40	3	330
D-52-15-I	15000	154	123	102	87	76	67	61	56	51	47	44	3	330
D-52-18-I	18000	185	148	123	104	92	81	73	68	62	57	53	3	330
D-52-27-I	27000	277	222	184	157	138	122	110	102	93	86	79	6	330
D-52-30-I	30000	308	246	205	174	153	135	123	113	103	95	88	6	330
D-52-36-I	36000	369	296	246	209	184	162	147	136	124	115	105	6	330
D-52-45-I	45000	462	370	307	261	230	203	183	170	155	143	132	6	330
D-52-54-I	54000	554	444	369	313	276	243	220	204	186	172	158	6	330
D-52-81-I	81000	CHECK WITH FACTORY FOR AVAILABILITY & SPECIFICATIONS												

MODEL	CAPACITY U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
D-52	52	1¼	47	9	24.0	9,000 Watts-I 6,000 Watts-S





SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE WATER



FORM NO. CS-2103-379

CRANE

CRANE SUPPLY COMPANY, 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01153

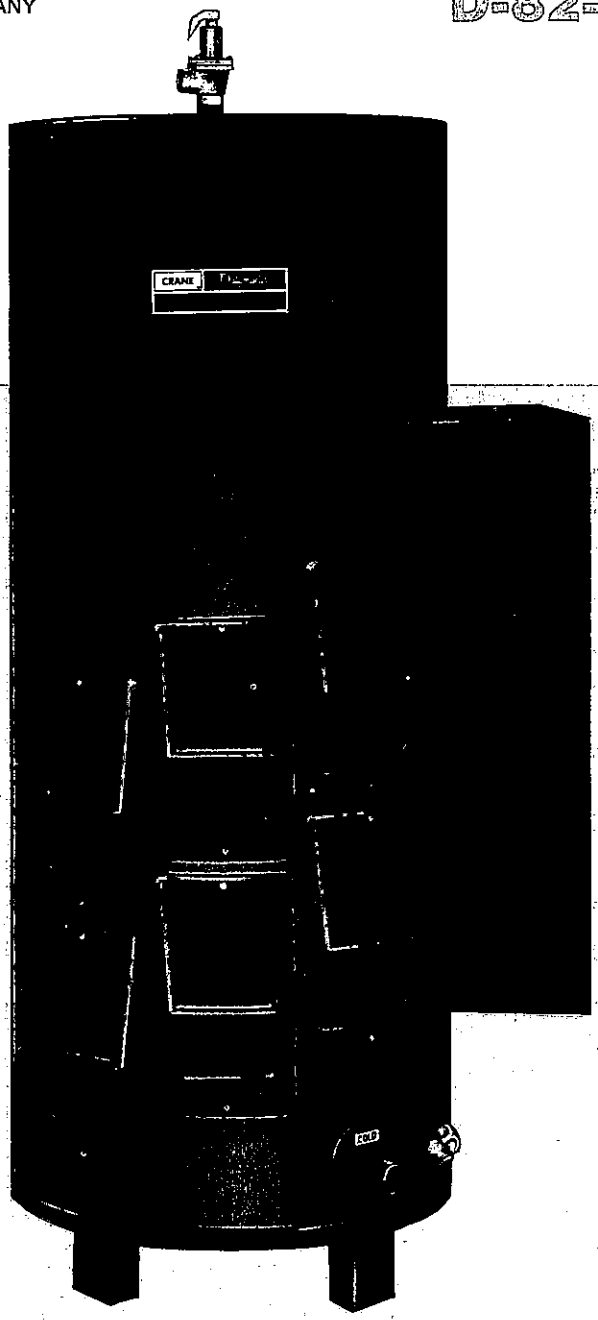
CRANE | Commercial

CRANE SUPPLY COMPANY

D-82-I

Dutymaster Mark II

Commercial electric glasslined storage booster



1 The Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a storage Heater. When used singly or in manifolded multiples as a storage heater this heater is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as a Booster with separate storage tank this heater is designed so as to provide sufficient gravity circulation and no circulation pump is required.

Engineering features

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

THERMOSTATS—Immersion type thermostats using contactor relays.

WIRING—Completely pre-wired ready for installation.

SAFETY SIGNAL LIGHT
HI-LIMIT ENERGY CUT-OFF
Also available in 1-Year Limited Warranty Models.

Complete, ready for installation
Available for 208*, 220/240, 277 Volt, 440/480 Volt, Single Phase, Three Phase, 60 Cycle, A.C.
Also available with surface mounted thermostats without contactors

*See specification chart, reverse side for exception.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-82-I
The D-82 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

All Crane commercial electric water heaters meet 1975 Energy Standards as prescribed, as well as ASHRAE 90-75 standards and the BOCA energy conservation codes.

NSF UL

Dutymaster Mark II

Model D-82-I

Electric glasslined storage booster with 3-year limited warranty

Application information

For maximum economy and utilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

Typical installations

Apartments
Restaurants
Institutional Food Service
Farms
Motels
Factories
and other connercial installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

For 277, 440/480 volts check price sheet for additional charge.

6—36 KW Models. Available with SURFACE MOUNTED thermostats without contactors. Add suffix "S" to model number. EXAMPLE: D-82-36-S

6, 9, 12 KW Models Not Available in NSF Models.

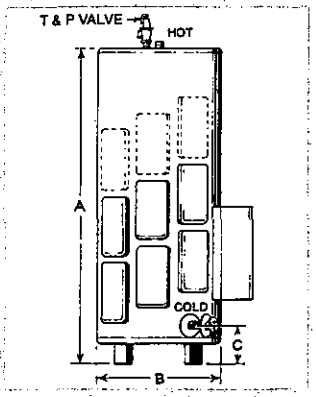
Add two inches to overall height on all NSF Models.

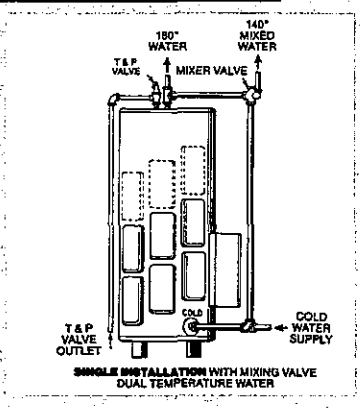
150 Lbs. Hydrostatic Working Pressure

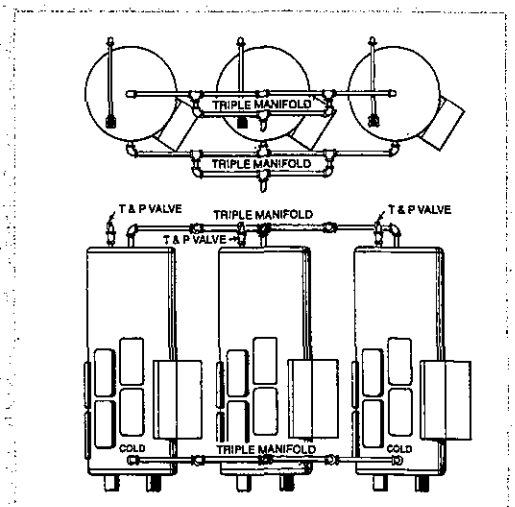
RECOVERY CAPACITY GALS./HR. @ DEGREES F. RISE

MODEL	WATTAGE	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	NO. OF ELEMENTS	SHIP WEIGHT
D-82-6-I	6000	62	49	41	35	30	27	25	22	20	19	17	1	370
D-82-9-I	9000	93	74	61	52	46	40	37	33	31	28	26	2	370
D-82-12-I	12000	123	98	82	70	61	54	49	45	41	38	35	3	370
D-82-13.5-I	13500	139	111	92	79	69	61	55	51	46	43	40	3	370
D-82-15-I	15000	154	123	102	87	76	67	61	56	51	47	44	3	370
D-82-18-I	18000	185	148	123	104	92	81	73	68	62	57	53	3	370
D-82-27-I	27000	277	222	184	157	138	122	110	102	93	86	79	6	370
D-82-30-I	30000	308	246	205	174	153	135	123	113	103	95	88	6	370
D-82-36-I	36000	369	296	246	209	184	162	147	136	124	115	105	6	370
D-82-45-I	45000	462	370	307	261	230	203	183	170	155	143	132	6	370
D-82-54-I	54000	554	444	369	313	276	243	220	204	186	172	158	6	370
D-82-81-I	81000	CHECK WITH FACTORY FOR AVAILABILITY & SPECIFICATIONS												

MODEL	CAPACITY U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
D-82	82	1¼	65	9	24.0	9,000 Watts-I 6,000 Watts-S







Form No. CS-2101-379

CRANE

CRANE SUPPLY COMPANY 300 PARK AVENUE NEW YORK, N.Y. 10022

CRANE01155

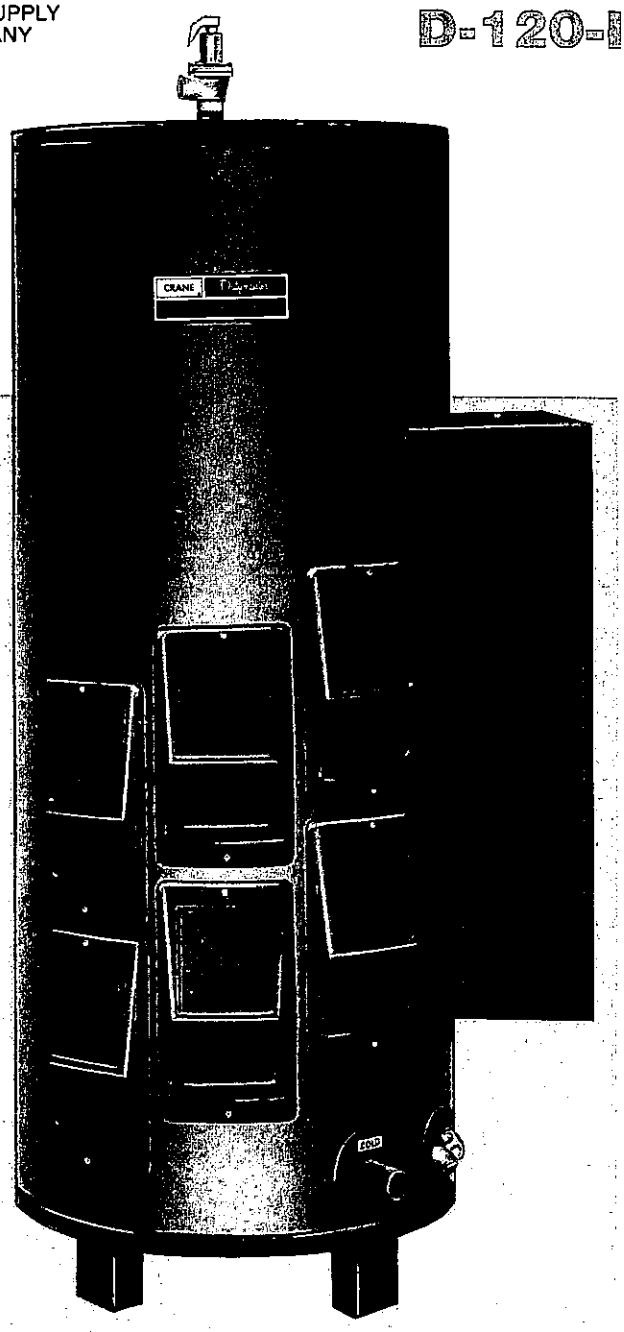
CRANE **Commercial**

CRANE SUPPLY COMPANY

D-120-I

Dutymaster Mark II

Commercial electric glasslined storage booster



1 The Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a storage Heater. When used singly or in manifolded multiples as a storage heater this heater is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2 When installed as a Booster with separate storage tank this heater is designed so as to provide sufficient gravity circulation and no circulation pump is required.

Engineering features

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

THERMOSTATS—Immersion type thermostats using contactor relays.

WIRING—Completely pre-wired ready for installation.
SAFETY SIGNAL LIGHT
HI-LIMIT ENERGY CUT-OFF
Also available in 1-Year Limited Warranty Models.
Available with SURFACE MOUNTED thermostats without contactors. Add suffix "S" to model number.

Complete, ready for installation.
Available for 208, 220/240, 277 Volt, 440/480 Volt, Single Phase, Three Phase, 60 Cycle, A.C.
Also available with surface mounted thermostats without contactors

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. D-120-I
The D-120 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

All Crane commercial electric water heaters meet 1975 Energy Standards as prescribed, as well as ASHRAE 90-75 standards and the BOCA energy conservation codes.

NSF UL

Dutymaster Mark II

Model D-120-I

Electric glasslined storage booster with 3-year limited warranty

Application information

For maximum economy and utilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

Typical installations

Apartments
Restaurants
Institutional Food Service
Farms
Motels
Factories
and other commercial installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

For 277, 440/480 volts check price sheet for additional charge.

Available with SURFACE MOUNTED thermostats without contactors. Add suffix "S" to model number.

Available in Glasslined ASME models. Limited Warranty: 3-YEAR only. For ASME models add suffix ASME to model number.

6, 9, 12 KW Models Not Available in NSF Models.
Add 2" to overall height on all NSF Models.

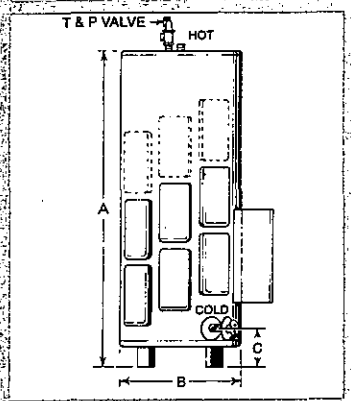
150 Lbs. Hydrostatic Working Pressure

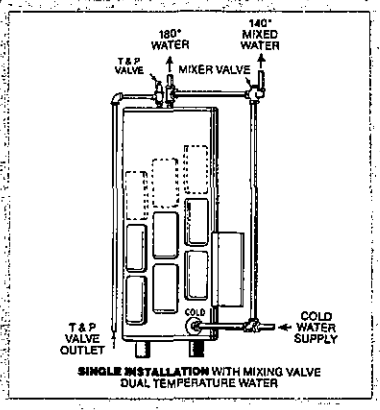
RECOVERY CAPACITY GALS./HR. @ DEGREES F. RISE

MODEL	WATTAGE	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	NO. OF ELEMENTS	SHIP WEIGHT
D-120-6-I	6000	62	49	41	35	30	27	25	22	20	19	17	1	520
D-120-9-I	9000	93	74	61	52	46	40	37	33	31	28	26	2	520
D-120-12-I	12000	123	98	82	70	61	54	49	45	41	38	35	2	520
D-120-13.5-I	13500	139	111	92	79	69	61	55	51	46	43	40	3	520
D-120-15-I	15000	154	123	102	87	76	67	61	56	51	47	44	3	520
D-120-18-I	18000	185	148	123	104	92	81	73	68	62	57	53	3	520
D-120-27-I	27000	277	222	184	157	138	122	110	102	93	86	79	6	520
D-120-30-I	30000	308	246	205	174	153	135	123	113	103	95	88	6	520
D-120-36-I	36000	369	296	246	209	184	162	148	136	124	115	105	6	520
D-120-45-I	45000	462	370	307	261	230	203	183	170	155	143	132	6*	520
D-120-54-I	54000	554	444	369	313	276	243	220	204	186	172	158	6*	520
D-120-81-I	81000	CHECK WITH FACTORY FOR AVAILABILITY & SPECIFICATIONS												

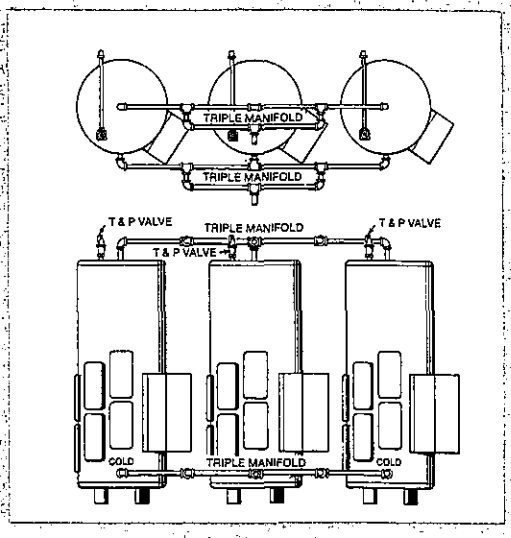
*9 on D-120-45-S and D-120-54-S

MODEL	CAPACITY U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
D-120	118	1¼ IPS	70.5	9	28.0	9,000 Watts-I
D-120	118	1¼ IPS-ASME	71.5	9	28.0	6,000 Watts-S





SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE WATER



Form No. CS-2102-379

CRANE

CRANE SUPPLY COMPANY, 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01157

CRANE

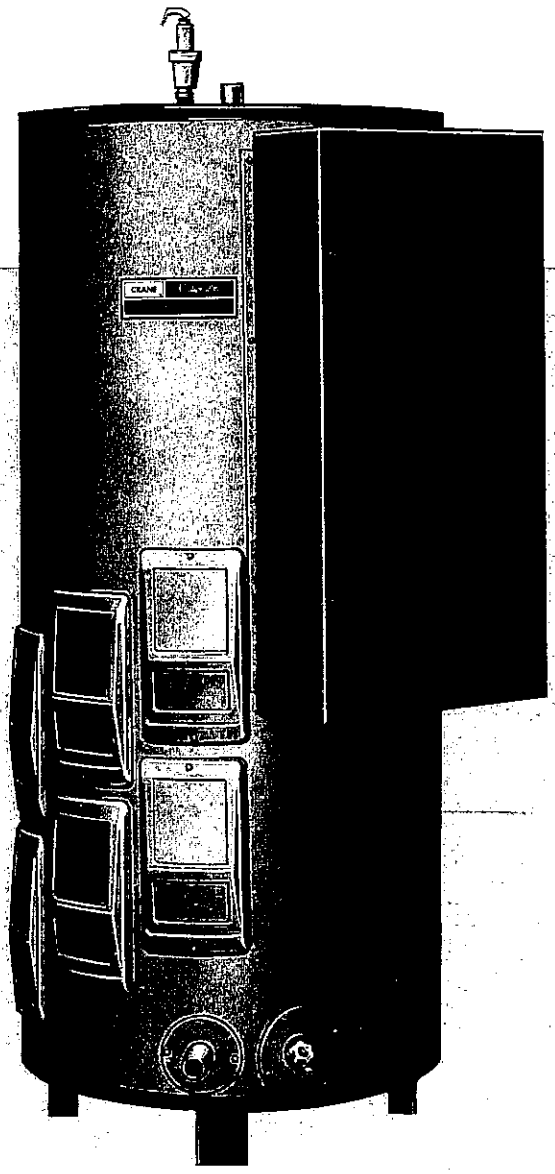
Commercial

CRANE SUPPLY COMPANY

D-52-IF INTERNAL FUSING

Dutymaster Mark II

Commercial electric glasslined storage booster



1 These Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a Storage Heater. When used singly or in manifolded multiples as a storage heater, it is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.
2 When installed as a Booster with separate storage tank, it is designed so as to provide sufficient gravity circulation and no circulation pump is required.

Engineering features:

ELECTRICAL—60 amp internal fusing on the element wiring. 1 amp circuit breaker with 120 volt. Multi-tap stepdown control transformer. 120 volt contactor relays with E.C.O. Immersion type thermostat(s). Power and ground terminals. Knockouts up to 2½ in conduit.

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

SAFETY SIGNAL LIGHT
Also available in 1-Year Limited Warranty Models.

Complete, ready for installation.
Available for 208*, 220/240, 277 Volt, 440/480 Volt, Single Phase, Three Phase, 60 Cycle, A.C.
Also available with surface mounted thermostats without contactors and stepdown control transformer

*See specification chart, reverse side, for exception.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

NSF MODEL NO D-52-IF

The D-52 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

All Crane commercial electric water heaters meet 1975 Energy Standards as prescribed, as well as ASHRAE 90-75 standards and the BOCA energy conservation codes.

Dutymaster Mark II

Model D-52-IF

Electric glasslined storage booster with 3-year limited warranty

Application information

For maximum economy and utilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

Typical installations

Apartments	Motels
Restaurants	Factories
Institutional Food Service	and other commercial
Farms	installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

For 277, 440/480 volts check price sheet for additional charge.

12—36 KW Models. Available with SURFACE MOUNTED thermostats without contactors and stepdown control transformer. Add suffix "S" to model number. Example: D-52-36-SF

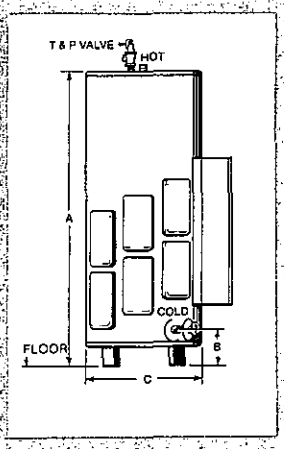
150 Lbs. Hydrostatic Working Pressure

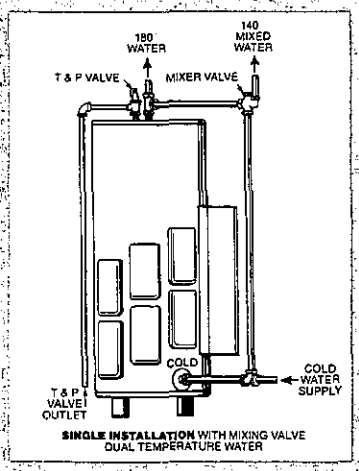
12 KW Models Not Available in NSF Models.

Add two inches to overall height on all NSF Models.

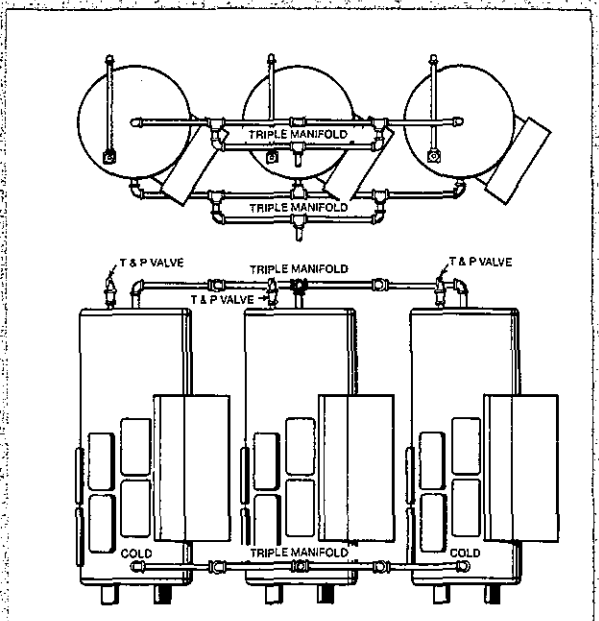
RECOVERY CAPACITY GALS./HR. @ DEGREES F. RISE														
MODEL	WATTAGE	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	NO. OF ELEMENTS	SHIP WEIGHT
D-52-12-IF	12000	123	98	82	70	61	54	49	45	41	38	35	3	360
D-52-13.5-IF	13500	139	111	92	79	69	61	55	51	46	43	40	3	360
D-52-15-IF	15000	154	123	102	87	76	67	61	56	51	47	44	3	360
D-52-18-IF	18000	185	148	123	104	92	81	73	68	62	57	53	3	360
D-52-27-IF	27000	277	222	184	157	138	122	110	102	93	87	79	6	360
D-52-30-IF	30000	308	246	205	174	153	135	123	113	103	95	88	6	360
D-52-36-IF	36000	369	296	246	209	184	162	147	136	124	115	105	6	360
D-52-45-IF	45000	462	370	307	261	230	203	183	170	155	143	132	6	360
D-52-54-IF	54000	554	444	369	313	276	243	220	204	186	172	153	6	360
D-52-81-IF	81000	CHECK WITH FACTORY FOR AVAILABILITY & SPECIFICATIONS												

MODEL	CAPACITY U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
D-52	52	1¼	47	9	24.0	9,000 Watts-IF 6,000 Watts-SF





SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE WATER



Form No. CS2104F-379

CRANE®

CRANE SUPPLY COMPANY, 300 PARK AVENUE, NEW YORK, N. Y. 10022

CRANE01159

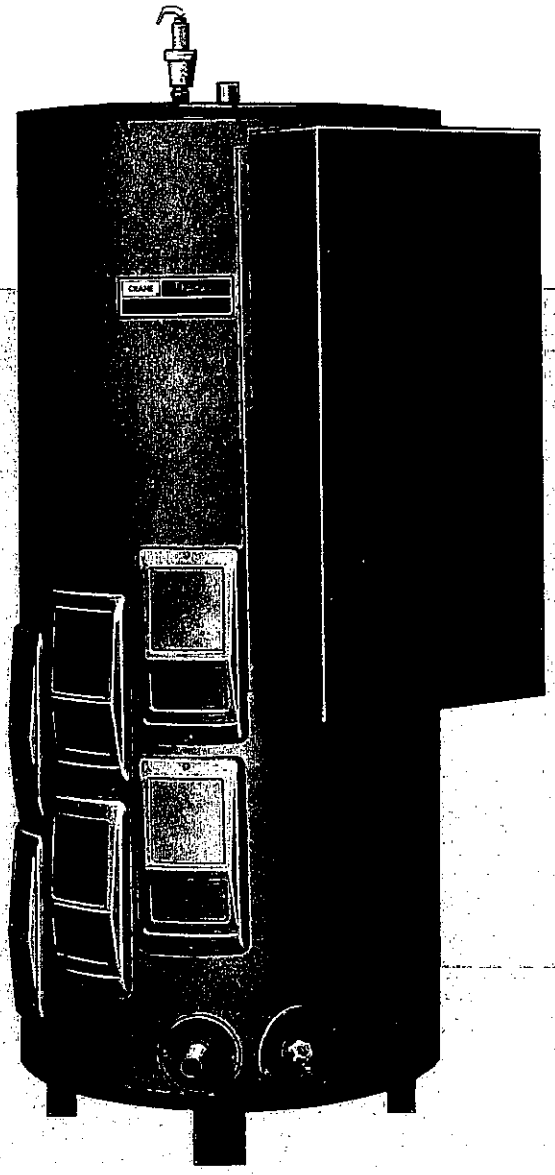
CRANE | Commercial

CRANE SUPPLY COMPANY

D-82-IF INTERNAL FUSING

Dutymaster Mark II

Commercial electric glasslined storage booster



1 These Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a Storage Heater. When used singly or in manifolded multiples as a storage heater, it is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.
2 When installed as a Booster with separate storage tank, it is designed so as to provide sufficient gravity circulation and no circulation pump is required.

Engineering features:

ELECTRICAL—60 amp internal fusing on the element wiring. 1 amp circuit breaker with 120 volt. Multi-tap stepdown control transformer. 120 volt contactor relays with E.C.O. Immersion type thermostat(s). Power and ground terminals. Knockouts up to 2½ in conduit.

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

SAFETY SIGNAL LIGHT

Also available in 1-Year Limited Warranty Models.

Complete, ready for installation.
Available for 208*, 220/240, 277 Volt, 440/480 Volt. Single Phase, Three Phase, 60 Cycle, A.C.

Also available with surface mounted thermostats without contactors and stepdown control transformer

*See specification chart, reverse side, for exception.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

NSF Model No. D-82-IF
The D-82 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

All Crane commercial electric water heaters meet 1975 Energy Standards as prescribed, as well as ASHRAE 90-75 standards and the BOCA energy conservation codes.

NSF UL

Dutymaster Mark II

Electric glasslined storage booster with 3-year limited warranty

Application information

For maximum economy and utilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

Typical installations

Apartments	Motels
Restaurants	Factories
Institutional Food Service	and other commercial
Farms	installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.
In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

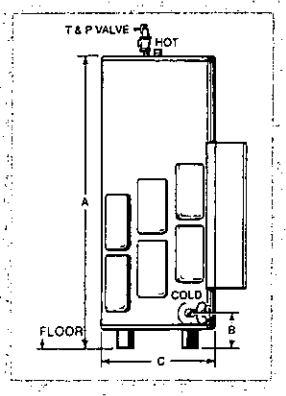
For 277, 440/480 volts check price sheet for additional charge.

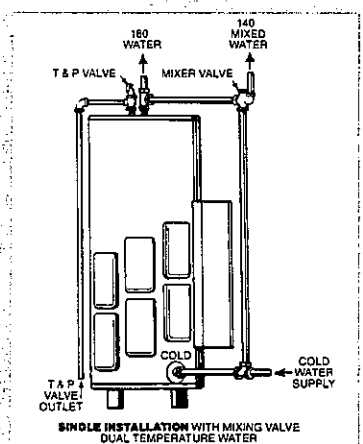
12—36 KW Models. Available with SURFACE MOUNTED thermostats without contactors and stepdown control transformer. Add suffix "S" to model number. Example: D-82-36-SF

12 KW Models Not Available in NSF Models.
Add two inches to overall height on all NSF Models.
150 Lbs. Hydrostatic Working Pressure

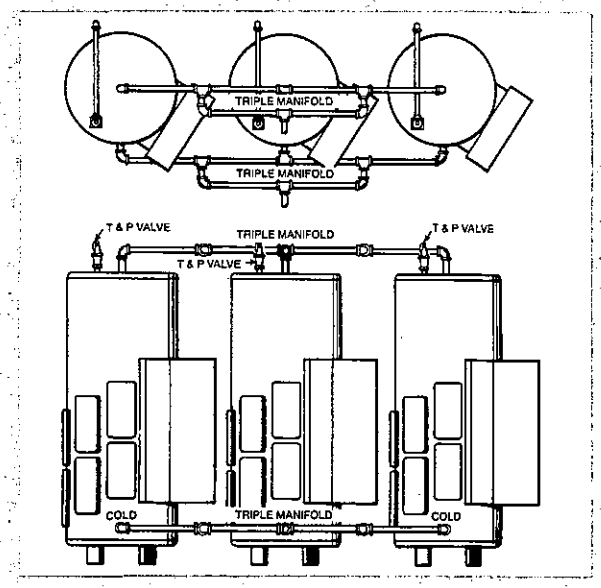
RECOVERY CAPACITY GALS./HR. @ DEGREES F. RISE														
MODEL	WATTAGE	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	NO. OF ELEMENTS	SHIP WEIGHT
D-82-12-IF	12000	123	98	82	70	61	54	49	45	41	38	35	3	370
D-82-13.5-IF	13500	139	111	92	79	69	61	55	51	46	43	40	3	370
D-82-15-IF	15000	154	123	102	87	76	67	61	56	51	47	44	3	370
D-82-18-IF	18000	185	148	123	104	92	81	73	68	62	57	53	3	370
D-82-27-IF	27000	277	222	184	157	138	122	110	102	93	86	79	6	370
D-82-30-IF	30000	308	246	205	174	153	135	123	113	103	95	88	6	370
D-82-36-IF	36000	369	296	246	209	184	162	147	136	124	115	105	6	370
D-82-45-IF	45000	462	370	307	261	230	203	183	170	155	143	132	6	370
D-82-54-IF	54000	554	444	369	313	276	243	220	204	186	172	158	6	370
D-82-81-IF	81000	CHECK WITH FACTORY FOR AVAILABILITY & SPECIFICATIONS												

MODEL	CAPACITY U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
D-82	82	1¼"	65	9	24.0	9,000 WATTS-IF 6,000 WATTS-SF





SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE WATER



Form No. CS2105F-379

CRANE

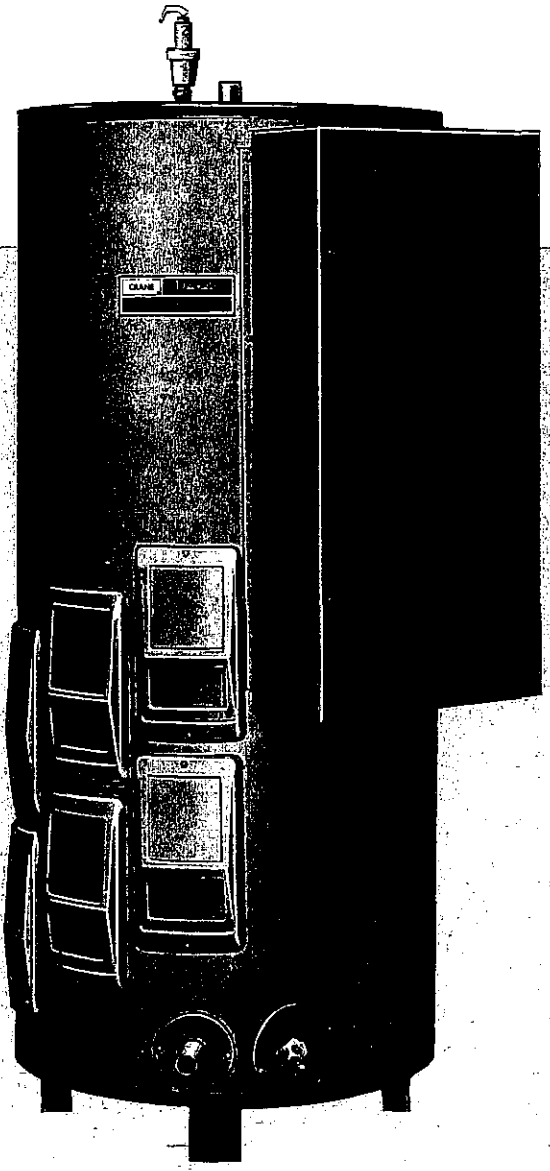
CRANE SUPPLY COMPANY

Commercial

D-120-IF INTERNAL FUSING

Dutymaster Mark II

Commercial electric glassliner storage booster



1 These Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a Storage Heater. When used singly or in manifolded multiples as a storage heater, it is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.
2 When installed as a Booster with separate storage tank, it is designed so as to provide sufficient gravity circulation and no circulation pump is required.

Engineering features

ELECTRICAL—60 amp internal fusing on the element wiring. 1 amp circuit breaker with 120 volt. Multi-tap stepdown control transformer. 120 volt contactor relays with E.C.O. Immersion type thermostat(s). Power and ground terminals. Knockouts up to 2½ in conduit.

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

SAFETY SIGNAL LIGHT
Available with SURFACE MOUNTED thermostats without contactors and stepdown control transformer. Delete ECF in model number and substitute suffix "SF".

Complete, ready for installation
Available for 208, 220/240, 277 Volt, 440/480 Volt, Single Phase, Three Phase, 60 Cycle, A.C. Also available with surface mounted thermostats without contactors and stepdown control transformer.

3-year limited warranty

Full terms of Limited Warranty may be found in this catalog.

NSF MODEL NO. D-120-IF

The D-120 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

All Crane commercial electric water heaters meet 1975 Energy Standards as prescribed, as well as ASHRAE 90-75 standards and the BOCA energy conservation codes.

Dutymaster Mark II

Model D-120-IF

Electric glasslined storage booster with 3-year limited warranty

Application information

For maximum economy and utilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

Typical installations

Apartments
Restaurants
Institutional Food Service
Farms
Motels
Factories
and other commercial installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

For 277, 440/480 volts check price sheet for additional charge.

12 KW Models Not Available in NSF Models.

Available with SURFACE MOUNTED thermostats without contactors and step-down control transformer. Add suffix "S" to model number, EXAMPLE D-120-36-SF

150 Lbs. Hydrostatic Working Pressure

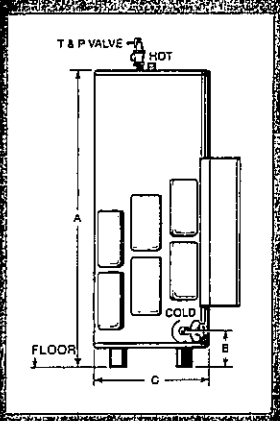
Available in Glasslined ASME models. Limited Warranty: 3-YEAR only. For ASME models add suffix ASME to model number. Shipping weight of ASME model-726 lbs.

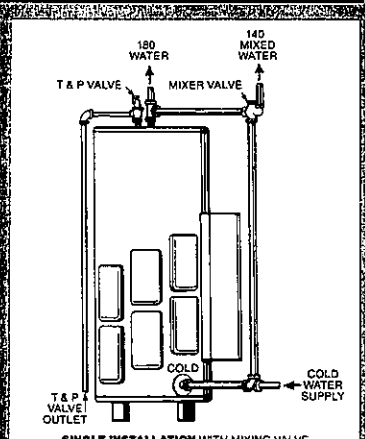
RECOVERY CAPACITY GALS./HR. @ DEGREES F. RISE

MODEL	WATTAGE	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	NO. OF ELEMENTS	SHIP WEIGHT
D-120-12-IF	12000	123	98	82	70	61	54	49	45	41	38	35	3	520
D-120-13.5-IF	13500	139	111	92	79	69	61	55	51	46	43	40	3	520
D-120-15-IF	15000	154	123	102	87	76	67	61	56	51	47	44	3	520
D-120-18-IF	18000	185	148	123	104	92	81	73	68	62	57	53	3	520
D-120-27-IF	27000	277	222	184	157	138	122	110	102	93	86	79	6	520
D-120-30-IF	30000	308	246	205	174	153	135	123	113	103	95	88	6	520
D-120-36-IF	36000	369	296	246	209	184	162	147	136	124	115	105	6	520
D-120-45-IF	45000	462	370	307	261	230	203	183	170	155	143	132	6*	520
D-120-54-IF	54000	554	444	369	313	276	243	220	204	186	172	158	6*	520
D-120-81-IF	81000	CHECK WITH FACTORY FOR AVAILABILITY & SPECIFICATIONS												

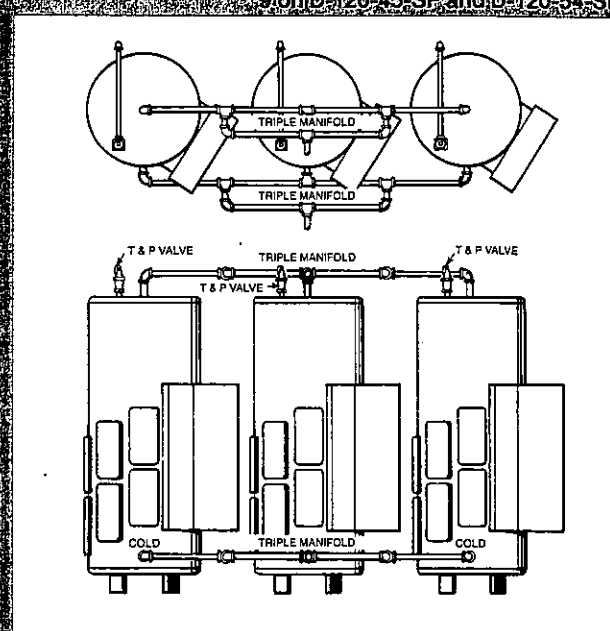
*9 on D-120-45-SF and D-120-54-SF

MODEL	CAPACITY U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
C-120	118	1¼ IPS	70.5	9	28	9,000 Watts-IF
C-120	118	1¼ S-ASME	71.5	9	28	6,000 Watts-SF





SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE WATER



Form No. C82106F-679

CRANE

CRANE SUPPLY COMPANY, 300 PARK AVENUE, NEW YORK, N.Y. 10022

CRANE01163

DUTYMASTER MARK II

C52EC
COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

1. The Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a storage Heater. When used singly or in manifolded multiples as a storage heater this heater is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a Booster with separate storage tank this heater is designed so as to provide sufficient gravity circulation and no circulation pump is required.

ENGINEERING FEATURES

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

THERMOSTATS—Immersion type thermostats using contactor relays.

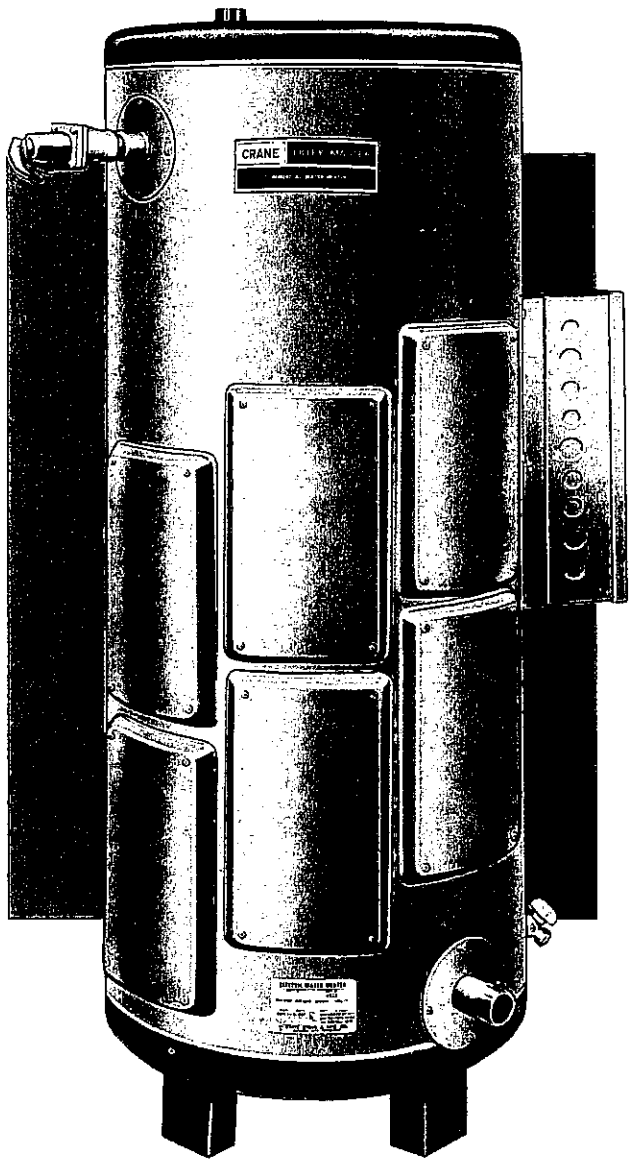
WIRING—Completely pre-wired ready for installation.

SAFETY SIGNAL LIGHT
HI-LIMIT ENERGY CUT-OFF

Also available in 1-Year Limited Warranty Models.

COMPLETE, READY FOR INSTALLATION
AVAILABLE FOR
208*, 220/240, 277 Volt
440/480 Volt
Single Phase
Three Phase
60 Cycle, A.C.
Also available with surface mounted thermostats without contactors

***See specification chart, reverse side for exception.**



3-YEAR LIMITED WARRANTY
Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. C-52EC*

The C-52 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

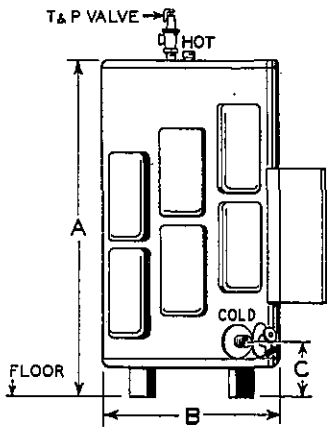
CRANE®
CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

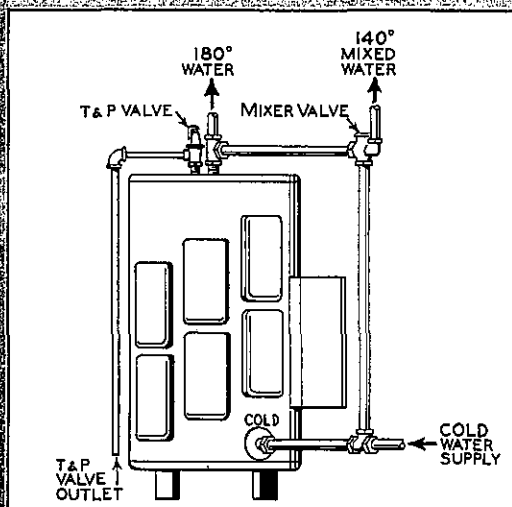
C52EC
DUTYMASTER
MARK II

COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

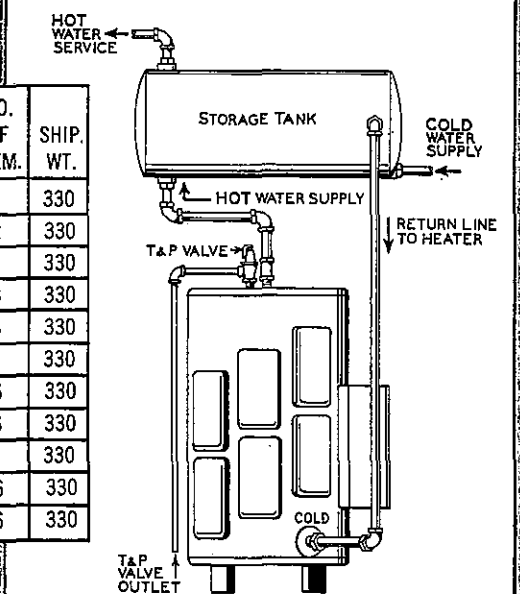
3-YEAR LIMITED WARRANTY
Full terms of Limited Warranty may be found in this catalog.



MODEL	CAP. U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
C-52	52	1¼	44⅞	24	7½	9,000 Watts—EC 6,000 Watts—S



SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE WATER



SINGLE INSTALLATION WITH STORAGE TANK
GRAVITY FLOW CIRCULATION

APPLICATION INFORMATION

For maximum economy and ultilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

TYPICAL INSTALLATIONS

Apartments
Restaurants
Institutional Food Service
Farms
Motels
Factories
and other commercial installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

For 277, 440/480 volts check price sheet for additional charge.

MODEL	WATTAGE	Recovery Capacity Gals./Hr. @ Degrees F. Rise											NO. OF ELEM.	SHIP. WT.
		40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°		
C-52EC-6	6000	62	49	41	35	30	27	25	22	20	19	17	1	330
C-52EC-9	9000	93	74	61	52	46	40	37	33	31	28	26	2	330
C-52EC-12	12000	123	98	82	70	61	54	49	45	41	38	35	3	330
C-52EC-13.5	13500	139	111	92	79	69	61	55	51	46	43	40	3	330
C-52EC-15	15000	154	123	102	87	76	67	61	56	51	47	44	3	330
C-52EC-18	18000	185	148	123	104	92	81	73	68	62	57	53	3	330
C-52EC-27	27000	277	222	184	157	138	122	110	102	93	86	79	6	330
C-52EC-30	30000	308	246	205	174	153	135	123	113	103	95	88	6	330
C-52EC-36	36000	369	296	246	209	184	162	147	136	124	115	105	6	330
C-52EC-45	45000	462	370	307	261	230	203	183	170	155	143	132	6	330
C-52EC-54	54000	554	444	369	313	276	243	220	204	186	172	158	6	330

6—36 KW Models. Available with SURFACE MOUNTED thermostats without contactors. Add suffix "S" to model number.

6, 9, 12 KW Models Not Available in NSF Models.

Add two inches to overall height on all NSF Models.

150 Lbs. Hydrostatic Working Pressure

FORM NO. CS-2103-876

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10 CRANE01165

DUTYMASTER MARK II

C82EC
COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

1. The Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a storage Heater. When used singly or in manifolded multiples as a storage heater this heater is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a Booster with separate storage tank this heater is designed so as to provide sufficient gravity circulation and no circulation pump is required.

ENGINEERING FEATURES

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

THERMOSTATS—Immersion type thermostats using contactor relays.

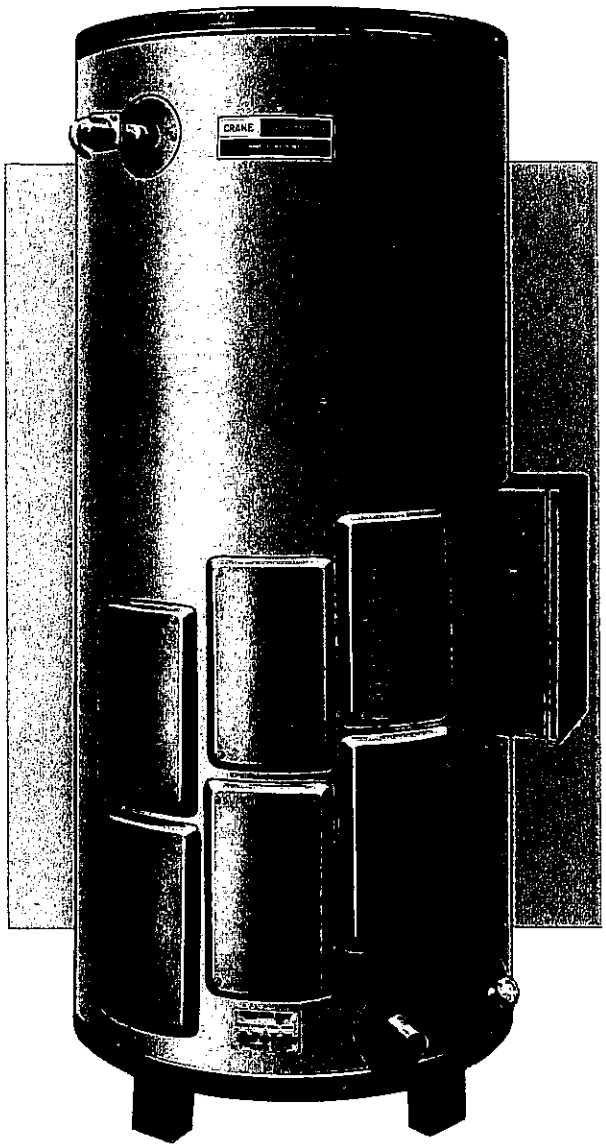
WIRING—Completely pre-wired ready for installation.

SAFETY SIGNAL LIGHT
HI-LIMIT ENERGY CUT-OFF

Also available in 1-Year Limited Warranty Models.

COMPLETE, READY FOR INSTALLATION
AVAILABLE FOR
208*, 220/240, 277 Volt
440/480 Volt
Single Phase
Three Phase
60 Cycle, A.C.
Also available with surface mounted thermostats without contactors

***See specification chart, reverse side for exception.**



3-YEAR LIMITED WARRANTY
Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. C-82EC*

The C-82 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

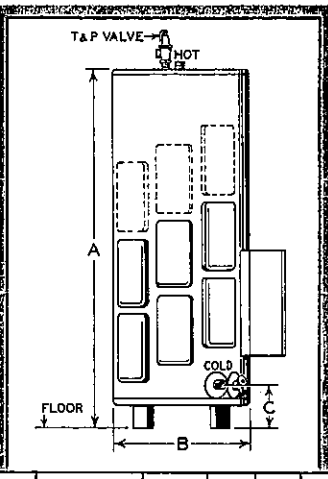
COMMERCIAL

C82EC DUTYMASTER MARK II

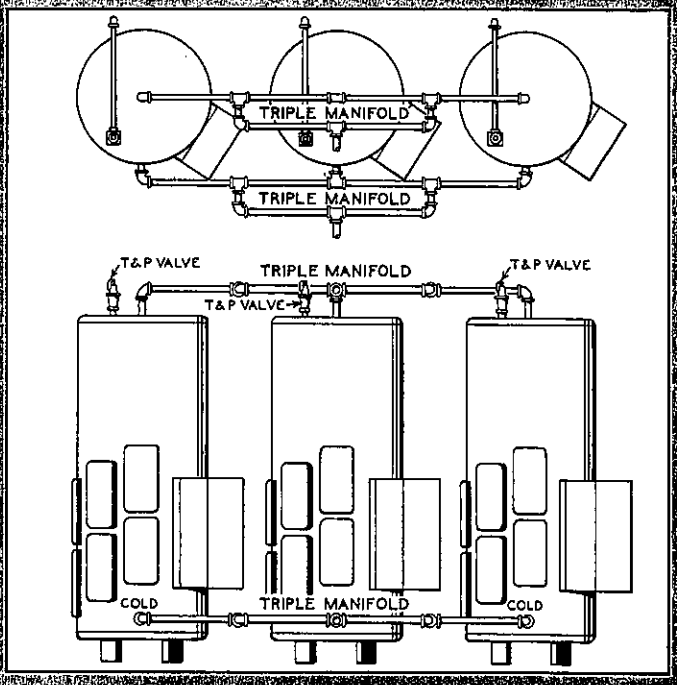
COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.



MODEL	CAP. U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
C-82	82	1¼	63.0	24.0	7½	9,000 Watts—EC 6,000 Watts—S



APPLICATION INFORMATION

For maximum economy and utilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

TYPICAL INSTALLATIONS

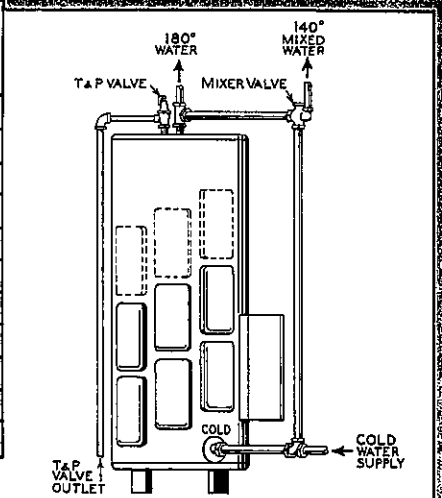
- Apartments
- Restaurants
- Institutional Food Service
- Farms
- Motels
- Factories
- and other commercial installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

For 277, 440/480 volts check price sheet for additional charge.

MODEL	WATTAGE	Recovery Capacity Gals./Hr. @ Degrees F. Rise											NO. OF ELEM.	SHIP. WT.
		40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°		
C-82EC-6	6000	62	49	41	35	30	27	25	22	20	19	17	1	370
C-82EC-9	9000	93	74	61	52	46	40	37	33	31	28	26	2	370
C-82EC-12	12000	123	98	82	70	61	54	49	45	41	38	35	3	370
C-82EC-13.5	13500	139	111	92	79	69	61	55	51	46	43	40	3	370
C-82EC-15	15000	154	123	102	87	76	67	61	56	51	47	44	3	370
C-82EC-18	18000	185	148	123	104	92	81	73	68	62	57	53	3	370
C-82EC-27	27000	277	222	184	157	138	122	110	102	93	86	79	6	370
C-82EC-30	30000	308	246	205	174	153	135	123	113	103	95	88	6	370
C-82EC-36	36000	369	296	246	209	184	162	147	136	124	115	105	6	370
C-82EC-45	45000	462	370	307	261	230	203	183	170	155	143	132	6	370
C-82EC-54	54000	554	444	369	313	276	243	220	204	186	172	158	6	370



SINGLE INSTALLATION WITH MIXING VALVE DUAL TEMPERATURE WATER

6—36 KW Models. Available with SURFACE MOUNTED thermostats without contactors. Add suffix "S" to model number.

6, 9, 12 KW Models Not Available in NSF Models.

Add two inches to overall height on all NSF Models.

150 Lbs. Hydrostatic Working Pressure

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 1C

DUTYMASTER MARK II

C120EC
COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

1. The Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a storage Heater. When used singly or in manifolded multiples as a storage heater this heater is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.

2. When installed as a Booster with separate storage tank this heater is designed so as to provide sufficient gravity circulation and no circulation pump is required.

ENGINEERING FEATURES

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

THERMOSTATS—Immersion type thermostats using contactor relays.

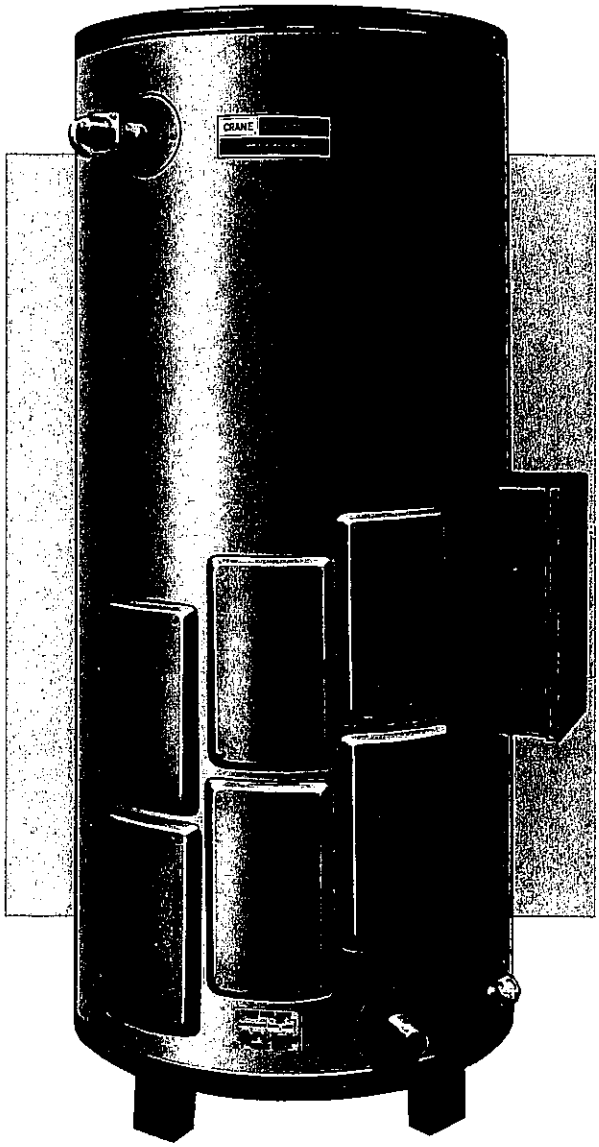
WIRING—Completely pre-wired ready for installation.

SAFETY SIGNAL LIGHT
HI-LIMIT ENERGY CUT-OFF

Also available in 1-Year Limited Warranty Models.

Available with SURFACE MOUNTED thermostats without contactors. Add suffix "S" to model number.

COMPLETE, READY FOR INSTALLATION
AVAILABLE FOR
208 , 220/240, 277 Volt
440/480 Volt
Single Phase
Three Phase
60 Cycle, A.C.
Also available with surface mounted thermostats without contactors



3-YEAR LIMITED WARRANTY
Full terms of Limited Warranty may be found in this catalog.

N.S.F. MODEL NO. C-120EC*

The C-120 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

C120EC DUTYMASTER MARK II

COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

APPLICATION INFORMATION

For maximum economy and utilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

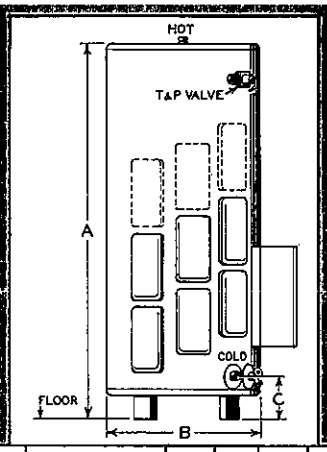
TYPICAL INSTALLATIONS

Apartments, Restaurants, Institutional Food Service Farms, Motels, Factories, and other commercial installations

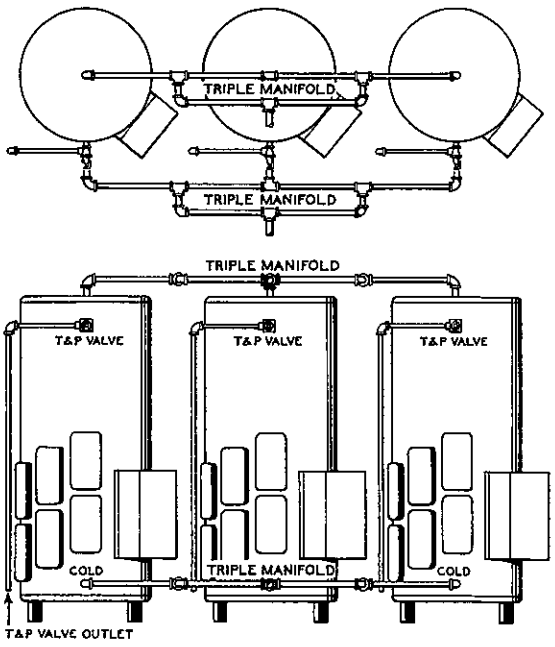
Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

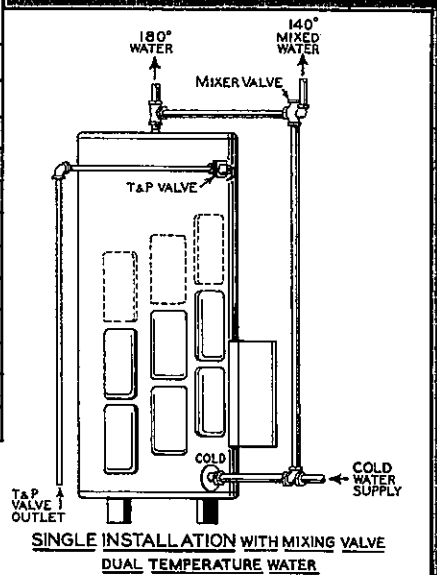
For 277, 440/480 volts check price sheet for additional charge.



MODEL	CAP. U.S. GAL.	INLET OUTLET	A	B	C	MAX. AVAIL. WATT. PER ELEM.
C-120	118	1¼ IPS	68.5	28.0	7½	9,000 WATTS—ICF
C-120	118	1½ IPS-ASME	69.5	28.0	7½	6,000 WATTS—SF



MODEL	WATT AGE	Recovery Capacity Gals./Hr. @ Degrees F. Rise											NO. OF ELEM.	SHIP. WT.
		40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°		
C-120EC-6	6000	62	49	41	35	30	27	25	22	20	19	17	1	520
C-120EC-9	9000	93	74	61	52	46	40	37	33	31	28	26	2	520
C-120EC-12	12000	123	98	82	70	61	54	49	45	41	38	35	2	520
C-120EC-13.5	13500	139	111	92	79	69	61	55	51	46	43	40	3	520
C-120EC-15	15000	154	123	102	87	76	67	61	56	51	47	44	3	520
C-120EC-18	18000	185	148	123	104	92	81	73	68	62	57	53	3	520
C-120EC-27	27000	277	222	184	157	138	122	110	102	93	86	79	6	520
C-120EC-30	30000	308	246	205	174	153	135	123	113	103	95	88	6	520
C-120EC-36	36000	369	296	246	209	184	162	147	136	124	115	105	6	520
C-120EC-45	45000	462	370	307	261	230	203	183	170	155	143	132	6*	520
C-120EC-54	54000	554	444	369	313	276	243	220	204	186	172	158	6*	520



SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE WATER

Available with SURFACE MOUNTED thermostats without contactors. Add suffix "S" to model number.

L W

Available in Glasslined ASME models.
Limited Warranty: 3-YEAR only.
For ASME models add suffix ASME to model number.

6, 9, 12 KW Models Not Available In NSF Models.
Add 2" to overall height on all NSF Models.

150 Lbs. Hydrostatic Working Pressure

* 9 on EB120-54S and EB120-45S

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10

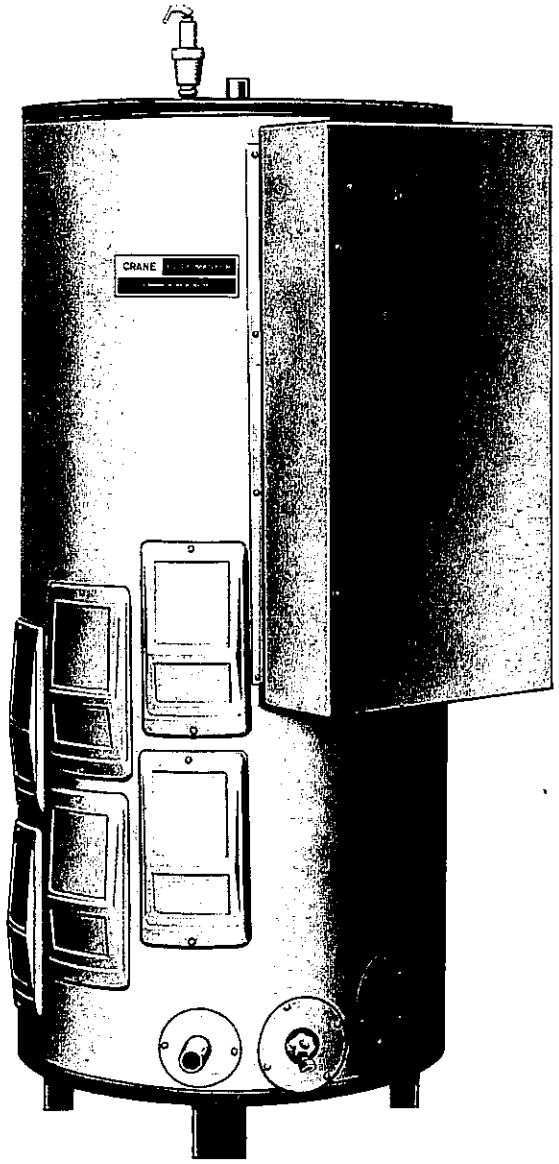
FORM NO. CS-2102-876

CRANE01169

DUTYMASTER MARK II

C52EC INTERNAL FUSING COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

1. These Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a Storage Heater. When used singly or in manifolded multiples as a storage heater, it is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.
2. When installed as a Booster with separate storage tank, it is designed so as to provide sufficient gravity circulation and no circulation pump is required.



ENGINEERING FEATURES

ELECTRICAL—60 amp internal fusing on the element wiring. 1 amp circuit breaker with 120 volt. Multi-tap stepdown control transformer. 120 volt contactor relays with E.C.O. Immersion type thermostat(s). Power and ground terminals. Knockouts up to 2½ in conduit.

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

SAFETY SIGNAL LIGHT

Also available in 1-Year Limited Warranty Models.

COMPLETE, READY FOR INSTALLATION
AVAILABLE FOR
208*, 220/240, 277 Volt
440/480 Volt
Single Phase
Three Phase
60 Cycle, A.C.
Also available with surface mounted thermostats without contactors and stepdown control transformer

***See specification chart, reverse side, for exception.**

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

NSF MODEL NO. C-52ECF

The C-52 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

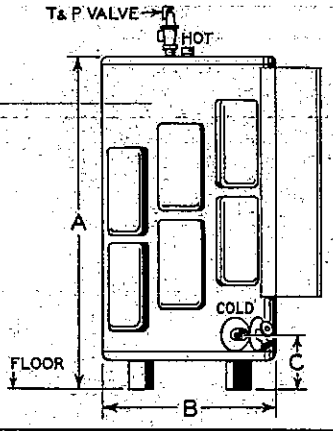
C52EC INTERNAL FUSING

DUTYMASTER MARK II

COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.



MODEL	CAP. U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
C-52	52	1¼	44⅞	24	7½	9,000 Watts—EC 6,000 Watts—S

APPLICATION INFORMATION

For maximum economy and ultilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

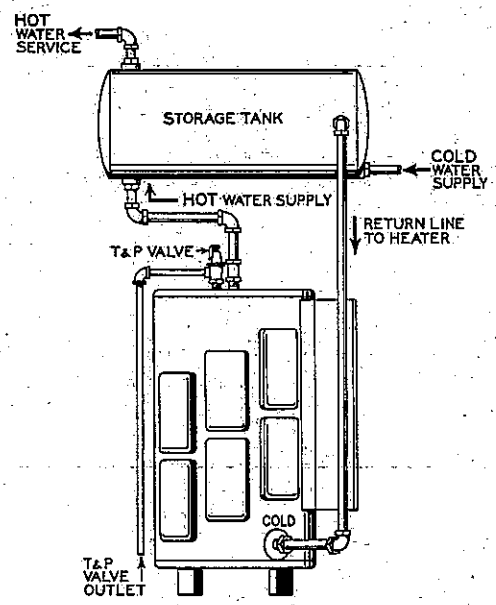
TYPICAL INSTALLATIONS

Apartments
Restaurants
Institutional Food Service
Farms
Motels
Factories
and other commercial installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

For 277, 440/480 volts check price sheet for additional charge.



SINGLE INSTALLATION WITH STORAGE TANK
GRAVITY FLOW CIRCULATION

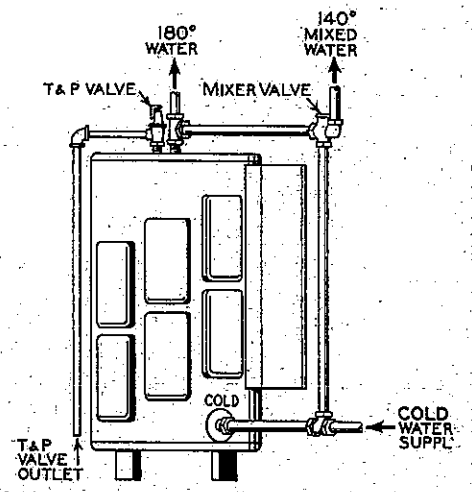
MODEL	WATTAGE	Recovery Capacity Gals./Hr. @ Degrees F. Rise											NO. OF ELEM.	SHIP. WT.
		40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°		
C-52EC-12F	12000	123	98	82	70	61	54	49	45	41	38	35	3	330
C-52EC-13.5F	13500	139	111	92	79	69	61	55	51	46	43	40	3	330
C-52EC-15F	15000	154	123	102	87	76	67	61	56	51	47	44	3	330
C-52EC-18F	18000	185	148	123	104	92	81	73	68	62	57	53	3	330
C-52EC-27F	27000	277	222	184	157	138	122	110	102	93	86	79	6	330
C-52EC-30F	30000	308	246	205	174	153	135	123	113	103	95	88	6	330
C-52EC-36F	36000	369	296	246	209	184	162	147	136	124	115	105	6	330
C-52EC-45F	45000	462	370	307	261	230	203	183	170	155	143	132	6	330
C-52EC-54F	54000	554	444	369	313	276	243	220	204	186	172	158	6	330

12—36 KW Models. Available with SURFACE MOUNTED thermostats without contactors and stepdown control transformer. Add suffix "S" to model number.

150 Lbs. Hydrostatic Working Pressure

12 KW Models Not Available in NSF Models.

Add two inches to overall height on all NSF Models.



SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE WATER

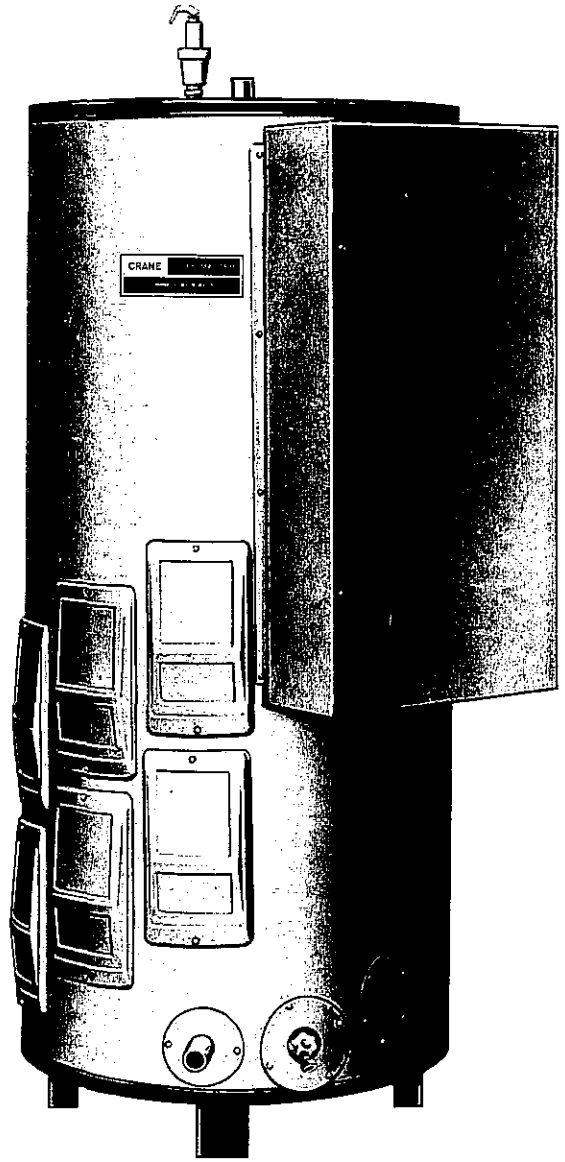
CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 100[illegible]

DUTYMASTER MARK II

C-82EC INTERNAL FUSING COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

1. These Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a Storage Heater. When used singly or in manifolded multiples as a storage heater, it is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.
2. When installed as a Booster with separate storage tank, it is designed so as to provide sufficient gravity circulation and no circulation pump is required.



ENGINEERING FEATURES

ELECTRICAL—60 amp internal fusing on the element wiring. 1 amp circuit breaker with 120 volt. Multi-tap stepdown control transformer. 120 volt contactor relays with E.C.O. Immersion type thermostat(s). Power and ground terminals. Knockouts up to 2½ in conduit.

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

SAFETY SIGNAL LIGHT

Also available in 1-Year Limited Warranty Models.

COMPLETE, READY FOR INSTALLATION
AVAILABLE FOR
208*, 220/240, 277 Volt
440/480 Volt
Single Phase
Three Phase
60 Cycle, A.C.
Also available with surface mounted thermostats without contactors and stepdown control transformer

***See specification chart, reverse side, for exception.**

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

NSF MODEL NO. C-82ECF

The C-82 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

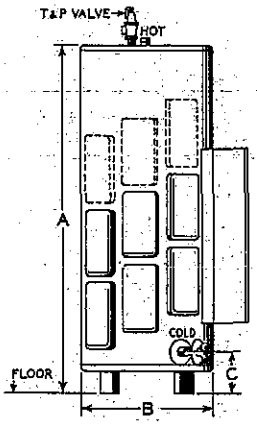
C-82EC INTERNAL FUSING

DUTYMASTER MARK II

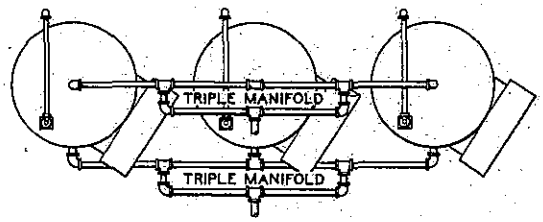
COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

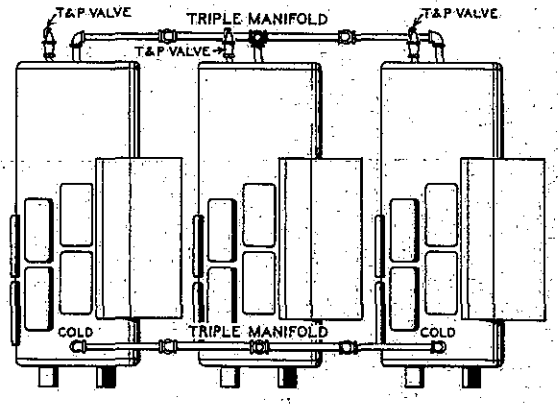
3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.



MODEL	CAP. U.S. GALS.	INLET OUTLET	A	B	C	MAXIMUM WATTAGE/ELEMENT
C-82	82	1¼	63.0	24.0	7½	9,000 Watts—EC 6,000 Watts—S





APPLICATION INFORMATION

For maximum economy and ultilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

TYPICAL INSTALLATIONS

Apartments
Restaurants
Institutional Food Service
Farms
Motels
Factories
and other commercial installations

Final sizing of all installation should be done **ONLY** from the Engineering Handbook.

In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

For 277, 440/480 volts check price sheet for additional charge.

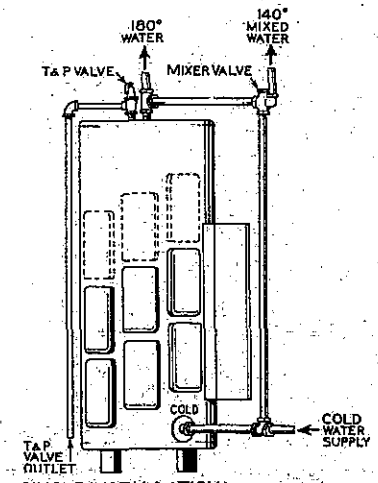
MODEL	WATTAGE	Recovery Capacity Gals./Hr. @ Degrees F. Rise											NO. OF ELEM.	SHIP. WT.
		40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°		
C-82EC-12F	12000	123	98	82	70	61	54	49	45	41	38	35	3	370
C-82EC-13.5F	13500	139	111	92	79	69	61	55	51	46	43	40	3	370
C-82EC-15F	15000	154	123	102	87	76	67	61	56	51	47	44	3	370
C-82EC-18F	18000	185	148	123	104	92	81	73	68	62	57	53	3	370
C-82EC-27F	27000	277	222	184	157	138	122	110	102	93	86	79	6	370
C-82EC-30F	30000	308	246	205	174	153	135	123	113	103	95	88	6	370
C-82EC-36F	36000	369	296	246	209	184	162	147	136	124	115	105	6	370
C-82EC-45F	45000	462	370	307	261	230	203	183	170	155	143	132	6	370
C-82EC-54F	54000	554	444	369	313	276	243	220	204	186	172	158	6	370

12—36 KW Models. Available with SURFACE MOUNTED thermostats without contactors and stepdown control transformer. Add suffix "S" to model number.

12 KW Models Not Available in NSF Models.

Add two inches to overall height on all NSF Models.

150 Lbs. Hydrostatic Working Pressure



SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE WATER

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 100[illegible]

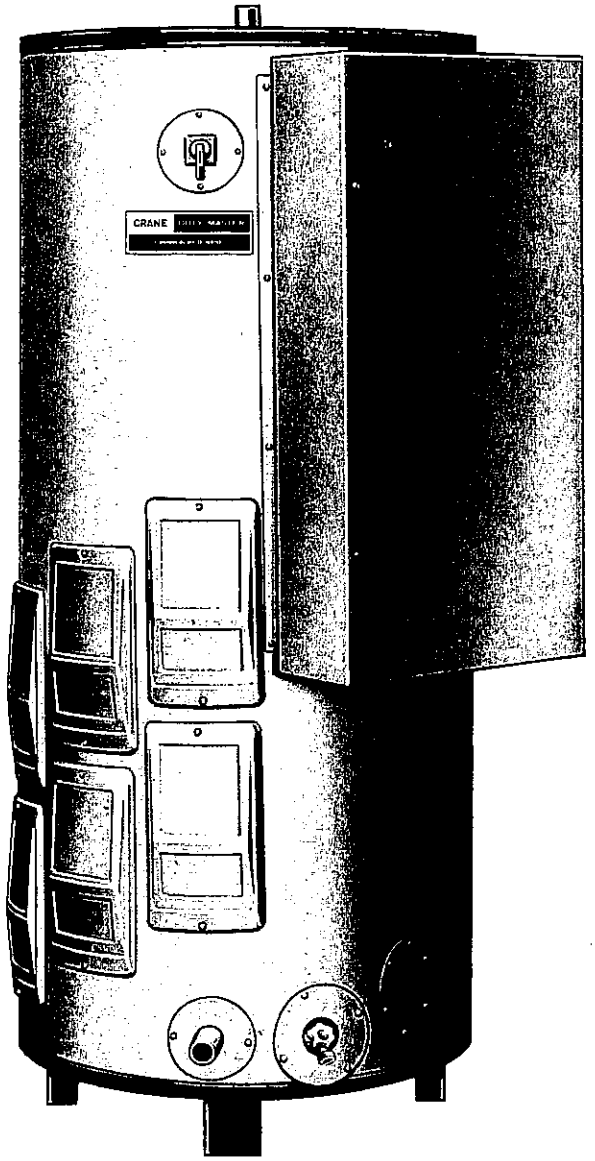
CRANE01173

Form No. CS2105F-376

DUTYMASTER MARK II

C-120EC INTERNAL FUSING COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

1. These Electric Commercial Heaters are listed by the Underwriters' Laboratories and the National Sanitation Foundation for supplying 180°F. water both as a Booster and as a Storage Heater. When used singly or in manifolded multiples as a storage heater, it is so constructed as to provide a completely independent water system needing no separate storage tank, or pump with the attendant complex wiring and plumbing systems. When installed with a mixing valve it can supply both 140°F. general use hot water and 180°F. sanitizing water simultaneously.
2. When installed as a Booster with separate storage tank, it is designed so as to provide sufficient gravity circulation and no circulation pump is required.



ENGINEERING FEATURES

ELECTRICAL—60 amp internal fusing on the element wiring. 1 amp circuit breaker with 120 volt. Multi-tap stepdown control transformer. 120 volt contactor relays with E.C.O. Immersion type thermostat(s). Power and ground terminals. Knockouts up to 2½ in conduit.

FIBERGLASS INSULATION—Insulated with a thick sheet of fiberglass, cannot pack down. Assured efficient insulation for the life of the heater.

TANK CLEANOUT—Easily accessible bolted plate type hand-hole clean-out located on front of tank for periodic removal of lime scale, silt, sand or other foreign matter deposited in the tank.

RELIEF VALVE FACTORY INSTALLED—Each booster heater supplied with a factory installed ASME rated temperature and pressure relief valve.

ELECTROLYTIC PROTECTION—Large extruded rod of highest quality magnesium to provide maximum cathodic protection of all internal tank surfaces.

ELEMENTS—High efficiency, immersion type elements. All heat goes directly into the water. Pressure sealed to prevent leakage.

SAFETY SIGNAL LIGHT

Available with SURFACE MOUNTED thermostats without contactors and stepdown control transtransformer. Delete ECF in model number and substitute suffix "SF".

COMPLETE, READY FOR INSTALLATION
AVAILABLE FOR
208 , 220/240, 277 Volt
440/480 Volt
Single Phase
Three Phase
60 Cycle, A.C.
Also available with surface mounted thermostats without contactors and stepdown control transformer

3-YEAR LIMITED WARRANTY

Full terms of Limited Warranty may be found in this catalog.

NSF MODEL NO. C-120ECF

The C-120 is listed by the Underwriters Laboratories and is constructed in accordance with Standard No. 5 of the National Sanitation Foundation for use with all types of dishwashing equipment. Extension legs available for compliance with NSF standards.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

COMMERCIAL

C-120EC INTERNAL FUSING

DUTYMASTER MARK II

COMMERCIAL ELECTRIC GLASSLINED STORAGE BOOSTER

3-YEAR LIMITED WARRANTY

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APPLICATION INFORMATION

For maximum economy and ultilization of floor space it is recommended that this unit be installed singly or in manifolded multiples without using a storage tank in the majority of commercial installations. However in certain special installations where tremendously large volumes of hot water are needed in a very brief time (such as institutional showers, industrial plant clean-up installations) it should be installed either singly or in multiples with a storage tank.

TYPICAL INSTALLATIONS

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Restaurants
Institutional Food Service
Farms
Motels
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and other commercial installations

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In keeping with our policy of continuous product improvements, we reserve the right to make minor changes without prior notice.

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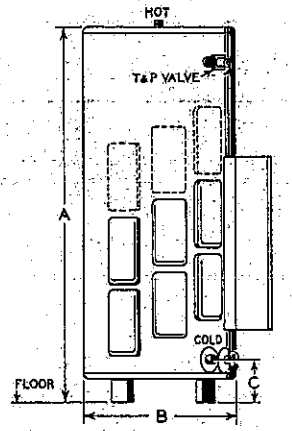
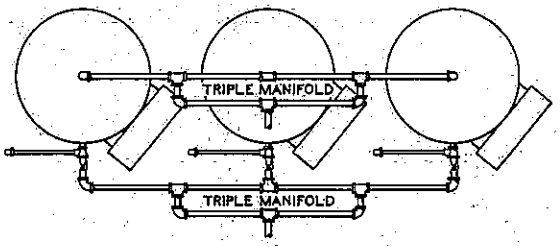
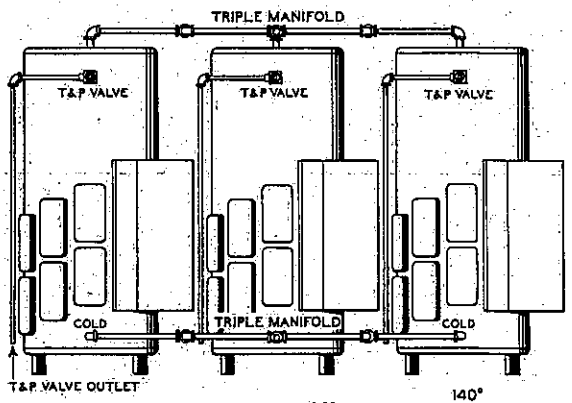


MODEL	CAP. U.S. GAL.	INLET OUTLET	A	B	C	MAX. AVAIL. WATT. PER ELEM.
C-120	118	1¼ IPS	68.5	28.0	7½	9,000 WATTS—ICF
C-120	118	1½ IPS-ASME	69.5	28.0	7½	6,000 WATTS—SF





MODEL	WATTAGE	Recovery Capacity Gals./Hr. @ Degrees F. Rise											NO. OF ELEM.	SHIP. WT.
		40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°		
C-120EC-12F	12000	123	98	82	70	61	54	49	45	41	38	35	3	520
C-120EC-13.5F	13500	139	111	92	79	69	61	55	51	46	43	40	3	520
C-120EC-15F	15000	154	123	102	87	76	67	61	56	51	47	44	3	520
C-120EC-18F	18000	185	148	123	104	92	81	73	68	62	57	53	3	520
C-120EC-27F	27000	277	222	184	157	138	122	110	102	93	86	79	6	520
C-120EC-30F	30000	308	246	205	174	153	135	123	113	103	95	88	6	520
C-120EC-36F	36000	369	296	246	209	184	162	147	136	124	115	105	6	520
C-120EC-45F	45000	462	370	307	261	230	203	183	170	155	143	132	6*	520
C-120EC-54F	54000	554	444	369	313	276	243	220	204	186	172	158	6*	520

12 KW Models Not Available in NSF Models.

Add 2" to overall height on all NSF Models.

Available with SURFACE MOUNTED thermostats without contactors and stepdown control transformer. Add suffix "S" to model number

150 Lbs. Hydrostatic Working Pressure

*9 on EB120-54S and EB120-45S

Available in Glasslined ASME models.
Limited Warranty: 3-YEAR only.
For ASME models add suffix ASME to model number.

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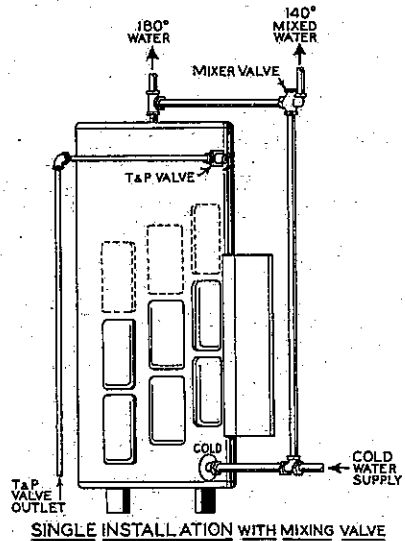


SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE WATER

Shipping Weight of ASME Model—726 lbs.

CRANE®

CRANE SUPPLY COMPANY
300 PARK AVENUE
NEW YORK, N. Y. 10022

CRANE01175

Form No. CS2106F-376

CRANE

®

RESIDENTIAL ELECTRIC

PARTS BOOK

INSTALLATION RECORD

MODEL NO. _____

SERIAL NO. _____

INSTALLED BY: _____

INSTALLATION DATE: _____

INSTALLATION

WARNING:
NEVER OPERATE THE ELECTRICAL HEATING ELEMENTS WITHOUT BEING CERTAIN THE HEATER IS COMPLETELY FILLED WITH WATER.

Local Codes

The installation of the water heater must be in accordance with these instructions and all applicable local codes and electric utility requirements.

Safety

The heater is approved and equipped with a factory installed high temperature limit switch as a part of the heater. In addition to this device, a new approved temperature and pressure relief valve shall be installed at the time of installation of the heater. Local codes shall govern the installation of the heater. Local codes shall govern the installation of relief devices.

The pressure setting of the relief valve should not exceed the working pressure shown on the heater.

Failure to install a properly rated ASME and AGA approved temperature and pressure relief valve will release the manufacturer from any claim which might result from excessive temperatures or water pressures.

LOCATION

With an electric water heater, the choice is one of convenience.

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

Connect ¾" water lines. Cold water inlet connects to right hand opening at the top of heater (facing heater), and hot water outlet connects to left hand nipple, per illustration back of page. Fill tank with water. A hot water faucet in the house should be open to release entrapped air.

WIRING

Determine voltage and wattage from the rating plate attached to the water heater. All external wiring, connections and overcurrent protective devices must be provided and installed in accordance with the latest National Electrical Code, local codes and local Electric Utility requirements. To ensure conformance with the above consult with your Electric Utility.

This water heater must be electrically "grounded" by the installer. Using a screw on the heater junction box, a wire must be run to connect the heater to an uninterrupted metallic ground.

Thermostat

Each thermostat is factory pre-set at 150° F. This setting has proven by experience to be most satisfactory from the standpoint of operational costs and household needs.

To adjust:

1. Turn off the electrical supply to the water heater.
2. Remove the element and thermostat access panel.
3. The insulation covering the plastic thermostat and hi-limit protector should be carefully folded aside.
4. Remove the plastic thermostat and hi-limit protector.
5. Adjust the thermostat to the desired water temperature. The high temperature limit switch is attached above the upper thermostat on double element heaters. NOTE: in certain areas the lower thermostat will also have a hi-limit attached because of special wiring required. If it becomes necessary to reset the high limit:
   1. Turn off the electrical supply to the water heater.
   2. Remove the element and thermostat access panel.
   3. The insulation covering the plastic thermostat and hi-limit protector should be carefully folded aside.
   4. Press the reset button visible through the hole in the plastic thermostat and hi-limit protector.
   5. After adjustment of the thermostat or resetting of the hi-limit the insulation and front panel must be replaced before restoring power to the heater.

WATER HEATER SOUNDS

1. This electric water heater is equipped with a high watt density immersion heating element for fastest recovery. If the heater occasionally makes noises this is not a defect or a safety hazard.
2. Lime or scale has accumulated on the heating element causing a hissing sound. Element scale removal can be accomplished by using vinegar or by scraping.

CAUTION

If element replacement is necessary, be certain that the electrical specifications of the new element are consistent with electric-utility company requirements.

DRAINING

If the heater is to be shut off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater.

1. Turn off the electrical and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.
3. The drain valve must be left open during the shut-down period.

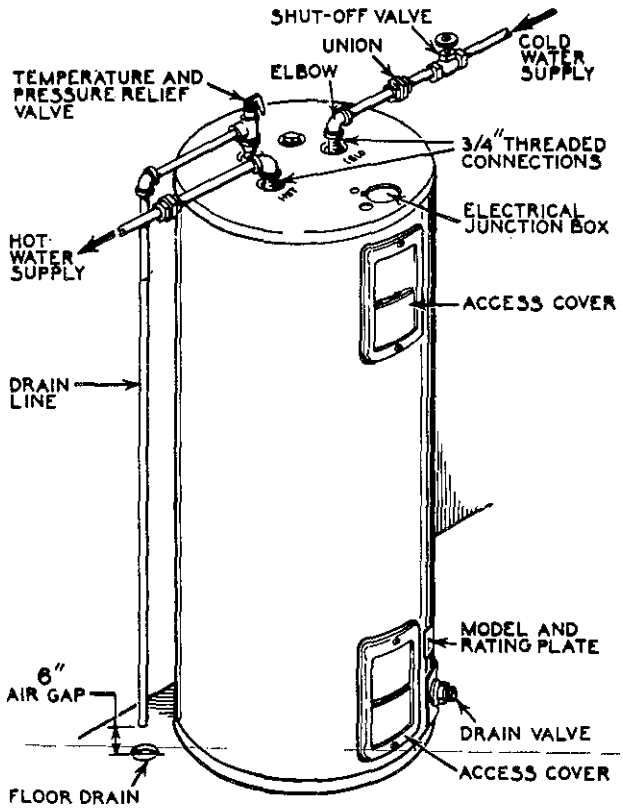
MAINTENANCE

Once a month the drain valve should be opened and water allowed to run until it flows clean. This will help to prevent sediment buildup in the tank bottom.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

TYPICAL WATER PIPING INSTALLATION ALL MODELS

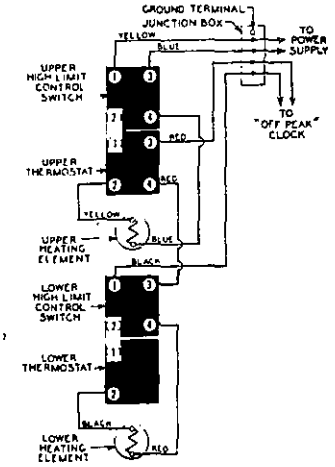
CHECK ALL CONNECTIONS FOR LEAKS. CONSULT YOUR LOCAL UTILITY COMPANY TO EXAMINE INSTALLATION FOR PROPRIETY AND SAFETY.



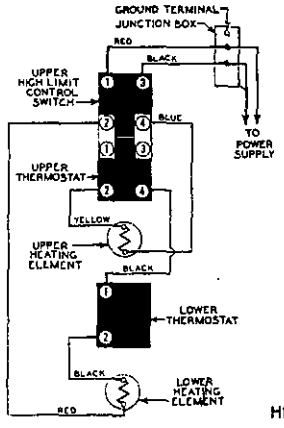
TO PROTECT AGAINST UNTIMELY CORROSION OF HOT AND COLD WATER FITTINGS, IT IS STRONGLY RECOMMENDED THAT DIELECTRIC UNIONS OR COUPLING BE INSTALLED ON THIS WATER HEATER WHEN CONNECTED TO COPPER PIPE.

WIRING DIAGRAMS

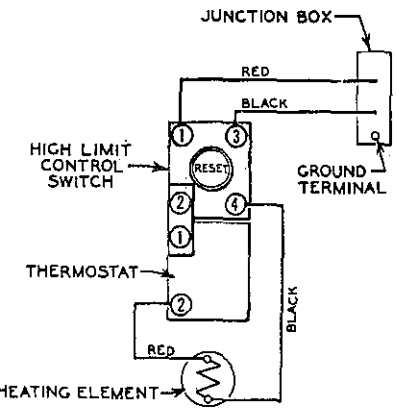
Standard double element "off peak" interlock 240 volt



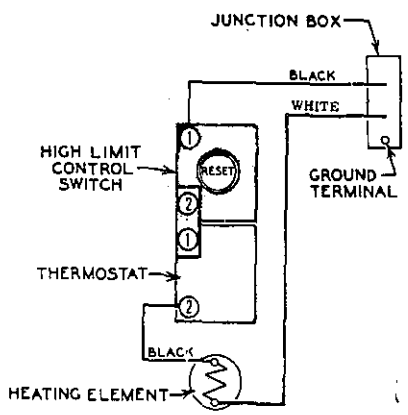
Standard double element interlock 240 volt



Standard single element 240 volt



Standard single element 118 volt

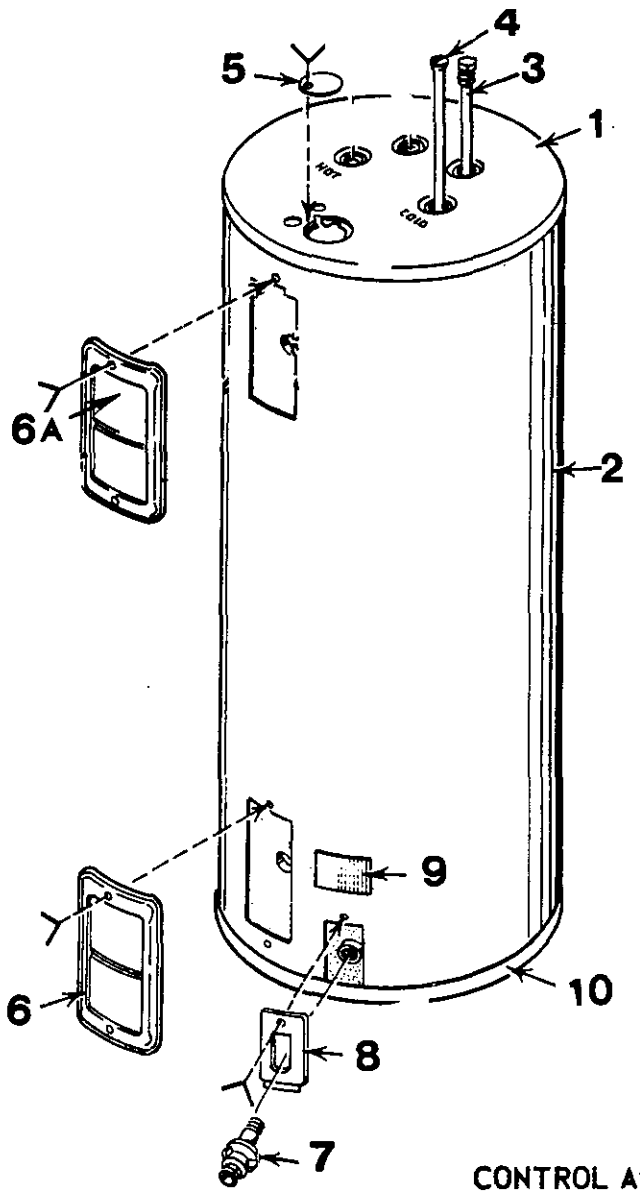


REPAIR PARTS

The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248, Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) model and serial number, (3) voltage, (4) element wattage. Please give the complete serial number, EXAMPLE A75643218

PARTS ILLUSTRATION



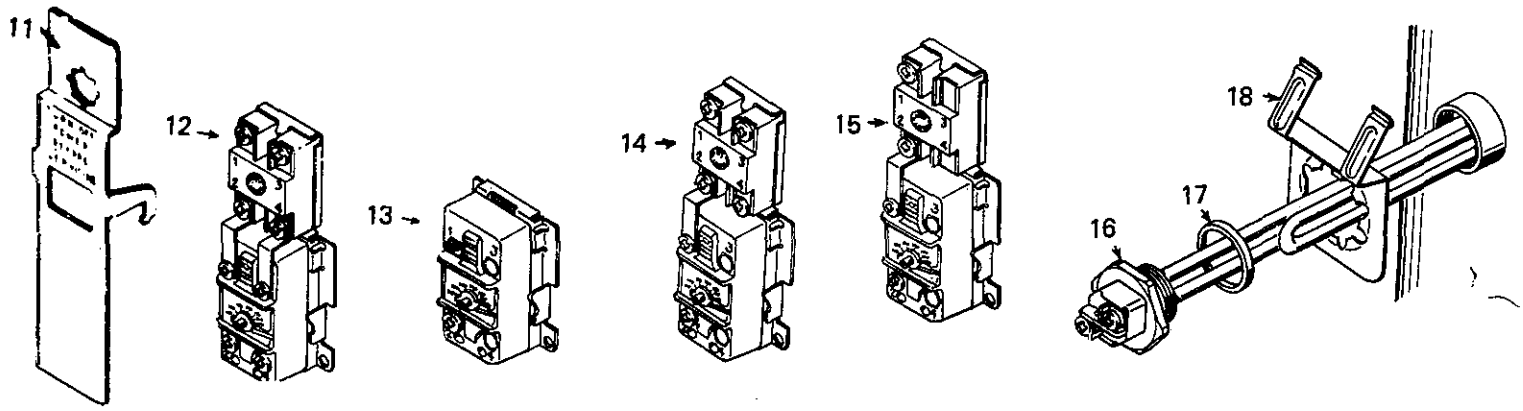
DO NOT ORDER BY ITEM NUMBER ONLY.

ITEM NO.	PARTS DESCRIPTION
1	Jacket Top
2	Jacket*
3	Anode Rod
4	Dip Tube
5	Electrical Junction Cover
6	Access Cover
6A	Access Cover (used on double element models only)
7	Drain Valve
8	Drain Patch
9	Model & Rating Plate†
10	Jacket Bottom
11	Terminal Protector
12	4 Pole Thermostat w/4 Pole Reset
13	2 Pole Thermostat
14	2 Pole Thermostat w/4 Pole Reset
15	2 Pole Thermostat w/2 Pole Reset
16	Element (Screw in)
17	Element Gasket
18	Thermostat Bracket

*Not Mailable

†Replaced only upon return of damaged plate

CONTROL AND ELEMENT GROUP



NOTE: All thermostats used are shown above. Refer to your heater and electrical wiring diagram for proper thermostats when ordering repair parts.

CRANE01179

REPAIR PART PRICES

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DO NOT ORDER BY ITEM NUMBER ONLY.

ITEM NO.	PARTS PRICES											PARTS DESCRIPTION
	20 gal. LB	30 gal. LB	40 gal. LB	50 gal. LB	30 gal.	42 gal.	52 gal.	66 gal.	82 gal.	100 gal.	120 gal.	
1	—	—	—	—	9.00	9.00	10.50	10.50	10.50	15.00	15.00	Jacket Top
2	—	—	—	—	30.00	36.00	42.00	45.00	48.00	60.00	66.00	Jacket*
3	—	—	—	—	7.50	7.50	7.50	13.50	13.50	13.50	13.50	Anode Rod
4	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	Dip Tube
5	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60	Electrical Junction Cover
6	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	Access Cover
6A	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	Access Cover (used on double element models only)
7	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	3.15	Drain Valve
8	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	Drain Patch
9	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	Model & Rating Plate†
10	—	—	—	—	9.00	9.00	10.50	10.50	10.50	15.00	15.00	Jacket Bottom
11	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	Terminal Protector
12	15.75	15.75	15.75	15.75	15.75	15.75	15.75	15.75	15.75	15.75	15.75	4 Pole Thermostat w/4 Pole Reset
13	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25	8.25	2 Pole Thermostat
14	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	2 Pole Thermostat w/4 Pole Reset
15	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	2 Pole Thermostat w/2 Pole Reset
16	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	Element (Screw in)
17	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	Element Gasket
18	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	Thermostat Bracket
	← CREP 165 →											Instruction Booklet

†Replaced only upon return of damaged plate
*Not mailable

ELEMENT TABLE, 236 VOLT

WATTAGE	1000	1500	2500	3500	4500	6000
PRICE	10.50	10.50	10.50	10.50	10.50	10.50

Element Prices include Mounting Hardware

IMPORTANT

If further information is required, it will be furnished from Crane Supply Company, Dept. CSW, Box 248, Ashland City, Tennessee 37015.

TERMS: NET CASH PRICES F.O.B. FACTORY.

Prices subject to change without prior notice.

029483

CRANE01180

INSTALLATION & OPERATING INSTRUCTIONS
REPAIR PARTS
GLASSLINED TABLE TOP ELECTRIC WATER HEATERS
CTEP 975

INSTALLATION RECORD

MODEL NO. _____

SERIAL NO. _____

INSTALLED BY: _____

INSTALLATION DATE: _____

INSTALLATION

WARNING:
NEVER OPERATE THE ELECTRICAL HEATING ELEMENTS WITHOUT BEING CERTAIN THE HEATER IS COMPLETELY FILLED WITH WATER.

Local Codes

The installation of the water heater must be in accordance with these instructions and all applicable local codes and electric utility requirements.

Safety

The heater is approved and equipped with a factory installed high temperature limit switch as a part of the heater. In addition to this device, a new approved temperature and pressure relief valve shall be installed at the time of installation of the heater. Local codes shall govern the installation of the heater. Local codes shall govern the installation of relief devices.

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Connect ¾" water lines. Cold water inlet connects to right hand opening at the top of heater (facing heater), and hot water outlet connects to left hand nipple, per illustration back of page. Fill tank with water. A hot water faucet in the house should be open to release entrapped air.

WIRING

Determine voltage and wattage from the rating plate attached to the water heater. All external wiring, connections and overcurrent protective devices must be provided and installed in accordance with the latest National Electrical Code, local codes and local Electric Utility requirements. To ensure conformance with the above consult with your Electric Utility.

This water heater must be electrically "grounded" by the installer. Using a screw on the heater junction box, a wire must be run to connect the heater to an uninterrupted metallic ground.

Thermostat

Each thermostat is factory pre-set at 150° F. This setting has proven by experience to be most satisfactory from the standpoint of operational costs and household needs.

To adjust:

1. Turn off the electrical supply to the water heater.
2. Remove the element and thermostat access panel.
3. The insulation covering the plastic thermostat and hi-limit protector should be carefully folded aside.
4. Remove the plastic thermostat and hi-limit protector.
5. Adjust the thermostat to the desired water temperature. The high temperature limit switch is attached above the upper thermostat on double element heaters. NOTE: in certain areas the lower thermostat will also have a hi-limit attached because of special wiring required. If it becomes necessary to reset the high limit:
   1. Turn off the electrical supply to the water heater.
   2. Remove the element and thermostat access panel.
   3. The insulation covering the plastic thermostat and hi-limit protector should be carefully folded aside.
   4. Press the reset button visible through the hole in the plastic thermostat and hi-limit protector.
   5. After adjustment of the thermostat or resetting of the hi-limit the insulation and front panel must be replaced before restoring power to the heater.

WATER HEATER SOUNDS

1. This electric water heater is equipped with a high watt density immersion heating element for fastest recovery. If the heater occasionally makes noises this is not a defect or a safety hazard.
2. Lime or scale has accumulated on the heating element causing a hissing sound. Element scale removal can be accomplished by using vinegar or by scraping.

CAUTION

If element replacement is necessary, be certain that the electrical specifications of the new element are consistent with electric-utility company requirements.

DRAINING

If the heater is to be shut off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater.

1. Turn off the electrical and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.
3. The drain valve must be left open during the shut-down period.

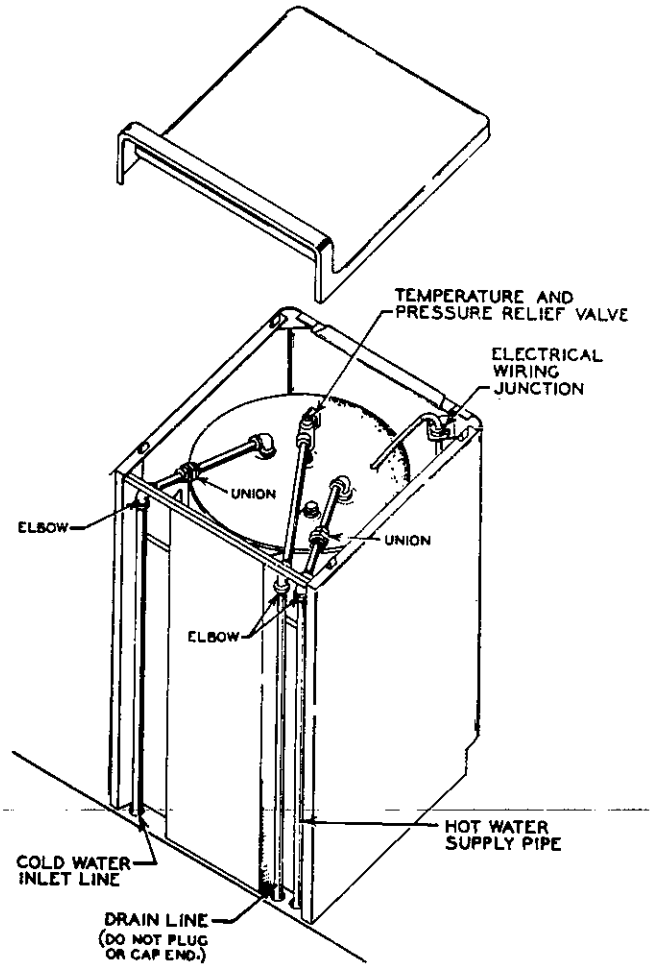
MAINTENANCE

Once a month the drain valve should be opened and water allowed to run until it flows clean. This will help to prevent sediment buildup in the tank bottom.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

TYPICAL WATER PIPING INSTALLATION ALL MODELS

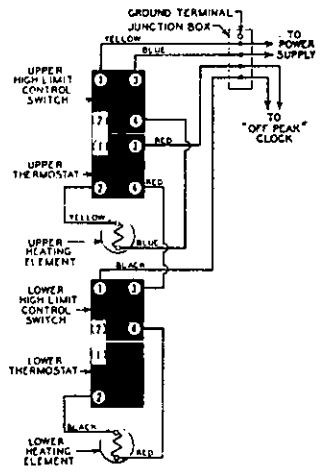
CHECK ALL CONNECTIONS FOR LEAKS. CONSULT YOUR LOCAL UTILITY COMPANY TO EXAMINE INSTALLATION FOR PROPRIETY AND SAFETY.



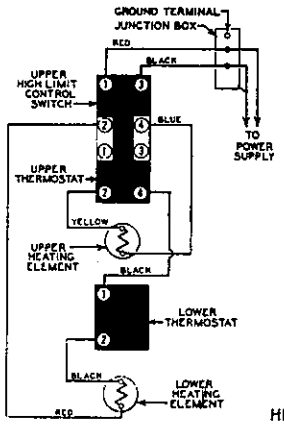
TO PROTECT AGAINST UNTIMELY CORROSION OF HOT AND COLD WATER FITTINGS, IT IS STRONGLY RECOMMENDED THAT DIELECTRIC UNIONS OR COUPLING BE INSTALLED ON THIS WATER HEATER WHEN CONNECTED TO COPPER PIPE.

WIRING DIAGRAMS

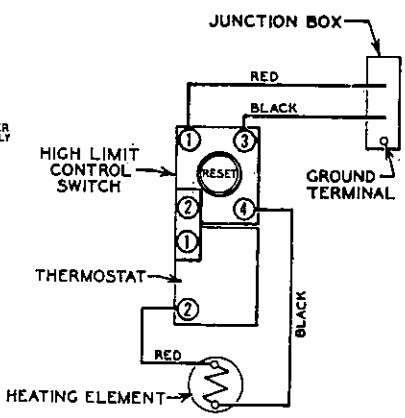
Standard double element "off peak" interlock 240 volt



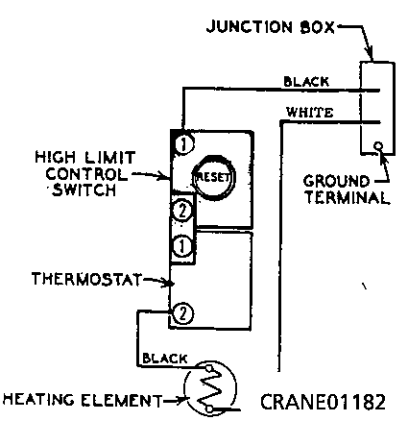
Standard double element interlock 240 volt



Standard single element 240 volt



Standard single element 118 volt



CRANE01182

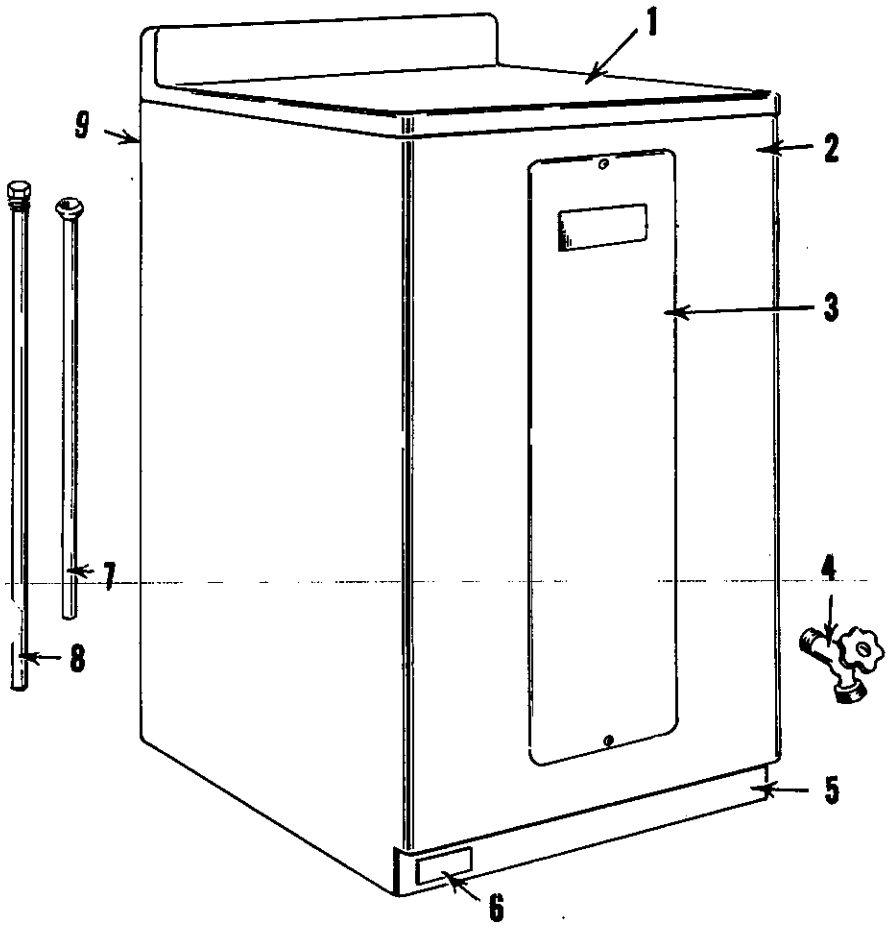
REPAIR PARTS

The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248. Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description. (2) model and serial number, (3) voltage, (4) element wattage. Please give the complete serial number,EXAMPLE A75643218

PARTS ILLUSTRATION

DO NOT ORDER BY ITEM NUMBER ONLY

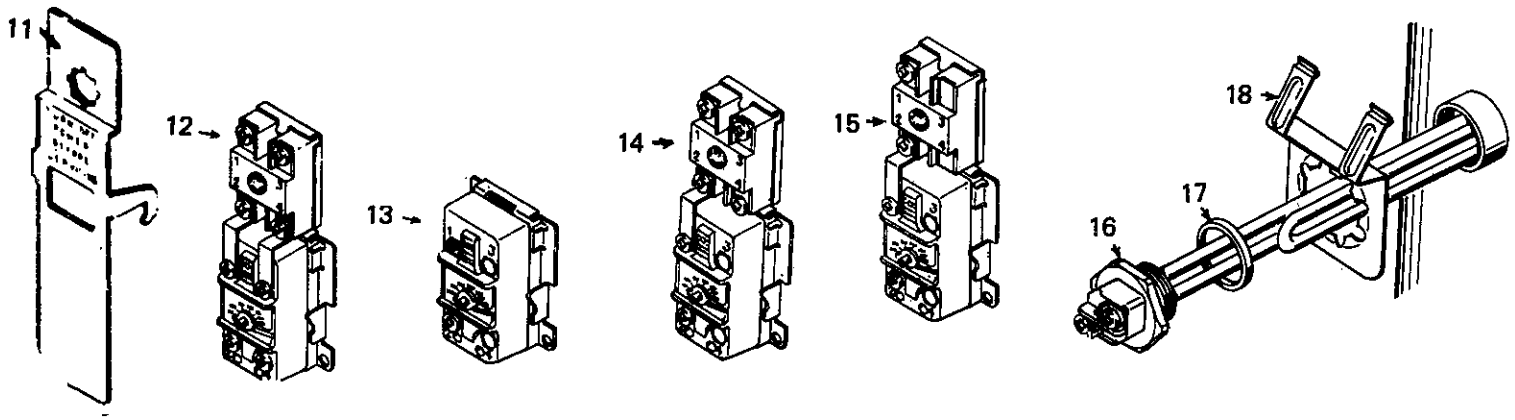


ITEM NO.	PARTS DESCRIPTION
1	Porcelain Top
2	Cabinet*
3	Access Panel
4	Drain Valve
5	Toe Panel
6	Model & Rating Plate†
7	Dip Tube
8	Anode Rod
9	Cabinet Back*
10	Terminal Protector
11	4 Pole Thermostat w/4 Pole Reset
12	2 Pole Thermostat
13	2 Pole Thermostat w/4 Pole Reset
14	2 Pole Thermostat w/2 Pole Reset
15	Element (Screw In)
16	Element Gasket
17	Thermostat Bracket

*Not mailable

†Replaced only upon return of damaged plate

CONTROL AND ELEMENT GROUP



NOTE: All thermostats used are shown above. Refer to your heater and electrical wiring diagram for proper thermostats when ordering repair parts.

CRANE01183

REPAIR PART PRICES

The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248, Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) model and serial number, (3) voltage, (4) element wattage. Please give the complete serial number, EXAMPLE A75643218

DO NOT ORDER BY ITEM NUMBER ONLY.

ITEM NO.	PARTS PRICES							PARTS DESCRIPTION
	21" 20 gal.	24" 20 gal.	21" 30 gal.	24" 30 gal.	21" 40 gal.	24" 40 gal.	24" 50 gal.	
1	21.00	30.00	21.00	30.00	21.00	30.00	30.00	Porcelain Top
2	Availability, Pricing, & Shipping Information Upon Request							Cabinet*
3	4.50	4.50	4.50	4.50	4.50	4.50	4.50	Access Panel
4	3.00	3.00	3.00	3.00	3.00	3.00	3.00	Drain Valve
5	2.25	2.25	2.25	2.25	2.25	2.25	2.25	Top Panel
6	1.05	1.05	1.05	1.05	1.05	1.05	1.05	Model & Rating Plate†
7	2.25	2.25	2.25	2.25	2.25	2.25	2.25	Dip Tube
8	7.50	7.50	7.50	7.50	7.50	7.50	7.50	Anode Rod
9	Availability, Pricing & Shipping Information Upon Request							Cabinet Back*
10	.90	.90	.90	.90	.90	.90	.90	Terminal Protector
11	15.75	15.75	15.75	15.75	15.75	15.75	15.75	4 Pole Thermostat w/4 Pole Reset
12	8.25	8.25	8.25	8.25	8.25	8.25	8.25	2 Pole Thermostat
13	14.25	14.25	14.25	14.25	14.25	14.25	14.25	2 Pole Thermostat w/4 Pole Reset
14	14.25	14.25	14.25	14.25	14.25	14.25	14.25	2 Pole Thermostat w/2 Pole Reset
15	10.50	10.50	10.50	10.50	10.50	10.50	10.50	Element (Screw In)
16	.90	.90	.90	.90	.90	.90	.90	Element Gasket
17	1.05	1.05	1.05	1.05	1.05	1.05	1.05	Thermostat Bracket
	◄ CTEP975 ►							Instruction Booklet

†Replaced only upon return of damaged plate

*Not available

ELEMENT TABLE, 236 VOLT

WATTAGE	1000	1500	2500	3500	4500	6000
PRICE	10.50	10.50	10.50	10.50	10.50	10.50

Element Prices include Mounting Hardware.

IMPORTANT

If further information is required, it will be furnished from Crane Supply Company, Dept. CSW, Box 248, Ashland City, Tennessee 37015.

TERMS: NET CASH PRICES F.O.B. FACTORY.

Prices subject to change without prior notice.

INSTALLATION & OPERATING INSTRUCTIONS
REPAIR PARTS
GLASSLINED MIDGET MOBILE
ELECTRIC WATER HEATERS

CMEP 975

INSTALLATION RECORD

MODEL NO. _____

SERIAL NO. _____

INSTALLED BY: _____

INSTALLATION DATE: _____

INSTALLATION

WARNING:
NEVER OPERATE THE ELECTRICAL HEATING ELEMENTS WITHOUT BEING CERTAIN THE HEATER IS COMPLETELY FILLED WITH WATER.

Local Codes

The installation of the water heater must be in accordance with these instructions and all applicable local codes and electric utility requirements.

Safety

The heater is approved and equipped with a factory installed high temperature limit switch as a part of the heater. In addition to this device, a new approved temperature and pressure relief valve shall be installed at the time of installation of the heater. Local codes shall govern the installation of the heater. Local codes shall govern the installation of relief devices.

The pressure setting of the relief valve should not exceed the working pressure shown on the heater.

Failure to install a properly rated ASME and AGA approved temperature and pressure relief valve will release the manufacturer from any claim which might result from excessive temperatures or water pressures.

LOCATION

With an electric water heater, the choice is one of convenience.

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

Connect ¾" water lines. Cold water inlet connects to right hand opening at the top of heater (facing heater), and hot water outlet connects to left hand nipple, per illustration back of page. Fill tank with water. A hot water faucet in the house should be open to release entrapped air.

WIRING

Determine voltage and wattage from the rating plate attached to the water heater. All external wiring, connections and overcurrent protective devices must be provided and installed in accordance with the latest National Electrical Code, local codes and local Electric Utility requirements. To ensure conformance with the above consult with your Electric Utility.

This water heater must be electrically "grounded" by the installer. Using a screw on the heater junction box, a wire must be run to connect the heater to an uninterrupted metallic ground.

MAINTENANCE

Once a month the drain valve should be opened and water allowed to run until it flows clean. This will help to prevent sediment buildup in the tank bottom.

Thermostat

Each thermostat is factory pre-set at 150° F. This setting has proven by experience to be most satisfactory from the standpoint of operational costs and household needs.

To adjust:

1. Turn off the electrical supply to the water heater.
2. Remove the element and thermostat access panel.
3. The insulation covering the plastic thermostat and hi-limit protector should be carefully folded aside.
4. Remove the plastic thermostat and hi-limit protector.
5. Adjust the thermostat to the desired water temperature. The high temperature limit switch is attached above the upper thermostat on double element heaters. NOTE: in certain areas the lower thermostat will also have a hi-limit attached because of special wiring required. If it becomes necessary to reset the high limit:
   1. Turn off the electrical supply to the water heater.
   2. Remove the element and thermostat access panel.
   3. The insulation covering the plastic thermostat and hi-limit protector should be carefully folded aside.
   4. Press the reset button visible through the hole in the plastic thermostat and hi-limit protector.
   5. After adjustment of the thermostat or resetting of the hi-limit the insulation and front panel must be replaced before restoring power to the heater.

WATER HEATER SOUNDS

1. This electric water heater is equipped with a high watt density immersion heating element for fastest recovery. If the heater occasionally makes noises this is not a defect or a safety hazard.
2. Lime or scale has accumulated on the heating element causing a hissing sound. Element scale removal can be accomplished by using vinegar or by scraping.

CAUTION

If element replacement is necessary, be certain that the electrical specifications of the new element are consistent with electric-utility company requirements.

DRAINING

If the heater is to be shut off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater.

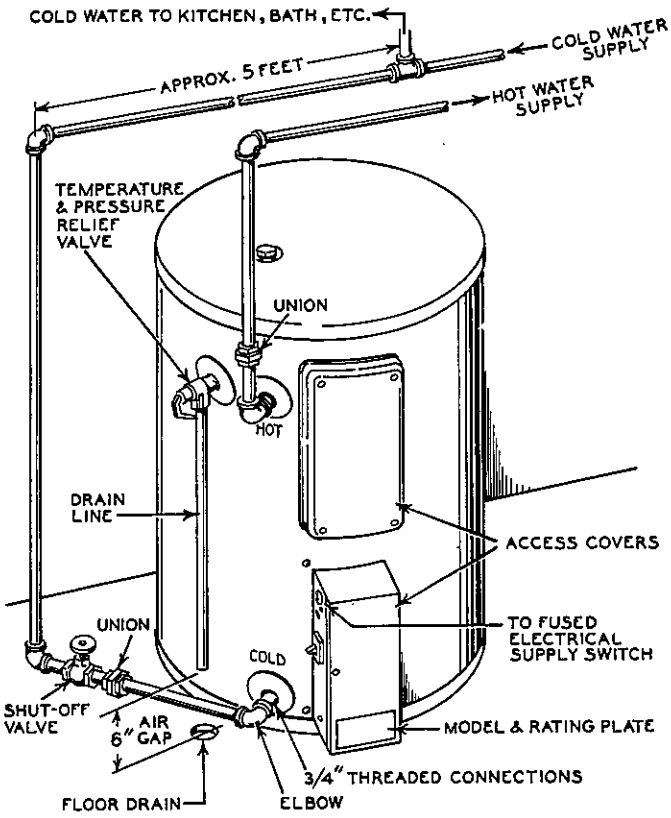
1. Turn off the electrical and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.
3. The drain valve must be left open during the shut-down period.

NOTE:
Only certain models come equipped with a drain valve. If one is not located to the lower right side of the lower access panel your model heater does not have a factory installed drain valve. One should be supplied as a plumbing option, at the time of installation.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

TYPICAL WATER PIPING INSTALLATION ALL MODELS

CHECK ALL CONNECTIONS FOR LEAKS. CONSULT YOUR LOCAL UTILITY COMPANY TO EXAMINE INSTALLATION FOR PROPRIETY AND SAFETY.



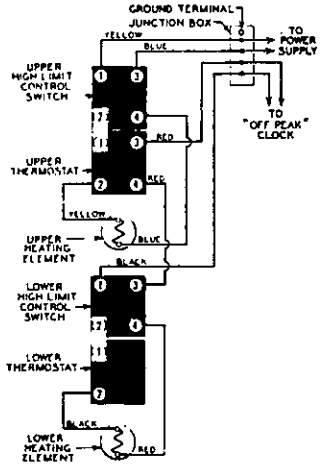
* Plumbing option and not part of the heater as shipped from the factory.

**Switch used on 118 vol models only.

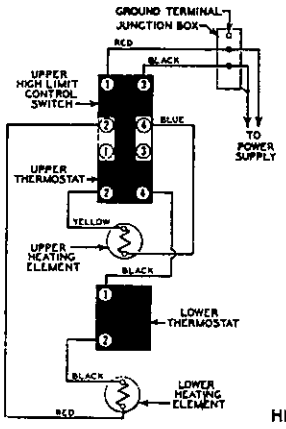
TO PROTECT AGAINST UNTIMELY CORROSION OF HOT AND COLD WATER FITTINGS, IT IS STRONGLY RECOMMENDED THAT DIELECTRIC UNIONS OR COUPLING BE INSTALLED ON THIS WATER HEATER WHEN CONNECTED TO COPPER PIPE.

WIRING DIAGRAMS

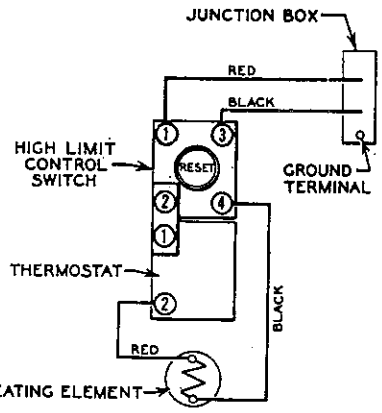
Standard double element "off peak" interlock 240 volt



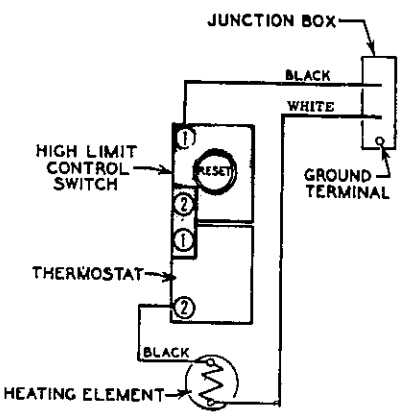
Standard double element interlock 240 volt



Standard single element 240 volt



Standard single element 118 volt



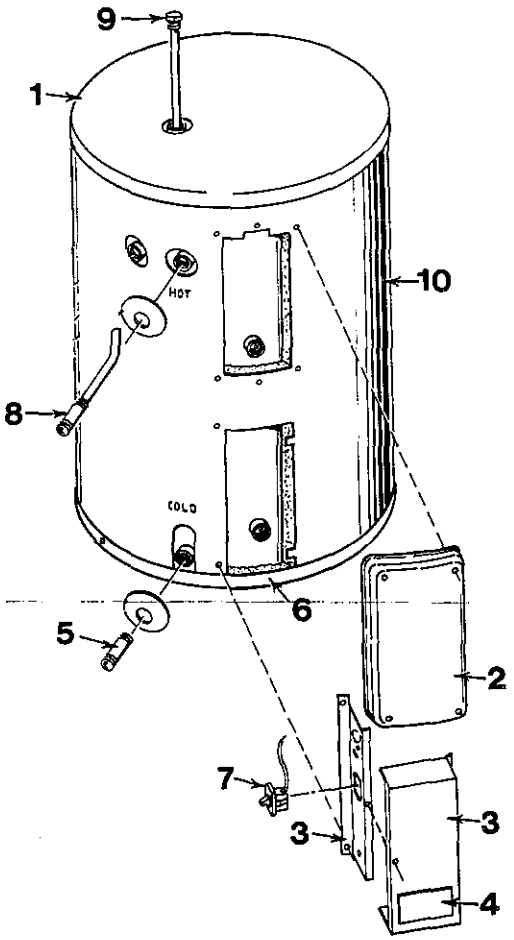
CRANE01186

REPAIR PARTS

The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248. Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) model and serial number, (3) voltage, (4) element wattage. Please give the complete serial number,EXAMPLE A75643218

PARTS ILLUSTRATION

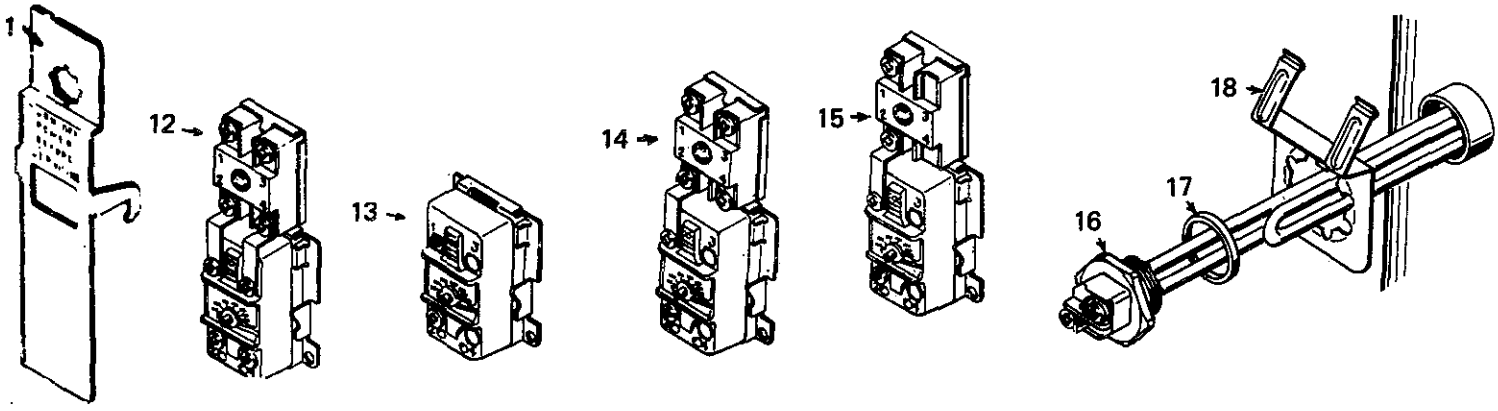


DO NOT ORDER BY ITEM NUMBER ONLY

ITEM NO.	PARTS DESCRIPTION
1	Jacket Top
2	Access Cover (Used on double element models only)
3	Access Cover
4	Model & Rating Plate†
5	Inlet Nipple
6	Jacket Bottom
7	Switch (Used on 118 volt models only)
8	Heat Trap Assembly
9	Anode Rod
10	Jacket*
11	Terminal Protector
12	4 Pole Thermostat w/4 Pole Reset
13	2 Pole Thermostat
14	2 Pole Thermostat w/4 Pole Reset
15	2 Pole Thermostat w/2 Pole Reset
16	Element (Screw in)
17	Element Gasket
18	Thermostat Bracket

*Not mailable
†Replaced only upon return of damaged plate

CONTROL AND ELEMENT GROUP



NOTE: All thermostats used are shown above. Refer to your heater and electrical wiring diagram for proper thermostats when ordering repair parts.

CRANE01187

REPAIR PART PRICES

The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248, Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) model and serial number, (3) voltage, (4) element wattage. Please give the complete serial number, EXAMPLE A75643218

DO NOT ORDER BY ITEM NUMBER ONLY.

ITEM NO.	PARTS PRICES										PARTS DESCRIPTION
	6 gal.	10 gal.	15 gal.	17 gal.	20 gal. short	20 gal. tall	30 gal. short	30 gal. L.B.	42 gal. L.B.	52 gal. L.B.	
1	7.50	7.50	7.50	7.50	9.00	7.50	9.00	9.00	10.50	15.00	Jacket Top
2	—	—	—	—	4.50	4.50	4.50	4.50	4.50	4.50	Access Cover (used on double element models only)
3	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50	Access Cover
4	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	Model & Rating Plate†
5	.60	.60	.60	.60	.60	.60	.60	—	—	—	Inlet Nipple
6	7.50	7.50	7.50	7.50	9.00	7.50	9.00	9.00	9.00	15.00	Jacket Bottom
7	1.50	1.50	1.50	1.50	1.50	1.50	1.50	—	—	—	Switch (used on 118 volt models only)
8	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25	Heat Trap Assembly
9	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50	Anode Rod
10	Availability, Pricing & Shipping Information Upon Request										Jacket*
11	—	—	—	—	—	—	—	3.15	3.15	3.15	Drain Valve
12	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	Terminal Protector
13	—	—	—	—	15.75	15.75	15.75	15.75	15.75	15.75	4 Pole Thermostat w/4 Pole Reset
14	—	—	—	—	8.25	8.25	8.25	8.25	8.25	8.25	2 Pole Thermostat
15	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	2 Pole Thermostat w/4 Pole Reset
16	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	14.25	2 Pole Thermostat w/2 Pole Reset
17	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	10.50	Element (Screw In)
18	.90	.90	.90	.90	.90	.90	.90	.90	.90	.90	Element Gasket
19	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	1.05	Thermostat Bracket
	◄ CMEP 975 ►										Instruction Booklet

†Replaced only upon return of damaged plate

*Not mailable

ELEMENT TABLE

Element Wattage	118 Volt Prices	236 Volt Prices
1000	—	10.50
1250	10.50	—
1500	—	10.50
1650	10.50	—
2500	—	10.50
3500	—	10.50
4500	—	10.50

Element prices include mounting hardware.

IMPORTANT

If further information is required, it will be furnished from Crane Supply Company, Dept. CSW, Box 248, Ashland City, Tennessee 37015.

TERMS: NET CASH PRICES F.O.B. FACTORY.

Prices subject to change without prior notice.

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CRANE01188

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CRANE®

CRANE®

DUTY MASTER

COMMERCIAL WATER HEATER

COMMERCIAL GAS

Instructions for . . .

SAFETY
INSTALLATION
OPERATION
MAINTENANCE
& ORDERING PARTS

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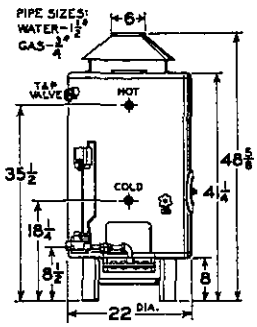
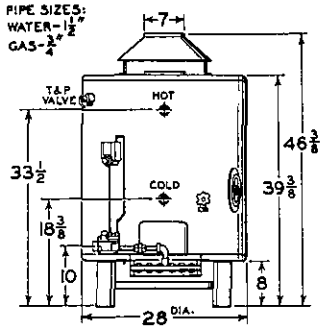
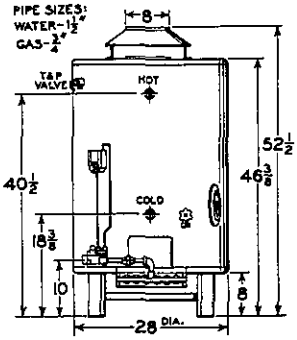
You have purchased the highest quality water heater available for commercial, industrial and institutional installation. These instructions have been prepared for you in order that you may derive full benefits from your new water heating system. This manual applies to the following Commercial Water Heaters:



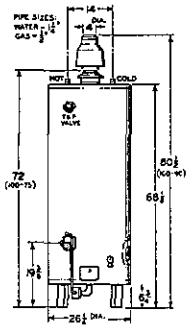
150/20-150
20 Gal.
150,000 Btu



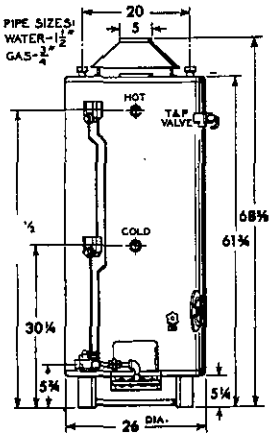
199/225
199,900 Btu 225,000 Btu



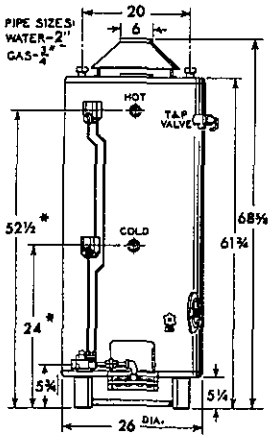
310
310.000 Btu



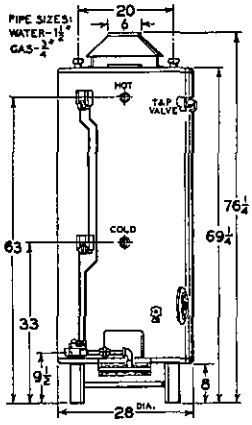
100-75/100-90
100 Gal.
75,000 Btu/90,000 Btu



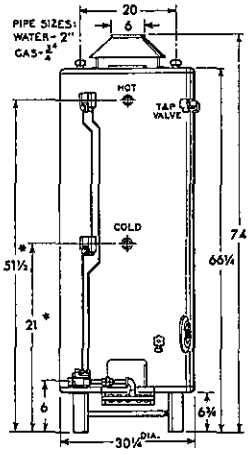
80-180
80 Gal.
180,000 Btu



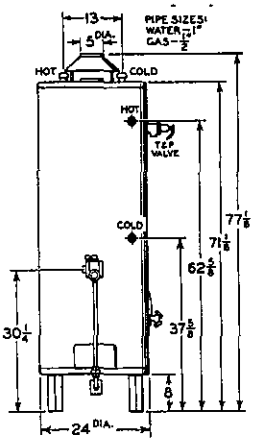
80-180H
80 Gal.
180,000 Btu



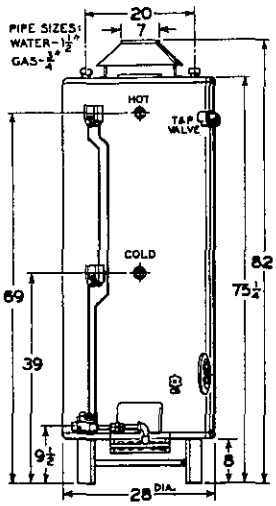
85-199/85-250
85 Gal.
199,900 Btu/250,000 Btu



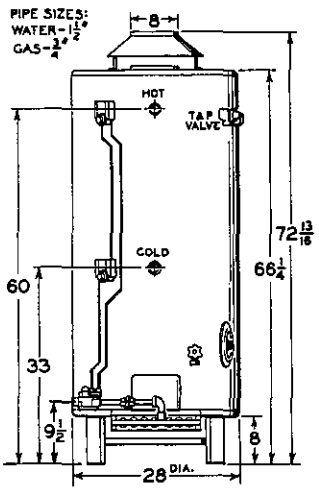
100-199H/100-260H
100 Gal.
199,000 Btu/260,000 Btu



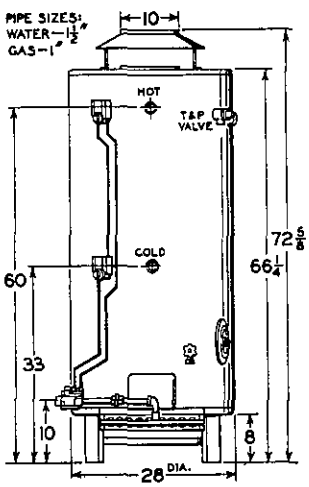
75/120
75 Gal.
120,000 Btu



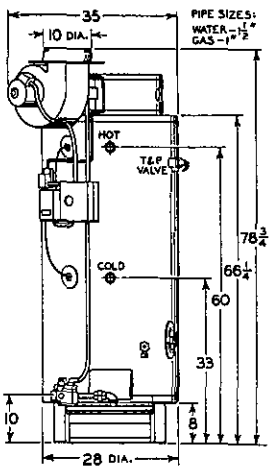
100-199/100-270
100 Gal.
199,900 Btu/270,000 Btu



75-360
75 Gal.
360,000 Btu



70-500
70 Gal.
500,000 Btu



70/725
70 Gal.
725,000 Btu

CRANE01193

SAFETY

FOR SAFE OPERATION, PLEASE TAKE THE TIME TO READ THIS INSTRUCTION BOOK BEFORE ATTEMPTING TO INSTALL YOUR NEW WATER HEATER. THE INSTRUCTIONS IN THIS BOOK ARE INTENDED TO HELP YOU AVOID UNNECESSARY ACCIDENTS AND SERVICE COSTS BEYOND OUR CONTROL. PLEASE READ IT FIRST.

SAFETY HINTS

1. Before installation, check your installation instructions, applicable local codes and gas company requirements.

2. A new A.G.A. design certified temperature and pressure relief valve with limits no greater than 210° F. and 150 pounds pressure must be installed properly at time of heater installation. Three year models come equipped with a factory installed temperature and pressure relief valve.

   Failure to install, or an improperly installed temperature and pressure relief valve, will release the manufacturer from claims resulting from excessive temperature and pressures.

3. Installation clearances at rear and sides of heater must be no less than 6 inches. Heater must be located on a non-combustible floor.

4. Flue pipe clearance must be at least 6 inches from combustible surfaces.

5. Adequate combustion and ventilation air must be provided for proper combustion and vent action.

6. Apply pipe thread compound resistant to the action of liquified Petroleum gases.

7. Do not reduce flue pipe size below that of draft hood opening, nor alter draft hood or its relief openings.

8. Check all gas piping, including factory piping for leaks, using a soapy water solution or non-flamable leak detection fluid. The use of matches, candles, or open flame may cause an extreme fire hazard.

9. Consult your local gas utility to examine installation for propriety and safety.

CONTENTS

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Installation 4-7
70-725 Wiring Diagram 8
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Parts 14-27
Performance 28

All appliances included in this manual were tested under "Title of Standards" ANS 221.10.3

INSTALLATION

GENERAL INFORMATION

Pages 8 and 11-13 show detailed installation diagrams. Check them thoroughly for materials and method before starting installation to avoid possible errors and lost time.

TYPE OF GAS

Make sure gas supply is the same as specified on rating plate of heater. If rating plate specifies another type gas, **do not** install heater.

LOCATING THE HEATER

(See "Important" note, Page 22)

Locate heater as close to stack or chimney as possible. The stack or chimney must be free of soot or other obstructions.

Installation of water heater should be accomplished in such a manner that if its tank or other connections should leak, the resulting flow of water shall not cause damage to an adjoining area. Under no condition is the supplier nor the manufacturer to be held liable for any water damage in connection with this water heater.

FLUE PIPE SIZE AND INSTALLATION

All products of combustion and vent gases must be completely removed to the outside air without condensation in vent or spillage at draft hood. Horizontal runs of flue pipe must have ¼" per lineal foot min. upward pitch.

Use strong, gas tight pipe for proper venting with a cross-sectional area equal to that of the draft hood outlet. Observe clearances from all combustible material and provide vent outlet with an approved cap.

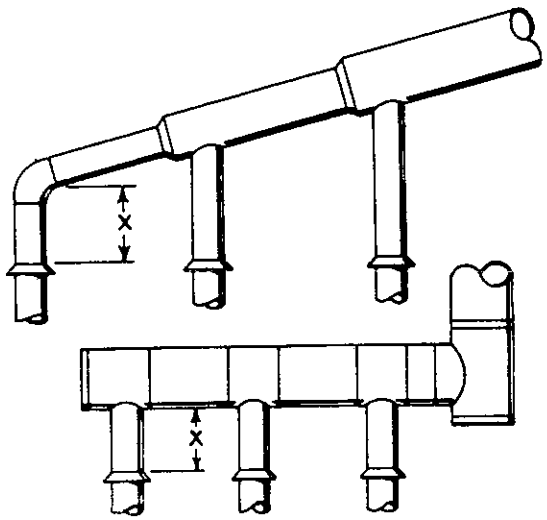
In addition to local ordinances and utility requirements consult the American Standards Association "Installation of Gas Piping and Gas Appliances in Buildings" as a guide.

Where continuous or intermittent backdraft is found to exist, check chimney conditions. In some cases a blower type flue gas exhauster must be employed between the appliance and the stack to assure proper venting and correct combustion.

Combining vents as shown is satisfactory, providing the basic rules of good venting are observed. In either case, the vertical rise above draft hood (X) before any fittings, should be as great as possible. All venting connections should be made in accordance with local codes and ordinances.

300 LBS. PER SQ. IN. HYDROSTATIC TEST PRESSURE
150 LBS. PER SQ. IN. WORKING PRESSURE A.G.A.

MODEL NO.		SERIAL NO.	
		1972	
EQUIPPED FOR	**INPUT**	**RECOVERY**	**CAPACITY**
GAS	**B.T.U./HR.**	**GALS./HR.**	**U.S. GALS.**



When vents are combined, area of the combined vent should be equal to area of the largest single vent, plus 50% of area of all others joining it.

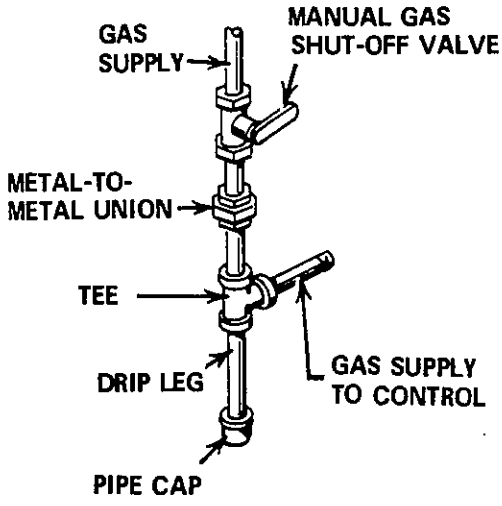
EXAMPLE: To combine two 6" vents with an 8" vent, the area of a combined vent should be one half area of two 6 inch inch vents (14 + 14) plus area of 8 inch vent (50) or 78 sq. inches. Referring to chart, 78 sq. inches require 10" diameter vent.

Vent Size	Square Inches	Vent Size	Square Inches
5"	20	10"	79
6"	28	12"	113
7"	38	14"	154
8"	50	16"	201
9"	64	18"	225

COMBUSTION AND VENTILATION AIR

It is imperative to have an adequate supply of combustion air for gas burning appliances. (One square inch for each 1,000 BTU input.) 70-725 requires a minimum of 1600 sq. inches combustion and vent air. Air is being drawn into combustion chamber from surrounding areas for combustion, as well as providing ventilation for proper vent action. Therefore, it is important that local codes be consulted when equipment is being installed in a closely confined area.

Where an exhaust fan is installed in the same room as heater, air will be drawn into the room through the chimney. Air supply openings must be large enough to admit air exhausted by the fan and that required by all gas burning appliances. A downdraft or back-draft will prevent proper combustion, causing soot which may result in serious damage to the heater. **(See "Important" note, Page 28).**



SIZE OF GAS SUPPLY LINE

Use gas supply line of adequate size to insure full gas input to heater. Porivde and install necessary pipes, fittings, valves, etc. to each heater as shown in illustration. Apply pipe thread compound resistant to the action of liquified petroleum gases.

Gas piping to heater(s) must be large enough to carry the full load without abnormal pressure drop. The following charts show recommended gas pipe size for heaters installed at various distances from gas meter, based on a pressure drop of 0.3 inch water column, and specific gravity of 0.6 (propane gas 1.53). If gas pressure at outlet of meter is less than 5 inches water column, use pipe one size larger than indicated in table.

GAS PIPE SIZES

Correct gas pipe size for heaters operating on NATURAL GAS							
Total Input BTU/hr	DISTANCE TO METER, IN FEET						
	30	60	90	120	150	180	210
65,000	½	¾	¾	¾	1	1	1
100,000	¾	1	1	1	1¼	1¼	1¼
150,000	¾	1	1	1¼	1¼	1¼	1¼
200,000	1	1¼	1¼	1¼	1¼	1¼	1¼
300,000	1¼	1¼	1¼	1½	1½	1½	1½
400,000	1¼	1½	1½	1½	2	2	2
500,000	1¼	1½	2	2	2	2	2
600,000	1½	2	2	2	2	2	2
750,000	1½	2	2	2	3	3	3

Correct gas pipe size for heaters operating on MIXED GAS							
Total Input BTU/hr	DISTANCE TO METER, IN FEET						
	30	60	90	120	150	180	210
65,000	¾	¾	¾	1	1	1	1
100,000	1	1	1	1¼	1¼	1¼	1¼
150,000	1	1	1¼	1¼	1¼	1¼	1¼
200,000	1	1¼	1¼	1¼	1¼	1½	1½
250,000	1¼	1¼	1¼	1½	1½	1½	1½
300,000	1¼	1½	1½	1½	1½	2	2
400,000	1¼	1½	2	2	2	2	2
500,000	1½	1½	2	2	2	2	2
600,000	1½	2	2	2	2	2	2½
750,000	2	2	2	2½	2	2½	2½

Correct gas pipe size for heaters operating on MANUFACTURED GAS							
Total Input BTU/hr	DISTANCE TO METER, IN FEET						
	30	60	90	120	150	180	210
65,000	¾	1	1	1¼	1¼	1¼	1¼
100,000	1	1	1¼	1¼	1¼	1¼	1¼
150,000	1¼	1¼	1¼	1½	1½	1½	1½
200,000	1¼	1¼	1½	1½	1½	2	2
250,000	1¼	1½	2	2	2	2	2
300,000	1¼	1½	2	2	2	2	2
400,000	1½	2	2	2	3	3	3
500,000	2	2	2½	2½	3	3	3
600,000	2	2½	2½	2½	3	3	3
750,000	2	2½	3	3	3	3	3

Correct gas pipe size for heaters operating on LIQUEFIED PROPANE GASES							
Total Input BTU/hr	DISTANCE TO METER, IN FEET						
	30	60	90	120	150	180	210
65,000	½	½	½	½	½	½	½
100,000	¾	¾	¾	1	1	1	1
150,000	¾	¾	1	1	1	1	1¼
200,000	¾	1	1	1¼	1¼	1¼	1¼
250,000	1	1	1	1¼	1¼	1¼	1¼
300,000	1	1¼	1¼	1¼	1¼	1¼	1¼
400,000	1¼	1¼	1¼	1¼	1½	1½	1½
500,000	1¼	1¼	1¼	1½	1½	1½	1½
600,000	1¼	1½	1½	1½	2	2	2
750,000	1¼	1½	2	2	2	2	2

GAS METER SIZE

Be sure gas meter has adequate capacity for the complete building load, including new heater(s) and other gas burning appliances. Consult your local utility if meter is under sized.

GAS PRESSURE REGULATION

All water heaters described in this manual are furnished with a gas pressure regulator when equipped for natural gas.

The installer should check the outlet pressure by installing a manometer in provided "pressure tap" of the control. Pressure reading should be between 3.5 and 4.0 inch water column. Minor adjustments, if necessary, can be made with pressure adjusting screw, located on top of control.

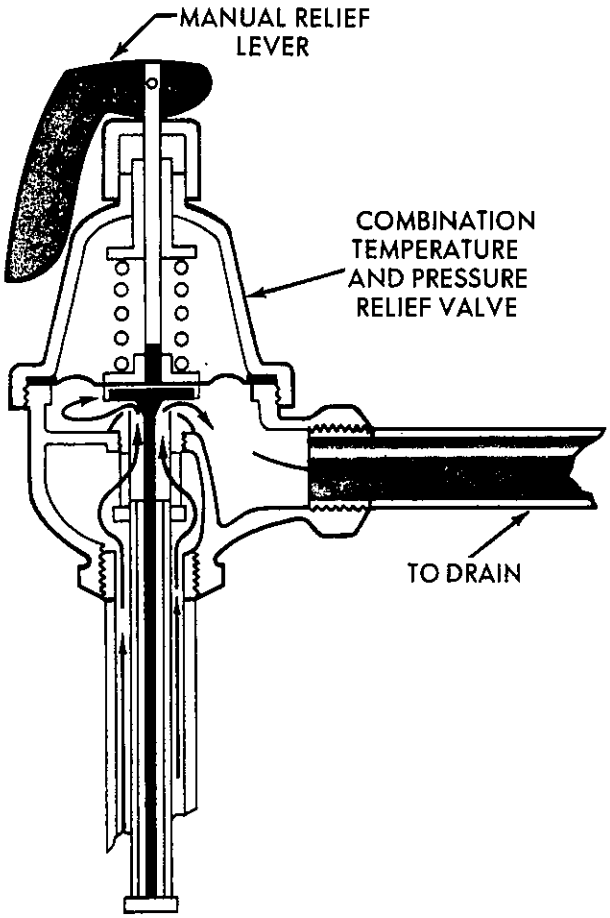
Having established proper gas pressure settings, the heater should be checked for proper firing rate indicated on rating plate. If your installer is not equipped, nor familiar with the above procedures, contact your local gas company or gas dealer before lighting your heater.

WATER PRESSURE REGULATION

It is strongly recommended that fluctuations of water pressure and "water hammer" (both have damaging effect on tanks) be controlled by installation of a pressure reducing valve in cold water supply line; particularly when incoming pressures exceeds 60 psi. It is essential, however, to investigate the demands of all fixtures supplied by the hot water system before deciding on one pressure reducing valve in the main supply line. A multiple installation of such valves may be necessary throughout the system, due to wide variation in hot water demands.

CAUTION: Some pressure reducing valves permit the flow of water in one direction only. Due to water expanding when heated, it is a must that a pressure relief valve be used in conjunction with a pressure reducing valve.

TEMPERATURE AND PRESSURE RELIEF VALVE



To prevent possible danger of over heating, a temperature relief valve is a must. A new A.G.A. design certified valve with limits no greater than 210° F. and 150 pound pressure must be installed in provided relief valve opening.

Three year models are factory furnished with a properly sized combination temperature and pressure relief valve as standard equipment. It is an automatic reseating lever type, approved by ASME, so located in the water heater tank as to provide quickest sensing and proper functioning.

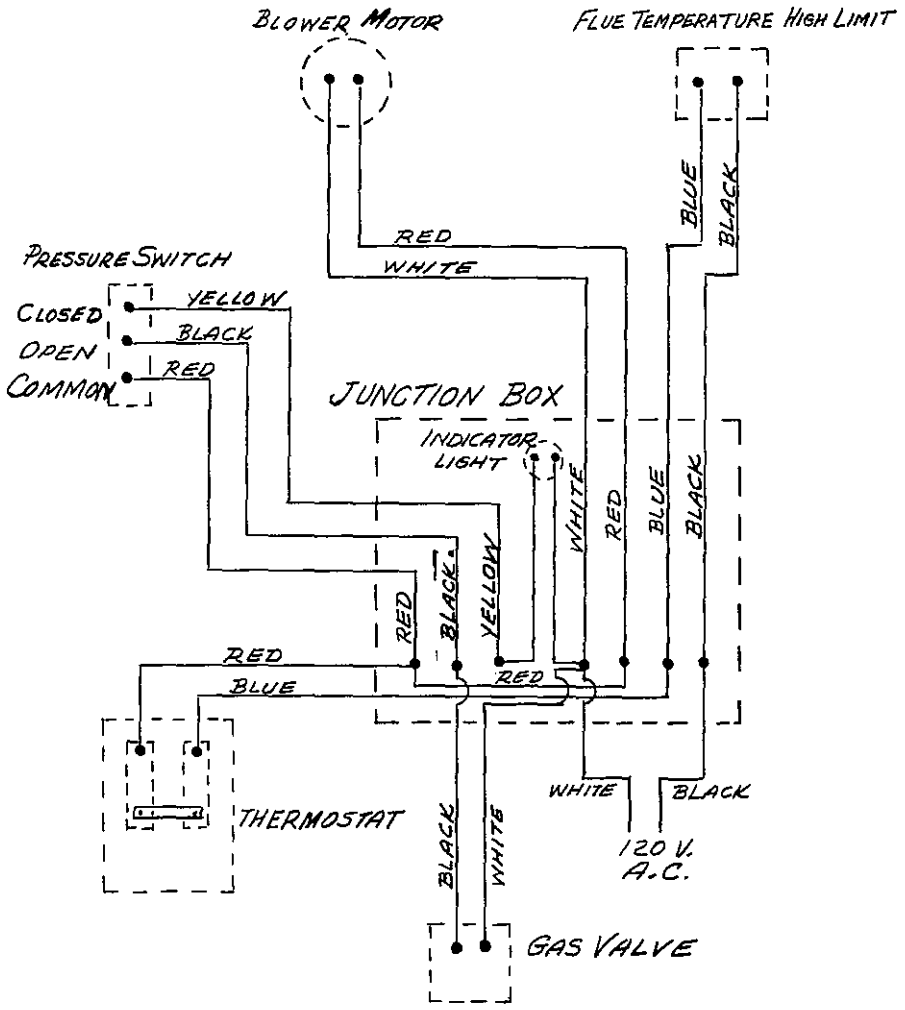
One year models are certified and equipped with an automatic gas shut off system actuated by high water temperature. A listed combination temperature and pressure relief valve shall be installed at time of installation of heater. Local codes shall govern installation of relief devices.

Install a pipe from relief valve outlet to an open drain, or other suitable drainage point not subject to freezing.

USE PIPE SIZE EQUIVALENT TO OUTLET OF "T & P" VALVE.

DO NOT REDUCE PLUG OR CAP OUTLET.

70-725 WIRING DIAGRAM



DIAGRAM, WIRING
70-725

IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE APPLIANCE MUST BE REPLACED, IT MUST BE REPLACED WITH 105 °C. WIRE OR IT'S EQUIVALENT.

059182

MINIMUM LINE VOLTAGE WIRE – #14 AWG

This water heater must be electrically "grounded" by the installer. Using a screw on the heater junction box, a wire must be run to connect the heater to an uninterrupted metallic ground.

NOTE: IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE HEATER MUST BE REPLACED, IT MUST BE REPLACED WITH 105° C. THERMOPLASTIC AWM WIRE OR ITS EQUIVOLENT.

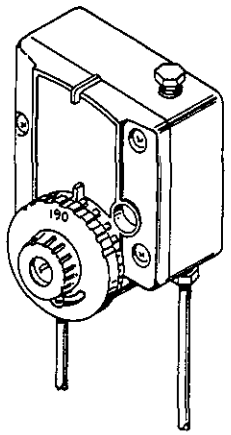
OPERATION

GENERAL INFORMATION

Before lighting heater, be certain heater and system is filled with water. Expel air by opening all hot water faucets. Close faucets and inspect system for leaks; repair, if necessary.

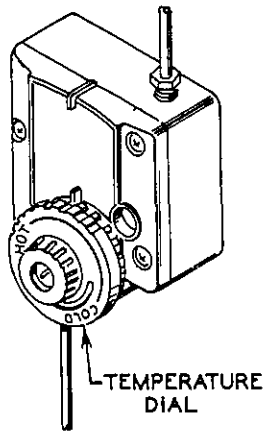
UPPER THERMOSTAT

Models: 80-180, 85-199, 85-250, 100-199, 100-260, 100-270, 75-360, & 70-500 have a fixed (non-adjustable) thermostat set at 190°.



LOWER THERMOSTAT

To vary temperature of delivered hot water, adjust temperature dial from approximately 110 degrees to 180 degrees F.



PILOT BURNER ADJUSTMENT, ALL MODELS

Remove pilot key cap. Turn pilot adjusting screw (counterclockwise to open, clockwise to close) until pilot burns with a strong blue flame. Do not allow pilot flame to rise off pilot or burn lazily. Replace pilot key cap.

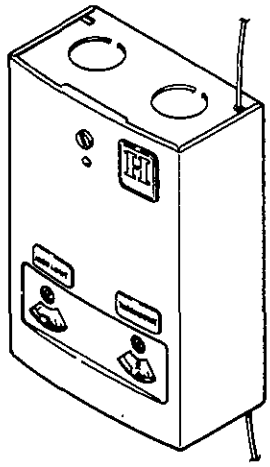
MAIN BURNER AIR ADJUSTMENT

These models have a metered air supply burner which requires no further adjustments.

70-725

THERMOSTAT

Serves a dual purpose. To set desired temperature adj. dial marked "heater". To set desired Hi Limit adj. dial marked "Hi Limit". DO NOT SET "HI LIMIT" BELOW SETTING OF DIAL MARKED "HEATER".

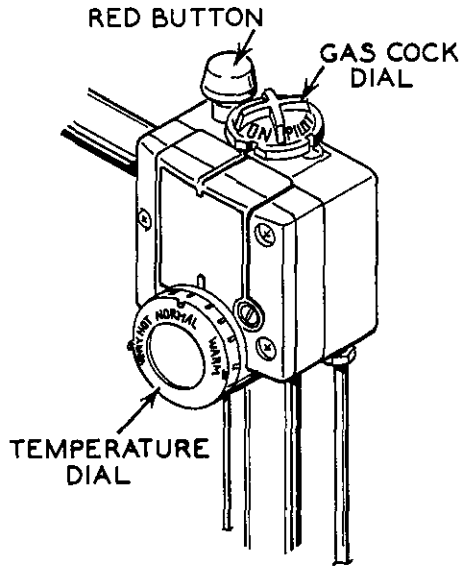


OPERATIONAL SEQUENCE

Thermostat calls for heat, completing a circuit thru the ECO, and then to blower. When blower has achieved sufficient venting the pressure switch activates the gas control value (indicator light goes off) and burn comes on.

FLUE TEMP HIGH LIMIT

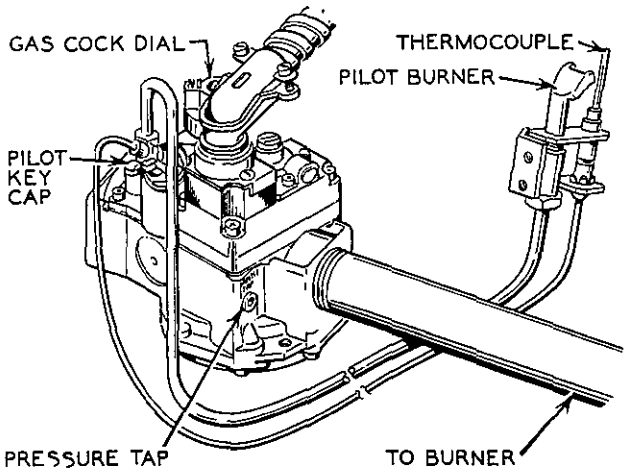
Check for vent blockage.
Turn current to heater off. Remove access cover on ECO located behind right side of blower. Push red reset button, replace access cover and restore current to heater.



LIGHTING INSTRUCTIONS FOR MODEL:

75-120, **100-90/100-75**

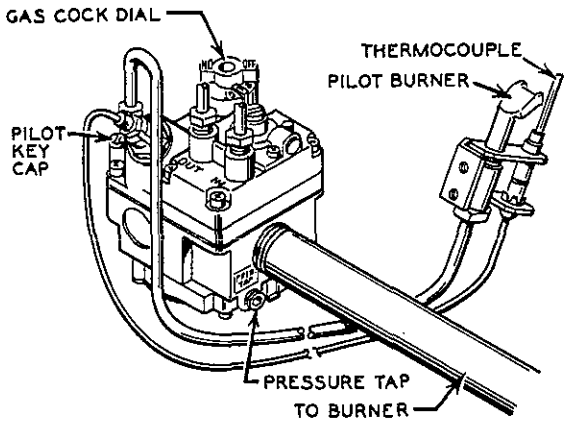
1. Turn gas cock dial to "OFF" position.
2. Wait five (5) minutes.
3. Turn gas cock dial to "PILOT" position.
4. Depress and hold red button for 60 seconds while lighting the pilot.
5. Release red button, (if pilot does not remain lighted, repeat step 4). Turn gas cock dial to "ON" position.
6. Set temperature indicator of thermostat to desired position.
7. To shut down heater, turn gas cock dial to "OFF".



LIGHTING INSTRUCTIONS FOR MODEL:

70-725

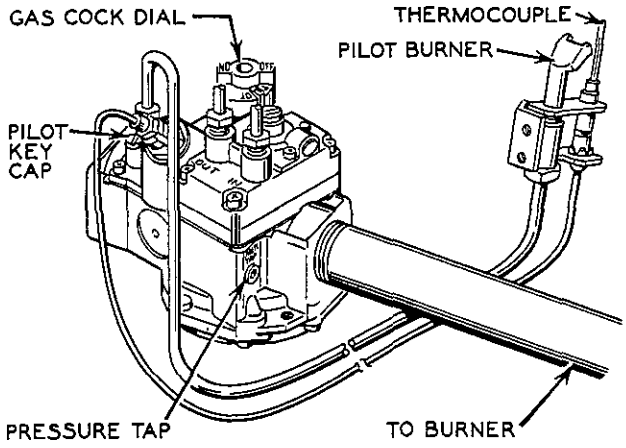
1. Turn gas cock dial to "OFF" position.
2. Wait five (5) minutes.
3. Turn gas cock dial to "PILOT" position.
4. Depress and hold gas cock dial for 60 seconds while lighting the pilot.
5. Release gas cock dial, (if pilot does not remain lighted, repeat step 4). Turn gas cock dial to "ON" position.
6. Set temperature indicator of heater thermostat to desired position.
7. To shut down heater, turn gas cock dial to "OFF".



LIGHTING INSTRUCTIONS FOR MODELS:

150, 199, 225, 310, 20-150, 80-180, 85-199, 85-250, 100-199, 100-260, 100-270, & 75-360.

1. Depress and turn gas cock dial to "OFF" position.
2. Wait five (5) minutes.
3. Turn gas cock dial to "PILOT" position.
4. Depress and hold gas cock dial for 60 seconds while lighting the pilot.
5. Release gas cock dial, (if pilot does not remain lighted, repeat step 4). Turn gas cock dial to "ON" position.
6. Set temperature indicator of lower thermostat to desired position.
7. To shut down heater, turn gas cock dial to "OFF".



LIGHTING INSTRUCTIONS FOR MODEL:

70-500

1. Depress and turn gas cock dial to "OFF" position.
2. Wait five (5) minutes.
3. Turn gas cock dial to "PILOT" position.
4. Depress and hold gas cock dial for 60 seconds while lighting the pilot.
5. Release gas cock dial, (if pilot does not remain lighted, repeat step 4). Turn gas cock dial to "ON" position.
6. Set temperature indicator of lower thermostat to desired position.
7. To shut down heater, turn gas cock dial to "OFF".

MAINTENANCE

1. Keep your heater clean and free of lint. Accumulation of lint under the heater, near the draft hood, or near the burner access door will cause an extreme fire hazard.

2. When mopping floor around heaters, do not splash water over gas controls for it will render them inoperative. Make certain that installer provides a drain pipe from outlet of relief valve to a drain to prevent relief water from flooding control and surrounding area.

3. Some particular water areas have excessive amounts of lime and minerals present (hard water). Periodic draining and cleaning will prevent the rapid buildups of such deposits. Replace cleanout gasket after removal of hand hold cleanout! If the sediments are not removed, a resulting rumbling and boiling noise will be heard. The manufacturer's warranty on this heater will not be valid if lime or scale deposits are allowed to accumulate excessively in the tank causing failure due to restricted heat transfer. (See Instruction Book).

   Removal of excessive sediments can be accomplished by using "Mag-Erad" or other suitable de-liming chemicals sold for cleaning tanks of sediment. Follow the manufacturers' guidelines for use.

4. This heater is provided with a magnesium anode which is important to the tank life. An occasional check should be made to determine if replacement is required.

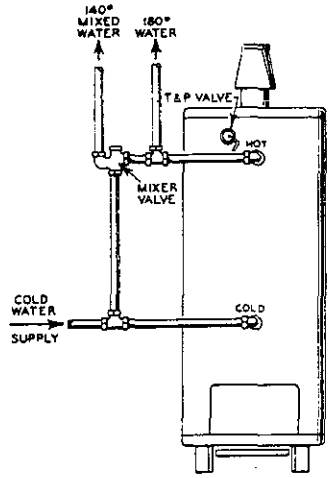
The following procedure is recommended for draining your water heater tank.

1. Shut off gas to water heater.
2. Shut off the cold water supply.
3. Open the drain valve on the tank, and a hot water outlet. Allow water to drain either to the desired level, or until tank is empty.

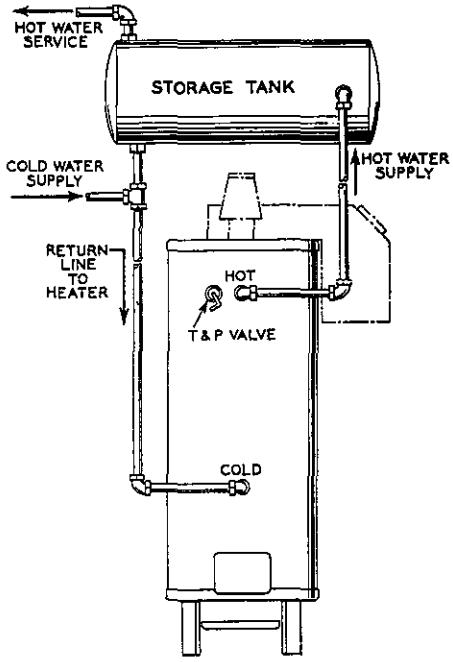
   When refilling tank, turn on water and allow it to run out the open hot water faucet, keeping the hot water faucet open until it is running smoothly and is free of entrapped air. Turn on gas to water heater and relight pilot.

INSTALLATION DIAGRAMS

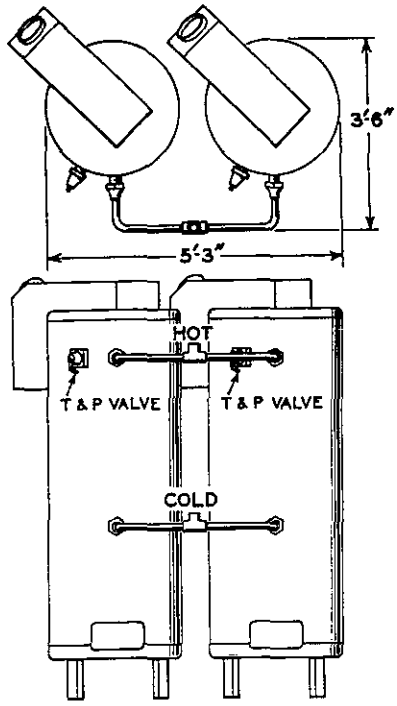
SINGLE INSTALLATION
with mixing valve
DUAL TEMPERATURE WATER



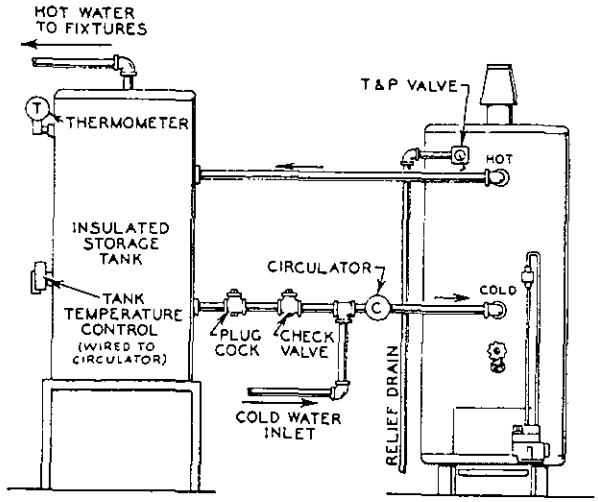
SINGLE INSTALLATION
with gravity flow circulation
to storage tank



DUAL MANIFOLD



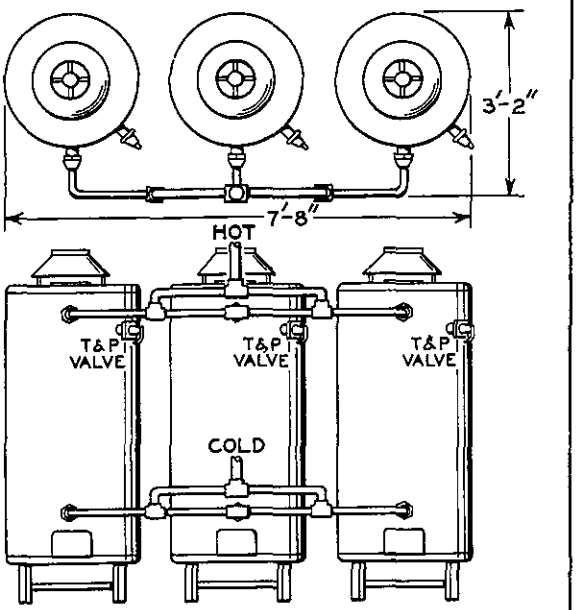
SINGLE INSTALLATION
with forced circulation to storage tank.



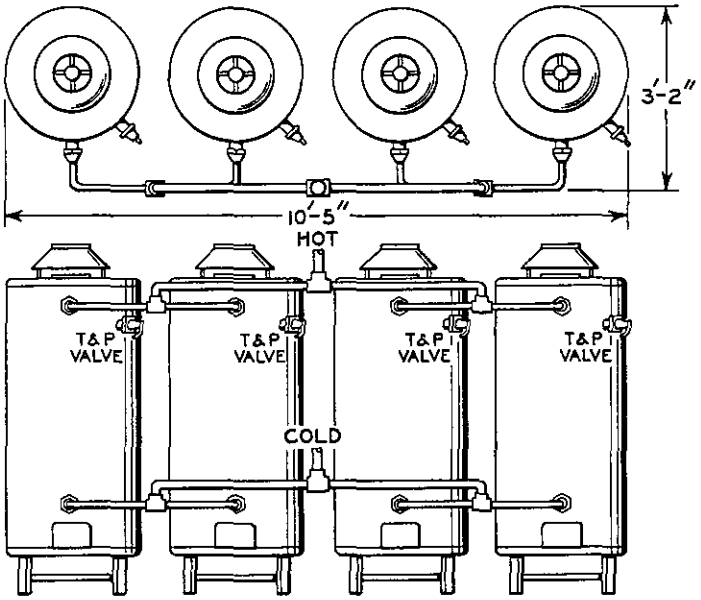
INSTALLATIONS WHERE HEATERS ARE MANIFOLDED: TWO (2) IMPORTANT CONDITIONS THAT MUST BE NOTED:

1. All heaters must be the same model.
2. All heaters must be evenly spaced to provide identical number of turns, length and size of pipes in each manifold. This is absolutely necessary to insure a balanced condition to all heaters in the installation.

TRIPLE MANIFOLD

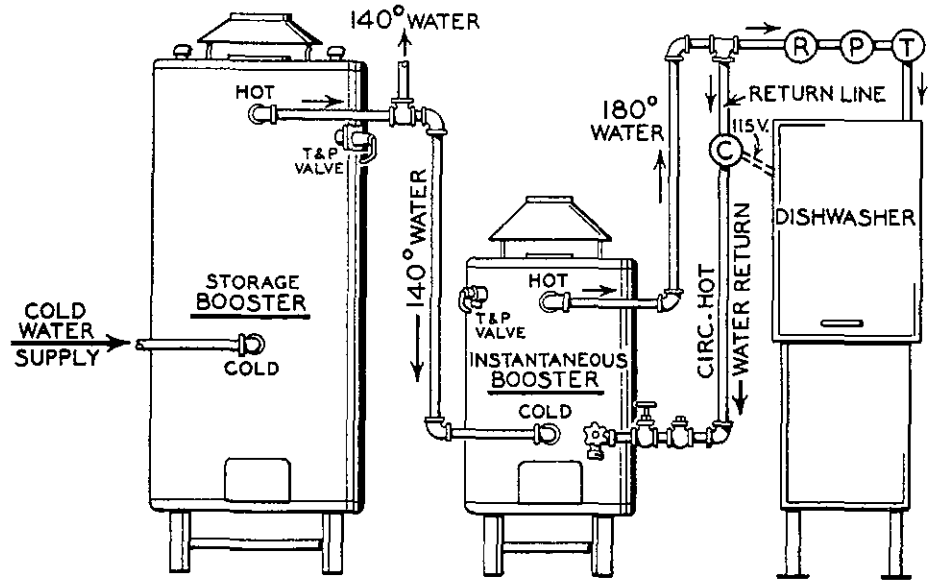


QUADRUPLE MANIFOLD



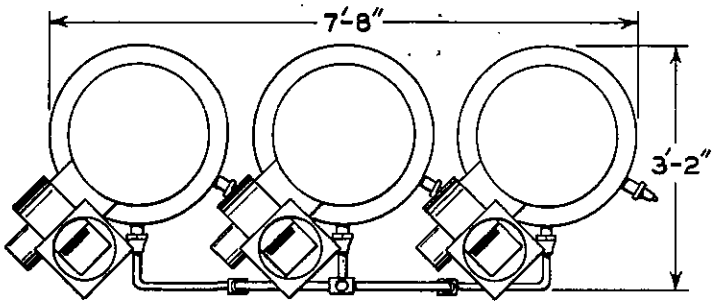
RESTAURANT HOOKUP
DUAL INSTALLATION
TWO TEMPERATURE WATER

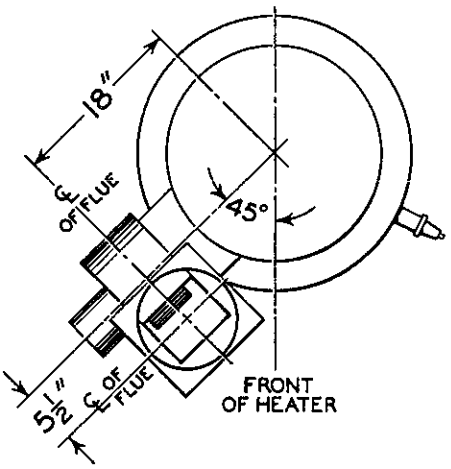
Ⓡ - WATER PRESSURE REDUCING VALVE
Ⓟ - PRESSURE GAGE
Ⓣ - THERMOMETER
Ⓒ - CIRCULATOR

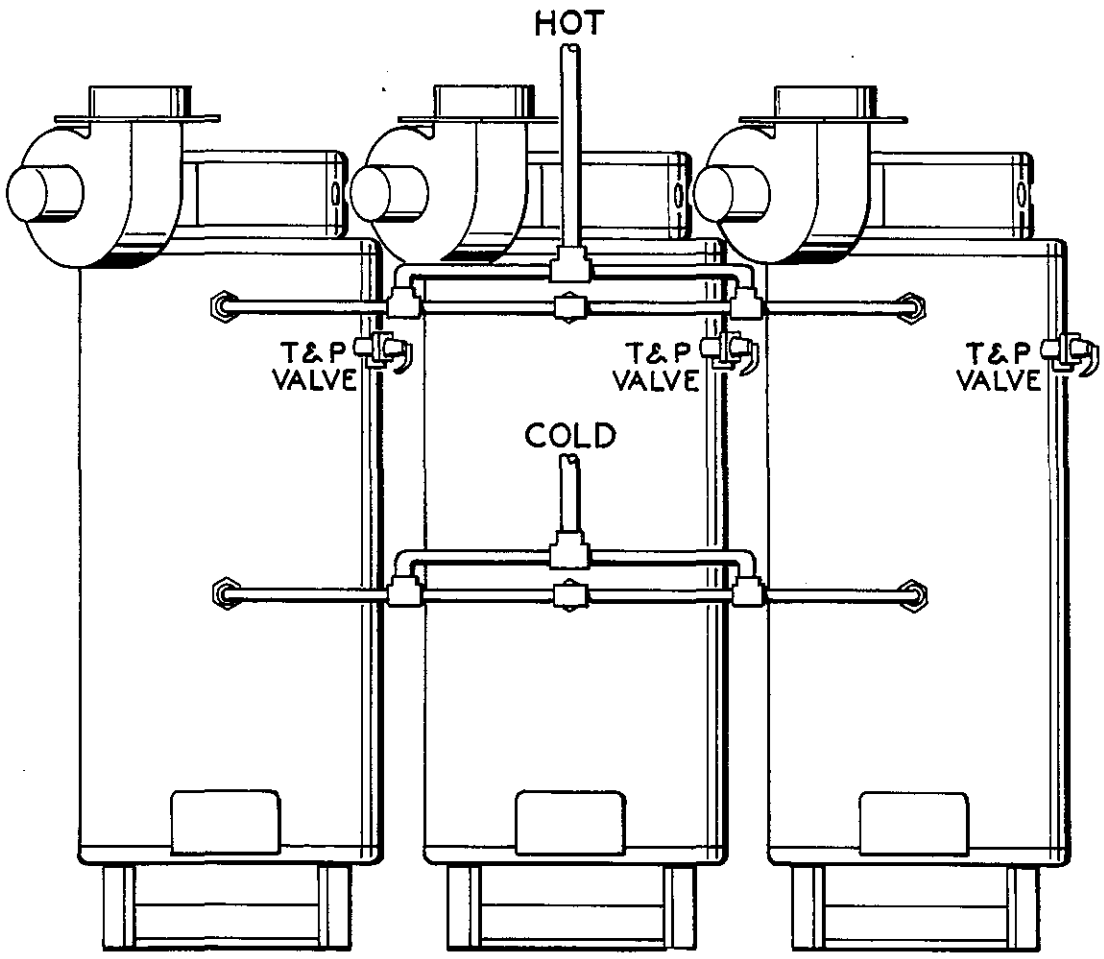


Installations where heaters are manifoled: Two (2) important conditions that must be noted:

1. All heaters must be the same model.
2. All heaters must be evenly spaced to provide identical number of turns, length and size of pipe in each manifold. This is absolutely necessary to insure a balanced condition to all heaters in the installation.

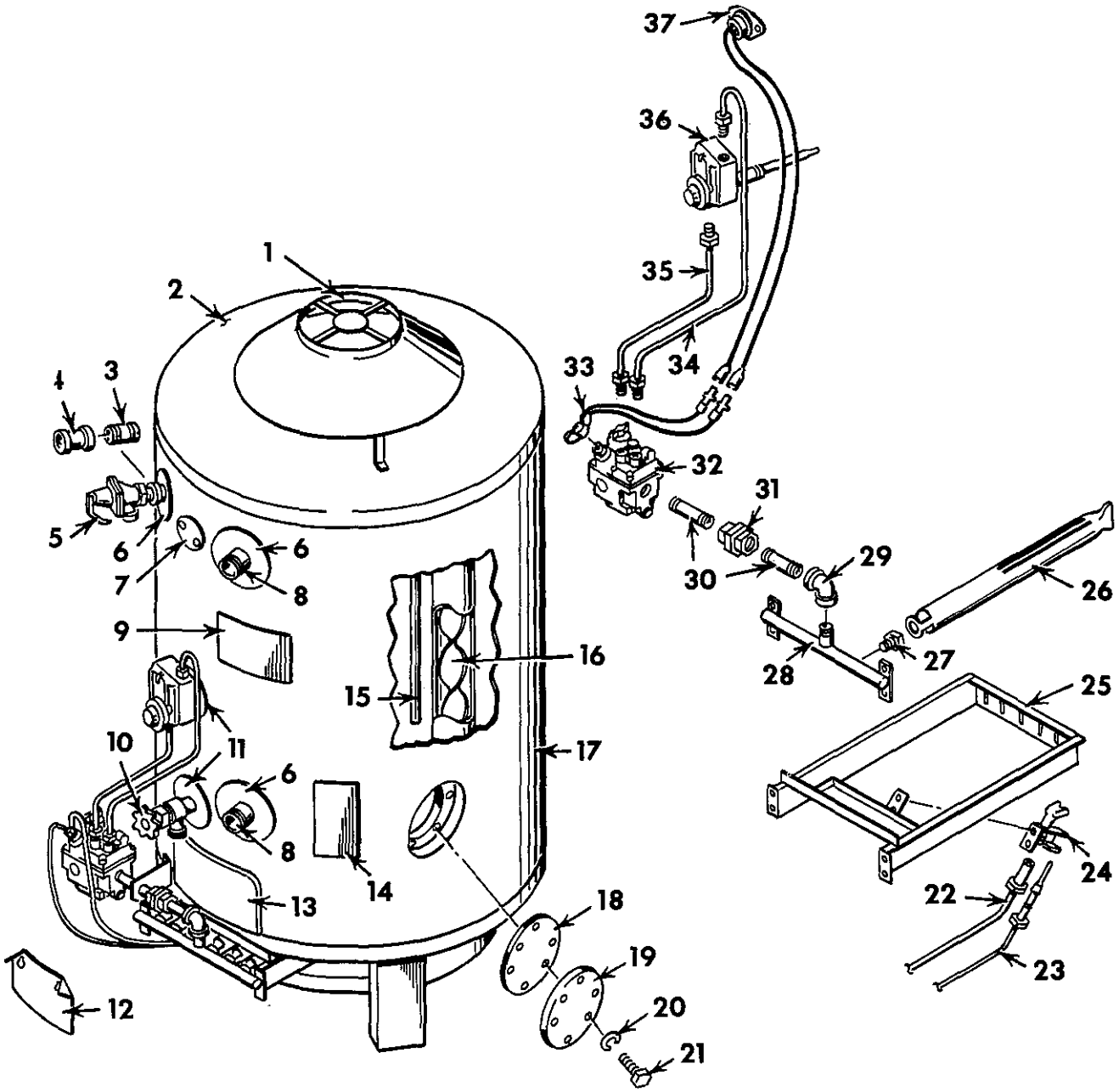






PARTS ILLUSTRATION

MODELS: 150, 199, 225, 310 and 20-150



REPAIR PARTS

MODELS: 150, 199, 225, 310 and 20-150

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

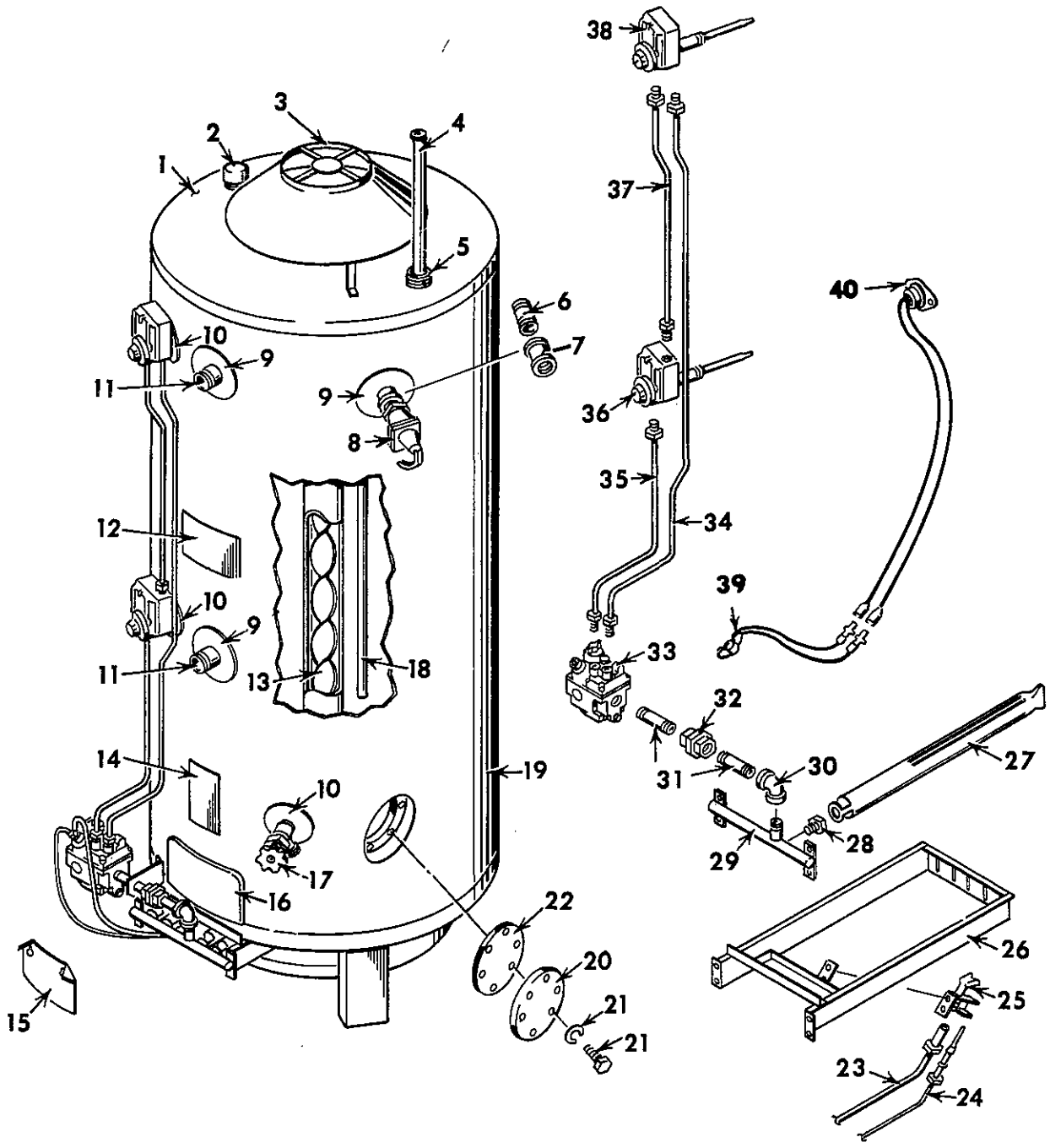
1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front – please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front – please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761.)

ITEM NO.	DESCRIPTION OF PARTS	PART PRICES
1	Draft Hood	$ 10.95
2	Jacket Top	22.05
3	Nipple (T & P)	2.55
4	Coupling (T & P)	5.55
5	Temperature & Pressure Relief Valve***	80.25
6	Collar (Inlet, Outlet, and T & P)	1.95
7	E.C.O. Cover	2.40
8	Nipple (Water)	4.05
9	Name Plate	2.55
10	Drain	4.05
11	Collar (Drain & Thermostat)	1.95
12	Inner Door	3.75
13	Outer Door	2.10
14	Model & Rating Plate†	1.35
15	Magnesium Anode (ea.)	6.45
16	Flue Baffle (ea.)	5.70
17	Jacket	32.55
18	Cleanout Gasket	3.15
19	Cleanout Cover	3.15
20	Cleanout Lock Washer (ea.)	.90
21	Cleanout Bolt (ea.)	.90
22	Pilot Tubing w/Fittings	4.65
23	Thermocouple	5.70
24	Pilot Assembly (Natural or Propane)* each	4.05
25	Burner Support Tray	8.55
26	Burner (ea.)	9.00
27	Orfice (Natural or Propane) each*	1.20
28	Manifold (Gas)	8.70
29	Elbow (Gas)	1.80
30	Nipple (Gas) each	1.95
31	Union (Gas)	3.30
32	Control Valve (Natural or Propane)*	49.25
33	E.C.O. Connector**	3.30
34	Bleed Line w/Fittings (Long)	1.20
35	Bleed Line w/Fittings (Short)	1.20
36	Thermostat	32.25
37	ECO**	8.55

*Indicate Type Gas Required.
**Used On One Year Models Only.
***Used On Three Year Models Only.
†Replaced Only Upon Return Of Damaged Plate.

PARTS ILLUSTRATION

MODELS: 80-180, 85-199, 85-250, 100-199,
100-270, 75-360, and 70-500



REPAIR PARTS

MODELS: 80-180, 85-199, 85-250, 100-199, 100-270, 75-360, and 70-500.

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front – please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front – please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761.)

ITEM NO.	DESCRIPTION OF PART	PART PRICES 80-180, 85-199, 85-250 100-199, 100-270	PART PRICES 75-360 70-500
1	Jacket Top	$ 22.05	$22.05
2	Nipple Cap	7.05	–
3	Draft Hood	10.95	10.95
4	Dip Tube	3.90	–
5	Water Nipple (top)	4.05	–
6	Nipple (T & P)	2.55	2.55
7	Coupling (T & P)	5.55	5.55
8	Temperature and Pressure Relief Valve	80.25	80.25
9	Collar (inlet, outlet and T & P)	1.95	1.95
10	Collar (drain and thermostat)	1.95	1.95
11	Water Nipple (front or rear)	4.05	4.05
12	Name Plate	2.55	2.55
13	Flue Baffle	5.70	5.70
14	Model and Rating Plate†	1.35	1.35
15	Inner Door	3.75	3.75
16	Outer Door	2.10	2.10
17	Drain	4.05	4.05
18	Magnesium Anode (ea.)	10.35	10.35
19	Jacket	72.00	72.00
20	Cleanout Cover	3.15	3.15
21	Cleanout Lock Washer & Bolt	1.80	1.80
22	Cleanout Gasket	3.15	3.15
23	Pilot Tubing w/fitting	4.65	4.65
24	Thermocouple	5.70	5.70
25	Pilot Assembly (Natural or Propane)*	4.05	4.05
26	Burner Support Tray	8.55	8.85
27	Burner (ea.)	9.00	11.25
28	Orfice (Natural or Propane) each*	1.20	1.20
29	Manifold (Gas)	8.70	9.30
30	Elbow (Gas)	1.80	1.80
31	Nipple (Gas)	1.95	1.95
32	Union (Gas)	3.30	4.50
33	Control Valve (Natural or Propane)*	49.25	51.75
34	Bleed Line w/fittings (Long)	1.20	1.20
35	Bleed Line w/fittings (Short)	1.20	1.20
36	Thermostat (Lower) (adjustable)	32.25	32.25
37	Bleed Line w/fittings (Short)	1.20	1.20
38	Thermostat (Upper) (fixed)	32.25	32.25
39	ECO Connector**	3.30	3.30
40	ECO**	8.55	8.55

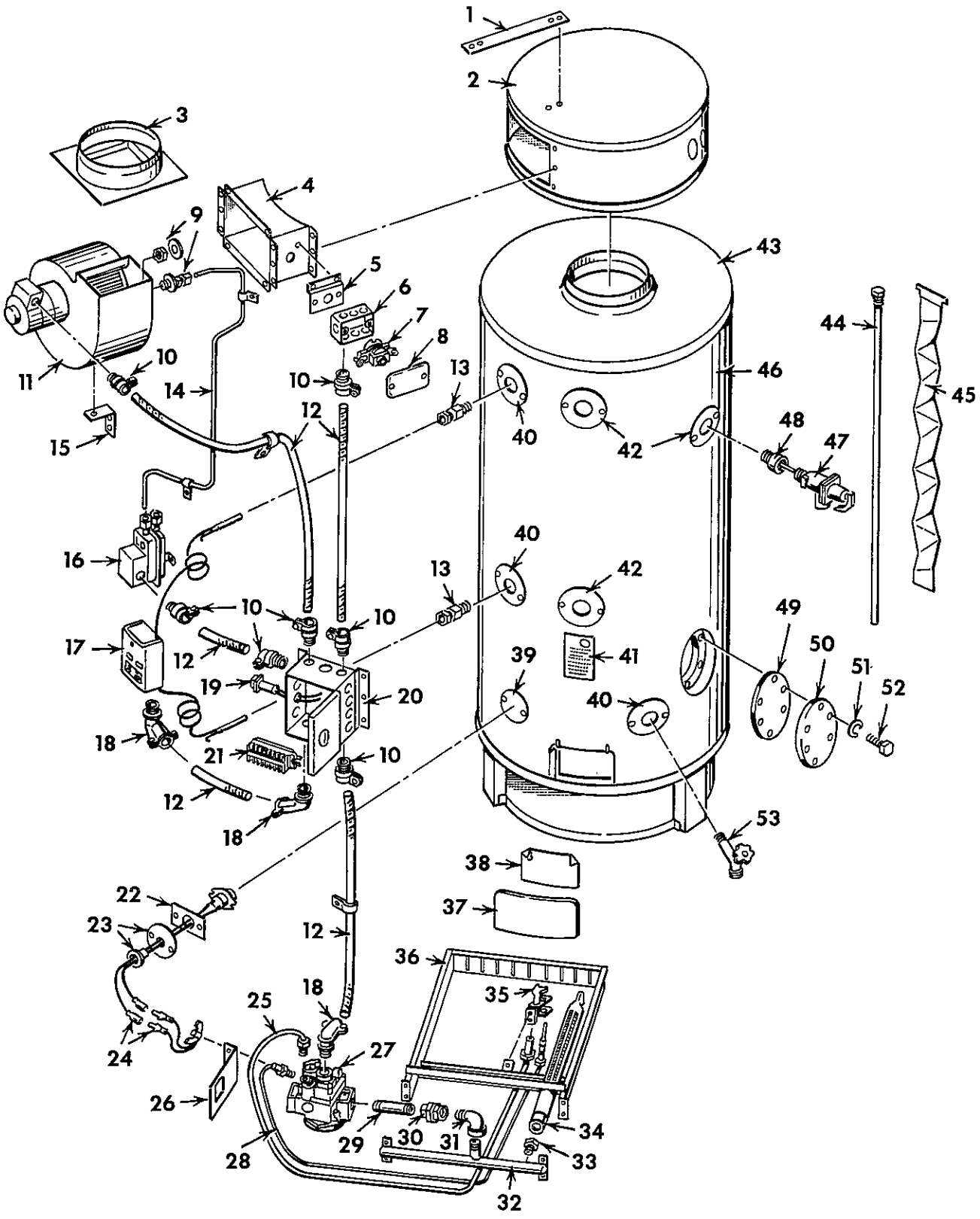
*Indicate type of gas required.

**Used on one year models only.

†Replaced only upon return of damaged plate.

PARTS ILLUSTRATION

MODEL: 70-725



CRANE01211

REPAIR PARTS

MODEL: 70-725

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

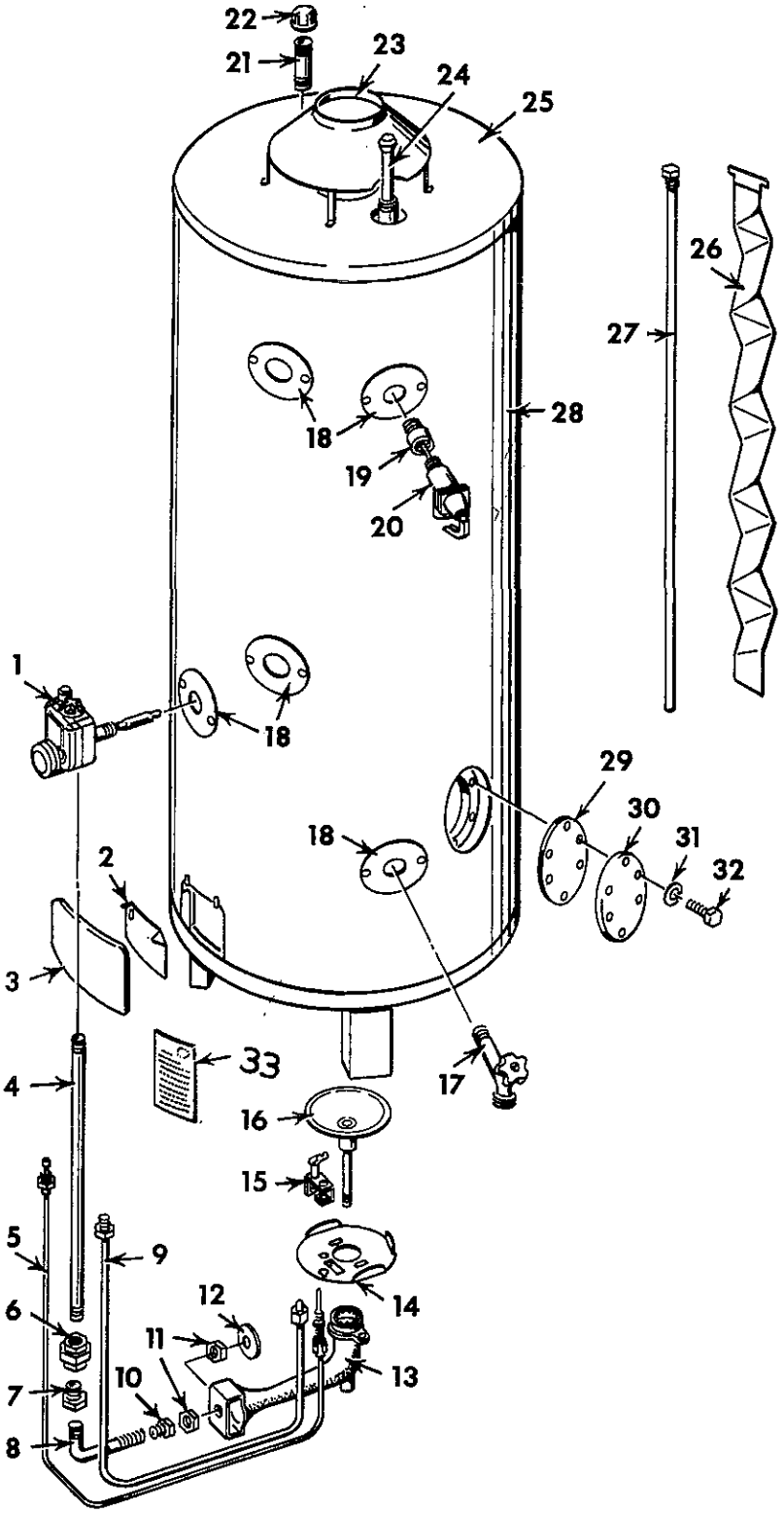
1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front—please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front—please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761.)

ITEM NO.	DESCRIPTION OF PARTS	PART PRICE
1	Duct Assembly Support Bracket	$ 1.20
2	Duct Top Assembly	14.55
3	Flue Collar Assembly	5.25
4	Blower - Duct Collar Assembly	6.30
5	Support Bracket (Flue Temp. Hi Limit)	1.65
6	Junction Box (Flue Temp. Hi Limit)	3.67
7	Flue Temperature Hi Limit	5.55
8	Access Cover (Flue Temp. Hi Limit)	1.50
9	Pressure Tubing Retainer Assembly	10.05
10	Straight Conduit Connector (ea.)	2.55
11	Blower Assembly	164.25
12	Conduit (specify length)	1.80 per ft.
13	Thermostat Blub Coupling	7.35
14	Pressure Tubing	1.05
15	Blower Support Bracket	1.35
16	Pressure Switch	57.75
17	Hi Limit & Thermostat	76.05
18	90° Conduit Connector (ea.)	3.75
19	Indicator Light	3.00
20	Junction Box	23.55
21	Terminal Block	21.15
22	E.C.O. Retainer Plate*	2.55
23	E.C.O. Cover w/Hole & Bushing*	2.40
24	E.C.O.*	11.85
25	Pilot Tubing Assembly	4.65
26	Bracket (Gas Control Valve)	2.55
27	Gas Control Valve (Nat. or Propane)	137.25
28	Thermocouple	5.70
29	Nipple (Gas)	1.95
30	Union (Gas)	4.50
31	Elbow (Gas)	1.80
32	Manifold	9.30
33	Orifice (Nat. or Propane)***	1.20
34	Burner	11.25
35	Pilot (Nat. or Propane)***	4.05
36	Burner Support Tray	8.55
37	Outer Door	2.10
38	Inner Door	3.75
39	E.C.O. Cover Plate	1.95
40	Collar (Drain, Thermostat Bulb) (ea.)	1.95
41	Model & Rating Plate†	1.35
42	Collar (Inlet, Outlet, T & P) (ea.)	1.95
43	Jacket Top	22.05
44	Anode Rod (ea.)	10.35
45	Flue Baffle (ea.)	5.70
46	Jacket	72.00
47	Temperature & Pressure Relief Valve**	80.25
48	Nipple (T & P)	8.10
49	Cleanout Gasket	3.15
50	Cleanout Cover	3.15
51	Cleanout Lock Washer	.90
52	Cleanout Bolt (ea.)	.90
53	Drain	4.05

†Replaced Only Upon Return Of Damaged Plate.
*Used Only On One Year Models.
**Used Only On Three Year Models.
***Indicate Type Of Gas Required.

PARTS ILLUSTRATION

MODEL: 75-120



REPAIR PARTS

MODEL: 75-120

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

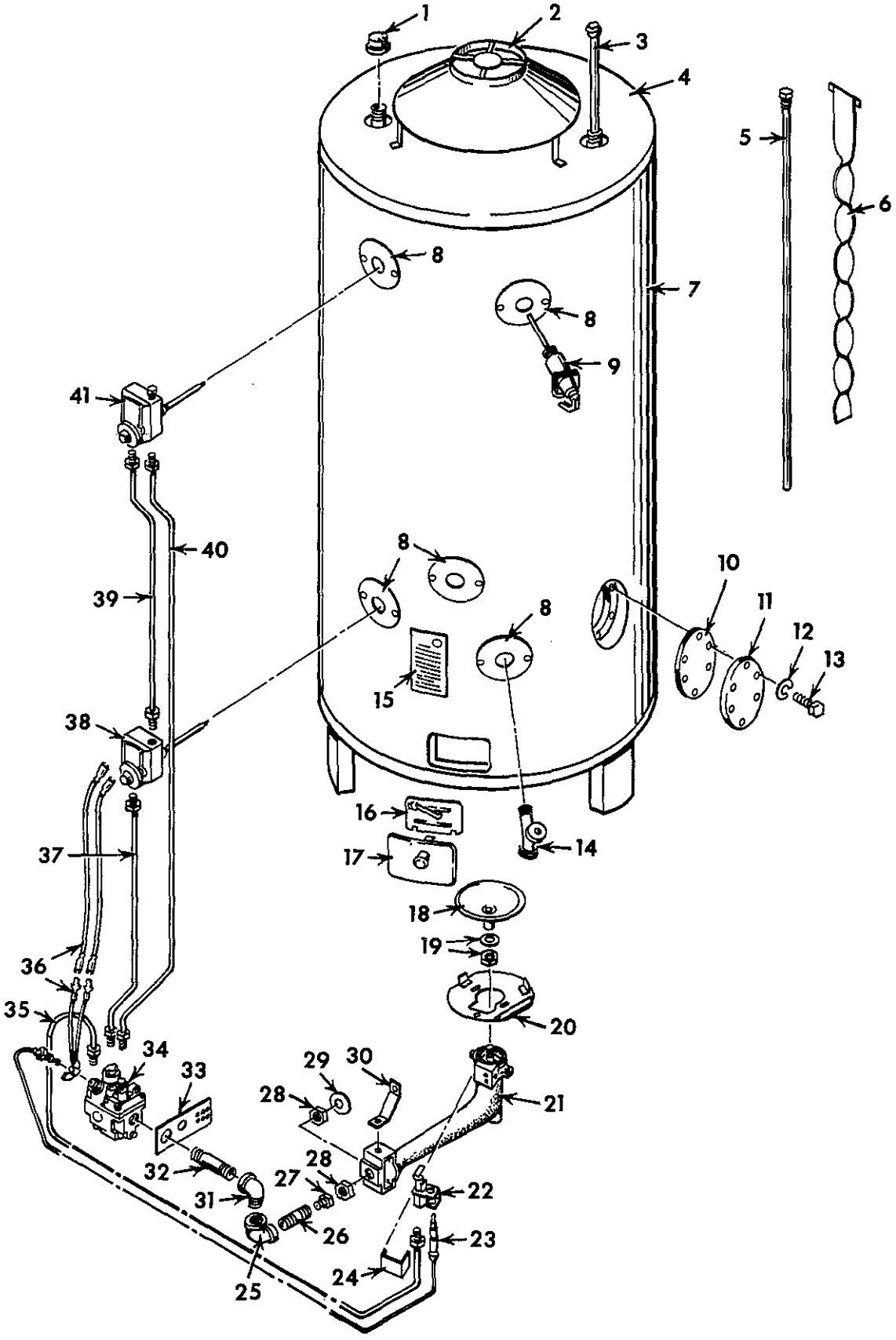
1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front—please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front—please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761.)

ITEM NO.	DESCRIPTION OF PARTS	PART PRICE
1	Gas Control Valve	$ 45.60
2	Inner Door	3.75
3	Outer Door	2.10
4	Nipple 20¾ (Gas)	3.45
5	Thermocouple	5.70
6	Union (Gas)	3.15
7	Bushing (Gas)	3.15
8	Manifold Nipple (Gas)	3.15
9	Pilot Tubing (w/fittings)	4.65
10	Orifice (Nat or Propane)*	1.20
11	Locknut (Gas)	1.35
12	Air Shutter	2.25
13	Burner	15.75
14	Burner Shield	2.10
15	Pilot (Nat or Propane)*	4.20
16	Flame Spreader Assembly	2.55
17	Drain	4.05
18	Collar (Drain, Gas Control, Inlet, Outlet, T & P)	1.95
19	Nipple (T & P)	2.55
20	Temperature & Pressure Relief Valve**	80.25
21	Nipple (Hot Water Nipple Outlet)	5.70
22	Nipple Cap (Hot Water Nipple Outlet)	7.05
23	Draft Hood Assembly	5.25
24	Dip Tube	2.70
25	Jacket Top	6.30
26	Flue Baffle	1.95
27	Anode Rod	10.35
28	Jacket	28.80
29	Cleanout Gasket	3.15
30	Cleanout Cover	3.15
31	Cleanout Lock Washer (ea.)	.90
32	Cleanout Bolt (ea.)	.90
33	Model & Rating Plate†	1.35

†Replaced only upon return of damaged plate.
*Indicate type of gas required.
**Used only on three year models.

PARTS ILLUSTRATION

MODEL: 100-260



CRANE01215

REPAIR PARTS

MODEL 100-260

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front—please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front—please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit **number: Example: G72-02761.**)

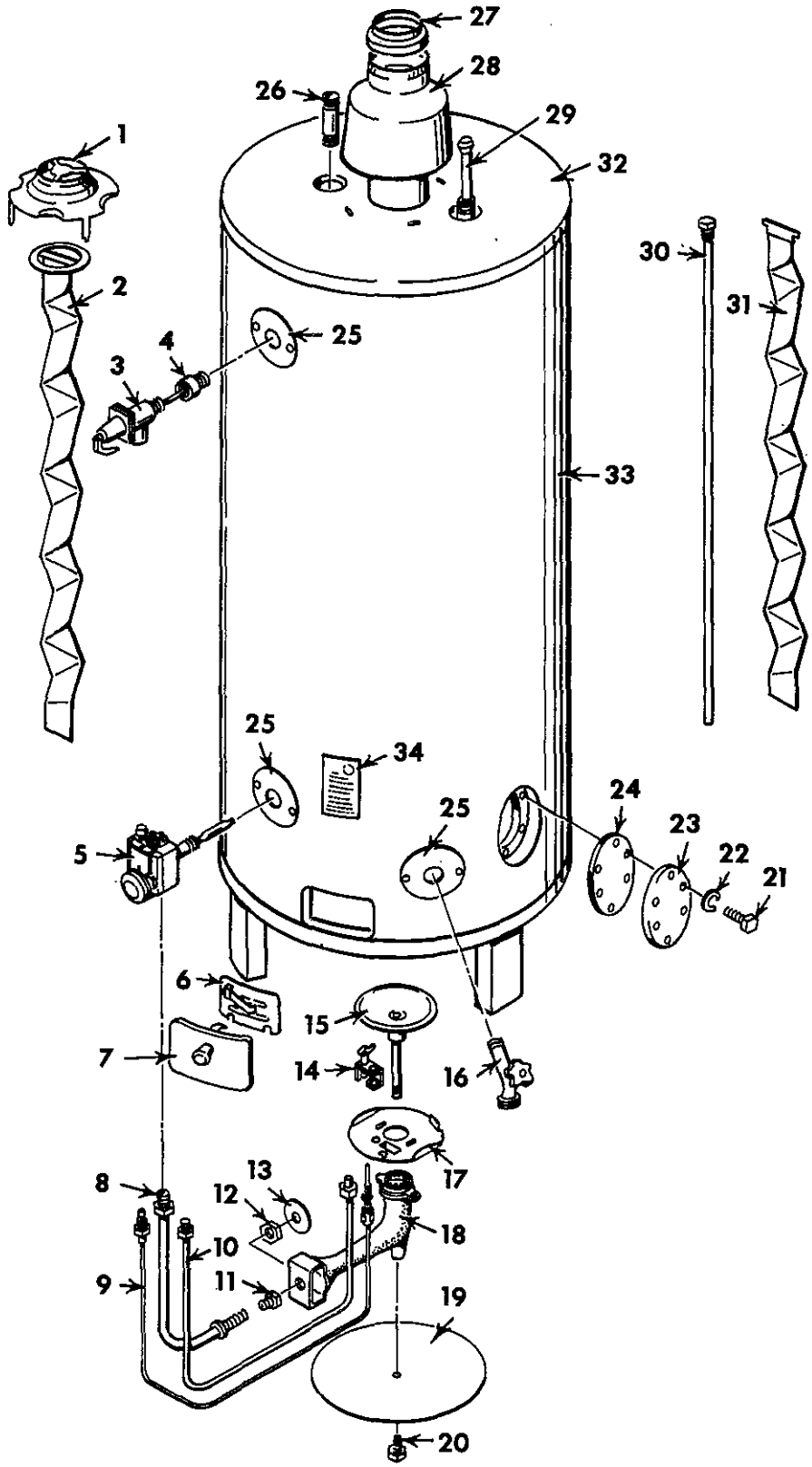
ITEM NO.	DESCRIPTION OF PARTS	PART PRICE
1	Pipe Cap (Hot Water Nipple Outlet)	$ 7.05
2	Draft Hood Assembly	10.95
3	Dip Tube	3.90
4	Jacket Top	22.05
5	Anode Rod (ea.)	10.35
6	Flue Baffle	5.70
7	Jacket	72.00
8	Collar (Drain, Thermostat, Inlet, T & P)	1.95
9	Temperature & Pressure Relief Valve**	80.25
10	Cleanout Gasket	3.15
11	Cleanout Cover	3.15
12	Cleanout Lock Washer	.90
13	Cleanout Bolt	.90
14	Drain	4.05
15	Model & Rating Plate†	1.35
16	Inner Door	3.75
17	Outer Door	2.10
18	Flame Spreader Assembly	2.55
19	Nut & Washer (Flame Spreader Assembly)	.90
20	Burner Shield	2.10
21	Burner	15.75
22	Pilot (Natural or Propane)*	4.05
23	Thermocouple	5.70
24	Pilot Shield	1.50
25	Elbow (Gas)	1.80
26	Nipple (Gas)	1.95
27	Orfice (Natural or Propane) each*	1.20
28	Locknut (Gas)	1.35
29	Air Shutter	1.35
30	Burner Support Bracket	1.35
31	Elbow (Gas)	1.80
32	Nipple (Gas)	1.95
33	Gas Control Bracket	2.55
34	Gas Control Valve	49.25
35	Pilot Tubing	4.65
36	ECO Assembly***	11.85
37	Tubing (Gas)	1.20
38	Thermostat (Lower)	32.25
39	Tubing (Gas)	1.20
40	Tubing (Gas)	1.20
41	Thermostat (Upper)	32.25

†Replaced only upon return of damaged plate.
*Indicate type of gas required.
**Used on three year models only.
***Used on one year models only.

CRANE01216

PARTS ILLUSTRATION

MODELS: 100-90/100-75



REPAIR PARTS

MODELS: 100-90/100-75

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information:

1. Part Name (such as "Draft Hood")
2. Type of Gas (found on model and rating plate located on jacket front.)
3. Model Number (found on model and rating plate located on jacket front—please show the complete number.)
4. Serial Number (found on model and rating plate located on jacket front—please show the complete number consisting of a capital letter and two (2) numbers, followed by a five (5) digit number; Example: G72-02761

ITEM NO.	DESCRIPTION OF PARTS	PART PRICE
1	Draft Hood Assembly (100-75)	$ 10.95
2	Flue Baffle (100-75)	5.70
3	Temperature & Pressure Relief Valve**	80.25
4	Nipple (T & P)	8.10
5	Gas Control Valve (Nat. or Propane)*	45.60
6	Inner Door	3.75
7	Outer Door	2.10
8	Manifold Tubing Assembly	5.70
9	Thermocouple	3.45
10	Pilot Tubing w/Fitting	4.65
11	Orifice (Nat. or Propane) (ea.) (Specify Model)*	1.20
12	Locknut (Gas)	1.35
13	Air Shutter	2.25
14	Pilot (Nat. or Propane)*	4.05
15	Flame Spreader Assembly	2.55
16	Drain	4.05
17	Burner Shield	2.10
18	Burner	8.70
19	Radiation Shield (100-90)	3.10
20	Securing Nut (Radiation Shield) (100-90)	.90
21	Cleanout Bolt (ea.)	.90
22	Cleanout Lock Washer (ea.)	.90
23	Cleanout Cover	3.15
24	Cleanout Gasket	3.15
25	Collar (Drain, Gas Control and T & P)	1.95
26	Nipple (Hot Water Outlet)	4.05
27	Flue Restrictor Ring	3.10
28	Draft Hood Assembly (100-90)	10.95
29	Dip Tube (Specify Model)	3.90
30	Magnesium Anode	10.35
31	Flue Baffle (100-90)	6.30
32	Jacket Top	28.80
33	Jacket	48.00
34	Model & Rating Plate†	1.35

*Indicate Type Of Gas Required.
**Used Only On Three Year Models.
†Replace Only Upon Return Of Damaged Plate.

PERFORMANCE

			G.P.H. RECOVERY CAPACITY @ DEGREE F. RISE										
MODEL	TYPE GAS	BTU. INPUT	40	50	60	70	80	90	100	110	120	130	140
150	Nat.-Propane	150,000	315	252	210	180	157	141	126	115	105	97	91
199	Nat-Propane	199,900	420	336	280	240	210	186	168	153	140	129	120
225	Nat-Propane	225,000	473	378	315	270	236	210	189	172	157	145	135
310	Nat.	310,000	650	520	433	372	326	289	259	237	217	201	186
	Propane	290,000	610	488	406	349	305	270	242	222	203	187	174
20-150	Nat-Propane	150,000	315	252	210	180	157	141	126	115	105	97	91
75-120	Nat.	120,000	253	205	168	144	126	112	101	92	84	78	72
	Propane	100,000	210	168	140	120	105	93	84	76	70	65	60
80-180	Nat.-Propane	180,000	378	302	252	216	189	168	151	137	126	116	108
85-199	Nat-Propane	199,900	420	336	280	240	210	186	168	153	140	129	120
85-250	Nat-Propane	250,000	526	420	350	300	263	233	210	191	175	162	150
100-75	Nat-Propane	75,000	155	104	103	88	77	69	63	56	52	48	44
100-90	Nat.-Propane	90,000	187	150	125	107	94	83	76	68	61	58	53
100-199	Nat.-Propane	199,900	420	336	280	240	210	186	168	153	140	129	120
100-260	Nat. Propane	260,000	546	437	364	313	273	242	218	198	182	168	156
100-270	Nat.-Propane	270,000	567	454	378	324	284	252	227	207	190	175	162
75-360	Nat.-Propane	360,000	756	605	504	434	378	335	302	275	252	233	216
70-500	Nat.	500,000	1050	840	700	600	525	467	420	382	350	324	300
	Propane	480,000	1001	806	673	576	504	448	403	367	334	311	289
70-725	Nat.-Propane	725,000	1523	1218	1015	870	761	677	609	554	509	468	435

IMPORTANT

In beauty shops, barber shops, cleaning establishments and self-service laundries with dry cleaning equipment, it is imperative that the heater or heaters be installed so combustion and ventilation air be taken from outside by means of louvers or screens.

NOTES

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CRANE®

DUTY MASTER

COMMERCIAL WATER HEATER

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CRANE01226

CRANE®

DUTY MASTER

COMMERCIAL WATER HEATER

COMMERCIAL ELECTRIC

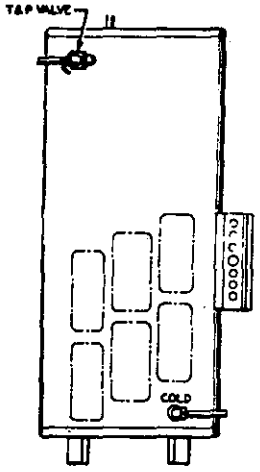
Instructions for . . .

SAFETY
INSTALLATION
OPERATION
MAINTENANCE
& ORDERING PARTS

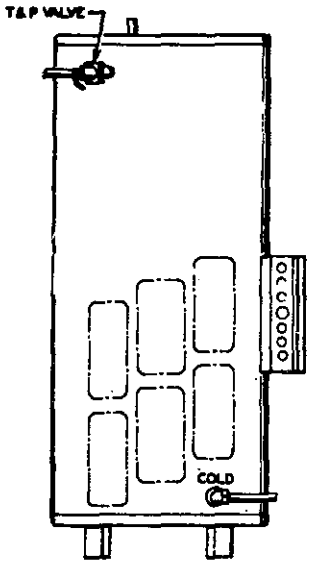
You have just purchased a Dutymaster ımercial Water Heater. It is the highest quality available for commercial, industrial and institutional installation. These instructions have been prepared for you in order that you may derive full benefit from the installation of your water heater. Please read instructions with your other valuable papers for future reference.

This manual applies to the following Dutymaster Commercial Water Heaters.

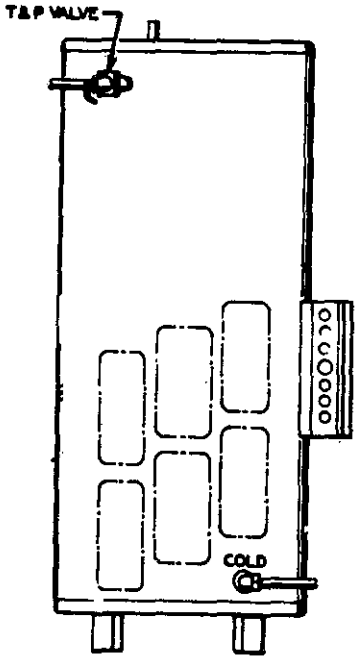
THE DUTYMASTER COMMERCIAL ELECTRIC LINE



CS-42EC
52 GALLON



CS-82EC
82 GALLON



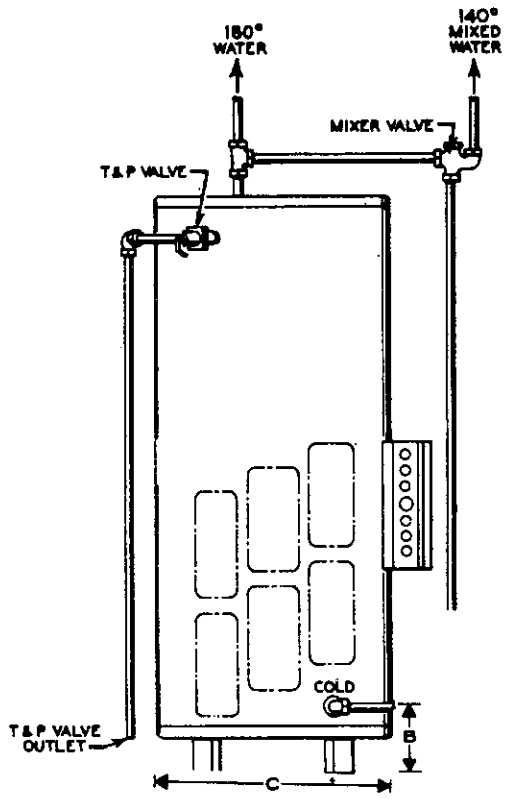
CS-120EC
120 GALLON

	CAPACITY PERFORMANCE												
GALLON CAP. AVAIL.	RECOVERY IN GALLONS PER HOUR AT VARIOUS TEMPERATURE RISES												No. Elements
	Wattage	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°	
52, 82, 120	13500	139	111	92	79	69	61	55	51	46	43	40	3
52, 82, 120	15000	154	123	102	87	76	67	61	56	51	47	44	3
52, 4.5, 82, 120	18000	185	148	123	104	92	81	73	68	62	57	53	3
52, 82, 120	27000	277	222	184	157	138	122	110	102	93	86	79	6
52, 82, 120	30000	308	246	205	174	153	135	123	113	103	95	88	6
52, 82, 120	36000	369	296	246	209	184	162	147	136	124	115	105	6
52, 82, 120	45000	462	370	307	261	230	203	183	170	155	143	132	6
52, 82, 120	54000	554	444	369	313	276	243	220	204	186	172	158	6

CRANE01228

SPECIFICATIONS

STORAGE BOOSTERS



CAPACITY U.S. GALLONS	INLET OUTLET	A	B	C	MAXIMUM Wattage/Element
120	1¼ IPS	68.5	7⅛	24.0	9,000 Watts
82	1¼ IPS	63.0	7⅛	24.0	9,000 Watts
52	1¼ IPS	53.0	7⅛	20.0	9,000 Watts

CRANE01229

SECTION 1 INSTALLATION

GENERAL INFORMATION

In section 4 of this manual there are detailed installation diagrams. Check them thoroughly for materials and method before starting installation to avoid possible errors and lost time.

NOTE: Where these instructions are at variance with your local codes, the codes should be followed in all cases.

PLUMBING INSTRUCTIONS

Select a level location for the water heater and if this is not possible use shims under base to insure water heater being level.. The location of the water heater should be close to the hot water faucet where the greatest amount of hot water will be used. This will reduce the length of piping thus providing hot water more quickly from water heater. The water heater should be located so that the junction box, front covers and the drain cock are readily accessible.

LOCATION

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

DO NOT CONNECT THIS ELECTRIC WATER HEATER DIRECTLY TO A HEATING PLANT OR OTHER INDIRECT HEATERS.

The water piping should be made first to the water heater. Connect the cold water supply line to the "COLD" water opening (inlet at bottom side of heater). Connect the hot water pipe to the "HOT" water opening in top of heater. When making these connections use good grade of pipe joint compound. Make sure that all pipe joints, including the connections into the tank, are "Wrench Tight." However, do not over-tighten connections, as doing so is unnecessary and in some cases harmful.

To gain the utmost economy of operation it is advisable to insulate the hot water pipe to prevent radiation losses, especially where there are long exposed lengths between the heater and the outlet.

Fill water heater with water by opening valve in cold water supply line. NOTE THIS VALVE MUST BE LEFT OPEN DURING THE ENTIRE OPERATION OF THE WATER HEATER. Open the "hot" faucets on your fixtures to allow the air to escape from the system while filling the water heater with water. The water heater is filled when water passes through these open faucets. Check for possible leaks in the system. If any leaks are found drain the system and make the repair and follow refill procedure before making the electrical connections.

After the system has been filled with water and no leak occurs then the electrical connections can be made. Consult your local power company to ascertain the most suitable and economical type of service offered. Use only exterior hook-up approved by your local power company. Check the wiring diagram which is furnished with the water heater, with your local power company to determine whether the circuit with which the water heater is wired meets their approval. Consult wiring diagram if necessary to convert to a different wiring circuit.

WATER PRESSURE REGULATION

It is strongly advised that the fluctuation of water pressure and "water hammer" (both have damaging effect on tanks) be controlled by in-

stallation of a pressure reducing valve in the cold water supply line, particularly if the incoming pressure exceeds 60 psi. It is essential, nowever, to investigate the demands of all fixtures supplied by the hot water system before deciding on one pressure reducing valve in the main supply line. A multiple installation of such valves may be necessary throughout the system due to the wide variation in the hot water demand.

Most manufacturers of commercial automatic dishwashers, laundry equipment, etc. recommend certain pressures at which their product will operate at maximum efficiency. In these cases the pressure should be controlled by a suitable reducing valve installed in the inlet line to the appliance; not in the line to the water heater.

CAUTION: Some pressure reducing valves permit the flow of water in one direction only. Because water expands when it is heated, it is a must that a pressure relief valve be used in conjunction with a pressure reducing valve. See below.

TEMPERATURE AND PRESSURE RELIEF VALVE

To prevent any possible danger of over heating, a temperature relief valve is a must. Such a valve has to open under 212° F and must have a BTU water rared discharge capacity equal to the heat input of the heater.

Each water heater is factory furnished with a properly sized combination temperature and pressure relief valve as standard equipment. It is an automatic reseating lever type, approved by ASME, so located in the water heater tank as to provide quickest sensing and proper functioning. The outlet of the "T & P" valve should be piped to a drain. Use pipe size equivalent to outlet of "T & P" valve.

Do not reduce, plug or cap.

CONTROL SYSTEMS

Immersion Thermostats With Contactors

The water temperature is controlled by close differential, fast-acting immersion thermostat(s) which activates the control circuit of the heavy duty magnetic contactors which controls the power flow to the heating elements. Over temperature protection is obtained with manual reset high limit thermostat(s) which opens all ungrounded power circuits.

Surface Mounted Thermostats with Contactors

The water temperature is controlled by close differential surface mounted thermostat(s) which activates the control circuit of the heavy duty magnetic contactors which controls the power flow to the heating elements. Over temperature protection is obtained with manual reset high limit thermostat(s) which opens all ungrounded power circuits.

Surface Mounted Thermostats

The water temperature is controlled by close differential surface mounted thermostats which controls its own individual heating element. Over temperature protection is obtained with a manual reset high limit thermostat above each thermostat.

Pilot Light

A red neon pilot light is wired to indicate that there is power to the heater, however, it is also wired so that the light will go out if the high limit thermostat is tripped.

WIRING INSTRUCTIONS

This Electric Commercial water heater is completely wired with leads to the terminal block. Select proper wire size, check the rating plate for correct voltage, phase and wattage.

NOTE: NEVER OPERATE THE HEATING ELEMENTS WITHOUT BEING CERTAIN THE HEATER IS COMPLETELY FILLED WITH WATER.

K. W. RATING	NUMBER OF ELEMENTS	FULL-LOAD CURRENT IN AMPERES							
		SINGLE – PHASE				THREE – PHASE			
		208V	220/240V	277V	440/480V	208V	220/240V	277V	440/480V
–6	3–2000W	29	27	22	14	17	16	13	9
–9	3–3000W	43	41	33	21	26	24	20	12
–12	3–4000W	58	55	43	28	34	32	25	17
–13.5	3–4500W	65	61	49	31	38	35	29	18
–15	3–5000W	72	69	55	34	42	40	32	20
–18	3–6000W	87	82	65	41	50	48	38	24
–27	6–4500W	130	123	98	62	75	71	57	36
–30	6–5000W	144	137	109	69	83	79	63	40
–36	6–6000W	173	164	130	82	100	95	75	48
–45	3–9000W 3–6000W	N.A. 3 phase only	205	163	103	125	119	95	60
–54	6–9000W	N.A. 3 phase only	246	195	123	150	142	113	71

ALLOWABLE CURRENT-CARRYING CAPACITIES (Amperes) OF INSULATED CONDUCTORS. Not More Than Three Conductors in Raceway or Direct Burial, based on 30 C, 86 F ambient (Condensed from National Electrical Code)

Max Oper Temp	60 C	75 C	85 C	110 C	125 C	200 C
Size AWG or MCM	Types of Insulation					
	R, RW	RH, RHW Versatol SI8006 Super Coronol SI58007	Paper V-C (V) Varnish Cambric SI12352	V-C (AVA) Deltabeston SI57049 V-C (AVL) Deltabeston SI57120	AI AIA Silicone SI58210	A AA
	RH-RW (wet loc.)	RH-RW (dry loc.)	V-C (AVB) Deltabeston SI57095			
	T, TW Flamenol SI58175	THW Flamenol SI58266	MI RHH Super Coronol SI58007 & AWG & Larger			
14	15	15	25	30	30	30
12	20	20	30	35	40	40
10	30	30	40	45	50	55
8	40	45	50	60	65	70
6	55	65	70	80	85	95
4	70	85	90	105	115	120
3	80	100	105	120	130	145
2	95	115	120	135	145	165
1	110	130	140	160	170	190
0	125	150	155	190	200	225
00	145	175	185	215	230	250
000	165	200	210	245	265	285

CRANE01232

SECTION 2 OPERATION

GENERAL INFORMATION

Never operate the electrical heating elements without being certain the heater is filled with water. Serious damage to the heating elements may result if water heater is allowed to run dry.

After completing the installation and the system is completely filled with water, then close the switch and allow the electric current to flow to the water heater. From then on its operation is automatic. MAKE SURE THAT THE VALVE ON THE COLD WATER SUPPLY LINE IS LEFT OPEN AT ALL TIMES WHILE WATER HEATER IS IN OPERATION.

FILLING

1. Close the water heater drain valve by turning handwheel to right (clockwise).
2. Open a nearby hot water faucet to permit the air in the system to escape.
3. Fully open the cold water supply valve allowing the heater and piping to be filled.
4. Close the hot water faucet as water starts to flow.
5. Turn on the electrical supply to the water heater.

TEMPERATURE REGULATION

The heating elements operate under the control of thermostats which are factory set at 180° F. The thermostats operate automatically and can be adjusted to provide cooler water temperature.

For safety, a non-adjustable high temperature limit switch will shut-off when excessive water temperatures are reached. The high limit has no adjustment, although, it must be reset manually if it should operate and turn off the heat element. Because the high limit operates only when abnormally high water temperatures are present, it is important that a serviceman should be called to determine the reason for operation.

This section explains thermostat adjustment and tells how to reset the high limit, should it operate.

Thermostat Adjustment

Surface-mounted Thermostats:

1. Remove element and thermostat access panels.

   The insulation covering the thermostat should be carefully cut with a serrated edge knife so that it can be folded aside or removed. Do not damage insulation on wires.

2. Adjust Thermostats to desired temperature setting.

   Low – 120°
   Med. – 150°
   Hi – 180°

3. Replace insulation and access panels.

Immersion Thermostats:

1. Open junction box cover.
2. Adjust thermostats to desired temperature setting indicated on dial.
3. Close junction box cover.

HIGH TEMPERATURE LIMIT

A red neon pilot light is wired to indicate that there is power to the heater, however, it is also wired so that the light will go out if the high limit thermostat is tripped.

If Necessary To Reset The High Limit:

1. Turn off electrical supply to water heater.
2. Remove all element covers on surface mounted thermostat models and only the uppermost panel on the immersion thermostat models.

   The insulation covering the thermostats should be carefully cut with a serrated edge knife so that it can be folded aside or removed. Do not damage insulation on wires.

3. Reset the control, replace the insulation and access panel. Restore electricity and call your serviceman.

DRAINING

If the heater is to be shut-off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater.

1. Turn off the electrical and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.

   If desired, a hose may be connected to the drain valve to carry the water away.

3. The drain valve must be left open during the shutdown period.

   To restart heater, refer to the foregoing filling instructions.

THE DISTRIBUTOR OR THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

CRANE01234

SECTION 3 MAINTENANCE

Electric water heater maintenance is generally confined to cleaning the tank and removing lime (or scale) from the heating element in hard water areas. In some instances a hissing sound may be heard as the scale builds up. This noise is normal.

Cleaning Tank

1. Follow DRAINING instructions to remove water from tank.

2. Remove the drain and cleanout plug after the tank is drained.

3. Access to the tank bottom can now be obtained through the tank opening.

   A stream of water can be directed through the opening to wash out accumulated material.

   To loosen sediment, form a piece of wire to fit through opening.

   Alternately scrape and flush around the tank bottom until the accumulations are washed away.

4. Replace the drain and cleanout, fill water heater following FILLING instructions.

Element Cleaning and Replacement

1. Follow the DRAINING procedure to remove the water from the heater.

2. Remove the element and thermostat access panels.

   The insulation covering the thermostats should carefully be cut with a serrated knife so that it can be folded aside or removed. Do not damage insulation on wires.

3. Disconnect the wires from the heating element terminals and remove the screws holding the elements against the tank.

4. Remove the elements and gaskets for cleaning or replacement. Gaskets should always be replaced with new ones whenever removing elements.

   If removed for cleaning, scale removal can be accomplished by using vinegar or by scraping.

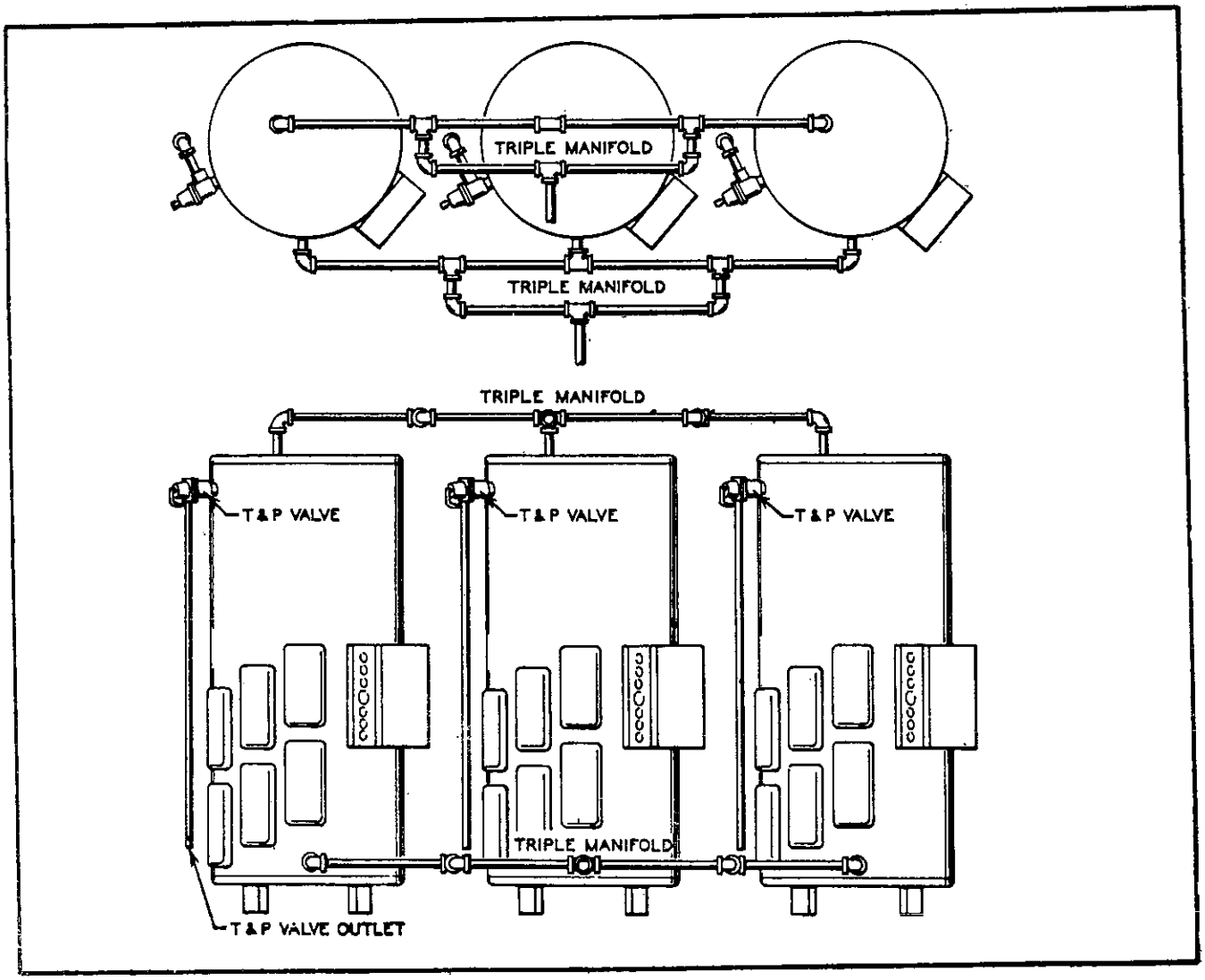
   If replacement is necessary, be certain that the electrical specifications of the new element are consistent with electric utility company requirements.

5. Replace the element in the reverse of the removal steps and fill the tank with water before turning electricity on.

SECTION 4 INSTALLATION

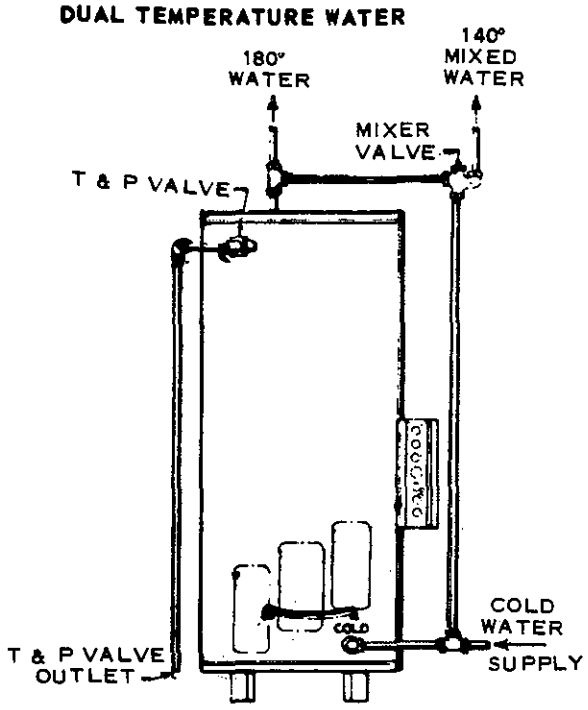
In any installation where commercial heaters are manifolded there are two important conditions that must be observed.

1. All heaters must be the same model.
2. All heaters must be evenly spaced so that in the piping manifold, the number of turns, length of pipe and size of pipe, are identical. This is absolutely necessary so that the hot water demand will be evenly balanced between all the heaters in the installation.

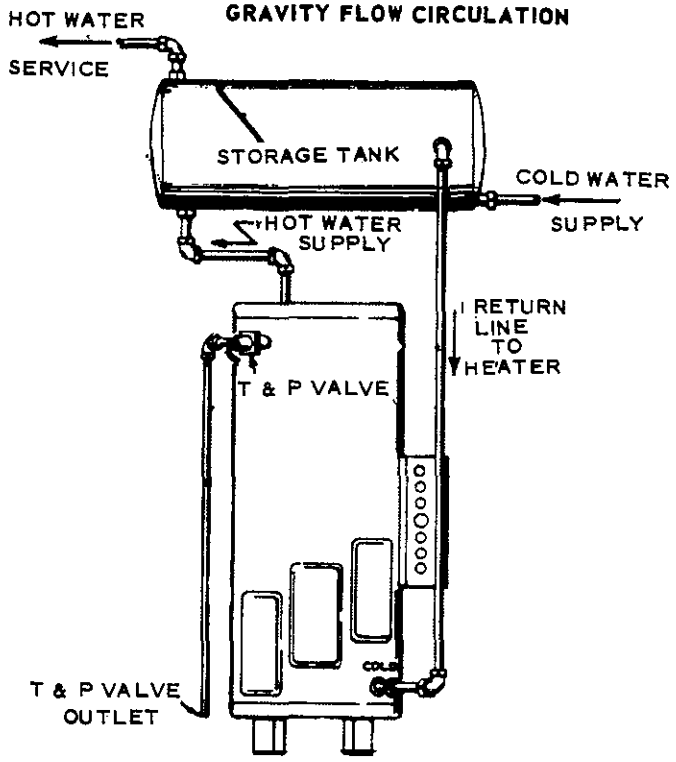


CRANE01236

SINGLE INSTALLATION WITH MIXING VALVE
DUAL TEMPERATURE WATER



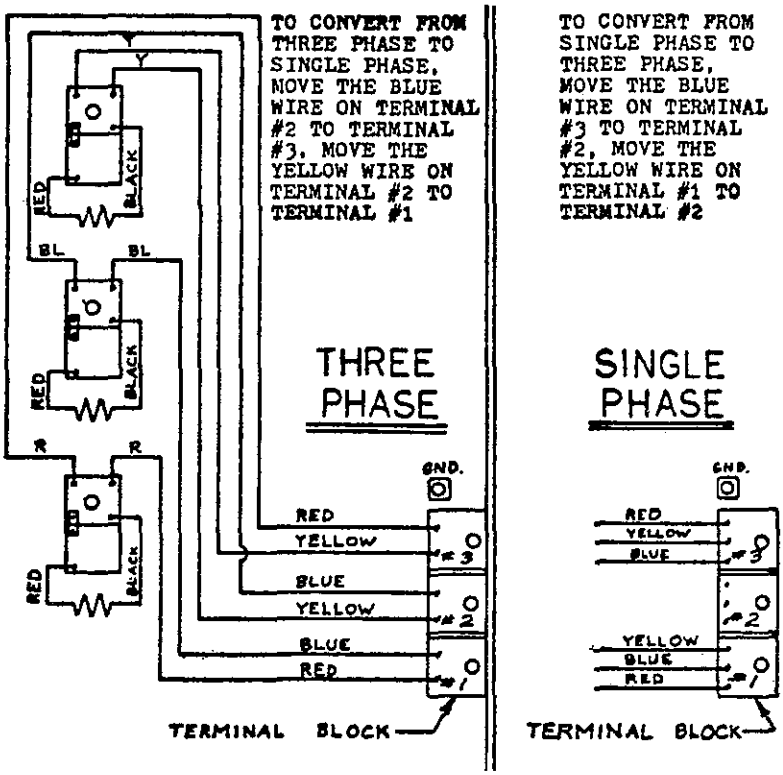
SINGLE INSTALLATION WITH STORAGE TANK
GRAVITY FLOW CIRCULATION



SECTION 5 WIRING DIAGRAMS

DO CONVERSIONS BY MOVING ONE WIRE AT A TIME

SURFACE MOUNTED THERMOSTATS
208, 220/240, 277, 440/480 VOLT
3 ELEMENT APPLICATION



DWG. NO. B-2692-A
PART NO. 059322

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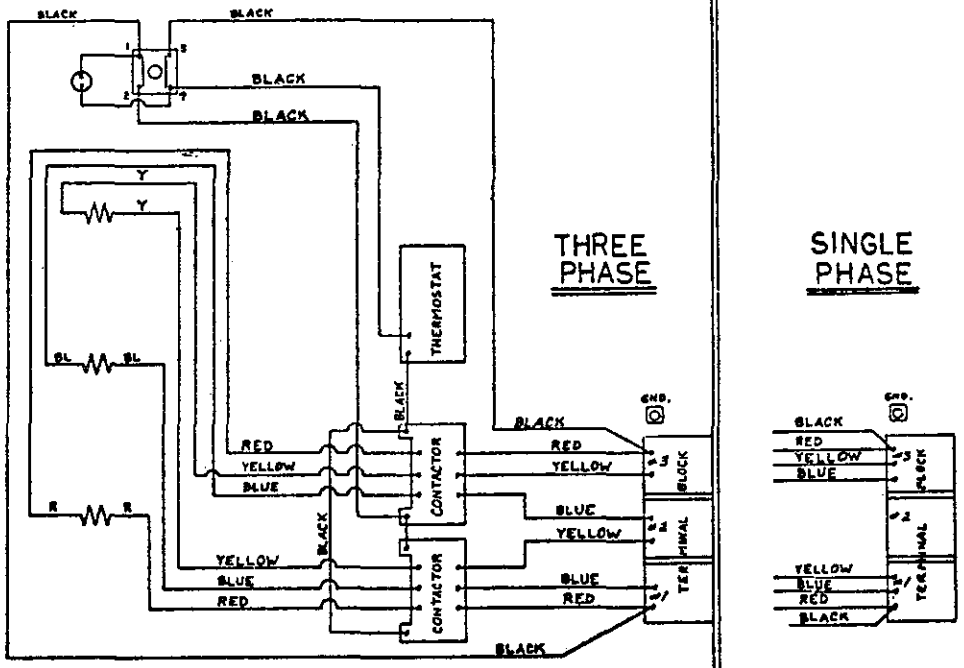
SECTION 5 WIRING DIAGRAMS

DO CONVERSIONS BY MOVING ONE WIRE AT A TIME

INMERSION THERMOSTAT
CONTROLLED CONTACTORS
208,220/240,277,440/480 VOLT
3 ELEMENT APPLICATION

TO CONVERT FROM THREE PHASE TO SINGLE PHASE, MOVE THE BLUE WIRES ON TERMINAL #2 TO TERMINAL #3, MOVE THE YELLOW WIRES ON TERMINAL #2 TO TERMINAL #1

TO CONVERT FROM SINGLE PHASE TO THREE PHASE, MOVE THE BLUE WIRES ON TERMINAL #3 TO TERMINAL #2, MOVE THE YELLOW WIRES ON TERMINAL #1 TO TERMINAL #2



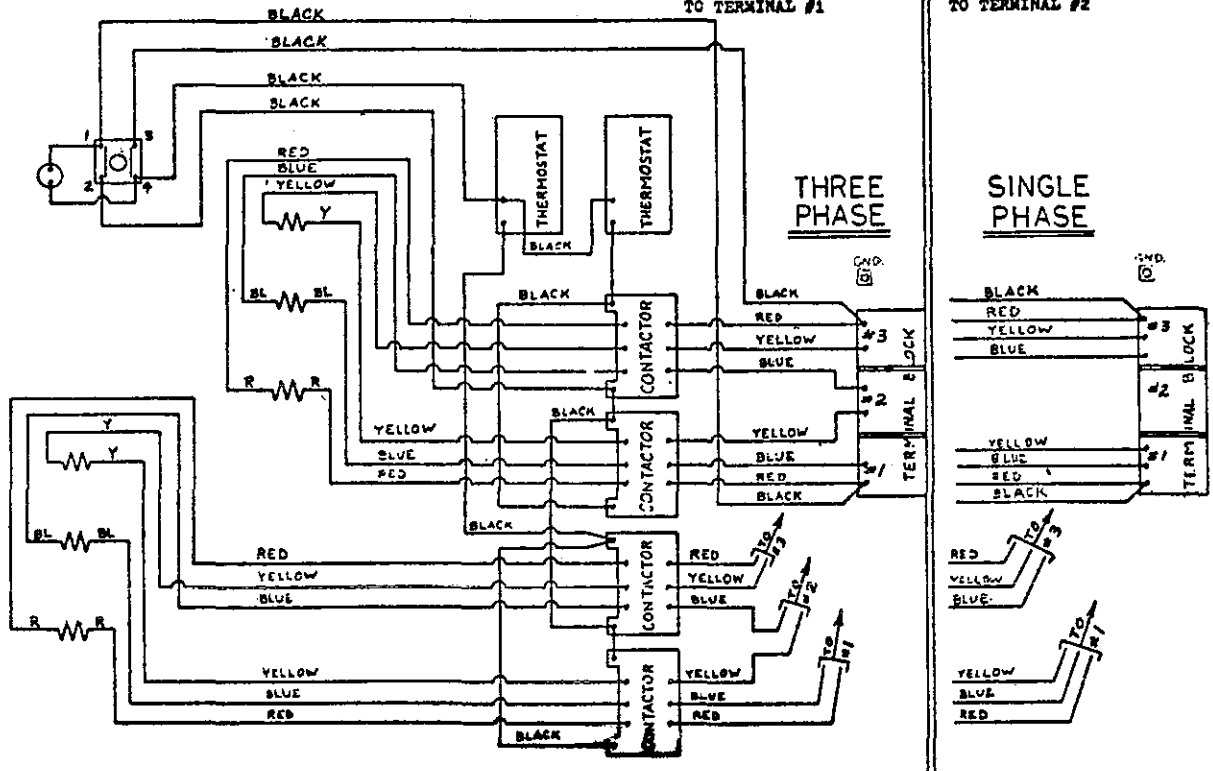
DWG.NO. B-2632-C
PART NO. 059324

DO CONVERSIONS BY MOVING ONE WIRE AT A TIME

INMERSION THERMOSTAT
CONTROLLED CONTACTORS
208,220/240,277,440/480 VOLT
6 ELEMENT APPLICATION

TO CONVERT FROM THREE PHASE TO SINGLE PHASE, MOVE THE BLUE WIRES ON TERMINAL #2 TO TERMINAL #3, MOVE THE YELLOW WIRES ON TERMINAL #2 TO TERMINAL #1

TO CONVERT FROM SINGLE PHASE TO THREE PHASE, MOVE THE BLUE WIRES ON TERMINAL #3 TO TERMINAL #2, MOVE THE YELLOW WIRES ON TERMINAL #1 TO TERMINAL #2



DWG.NO. B-2632
PART NO. 05932

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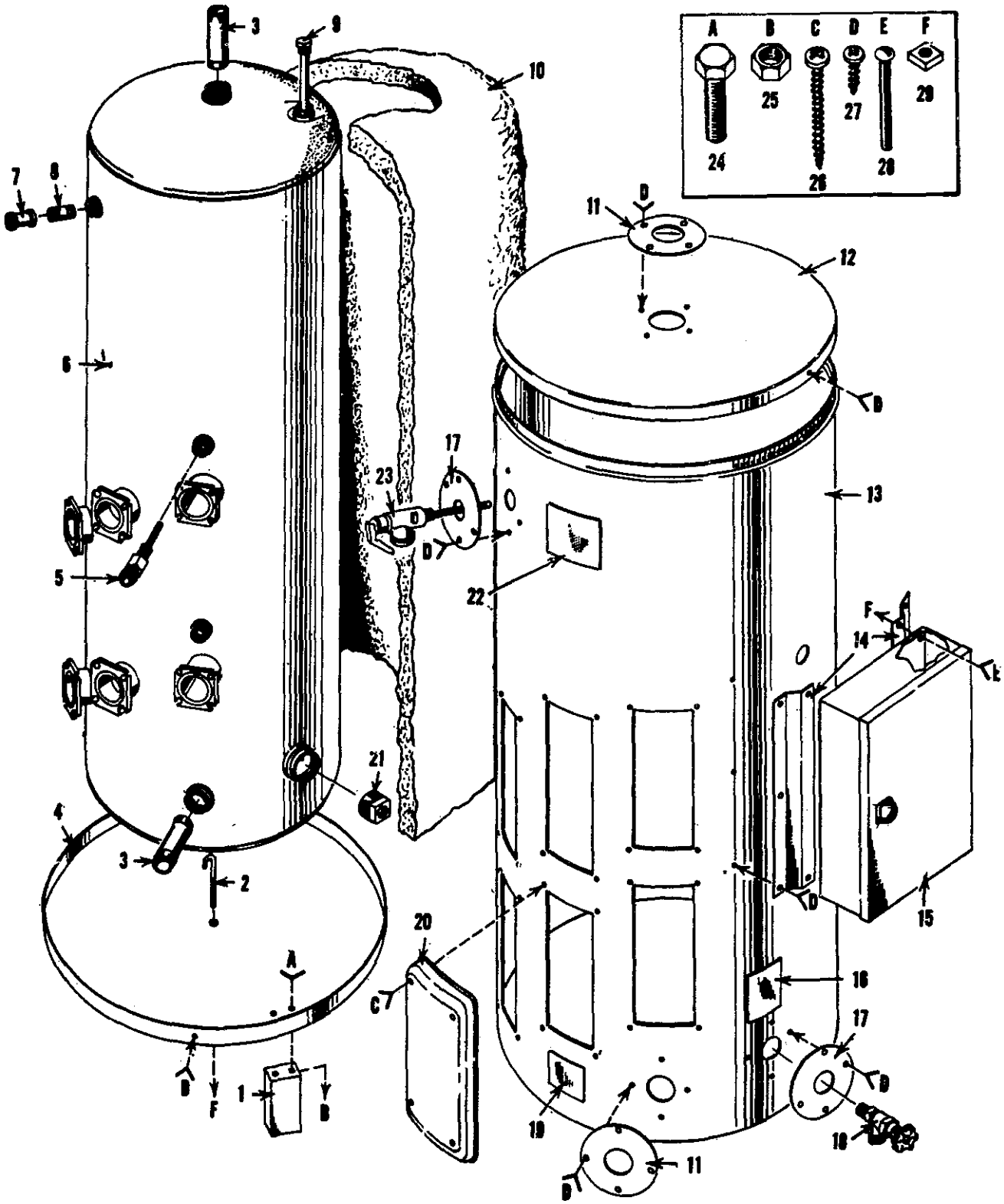
PARTS ILLUSTRATION – CAPACITY 52, 82, .20



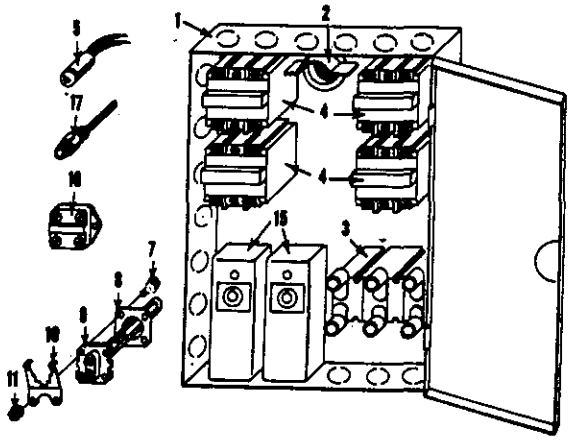
REPAIR PARTS LIST – CAPACITY 52, 82, 120

KEY NO.	CAPACITY			DESCRIPTION OF PART
	52 Gal.	82 Gal.	120 Gal.	
	PART NUMBERS			
1	010009	010009	010009	Outer leg w/bolts (4 sets required)
2	034002	034002	034002	¼—20 x 5" Hook bolt, w/nut
3	056012	056012	056012	Inlet—Outlet Nipple
4	009028	009028	009029	Base
5	018045	018045	018045	Thermostat ECO
6	904000	904000	904000	Tank**
7	085001	085001	085001	Coupling
8	056001	056001	056001	T & P Nipple
9	016077	016077	016014	Magnesium Anode
10	013149	013149	013201	Insulation**
11	119384	119384	119384	Inlet-Outlet Collar
12	219018	219018	219023	Top Jacket
13	219017	219021	219022	Jacket**
14	011249	011249	011249	Junction Box Supports
15	See Control and Element (group part list)			Junction Box
16	059206	059206	059206	Clean-out Instruction Label
17	119484	119484	119484	Drains & T & P Collar
18	017002	017002	017002	Drain
19	027079	027079	027079	Rating Plate
20	119679	119679	119679	Front Cover
21	044004	044004	044004	Clean-out Bushing
22	028009	028009	028009	Name Plate
23	072011	072011	072011	T & P Valve
24	191846	191846	191846	3/8—16 x 1 1/4" Hex Head Mach. Bolt (2 per leg required)
25	120377	120377	120377	3/8—16 Hexagonal Nut (2 per leg required)
26	161964	161964	161964	Screw, #10 x 1 3/4" Type A, Ph. Pan Hd. C.B.*
27	161928	161928	161928	Screw, #10 x 1" Type A, Phillips Pan Head C.B.*
28	110504	110504	110504	10—24 x 1" Rd. Head Slotted Mach. Screw Plain
29	110634	110634	110634	10—24 Square Nut
##		CSE-DM-6/68		Instruction Manual

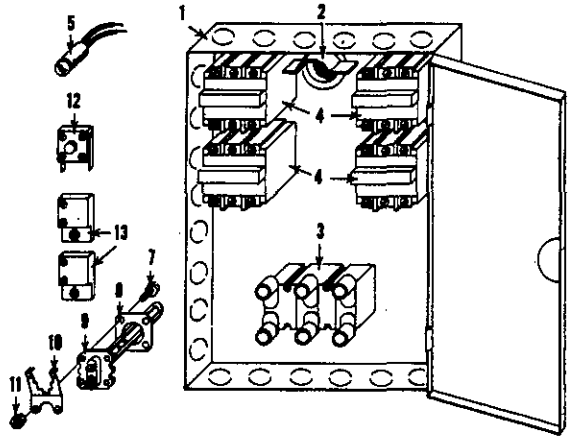
##Not Illustrated
*Standard Hardware Item. May be purchased locally
**Not Mailable

CRANE01240

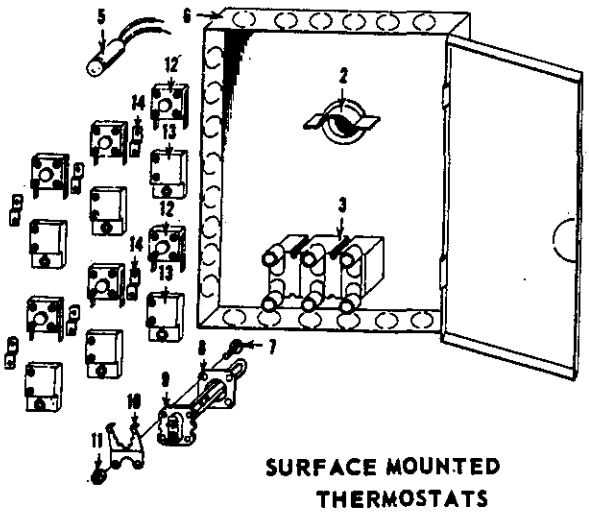
CONTROL AND ELEMENT GROUP – PARTS LIST – CAPACITY 52, 82,120



IMMERSION THERMOSTAT
WITH CONTACTORS



SURFACE MOUNTED THERMOSTAT
WITH CONTACTORS



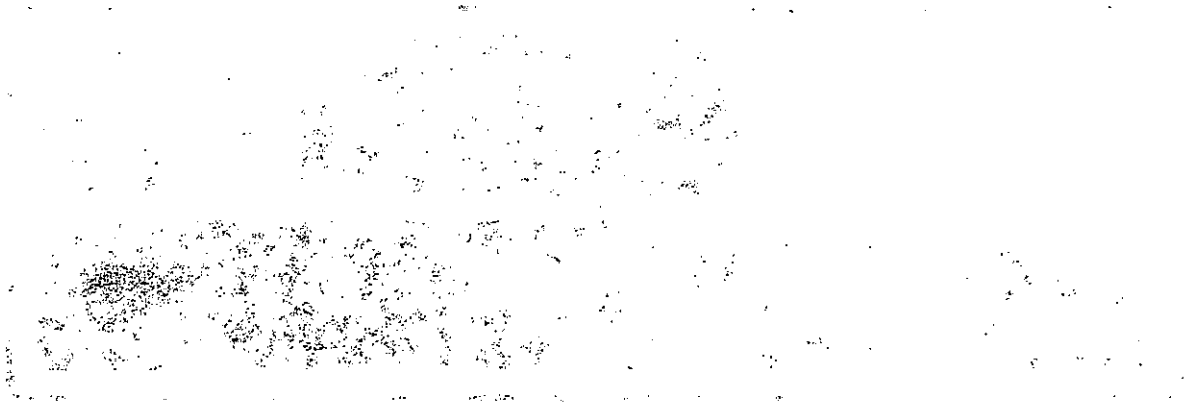
SURFACE MOUNTED
THERMOSTATS

KEY NO.	Part No.	CONTROL GROUP DESCRIPTION
1	088025	Box, Junction Box
2	083003	Clamp, wire
3	090001	Black, terminal G.E.
4	089002	Contactor, 208 Volt 30 Amp
4	089004	Contactor, 208 Volt 50 Amp
4	089002	Contactor, 236 Volt 30 Amp
4	089003	Contactor, 236 Volt 40 Amp
4	089004	Contactor, 236 Volt 50 Amp
4	089006	Contactor, 440/480 Volt 30 Amp
5	079001	Light, indicator 208 Volt, 236 Volt
5	079001	Light, indicator 440/480 Volt
6	088025	Box, Junction
7	191846	3/8–16 x 1¼" Sq. Hd. Mach. Bolt (4 per element)
8	053009	Gasket, Element
9	SEE ELEMENT TABLE BELOW	
10	011220	Bracket, Thermostat & E C O
11	120377	3/8–16 Hex. Nut
12	018045	EC HLC 1610
13	018029	Thermostat, Surface mounted
14	107002	Bar, Buss
15	018029	Thermostat, Immersion
16	018045	ECO HL 2043

	ELEMENT GROUP		
ELEMENT WATTAGE	208 Volt	240 Volt	440/480 Volt
	PART NUMBERS		
3000	074122	074136	074068
4000	074124	074138	074070
4500	074125	074139	074071
5000	074126	074140	074072
6000	074127	074141	074073
9000	074023	074040	074074

Work Sheet

Work Sheet



CRANE®

DUTY MASTER

COMMERCIAL WATER HEATER

FORM CSE-DM 9/76

CRANE

GLASSLINED

Dutymaster

ELECTRIC COMMERCIAL WATER HEATER ENGINEERING HANDBOOK

ADD

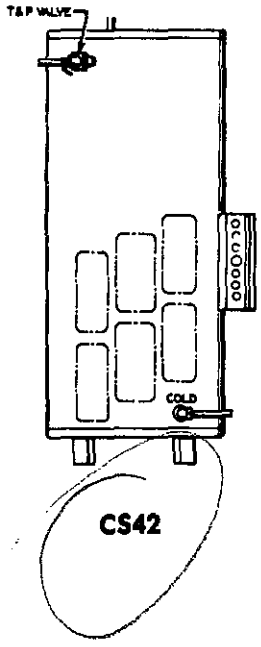
CSHBE-370

CRANE

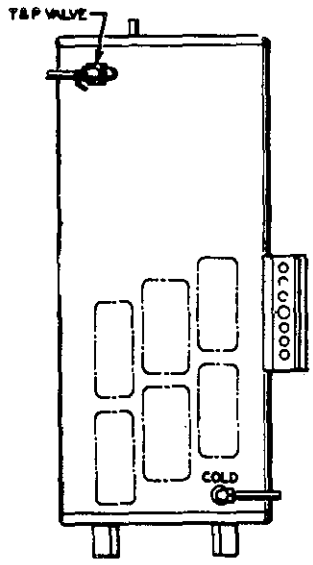
SUPPLY COMPANY

CRANE01246

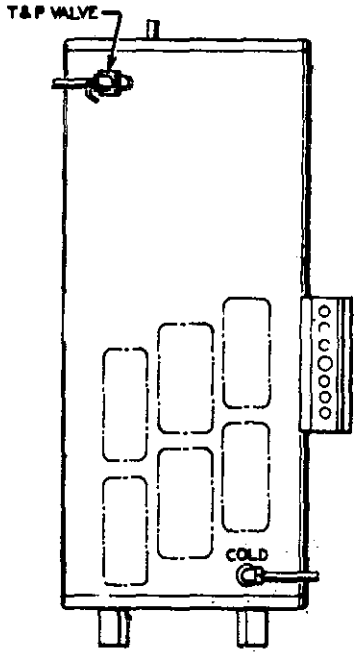
THE DUTYMASTER COMMERCIAL ELECTRIC LINE



CS42



CS82



CS120

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CRANE01248

INTRODUCTION

For the first time in the history of Commercial water heating, a manufacturer offers a program that guarantees a user **all** the hot water a given installation will need.

GUARANTEED HOT WATER PROGRAM

This program guarantees that in a commercial water heater application if the instructions and sizing charts in this manual are properly used to size a given installation, the DUTYMASTER heaters so chosen will adequately supply all the hot water needed.

Should it fail to do so, Crane Supply Company will furnish without charge the additional equipment to satisfactorily supply the hot water needs, exclusive of installation costs.

All DUTYMASTER Electric Commercial Water Heaters are listed with the Underwriter's Laboratories, the Regulating Body for the Electric Appliance Industry. Such approval being indicated by the U.L. seal prominently displayed on all products and pertinent literature.

All DUTYMASTER commercial water heaters bear the seal of approval of the National Sanitation Foundation, which is the regulating body for approval of all equipment relating to the food handling and service industry.

CRANE01249

WIRING INSTRUCTIONS

The DUTYMASTER Electric Commercial water heater is completely wired with leads to the terminal block. Select the proper wire size, check the rating plate for correct voltage, phase and wattage.

NOTE: NEVER OPERATE THE HEATING ELEMENTS WITHOUT BEING CERTAIN THE HEATER IS COMPLETELY FILLED WITH WATER.

PLUMBING INSTRUCTIONS

Locate water heater near major hot water load.

To gain the utmost economy of operation it is advisable to insulate the hot water pipe to prevent radiation losses, especially where there are long exposed lengths between the heater and the outlet.

The temperature and pressure relief valve should be piped to a drain or other suitable place. The discharge pipe should not be smaller than threaded opening in valve; also the outlet should not be located where it is subjected to freezing temperatures.

CONTROLS

IC models — the water temperature is controlled by close differential, fast-acting immersion thermostat(s) which activiates the control circuit of the heavy duty magnetic contractors which controls the power flow to the heating elements. Over temperature protection is obtained with manual reset high limit thermostat(s) which opens all ungrounded power circuits.

S models — the water temperature is controlled by close differential surface mounted thermostats which controls its own individual heating element. Over temperature protection is obtained with a manual reset high limit thermostat above each thermostat.

Pilot Light—A red neon pilot light is wired to indicate that there is power to the heater, however, it is also wired so that the light will go out if the high limit thermostat is tripped.

K. W. RATING	NUMBER OF ELEMENTS	FULL-LOAD CURRENT IN AMPERES							
		SINGLE – PHASE				THREE – PHASE			
		208V	220/240V	277V	440/480V	208V	220/240V	277V	440/480V
–6	3–2000W	29	27	22	14	17	16	13	9
–9	3–3000W	43	41	33	21	26	24	20	12
–12	3–4000W	58	55	43	28	34	32	25	17
–13.5	3–4500W	65	61	49	31	38	35	29	18
–15	3–5000W	72	69	55	34	42	40	32	20
–18	3–6000W	87	82	65	41	50	48	38	24
–27	6–4500W	130	123	98	62	75	71	57	36
–30	6–5000W	144	137	109	69	83	79	63	40
–36	6–6000W	173	164	130	82	100	95	75	48
–45	3–9000W 3–6000W	N.A. 3 phase only	205	163	103	125	119	95	60
–54	6–9000W	N.A. 3 phase only	246	195	123	150	142	113	71

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WATER PRESSURE REGULATION

It is strongly advised that the fluctuation of water pressure and "water hammer" (both have damaging effect on tanks) be controlled by installation of a pressure reducing valve in the cold water supply line. It is essential, however, to investigate the demands of all fixtures supplied by the DUTYMASTER hot water system before deciding on one pressure reducing valve in the main supply line. A multiple installation of such valves may be necessary throughout the system due to the wide variation in the hot water demand.

Most manufacturers of commercial automatic dishwashers, laundry equipment, etc., recommends certain pressures at which their product will operate at maximum efficiency. In these cases the pressure should be controlled by a suitable reducing valve installed in the inlet line to the appliance; not in the line to the water heater.

CAUTION: Pressure reducing valves permit the flow of water in one direction only. Because water expands when it is heated, it is a must that a pressure relief valve be used in conjunction with a pressure reducing valve.

To prevent any possible danger of over heating, a temperature relief valve is a must. Such a valve has to open under 212°F and must have a Btu water rated discharge capacity equal to the heat input of the heater.

Each DUTYMASTER water heater is factory furnished with a properly sized combination temperature and pressure relief valve as standard equipment. It is an automatic reseating lever type, approved by ASME, so located in the water heater tank as to provide quickest sensing and proper functioning. The outlet of the **T & P valve** should be piped to a drain. **Use pipe size equivalent to outlet of T & P valve. Do not reduce.**

STORAGE EFFICIENCY

The hot water "deliverability" of a water heating system is usable storage plus recovery capacity for the time interval involved. Usable storage is defined as the amount of hot water that can be drawn from a water heating system (after being brought up to desired temperature and heat turned off) before incoming cold water dilutes the remaining stored hot water to the extent that it is no longer hot.

1. Because of their efficient vertical design, DUTYMASTER Storage Boosters can deliver 90% of their stored capacity as usable hot water. Thus, with the water up to temperature and heat turned off, the 120 gallon DUTYMASTER Storage Booster can deliver 108 gallons of hot water. Incoming cold water dilutes the remaining 12 gallons to the extent that it is no longer "hot" water.

2. Because of the increased "mixing" action created by incoming cold water, horizontal storage tanks can deliver only 50% of their total stored capacity as usable hot water. Thus, without heat being added, a 200 gallon horizontal tank is required to obtain the same quantity of usable hot water that can be obtained from the storage capactiy alone of one 120 gallon DUTYMASTER Storage Booster.

This contrast in storage efficiency becomes a highly significant factor as the size of the system is increased. The following table compares the actual hot water "deliverability" of the DUTYMASTER Storage Booster system with systems using boilers or "circulating tank heaters" and a separate horizontal storage tank.

STORAGE EFFICIENCY								
DUTYMASTER STORAGE BOOSTER SYSTEM			"CIRCULATING TANK HEATER" KW INPUT			HORIZONTAL STORAGE TANK, GALLONS		
2-CS 82–36	are equal to		72 KW	with		290	Gallon Tank	
2-CS 120–54	"		108	"	"	430	"	"
3-CS 82–36	"		108	"	"	440	"	"
3-CS 120–54	"		162	"	"	650	"	"
4-CS 82–36	"		144	"	"	600	"	"
4-CS 120–54	"		216	"	"	860	"	"

Horizontal storage tanks are quite expensive when the cost of insulating these tanks and providing a pipe stand is considered. Because storage tanks are usually built of uncoated steel, or at best galvanized steel, the life expectancy of these tanks is questionable. A brief study of the tables in this manual will show that most water heating requirements can be met more economically and efficiently by using two or more DUTYMASTER Storage Boosters than by using a "circulating tank heater" with a separate storage tank.

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TABLE 1

ALLOWABLE CURRENT-CARRYING CAPACITIES

OF INSULATED CONDUCTORS

ALLOWABLE CURRENT-CARRYING CAPACITIES (Amperes) OF INSULATED CONDUCTORS. Not More Than Three Conductors in Raceway or Direct Burial, based on 30 C, 86 F ambient (Condensed from National Electrical Code)

Max Oper Temp	60 C	75 C	85 C	110 C	125 C	200 C
	Types of Insulation					
Size AWG or MCM	R, RW	RH, RHW Versatol SI8006 Super Coronol SI58007	Paper V-C (V) Varnish Cambric SI12352	V-C (AVA) Deltabeston SI57049 V-C (AVL) Deltabeston SI57120	AI AIA Silicone SI58210	A AA
	RH-RW (wet loc.)	RH-RW (dry loc.)	V-C (AVB) Deltabeston SI57095			
	T, TW Flamenol SI58175	THW Flamenol SI58266	MI RHH Super Coronol SI58007 8 AWG & Larger			
14	15	15	25	30	30	30
12	20	20	30	35	40	40
10	30	30	40	45	50	55
8	40	45	50	60	65	70
6	55	65	70	80	85	95
4	70	85	90	105	115	120
3	80	100	105	120	130	145
2	95	115	120	135	145	165
1	110	130	140	160	170	190
0	125	150	155	190	200	225
00	145	175	185	215	230	250
000	165	200	210	245	265	285

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REST HOMES AND NURSING HOMES

The Dutymaster "GUARANTEED HOT WATER" sizing guide for rest homes and nursing homes covers the general purpose water for showers, tubs, and lavatories. LAUNDRY LOADS MUST BE SIZED SEPARATELY.

Determine the maximum occupancy either by beds or people, and refer to the table below.

Example: A nursing home having a total of 37 people requires hot water for general use. What heaters should be recommended?

Answer: Use the table below finding 37 or more under the column entitled "Number of Occupants or Beds" and refer to heaters recommended. In this case, use 2 model CS-82–36 Dutymaster water heaters.

No. of & Model of Water Heaters Required	Number of Occupants or Beds
CS 42–13.5	9
CS 82–27	14
CS 82–54	27
(2) CS 82–36	38
(2) CS 82–54	50
(4) CS 82–36	68
(4) CS 120–54	105
(5) CS 82–54	130
(6) CS 120–54	166

Hot water for food service requirements must be sized separately. (See section on Food Service.)

All sizing is based on 100° F. rise in water temperature. If it is more or less, multiply the number of beds or occupants by one of the factors before entering the sizing guide.

110° F. Rise	-	1.1
90° F. Rise	-	.9
80° F. Rise	-	.8
70° F. Rise	-	.7
60° F. Rise	-	.6

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DORMITORY, BARRACKS, ROOMING HOUSES, FRATERNITY AND SORORITY HOUSES

The Dutymaster "GUARANTEED HOT WATER" sizing guide for dormitories, rooming houses, fraternity and sorority houses covers the general purpose water for showers, tubs, lavatories and utility sinks for each individual. The type and flow rate of the shower head determines the heater or heaters to be used.

Determine the shower head size and maximum occupancy, then refer to the table below.

Example: A dormitory has a maximum occupancy of 52 people and is equipped with Central Brass #3033 shower heads. What heaters should be recommended? (Refer to the shower head sizing guide, page 9, and the table below.)

Answer: The shower head is rated at 3 gpm, so using the table below, find 52 or more under the 3 gpm column and refer to the heaters to be used, which are two (2) model CS 120–54.

No. of & Model of Water Heater Req.	One Hour Recovery @ 100° Rise GPH	One Hour Delivery @ 100° Rise GPH	No. of People	
			3 gpm Shower	5 gpm Shower
CS 82–13.5	55	121	12	7
CS 120–18	73	169	17	10
CS 120–27	110	206	20	12
CS 120–36	147	243	24	14
CS 120–54	220	316	31	19
(2) CS 120–27	220	412	41	25
(2) CS 120–36	284	486	48	29
(2) CS 120–54	440	632	63	38
(3) CS 120–36	441	729	73	44
(3) CS 120–54	660	948	95	57
(4) CS 120–54	880	1264	126	77
(5) CS 120–54	1100	1590	159	96
(6) CS 120–54	1320	1896	189	114

All sizing is based on 100° F. rise in water temperature. If it is more or less, multiply the number of people by one of the factors before entering the sizing guide.

110° F. Rise	–	1.1
90° F. Rise	–	.9
80° F. Rise	–	.8
70° F. Rise	–	.7
60° F. Rise	–	.6

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APARTMENT HOUSES, MOTELS AND HOTELS

The Dutymaster "GUARANTEED HOT WATER" sizing guide for apartments, motels, and hotels covers the general purpose water used for each individual unit. The number of rooms in each unit is of little consequence, as the load is computed by the number of baths in each unit. If a laundry load does exist, it rarely occurs during the peak hours when general purpose water is being used.

The size and number of water heaters to be used is determined by the type and flow rate of the shower heads in use.

Therefore, sizing is based on the number of shower heads in existence, which is the main source of variation.

When sizing, first determine the number of units and the type and flow rate of the shower heads. Note: If there are 2 baths per apartment unit, multiply the number of double bath apartments by 1.4 and continue figuring as a single bath apartment.

Find the number of units water is to be furnished to under the appropriate column, and read quantity and model of heaters required.

Example: A convention hotel has 30 units with single bath, equipped with Logan Company "Wizard" shower heads and flow restrictors. What should be recommended?

Answer: The shower head is rated between 3.5 and 5.0 gpm without flow restrictor, but restricted flow is 3.0 gpm. (Found in the Shower Head Sizing Guide, Page 9). Find 30 units under "Convention Hotel" (Apartment, Hotel and Motel Sizing Guide, Page 9) and refer to heaters required, which are 2 - CS-82–30.

All sizing is based on 100° F. rise in water temperature. If it is more or less, multiply the number of units by one of the factors before entering sizing guide.

110° F. Rise	-	1.1
90° F. Rise	-	.9
80° F. Rise	-	.8
70° F. Rise	-	.7
60° F. Rise	-	.6

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APARTMENT HOUSE, HOTEL AND MOTEL SIZING GUIDE

No. of & Model of Water Heaters Required	One Hour Recovery at 100° Rise	One Hour Delivery at 100° Rise	Single Bath Apartments (1) No. of Apts. 3 GPM Shower	Single Bath Apartments (1) No. of Apts. 5 GPM Shower	Convention Hotel (2) No. of Units 3 GPM Shower	Convention Hotel (2) No. of Units 5 GPM Shower	Hi-Way Motel (2) No. of Units 3 GPM Shower	Hi-Way Motel (2) No. of Units 5 GPM Shower
CS 82-13.5	55 GPH	121 GPH	5	4	6	4	8	5
CS 82-18	73 GPH	139 GPH	7	5	7	5	9	6
CS 82-27	110 GPH	176 GPH	10	7	11	10	16	11
CS 120-36	147 GPH	243 GPH	13	9	12	9	15	12
CS 120-54	220 GPH	316 GPH	20	16	28	22	33	26
(2) CS-82-30	246 GPH	377 GPH	23	18	34	26	38	33
(2) CS-120-36	294 GPH	486 GPH	30	23	45	34	52	44
(2) CS-120-54	440 GPH	632 GPH	45	36	64	49	76	61
(3) CS-120-36	440 GPH	729 GPH	51	38	70	53	80	66
(3) CS-120-54	660 GPH	948 GPH	71	53	93	71	108	88
(4) CS-120-54	880 GPH	1264 GPH	135	79	124	93	143	114
(5) CS-120-54	1100 GPH	1590 GPH	183	137	166	125	191	161
(6) CS-120-54	1320 GPH	1896 GPH	272	204	206	154	251	188

When more than one water heater is required, parallel water connections should be made using Tru Flo manifolds. All sizing based on 100° F. temperature rise. For other temperature rises multiply, the number of units by the following factors before determining water heater requirements: For 90° F. rise multiply by .90, for 80° F. rise by .80, for 70° rise by .70, for 60° F. rise by .60.

(1) For two bathroom apartments, multiply number of apartment units by 1.4 before determining water heater requirements.

(2) Does not include hot water requirements for food service establishments.

All sizing based on the use of a return line circulating pump.

SHOWER HEAD SIZING GUIDE

Shower Head	Manufacturer	Flow Rate GPM	Restricted Flow GPM
Act-O-Matic	Sloan Valve	5.5	3.0
Boyd	American Std.	9.5	3.0
Victor	American Std.	10.0	3.0
Anystream No. 1 52240	Speakman	4.5	3.0
Anystream No. 2 52240	Speakman	4.5	3.0
Anystream No. 1 52250	Speakman	9.0	4.0
Anystream No. 2 52250	Speakman	7.0	3.0
Anystream No. 3 52250	Speakman	6.0	2.0
Brown 620-B	Chicago Faucet	8.0	2.0
Bubble Stream	Wrightway Eng.	4.0	2.0
Central Brass No. 3033	Central Brass Mfg.	3.0	1.5
Chase 188–355	Chase Brass & Copper	10.0	2.0
Crane Rainbow No. 8-2556	Crane Co.	5.5	3.0
Crane Capri 8-2550	Crane Co.	3.0	2.0
Crane Crestmont 8-3592	Crane Co.	3.0	2.0
Crane Crestmont 8-3590	Crane Co.	3.0	2.0
Crane Criterion 8-1561	Crane Co.	5.5	3.0
Dearborn	Dearborn Brass	7.5	3.0
Eljer	Eljer	6.0	3.0
Federal	Federal Huber	---	2.0
Gryo-Manystream	Gyro Brass Mfg.	---	2.0
Harcraft B-2	Harvey Machine	8.0	3.0
Homart 2091	Sears	---	2.0
Homart 2080	Sears	---	2.0
Indiana Brass	Indiana Brass Mfg.	---	3.0
Kohler K-7325	Kohler	---	3.0
Kohler K-7332	Kohler	---	3.0
Magic Fountain	Magic Fountain	2.8	2.0
Milwaukee "Premier"	Milwaukee Faucet	3.5	2.0
Sterling S-194	Sterling Faucet	6.0	2.0
Sure Flow 35	Sure Flow Brass Mfg.	3.0	2.0
Sure Flow 36	Sure Flow Brass Mfg.	4.5	3.0
Symmons Clear Flow	Symmons Eng.	3.5-7.0	2.0-4.0
Symmons Super Flow	Symmons Eng.	4.0-9.0	3.0-4.0
Universal/Rundle	Universal/Rundle	---	2.0
Wizard	Logan Mfg.	3.5-5.0	3.0
PP-15-020	Price Pfister	4.5	3.0
Moen 1533	Std. Screw	4.0	2.5
Delta	Delta Mfg.	4.0	2.5
Gerber	Gerber Brass	4.0	3.0
Sayco	Stephen Young	3.0	2.0

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FOOD SERVICE

DUTYMASTER GUARANTEED HOT WATER SIZING FOR FOOD SERVICE

Food service operations require water at two temperatures. General purpose water at 120°F. for clean-up operations in sinks and in washrooms, and 180° F. water for sanitizing use in the final rinse on dish washing operations.

When sizing for food service operations, it must be determined which one of three systems will be used to supply the two different temperatures of water. (120°F. General Purpose and 180°F. Dishwasher) The three systems are:

1. Use of a mixing valve and a storage type commercial water heater set at 180° F. In this system, one heater supplies both of the needed temperatures. (SYSTEM I)

2. The use of a storage type commercial heater set at 120° F. will supply the general purpose water, with an instantaneous type booster heater used to raise a portion of this 120°F. water to 180° F. water for the dishwasher. (SYSTEM II)

3. The use of two separate installations, one to supply only 120° F. general purpose water. The other is used to supply only 180° F. water for the dishwasher. (SYSTEM III)

There are, generally, two types of dishwashing machines. Type I, stationary, or door and hood type, (for batch operation). Type II, conveyor type, (with or without racks) for continuous operations. All water requirements at 180°F. for dishwashers is determined solely by standards governed by the National Sanitation Foundation and complied with by every dishwasher manufacturer whose equipment bears the NSF seal.

To determine amount of 180°F. water needed, determine dishwasher specified. Refer to Table 5, if stationary type. Refer to Table 6, if conveyor type.

The amount of general purpose water can be determined by the use of Table 4. Determine the number and type of fixtures using 120° F. general purpose water. Add the amounts used by each of these fixtures to find the total amount of general purpose water needed.

The amount of 180° F. water needed per hour is determined by the size and/or type of dish washing equipment used.

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SYSTEM I

If System I is to be used, refer to Food Service Sizing Guide 5. Select column at top of page under Heading "A" (general purpose water) corresponding to amount of general purpose water needed. Select the line under Heading "B" corresponding to 180°F. water requirements for the dishwasher. At the intersection of the line and column will be found the equipment needed to supply the hot water needs.

If there is more than one (1) heater needed for the installation, the heaters must be installed in parallel, as shown in Figure 2, Page 26.

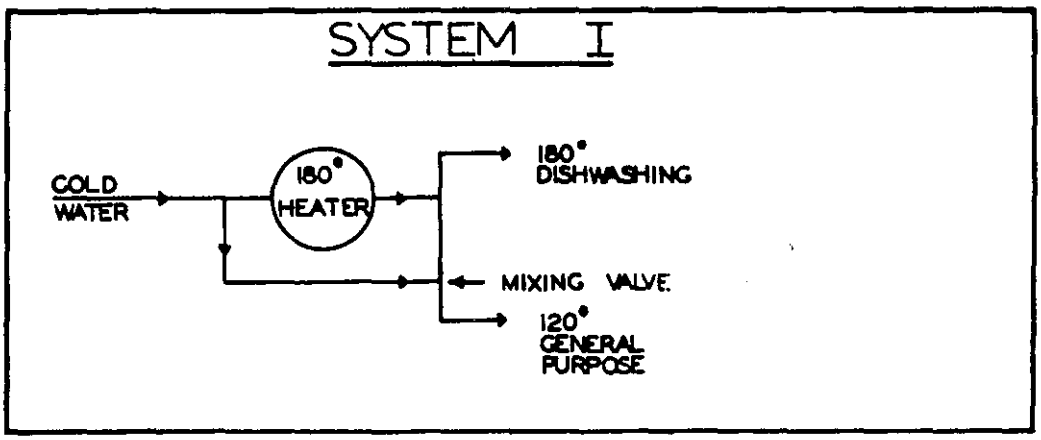
SYSTEM I

Example: A restaurant having a stationary rack type dishwasher would use System I.

The establishment is equipped as follows:

Equipment	180° F. Sanitizing Water GPH	120° F. General Purpose Water GPH
FASPRAY 2A Dishwasher (1)	74	
Vegetable Sink (2)		90
Double Pot Sink (1)		60
Pre-rinse Shower (1)		45
Bar Sink (2)		60
Lavatory (3)		15
Slop Sink (1)		20
	74	290

Using Food Service Sizing Guide 5, we find at the intersection of line "80 GPH" and column "300 GPH," two (2) DUTYMASTER CS120-54 water heaters for this job.



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SYSTEM II

If System II is used, add both the general purpose water requirements and the dishwasher water requirements to determine the size of the commercial storage heater needed. Refer to Food Service Sizing Guide 5. Under Heading "A", find the column in which the general purpose water corresponds to this total. The proper equipment will be shown directly underneath in the line labeled "0" under Heading "B".

If there is more than one (1) heater needed, they must be installed in parallel as shown in Figure 2, Page 26.

To determine the amount of 180°F. water for the dishwasher, refer to Food Service Sizing Guide Table 5, for stationary dishwashers or Food Service Sizing Guide, Table 6, for conveyor dishwashers.

The sizing of the dishwasher booster heater is taken from Food Service Sizing Guide 6, Page 17.

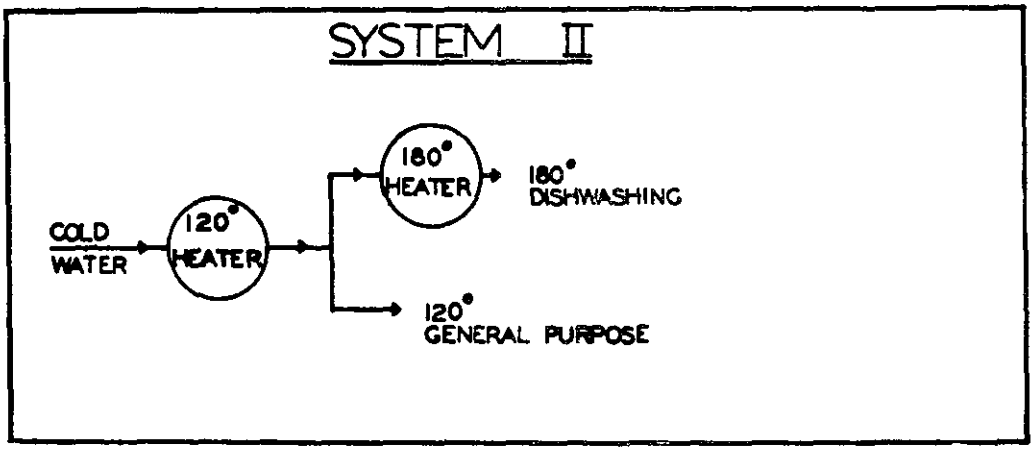
SYSTEM II

Example: A restaurant having a conveyor type dishwasher would use system II.
The establishment is equipped as follows:

Equipment	180° F. Sanitizing Water GPH	120° F. General Purpose Water GPH
Hobart XM-4 Dishwasher (1)	360	360
Vegetable Sink (2)		90
Triple Pot Sink (1)		90
Bar Sink (3)		90
Lavatory (5)		25
Slop Sink (2)		40
	360	695

Using Food Service Sizing Guide 5, we find under Heading "A" column "700 GPH" three (3) DUTY-MASTER CS82-54 water heaters for general purpose water.

Since the conveyor type dishwasher is using 360 GPH 180° F. water, we use a DUTYMASTER CS42-54 for a booster, Food Service Sizing Guide 6.



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SYSTEM III

If system III is used, determine the amount of general purpose water needed. Refer to Food Service Sizing Guide 5. Under Heading "A", find the column in which the general purpose water corresponds to this amount. The proper equipment to supply general purpose water will be shown directly underneath the line labeled "O", under Heading "B".

To find the size heater needed to furnish 180° F. water for this dishwasher, determine the amount of water needed by referring to Food Service Sizing Guide, Table 5 for stationary dishwashers and Food Service Sizing Guide, Table 6 for conveyor type dishwashers.

Under Heading "B" of the Food Service Sizing Guide 5, find the GPH of 180° F. water needed by the dishwasher. Immediately to the right of this figure under column Headed "0" may be found the proper equipment.

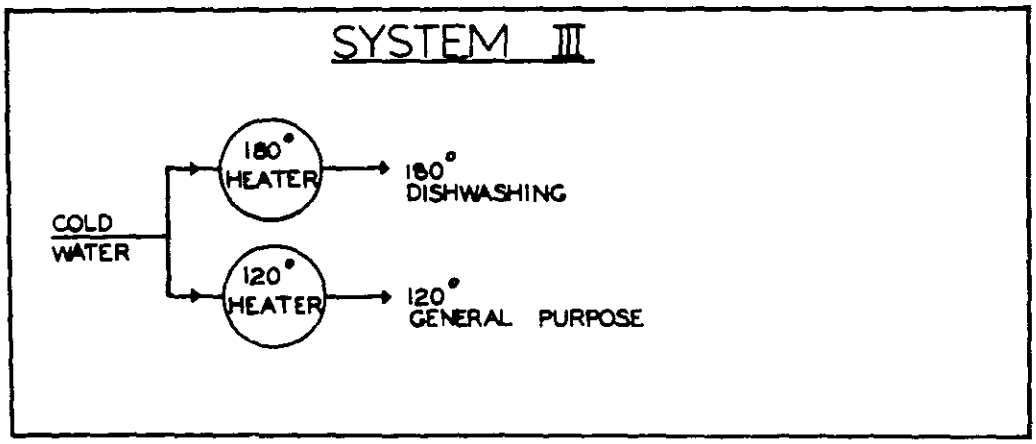
SYSTEM III

Example: Follow this system for restaurant desiring independent supplies of 180°F. water for dishwasher and 120° F. general purpose water.
The establishment is equipped as follows:

Equipment	180° F. Sanitizing Water GPH	120° F. General Purpose Water GPH
FASPRAY 2A Dishwasher (1)	74	
Vegetable Sink (2)		90
Double Pot Sink (1)		60
Pre-rinse Shower (1)		45
Bar Sink (2)		60
Lavatory (3)		15
Slop Sink (1)		20
	74	290

Under Heading "B" of the Food Service Sizing Guide 5, we go to line "80 GPH". Immediately to the right of this figure under column "O", we find one (1) DUTYMASTER CS42-36 water heater for the dishwasher using 74 GPH of 180°F. water

Under Heading "A" column "300 GPH", we find two (2) DUTYMASTER CS82-30 water heaters for the 290 GPH general purpose water.



FOOD SERVICE SIZING GUIDE 5

HEADING B GPH @ 180°		HEADING A GENERAL PURPOSE WATER @120°											
for Dishwashers	0	25 GPH	50 GPH	75 GPH	100 GPH	150 GPH	200 GPH	250 GPH	300 GPH	400 GPH	500 GPH	600 GPH	700 GPH
0		ONE CS82-13.5	ONE CS82-13.5	ONE CS82-15	ONE CS82-27	ONE CS82-36	ONE CS82-54	ONE CS82-54	TWO CS82-30	TWO CS82-54	TWO CS82-54	THREE CS82-45	THREE CS82-54
40 GPH	ONE Duty-master CS42-27	ONE DUTYMASTER CS120-27											
60 GPH			ONE DUTYMASTER CS120-36				TWO DUTYMASTERS CS120-36				THREE DUTYMASTERS CS120-54		
80 GPH	ONE Duty master CS42-36			ONE DUTYMASTER CS120-54				TWO DUTYMASTERS CS120-54					
100 GPH	ONE Duty master CS42-54	ONE DUTYMASTER CS120-54			TWO DUTYMASTERS CS120-36							FOUR DUTYMASTERS CS120-54	
125 GPH													
150 GPH													
175 GPH	TWO Duty-masters CS42-36	TWO DUTYMASTERS CS120-36			TWO DUTYMASTERS CS120-54			THREE DUTYMASTERS CS120-54					
200 GPH													
225 GPH	TWO Duty-masters CS42-54	TWO DUTYMASTERS CS120-54											
250 GPH													
300 GPH													
350 GPH	THREE Duty-masters CS42-54	THREE DUTYMASTERS CS120-54						FOUR DUTYMASTERS CS120-54					
400 GPH													
450 GPH													
500 GPH	FOUR Duty-masters CS42-54	FOUR DUTYMASTERS CS120-54											
550 GPH													

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FOOD SERVICE SIZING GUIDE

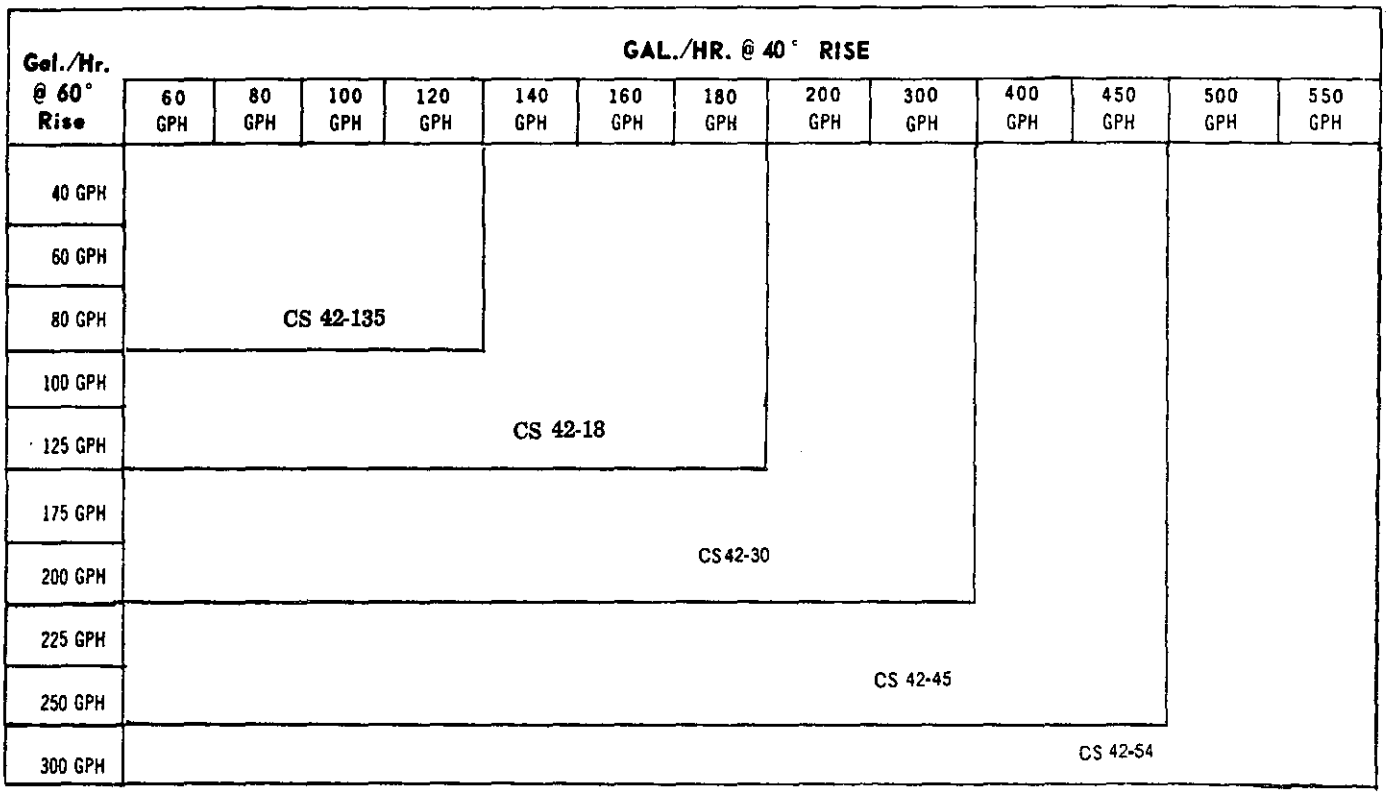
TABLE 4

General Purpose Hot Water Consumption—Kitchens

ITEM	GALLONS PER HOUR EACH
Vegetable Sink	45
Single Pot Sink	30
Double Pot Sink	60
Triple Pot Sink	90
Pre Rinse for Dishes; Shower Head Type (Hand Operated)	45
Pre Scrapper for Dishes (Salvajor Type)	180
Pre Scrapper for Dishes (Conveyor Type)	250
Bar Sink	30
Lavatory (Rest Rooms)	5
Slop Sink	20

Note: The above figures are based on field test data, but may vary with unusual conditions.

FOOD SERVICE SIZING GUIDE 6



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FOOD SERVICE SIZING GUIDE

TABLE 5

HOT WATER REQUIREMENTS FOR STATIONARY-RACK DISHWASHERS

*Door and Hood-Type

MANUFACTURER	MODEL NO.	RACK SIZE	GAL. PER HR. AT 180°
Alvey-Ferguson	CP, VP	Utensil Washer	60
Auto-Chlor System, Inc.	A	20" x 20"	35
Blakeslee	A-6, AT-6	16" x 16"	25
	B-4, BC-4, BT-4, BCT-4	18" x 18"	41
	D4, DC-4, D-40, DC-40		
	DT-4, DCT-4	20" x 20"	68
Champion	T-6, T-6A, T-7, T-7C, T-7A, T-7AC	16" x 16"	47
	I-KCB, I-KB, I-KAB, I-KCAB	20" x 20"	67
Elkington	S-16, S-16T, S-16D, S-16DT,		
	S-16DTC	16" x 16"	25
	S-20, S-20T, S-20DT, S-20D,		
	S-20DTC	20" x 20"	36
	E-6, E-6T, E-6TC, RW-6, RW-6T,		
	RW-6TC, RW-7, RW-7T, RW-7TC	20" x 20"	60
	PS, PS-T (Curtain Type)	20" x 20"	72
Fespray	2-A, 2-AT	20" x 20"	74
Fearless	22	16" x 16"	28
	22T	16" x 16"	25
	33, 33A, 33AT, 33C, 33T, 33CT	16" x 16"	63
	44, 44C, 44T, 44CT	20" x 20"	82
Foley-Irish	A-3, A-5, A-7, A-9	Silver Washer	45
Food Machinery	102, 202	Pot and Pan Washer	75
Gresham	50, 50T	20" x 20"	87
Hobart	SM-6, SM-6TR2, SM-6T2	16" x 16"	29
	UM-4, UM-4D, UMP-4,		
	UMP-4D	19" x 19"	39
	AM-A, AM-ATR2, AM-AT2,		
	AM-AC, AM-ACTR2, AM-ACT2	20" x 20"	62
	AM-6, AM-6C, AM-6CT2,		
	AM-6CTR2, AM-6TR2, AM-6T2	20" x 20"	62
	AM-7, AM-7C, AM-7CT2,		
	AM-7CTR2, AM-7TR2,		
	AM-7T2, AM-77	20" x 20"	62
	LM-2, LM-2TR2, LM-2T2	20" x 20"	62
Insinger	40-2, 45	16" x 16"	45
	15, 50-SA	20" x 20"	63
Jackson	10A, 10M, 10AB, 10APR-B	16" x 16"	43
	50APR, 50-APR-B	18" x 18"	49
Stero	SF-1R, SF-1RA, SF-1DR,		
	SF-1DRA, SF-1DC, SF-1DCA	16" x 16"	28
	40 SM16, 40 EMT16	16" x 16"	37
	SF-2R, SF-2RA, SF-2DR,		
	SF-2DRA, SF-2DC, SF-2DCA	20" x 20"	53
	SD-1R, SD-1RA, SD-1RC,		
	SD-1RCA, SD-1RAF	20" x 20"	66
	SD-RA, SD-1RCAF, 40 SM20	20" x 20"	66
	SD-2R, SD-2RA, SD-2RAF,		
	SD-2RCA, SD-2RCAF	20" x 20"	66
	SD-3, SD-3R, SD-3A, SD-3RA,		
	SD-3AF, SD-3RAF, 50 SMT,	20" x 20"	66
	SD-SPT, SD-SPTA, SD-SPTAF	20" x 20"	66
Toledo	CM-20, CA-20	16" x 16"	30
	DC-22, DS-22, TA-22,		
	TAC-22, TA-22D, TAC-22D	16" x 16"	61
	DC-27, DS-27, TA-27,		
	TAC-27, TA-27D, TAC-27D	20" x 20"	61
	TSM-27, TSMC-27, TSA-27,		
	TSAC-27	20" x 20"	61
Universal	WG Glasswasher	16" x 16"	21
	DG Glasswasher	20" x 20"	52
	Model W	16" x 16"	21
	Model B	16" x 16"	24
	HL, HLC	16" x 16"	36
	H, HD, HDC	18" x 18"	50
	Model D	20" x 20"	52
	U, M, M2, E, S, SD, SE, SR	20" x 20"	70
Vulcan Hart	CU-16B, CU-16BTA, CU-16BTX	16" x 16"	61
	R-16B, R-16BTA, R-16BTX	16" x 16"	61
	R-1B, R-1BTX, R-1BTA,		
	R1-20, R1-20TX, R1-20TA	20" x 20"	61

*Based on 20 PSI flow pressure, National Sanitation Foundation Standard No. 5 and 70% mechanical operation.
Detailed specification sheets on above models available on request from manufacturers.

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FOOD SERVICE SIZING GUIDE
TABLE 6
HOT WATER REQUIREMENTS FOR CONVEYOR-TYPE DISHWASHERS

MANUFACTURER	MODEL NO.	CONVEYOR TYPE	GAL. PER HR. AT 180°
Blakeslee	EC-4, MC-4	Single Tank 20" x 20"	360
	PC-4, SC-4, WC-4	Multiple Tank 20" x 20"	240
	86-PT-2, 86-PT-2HM, 86-PT-2PW, 86-PT-2PWHM, 86-PT-3, 86-PT3HM	Peg Type (Rackless)	300
	66-PT	Peg Type (Rackless)	370
Champion	20-KB, 20-KFWB, 20-KPRB, 30-KB, 30-KFWB, 30-KPRB	Single Tank 20" x 20"	360
	CC-1	Single Tank 20" x 20"	360
	CC-2	Multiple Tank 20" x 20"	240
	40-KB, 40-KFWB, 40-KPRB, 60-KB, 60-KFWB, 60-KPRB	Multiple Tank 20" x 20"	240
	400-KB, 600-KB	Flat (Rackless)	200
	UC,12C, UC-15C, UC-17C, UC-19C, UC-21C, UC-23C, UC-24C, UC-26C UC-116C, UC-15FWC, UC-17FWC,	Inclined (Rackless)	
	UC-19FWC	Inclined (Rackless)	
Elkington	GD-44, GD-54	Single Tank 20" x 20"	360
	GDX-60, GDX-70, GDX-80, GDX-90,		300
	GDX-100, GDX-110, GDX-120	Multiple Tank 20" x 20"	240
	PC-12, PC-15, PC-22, PC-24, PC-26	Peg (Rackless)	300
	PC-19	Peg (Rackless)	370
Faspray	4-A, 4-ARD, 6-A, 6-ARD, 7-A, 7-ARD, 9-A, 9-ARD, Roto Drive Jr.	Multiple Tank 20" x 20"	240
Fearless	77	Single Tank 20" x 20"	360
	88, 110, 150	Multiple Tank 20" x 20"	240
Hobart	XM-4, CM-2	Single Tank 20" x 20"	360
	XXM-4, CCM-2, GM-2	Multiple Tank 20" x 20"	240
	FT-12, FT-14, FT-17, FT-18, FT-19	Flight Type (Rackless)	360
	FT-15, FT-20, FT-22, FT-23, FT-24, FT-26, FT-28, FT-29	Flight Type (Rackless)	300
Insinger	Admiral 120-5	Single Tank 20" x 20"	360
	Speeder IV	Multiple Tank 20" x 20"	240
	Clipper 85-DA-6, 85-DA-7, 85-DA-8	Multiple Tank 20" x 20"	240
	Super 135-DA-4, 135-DA-7	Multiple Tank 20" x 20"	240
	Master 165-DA-3, 165-DA-4, 50-DA, 60-DA, 75-DA, 85-DA, 115-DA, 135-DA, 165DA, 185-DA, 225-DA, 250-DA, 275-DA	Multiple Tank 20" x 20" (Certain Models 17" x 20" Rack)	240
	Admiral RC-12FWPW	Rackless	360
	Admiral RC-12RCPW	Rackless	380
	Clipper RC-15, RC-18FWPW, RC-18RCPW	Rackless	300
	Master RC-18, RC-21FWPW, RC-21RCPW	Rackless	300

(continued on next page)

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FOOD SERVICE SIZING GUIDE
TABLE 6 –(Continued)
HOT WATER REQUIREMENTS FOR CONVEYOR-TYPE DISHWASHERS

MANUFACTURER	MODEL NO.	CONVEYOR TYPE	GAL. PER HR. AT 180°
Stero	SCT-44, SCT-44F, SCT-44VF, SCT-44V, SCT-44-10	Single Tank 20" x 20"	360
	SCT-44-10F, SCT-44-10VF, SCT-44-10V, SCT-54, SCT-54F	Single Tank 20" x 20"	360
	SCT-54VF, SCT-54V	Single Tank 20" x 20"	360
	SCT-60, SCT-60F, SCT-60VF, SCT-60V, SCT-64, SCT-64F	Multiple Tank 20" x 20"	240
	SCT-64VF, SCT-64V, SCT-76, ST-76F, SCT-76VF, SCT-76V	Multiple Tank 20" x 20"	240
	SCT-80, SCT-80F, SCT-80VF, SCT-80V, SCT-94, SCT-94F	Multiple Tank 20" x 20"	240
	SCT-94VF, SCT-94V, SCT-108, SCT-108F, SCT-108VF, SCT-108V	Multiple Tank 20" x 20"	240
	SCT-120, SCT-120F, SCT-120VF, SCT-120V, 60DA, 85DA, 135DA	Multiple Tank 20" x 20"	240
	185DA, 250DA, 50DA, 75DA, 115DA, 165DA, 225DA, 275DA	Multiple Tank 20" x 20"	240
	STPC-10, STPC-12HS, STPC-12PS, STPC-15HS, STPC-15PS	Peg Type (Rackless)	360
	STPC-15, STPC-22, STPC-24, STPC-24D, STPC-26, STPC-26D	Peg Type (Rackless)	300
	STPC-19, STPC-19PS, STPC-20	Peg Type (Rackless)	390
	STPC-120	Peg Type (Rackless)	360
Toledo	C2A-1A, 1TP-54	Single Tank 20" x 20"	360
	2T-P-60, 2T-P-60R, 2T-P-68R, 2T-P-68	Multiple Tank 20" x 20"	260
	2T-P-64, 2T-P-61, 2T-P-103, 3T-P-86, 3T-P-86R, 3T-P-103, 3T-P-103R	Multiple Tank 20" x 20"	240
	R1T-10, R2T-12R	(Rackless)	360
	R3T-29R	(Rackless)	300
Universal	Y, Y2, Y2CC, Y3	Single Tank 20" x 20"	360
	J2, J4-CC, MM, MM4, MM4CC, N, N4, N4CC, A, A3, A3CC	Multiple Tank 20" x 20"	240
	A4, A4CC	Multiple Tank 20" x 20"	240
	ZA, ZB, ZC	Rackless	300
Vulcan-Hart	A44, A44F, A44P, A54, A54F, A54P	Single Tank 20" x 20"	360
	A64, A643, A64F, A643F, A64P, A643P, A81, A81-4, A81-F	Multiple Tank 20" x 20"	240
	A81P, A814F, A814P, A816, A816F, A816P, A984, A984F	Multiple Tank 20" x 20"	240
	A984P, A986, A986F, A986P	Multiple Tank 20" x 20"	240
	AR-215, AR-217PW, AR-217, AR-219PW, AR-219, AR-221PW	Rackless (Peg Type)	360
	AR-320, AR-322, AR-324, AR-326	Rackless (Peg Type)	360

*Based on National Sanitation Foundation Standard No. 5
Single and Multiple Tank are based on 70% mechanical operation.
Rackless are based on 100% or continuous operation.
Detailed specification sheets on above models available on request from manufacturers.

CRANE01265

SELF-SERVICE LAUNDRIES

The Dutymaster self-service laundry "GUARANTEED HOT WATER" sizing guide furnishes the 140°–160° water required for self-service coin operated laundries. The hot water requirements are determined by the size, number, and cycle time of the clothes washer.

A Dutymaster system, either singularly or in multiples, is very desirable in these installations because it is space saving and eliminates the extra costs of large storage tanks, coils, needless wiring, extra electric controls and high maintenance costs.

NUMBER OF DUTYMASTER WATER HEATERS	NUMBER OF 15 LB. WASHERS 30 MINUTE CYCLE
(1) CS82-54	1–4
(2) CS82-54	5–8
(3) CS120-54	9–12
(4) CS82-54	13–16
(5) CS82-54	17–24
(6) CS120-54	25–30
(7) CS82-54	31–36
(8) CS120–54	37–42

For 20 lb. washers, multiply number of units by 1.4 before using sizing chart.

For 8–12 lb. washers, multiply number of units by .8 before using sizing chart.

All sizing is based on 100° F. rise in water temperature. If more or less, multiply the number of units by one of the following factors before using sizing chart:

110° F. Rise	-	1.1
90° F. Rise	-	.9
80° F. Rise	-	.8
70° F. Rise	-	.7
60° F. Rise	-	.6

CRANE01266

BARBER AND BEAUTY SHOPS

DUTYMASTER GUARANTEED HOT WATER SIZING FOR BARBER AND BEAUTY SHOPS

Hot water requirements for barber and beauty shops are determined by the number of chairs or bowls. Water is used at a general purpose temperature of 120° F.

Each chair, or bowl, has an average use of 15 GPH, and sizing can be determined by totaling the number of chairs, before referring to sizing guide for Barber and Beauty Shops to choose the correct DUTYMASTER heater required.

DUTYMASTER GUARANTEED HOT WATER SIZING GUIDE
BARBER & BEAUTY SHOPS

NO. OF CHAIRS OR OPERATORS*		NUMBER AND MODEL OF DUTYMASTER HEATERS
1–4	ONE	CS42–18
5–9	ONE	CS82–27
10–12	ONE	CS82–36
13–18	ONE	CS82–54
19–24	TWO	CS82–36
25–30	TWO	CS82–45
31–36	TWO	CS82–54

*USE LARGEST NUMBER

CRANE01267

SERVICE STATIONS

This Dutymaster "GUARANTEED HOT WATER" sizing guide covers the required 100° F. water for washrooms, general cleaning and single hose car wash operation in service stations. Code requirements in these installations make it necessary to install the water heater at least six (6) feet or sometimes eight (8) feet above the floor level.

Using a Dutymaster model CS 42, with the required KW rating, will give a continuous flow of 100° F. water. Sizing can be obtained by determining the maximum flow rate of the car wash hose before entering the chart below. To insure a continuous supply of 100° F. water, use a restricting thermostatically controlled mixing valve or similar valves to control the flow and assuring constant temperature.

100° F. GENERAL PURPOSE WATER FOR SERVICE STATIONS

TOTAL KW	CONTINUOUS FLOW, IN GPM @ 60°RISE
13.5	1.5
15	1.7
18	2.0
27	3.1
30	3.4
36	4.1
45	5.1
54	6.1

CRANE01268

SWIMMING POOLS

DUTYMASTER GUARANTEED HOT WATER SIZING GUIDE FOR SWIMMING POOLS

The water temperature of most swimming pools is maintained at 75°F. to 80°F.

Keeping a swimming pool at this temperature requires surprisingly little in the way of heating equipment. The biggest job is bringing the pool to temperature in a reasonable amount of time.

A warm-up time of 96 hours is suggested in order to make the most economical, but effective, installation. We also recommend the use of styrofoam, floating type insulation, while the pool is not in use. This will reduce both warm-up time and fuel costs. See Figure 1 for typical installation.

DUTYMASTER SWIMMING POOL SIZING				
Pool Surface Area Sq. Ft.	Approx. Pool Gallons-Avg. Depth 5½ Ft.	Number & Model DUTYMASTER Heater(s) for Pool Warm-up Time Shown		
		96 Hrs.	48 Hrs.	24 Hrs.
200	8,000	1–CS 42–27	1–CS 42–27	1–CS 42–27
300	11,000	1–CS 42–27	1–CS 42–27	1–CS 42–36
400	16,000	1–CS 42–27	1–CS 42–27	1–CS 42–45
500	21,000	1–CS 42–27	1–CS 42–36	1–CS 42–54
600	24,000	1–CS 42–27	1–CS 42–36	2–CS 42–45
700	29,000	1–CS 42–27	1–CS 42–45	2–CS 42–45
800	32,000	1–CS 42–36	1–CS 42–45	2–CS 42–45
900	37,000	1–CS 42–36	1–CS 42–54	2–CS 42–54
1000	41,000	1–CS 42–36	1–CS 42–54	2–CS 42–54
1200	49,000	1–CS 42–36	2–CS 42–45	2–CS 42–54
1400	58,000	1–CS 42–45	2–CS 42–45	4–CS 42–45
1600	66,000	1–CS 42–45	2–CS 42–54	4–CS 42–45
1800	74,000	1–CS 42–54	2–CS 42–54	4–CS 42–54
2000	83,000	1–CS 42–54	2–CS 42–54	4–CS 42–54

For Swimming Pool Heater Installation, See Page 23.

1. The above chart is based on 25°F. temperature rise and 15 mph wind velocity. For greater or lesser difference between air and water temperature, use the following factor:

Temperature rise in degrees F.	Correction factor to be applied to pool capacity
35	1.4
30	1.2
25	1.0
20	0.8
15	0.6
10	0.4

1. It is recommended that pool heater selections be based on a 96 hour warm-up time.
2. For indoor pools, warm-up time will be approximately one-half that of an outdoor pool.

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SWIMMING POOL HEATER INSTALLATION

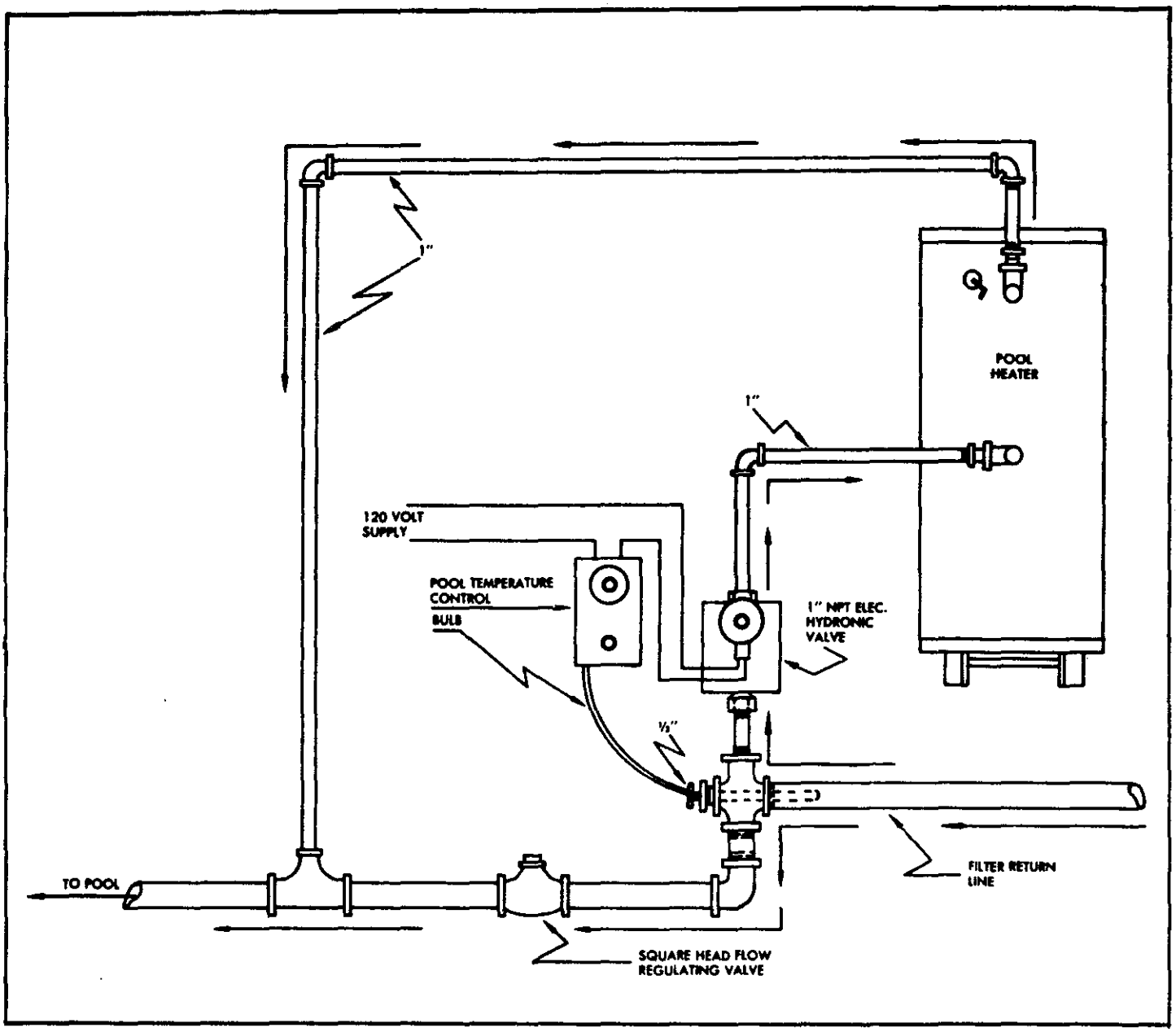

FIGURE 1

CRANE01270

INDUSTRIAL PLANTS

This Dutymaster "GUARANTEED HOT WATER" sizing guide is for industrial plants covering the water required for general purpose use at 120° F. during employee clean-up periods. Other "special process" loads should be sized separately.

The employee cleanup period generally occurs twice daily, at noon and quitting time. An adequate supply of hot water is required for an approximate 10 minute period for every shift.

A Dutymaster system of free standing heaters can be used singularly or in manifold at a "point of use" location eliminating large auxiliary steam line, reducing stations and overly large horizontal storage tanks greatly, increasing the efficiency of the operation.

All that is required is a survey of the equipment hot water is to be furnished to, totaling the requirements and referring to the table, select the correct heater or heaters to be used.

Example: Industrial Plant washroom has the following equipment (10 min. cleanup time).

1. Two 54" Bradley Wash Fountain
2. Two Lavatories
3. One Slop Sink
4. One 36" Bradley Wash Fountain

Answer: Requirements for every cleanup period, taken from the General Purpose Water Consumption table, this page:

1.	Two 54" Bradley Wash Fountain	140 gal.
2.	Two Lavatories	10 gal.
3.	One Slop Sink	20 gal.
4.	One 36" Bradley Washfountain	40 gal.
	TOTAL	210 gal. 120° water

From table below, locate the heater or multiples of heaters that will come closest to furnishing sufficient amounts of 120° F. water. One CS 120–54 has 213 gallons available in a 10 minute period, which is also the model to recommend. Recovery is of secondary importance in this type of installation, as only 10 minutes recovery time is available during the the draw period. The storage capacity will be available before the next peak demand is required.

GENERAL PURPOSE WATER CONSUMPTION

EQUIPMENT	GALLONS REQUIRED*
Lavatory (Each)	5
Slop Sink	20
54" Bradley Wash Fountain	70
54" Bradley Wash Fountain (Half)	35
36" Bradley Wash Fountain	40
36" Bradley Wash Fountain (Half)	20
9 and 12 Pound Rag Washers	45
16 Pound Rag Washers	60

*Based on 10 minute requirements for Bradley Wash Fountain

AVAILABLE 120° F. GENERAL PURPOSE WATER*

TOTAL KW	TANK CAPACITY IN GALLONS		
	42	82	120
13.5	70	126	179
15	71	127	180
18	74	130	183
27	82	138	191
30	84	140	193
36	90	146	199
45	97	153	205
54	105	161	213

*Water stored at 180° F. and used at 120° F. with a 10 minute recovery period at 80° rise.

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USEFUL TABLES

RECOVERY IN GALLONS PER HOUR AT VARIOUS TEMPERATURE RISES											
WATTAGE	40°	50°	60°	70°	80°	90°	100°	110°	120°	130°	140°
6000	62	49	41	35	30	27	25	22	20	19	17
9000	93	74	61	52	46	40	37	33	31	28	26
12000	123	98	82	70	61	54	49	45	41	38	35
13500	139	111	92	79	69	61	55	51	46	43	40
15000	154	123	102	87	76	67	61	56	51	47	44
18000	185	148	123	104	92	81	73	68	62	57	53
27000	277	222	184	157	138	122	110	102	93	86	79
30000	308	246	205	174	153	135	123	113	103	95	88
36000	369	296	246	209	184	162	147	136	124	115	105
45000	462	370	307	261	230	203	183	170	155	143	132
54000	554	444	369	313	276	243	220	204	186	172	158

Maximum water available in gallons in various periods of time. Based on 100° F. temperature rise.												
GAL. CAP.	K.W. CAP.	5 minutes	10 minutes	20 minutes	30 minutes	45 minutes	1 Hr.	2 Hr.	3 Hr.	Recovery GPM	Recovery GPH	Minutes to recover contents
4.5	6	5.4	7.5	11.7	16	22	28	53	78	.42	25	11
4.5	9	6.4	9.5	15.7	22	31	40	77	114	.62	37	7.5
4.5	12	7.4	11.5	19.7	28	40	52	101	150	.82	49	5.5
42	13.5	38	42	52	61	74	88	144	198	.9	55	47
82		70	74	84	43	106	121	176	231			91
120		100	104	114	123	136	150	206	360			134
42	15	39	44	54	64	79	95	158	220	1.0	62	42
82		71	76	86	96	111	127	190	252			82
120		101	106	116	126	141	157	220	282			120
4.5	18	9.3	15.3	27	39	57	76	149	222	1.2	73	4
42		40	46	58	70	88	107	180	257			35
82		72	78	90	102	120	139	212	289			68
120		102	108	120	132	150	169	242	319			100
42	27	43	52	70	88	119	144	254	364	1.8	110	24
82		75	84	102	120	141	176	286	396			46
120		105	114	132	150	181	206	316	426			67
42	30	44	54	74	94	124	157	280	403	2.0	123	21
82		76	86	106	126	156	189	312	435			41
120		106	116	136	156	186	219	342	465			60
42	36	46	58	82	106	142	181	318	465	2.4	147	18
82		78	90	114	138	174	213	340	497			34
120		108	120	144	168	204	243	380	527			50
42	45	49	64	94	124	169	217	400	583	3.0	183	14
82		81	96	126	156	201	249	432	615			28
120		111	126	156	186	231	279	462	645			40
42	54	52	52	71	108	145	200	474	694	3.7	220	12
82		84	103	140	177	232	286	506	726			22
120		114	133	170	207	262	316	534	756			33

CRANE01272

TRIPLE UNIT INSTALLATION

In any installation where DUTYMASTER heaters are manifolded, there are two important conditions that must be observed.

1. All heaters must be the same model.
2. All heaters must be evenly spaced, so that in the piping manifold, the number of turns, length of pipe, and size of pipe, are identical. This is absolutely necessary, so that the hot water demand will be evenly balanced between all the heaters in the installation.

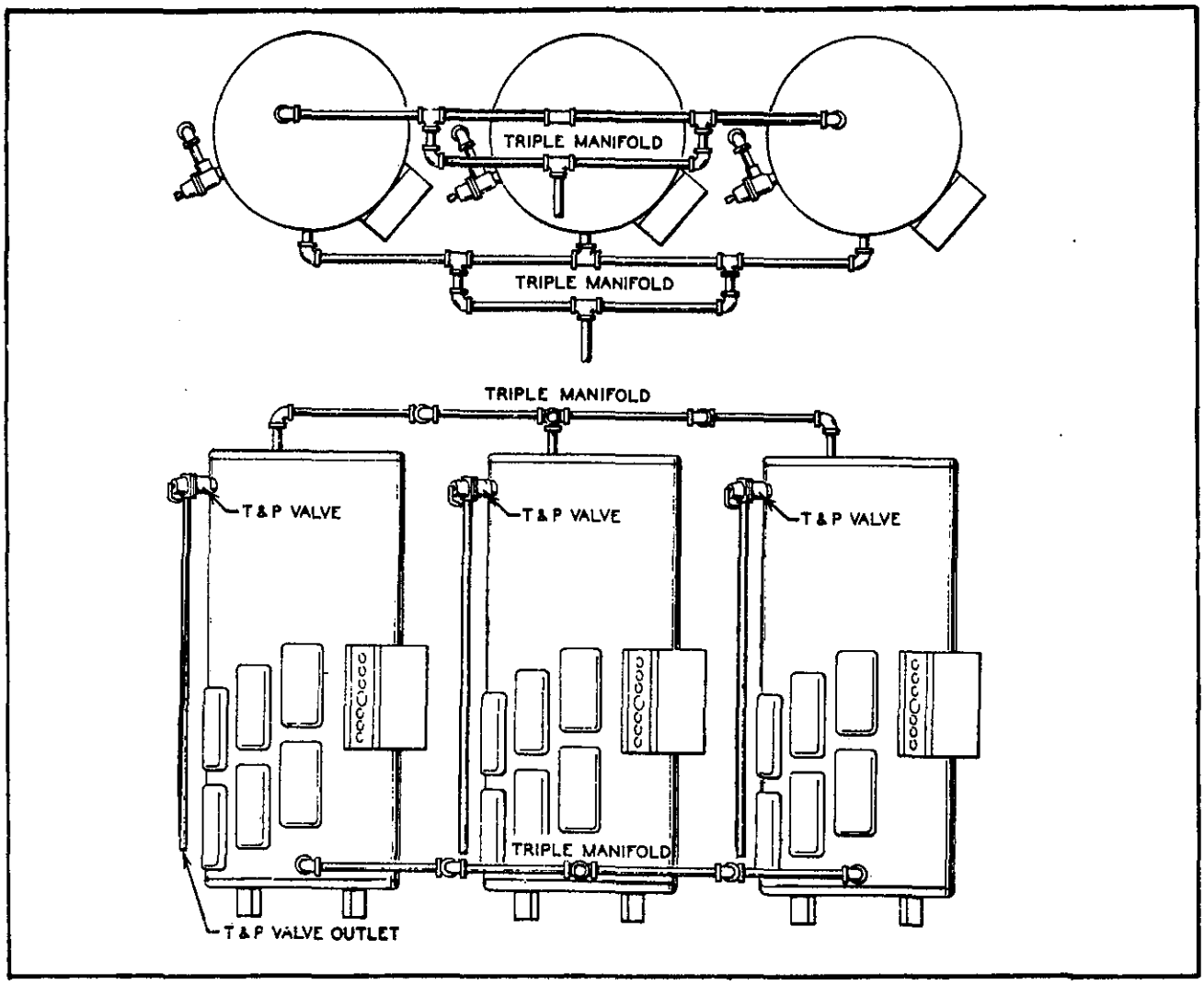

FIGURE 2—Typical installation showing three (3) DUTYMASTER Commercial Heaters in paralleled manifold.

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SINGLE UNIT INSTALLATIONS

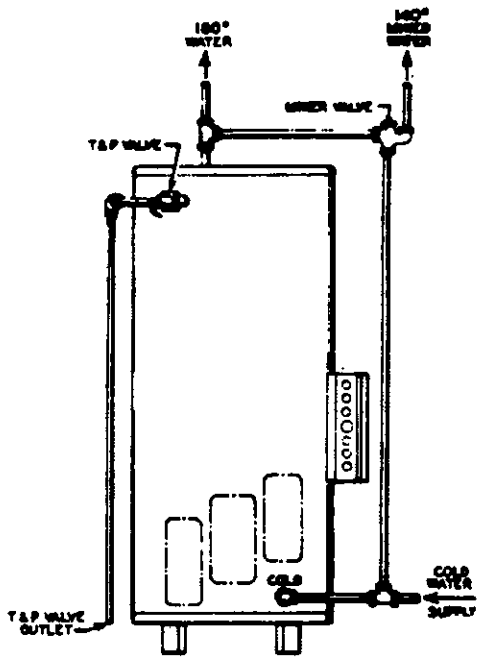

Figure 3

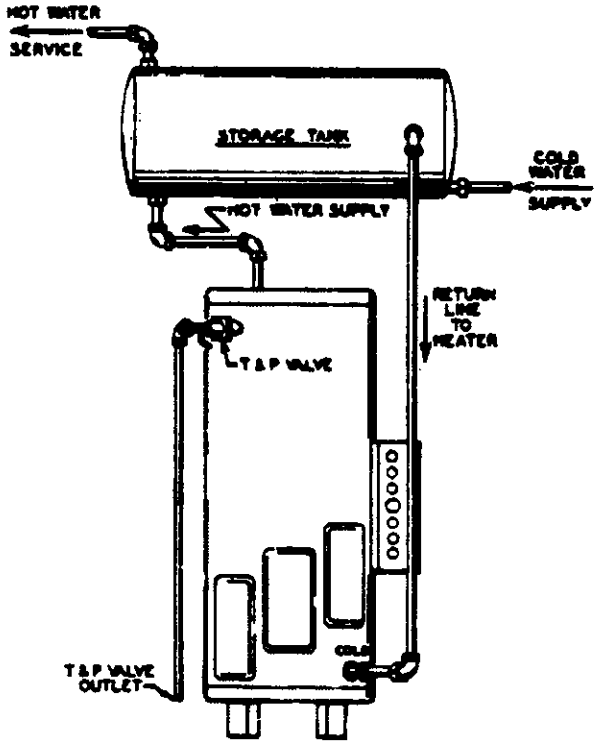

Figure 4

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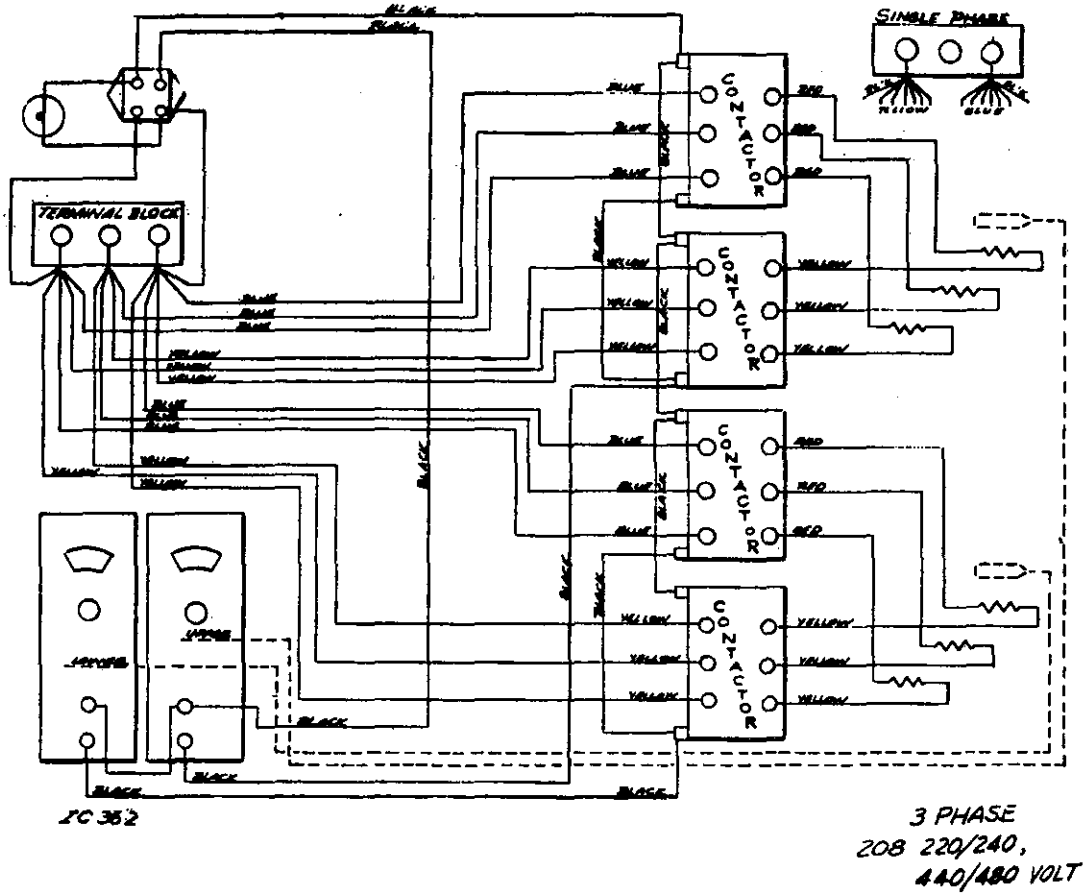
DUTYMASTER STORAGE BOOSTER WIRING DIAGRAMS



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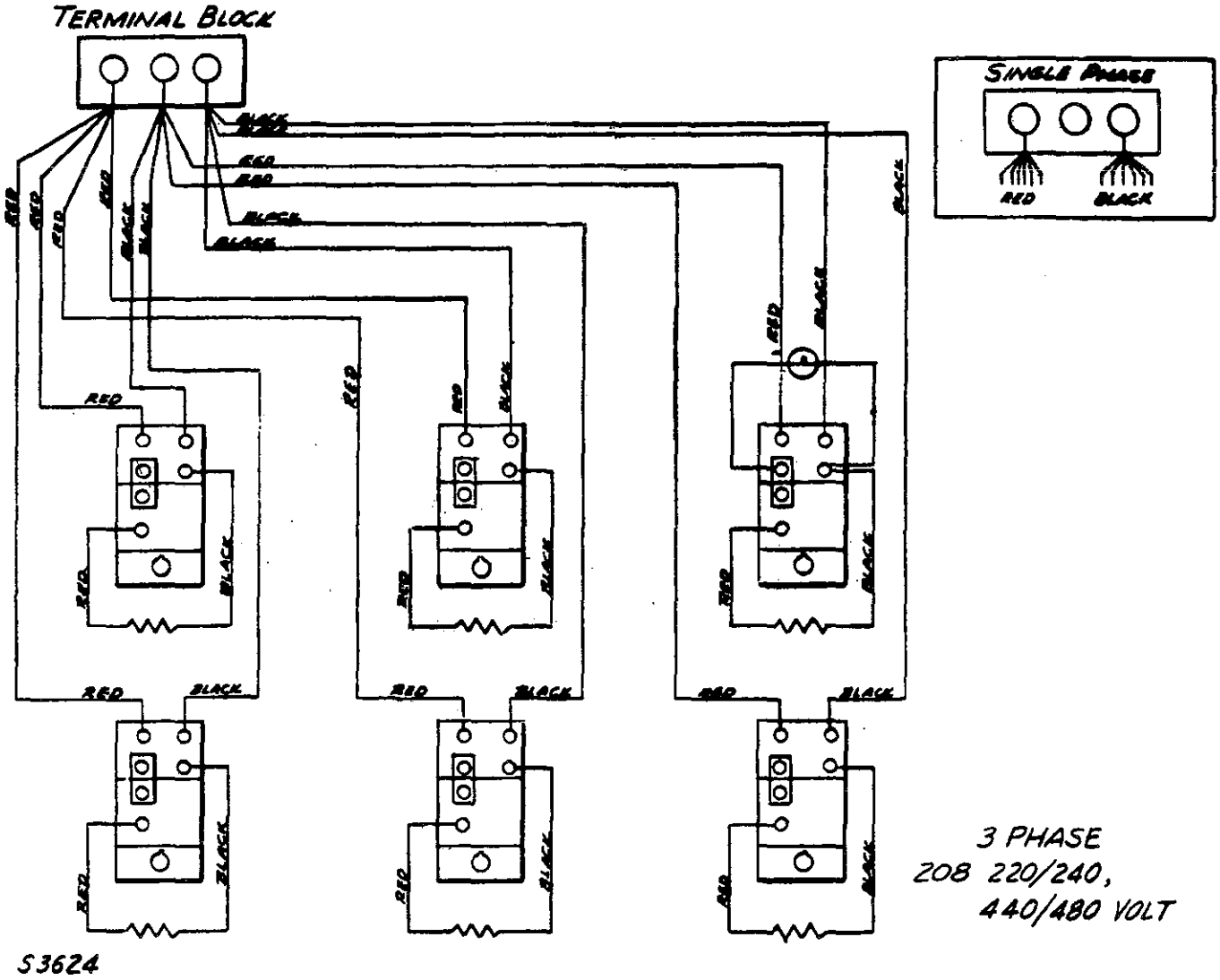
DUTYMASTER STORAGE BOOSTER WIRING DIAGRAMS



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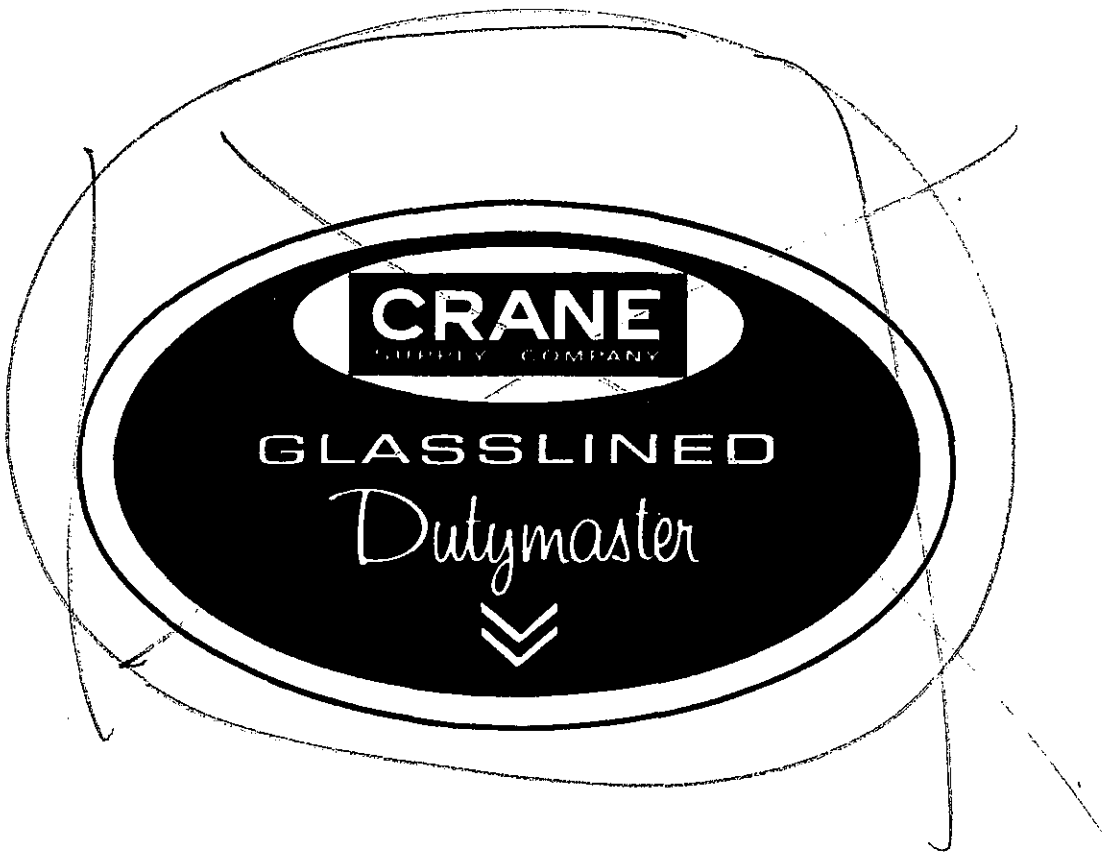
CRANE
SUPPLY COMPANY
GLASSLINED
Dutymaster

Manual

■ INSTALLATION
■ OPERATION
■ MAINTENANCE

SOLAR WATER HEATER

This manual contains instructions for the installation, operation, and maintenance of your SOLAR water heater. Read it carefully before using the water heater. Then keep it handy for quick future reference by inserting it in the plastic envelope provided on the appliance.

ALL TECHNICAL AND WARRANTY QUESTIONS SHOULD BE DIRECTED TO THE LOCAL DEALER FROM WHOM THE WATER HEATER WAS PURCHASED. IF YOU ARE UNSUCCESSFUL, PLEASE WRITE TO THE COMPANY LISTED ON THE WARRANTY CARD WHICH CAME WITH YOUR WATER HEATER.

Rating Plate

A rating plate identifying your water heater will be found above or to the right of the lower access panel. When referring to your water heater always have the information listed on the rating plate readily available.

MODEL NO. _____

SERIAL NO. _____

INSTALLATION DATE _____
Month Day Year

SWH 3/78
0290556-03

CRANE01278

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introduction

Congratulations for purchasing tomorrow's water heating system today. Installed correctly, the system will give you many years of service with relatively little maintenance.

Please take time to read our instructions before you begin your installation. This will help you get the full value of your Solar water heating system. It will also help you avoid any needless service costs; service costs that result from causes that we cannot control and cannot cover in our warranty.

rules for safe installation and operation

1. Read your owners manual and these rules carefully. Failure to follow these rules and the instructions could cause a malfunction of the heater and result in death, serious bodily injury, and/or property damage.

2. Check your local codes and electric utility requirements. The installation must comply with their rules.

3. Review the installation check list before turning on power to safeguard against a potentially hazardous malfunction of the heater. Be sure the proper sized fuses are used.

4. If you are not thoroughly familiar with electrical codes and safety practices, consult a competent electrician.

5. You should check your (H.U.D. & F.H.A.), state, local and electric utility requirements. The installation must be made in compliance with their rules, and this installation and instruction manual.

basic tools and materials needed

TOOLS

Pipe wrenches (2) 14" or 18"
Sink Wrench
¾" Box or Open End Wrenches
Wire Stripper or Knife
Wire Cutters
Phillips Head Screw Driver
Regular Screw Driver
Adjustable Wrenches (2) 10"
Electric Drill w/½" and ¾" Wood Bits
Saw

MATERIALS

Pipe Joint Compound (for galvanized, iron pipe systems.)
Wire Nuts or suitable wire connectors and plastic tape.
Miscellaneous pipe and fittings (copper and galvanized iron pipe systems)
Propane Torch
Solder, Flux
Emery Paper
Silicone caulk or cold roof tar.
Pipe clamps or hangers (one for every three feet of pipe.
Wood (2 x 6 or 2 x 8 for spreader beams inside roof.)
Insulation (for all piping in Solar System)

specifications

Model Number	Number of Collector Panels	Tank Storage Capacity	Maximum Element Wattage	Element Voltage	Electric Element Recovery GDH	Maximum Fuse Size (240V.Circuit)	Minimum Wire Size* (240V.Circuit)
;CV-82-1TS7	1	82	4500	240	18.4	30 Amp	12 gauge
;CV-120-1TS7	1	120	4500	240	18.4	30 Amp	12 gauge

Circulating Pump Wattage	Voltage (Circulating Pump)	Maximum Fuse Size (120V. Circuit)	Minimum Wire Size (120V. Circuit)	Storage Tank Dimensions		Collector Panel Dimensions	
				Height	Diameter	Length	Width
185	120	10 Amp	12 gauge	55¾"	28"	98"	38"
185	120	10 Amp	12 gauge	75¼"	28"	98"	38"

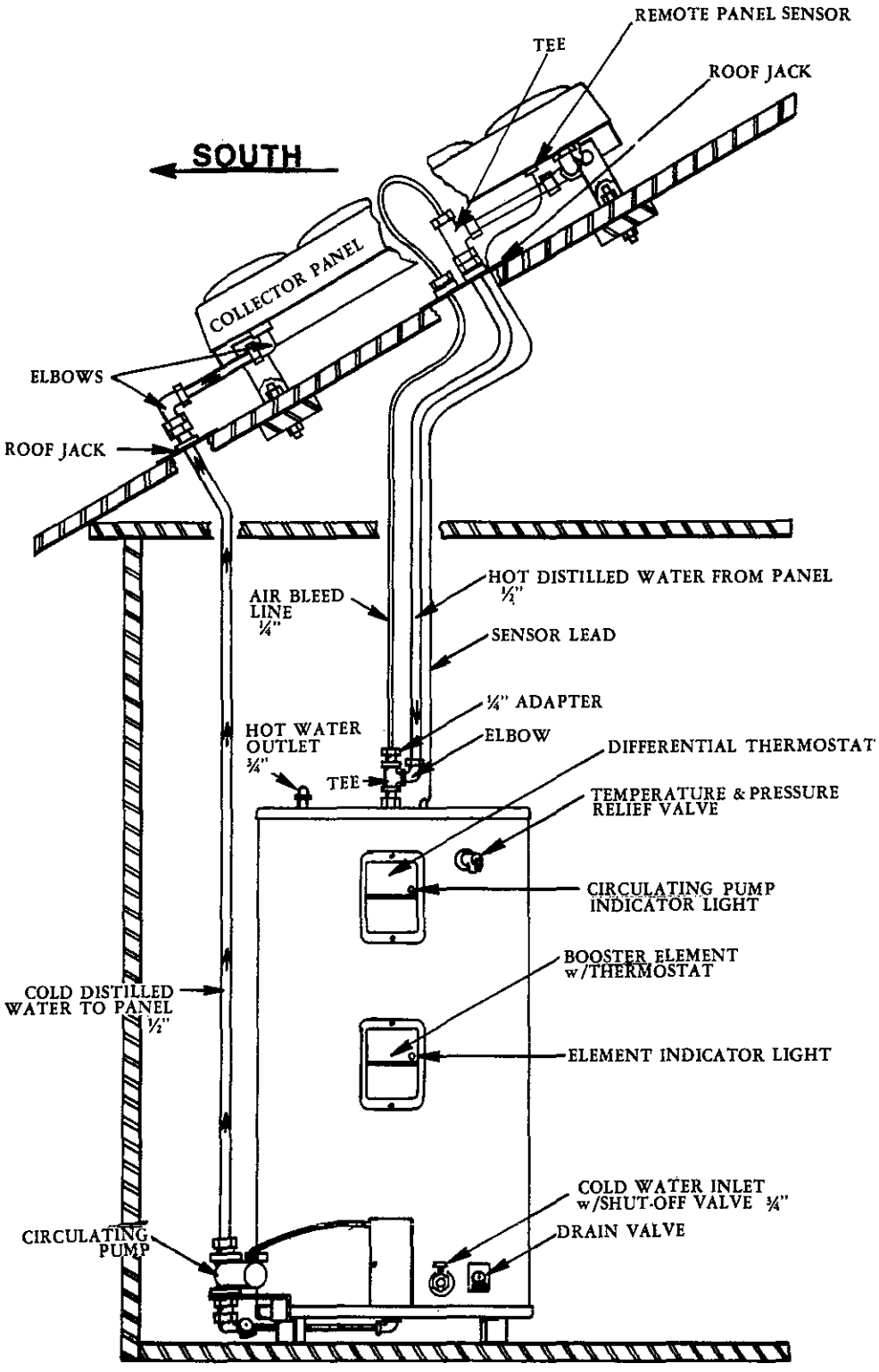
Collector Panel Weight†	Storage Tank Weight (empty)	Storage Tank Weight (full)	
156 lbs.	350	1040	(approx.)
156 lbs.	448	1450	(approx.)

*Based on standard 60° C. copper wire. If distance from fuse box to water heater is more than 90 feet, refer to your local electrical code for correct wire size.

†Less mounting hardware.

TYPICAL INSTALLATION

This installation diagram is designed only to show location of the basic system components in an overall view. Detailed information should be taken from specific sections in this manual.



installation - HEATER

1 LOCATING THE HEATER

If you have a choice of where to put your ıeater, these ideas may help you decide.

1. Put your heater as close as possible to where you use the most hot water.
2. Put your heater as close as possible to your collector panel(s).
3. The tank or the pipes and your connections may, in time, leak. Put the heater in a place where water will not damage anything. The manufacturer cannot be held responsible for any water damage.
4. You must not put your heater in an area where it might freeze.
5. Make sure that you are able to reach the drain valves and all access panels when the heater is in place.
6. The heater must be level before you begin the piping.

2 WATER PIPING

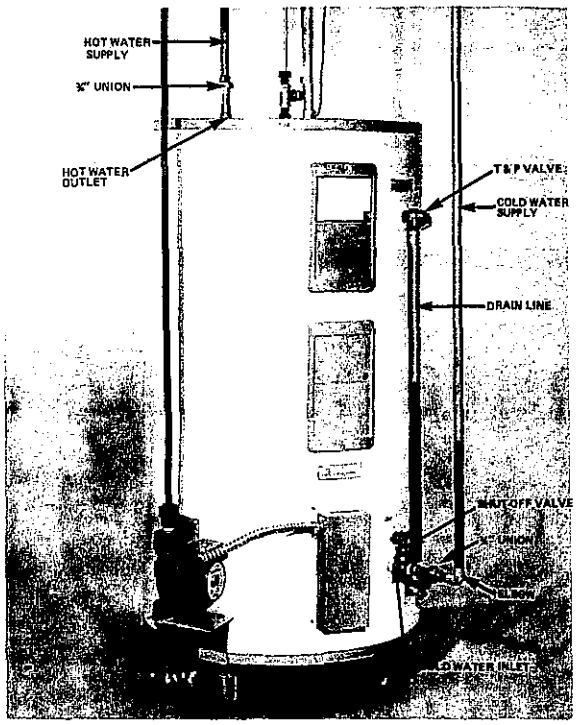
NOTE: To achieve maximum efficiency from your system, all hot water piping runs must be insulated.

The illustration shows the correct fittings that ou will need to install your water heater. Thread- d ¾" hot and cold water connections are provid- d on the tank.

. Buy the fittings that you need to connect the pipes. Remember that you have to connect both the hot and cold water pipes.
. Apply a light covering of pipe joint compound to each outside thread before making the connection.
. Connect the cold water supply pipe to the cold water inlet as follows.
   a. Look at the lower right side of your heater. The cold connection is marked there. It is also provided with a shut-off valve.
   b. Use a union to attach the cold water line to the shut-off valve. The union will facilitate servicing of the heater should it be necessary.

Connect the hot water supply pipe to the hot water outlet as follows:

a. Look at the top of the heater. The hot water outlet is marked there.
b. Use a union to connect the hot water supply pipe there. The union will facilitate servicing of the heater should it be necessary.



3 TEMPERATURE AND PRESSURE RELIEF VALVE

ɔur tank is equipped with a factory installed nperature and pressure relief (T & P) valve. e T & P valve is set to relieve pressure in excess 150 p.s.i. and/or temperatures in excess of 210°

e T & P valve should be equipped with a drain e. The drain line should terminate near a tub, k or open drain. There should be a 6" air gap :ween the end of the drain line and the drain. e drain line must be open and unthreaded. The drain line should terminate in an area not likely to freeze. The manufacturer cannot be held responsible for water damage due to an improperly installed drain line.

WARNING:
DO NOT INSTALL A SHUT-OFF VALVE, PLUG, OR CAP IN YOUR T & P VALVE DRAIN LINE. DAMAGE COULD RESULT IF THE T & P VALVE OPENS AND THE LINE IS BLOCKED.

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4 FILLING THE STORAGE TANK

1. Close the heater drain valve. The drain valve is on the lower front of your heater.

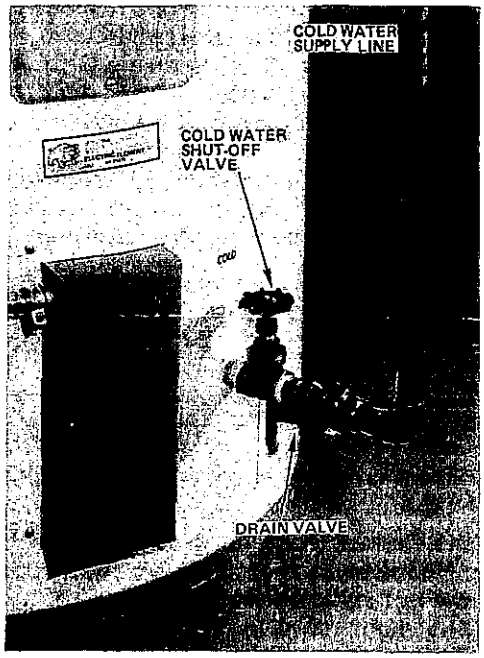
2. Open the cold water supply valve to your heater.

   NOTE: This valve must be left open when the heater is in use.

3. Fill your heater until water runs freely from an opened hot water faucet. This will let out air in the heater and the piping. Close the faucet after the water comes out.

4. Check your water piping for leaks. Fix as needed.

NOTE:
YOU MUST NOT TURN THE ELECTRICITY ON UNTIL THE HEATER IS FULL OF WATER.



installation panels and piping

1 LOCATING THE COLLECTOR PANELS

If you have a choice of where to put your collector panels, these ideas may help.

1. The panels must face in a southerly direction for maximum economy. Due east or due west exposure will still save energy.

2. The panels must have unobstructed exposure to sunlight. Look for trees, chimneys, tall buildings, or other objects which could cast shadows on the collector panels.

3. The panels must be above the storage tank.

4. The panels should be as close to the heater as possible.

5. Panels mounted close to the roof peak allow more working room in the attic.

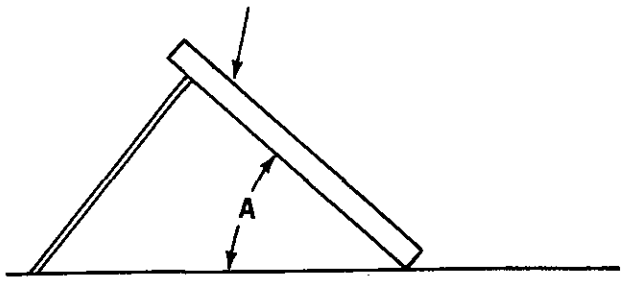
6. Panels may be mounted on a flat roof using tilt braces.

7. Panels may be located in the yard on basement homes providing the panels will be above the heater. Panels should be set on concrete pads when installed in the yard.

2 COLLECTOR PANEL TILT ANGLE

The solar collectors should be mounted facing south at an angle from the horizon equal to the geographical latitude if possible. Installation with the collector panel facing Southeast or Southwest by up to 15° will work almost as well as due South. Local weather conditions should guide panel orientation. Example: If you have morning fog that lasts until noon, face the panel southwest because you get very little morning sun, conversely, if you have daily afternoon showers, face panels to the Southeast.

Solar Collector

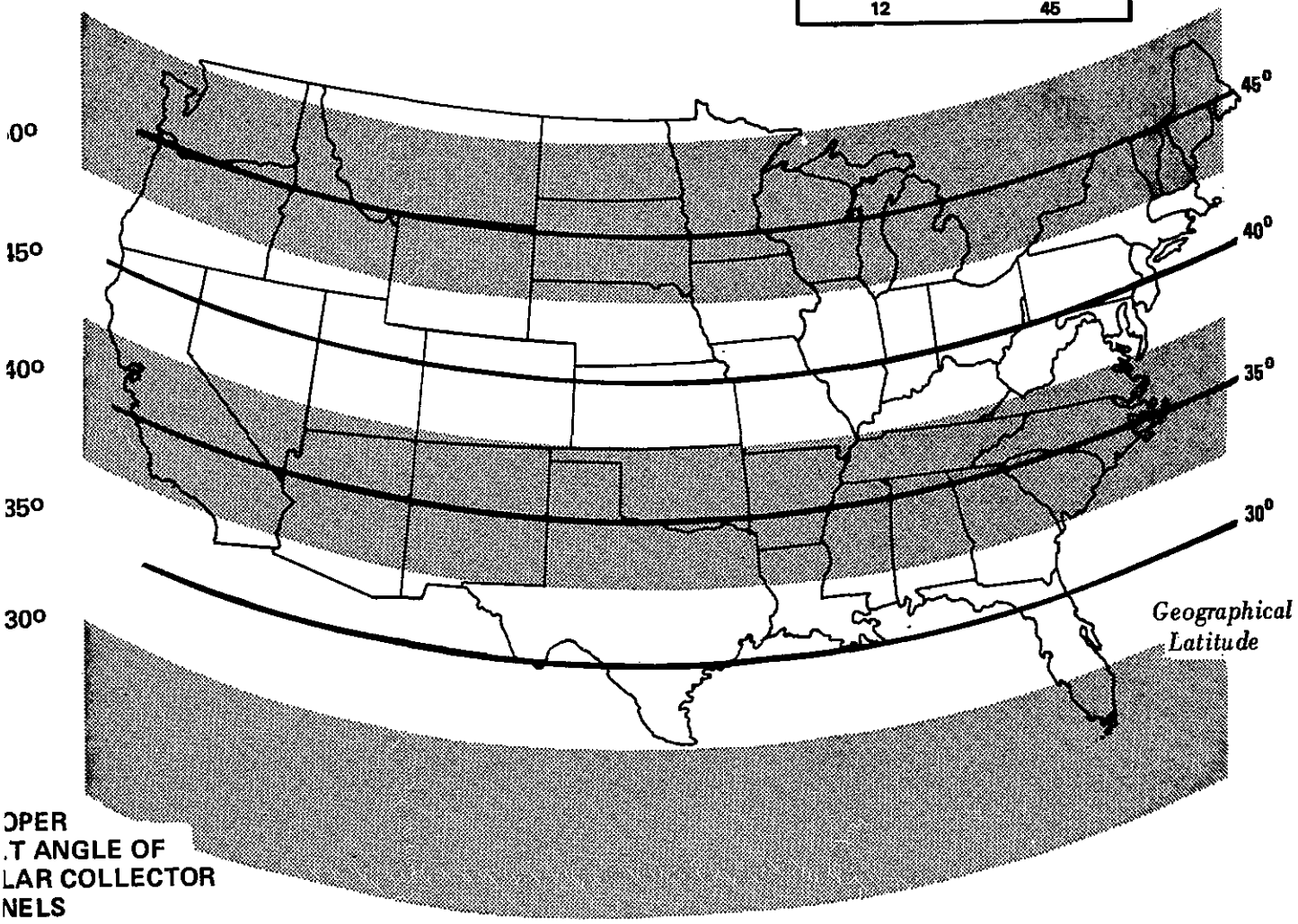


Angle "A" of the solar collector panel equals the geographical latitude.

The roof pitch conversion chart is designed to show the approximate tilt angle when collector panels are installed directly on houses with a sloped roof. If the collector panels are installed with tilt braces on a flat or sloped roof, the collector tilt angle should be set with an angle gauge.

ROOF PITCH CONVERSION

Inches of Vertical Rise Per Foot of Horizontal Run	Approximate Tilt Angle in Degrees
2	10
4	18
6	27
8	34
10	40
12	45



OPER
.T ANGLE OF
LAR COLLECTOR
NELS

3 COLLECTOR PANEL MOUNTING HARDWARE

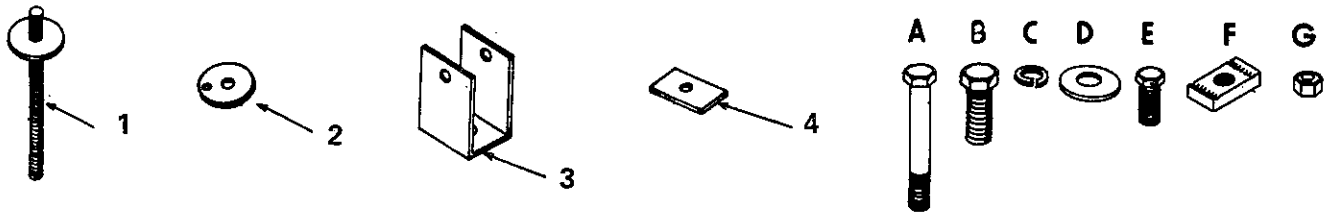
The panel is shipped from the factory ina wooden crate. Several nuts, bolts, and reinforcing pads (from Kit B) are used for securing the panel to the wooden crate.

If you wish to mount the panel parallel to the roof use only Kit A. But if the panel is to be tilted, Kits A & B must be used.

KIT A
PARALLEL TO ROOF ASSEMBLY

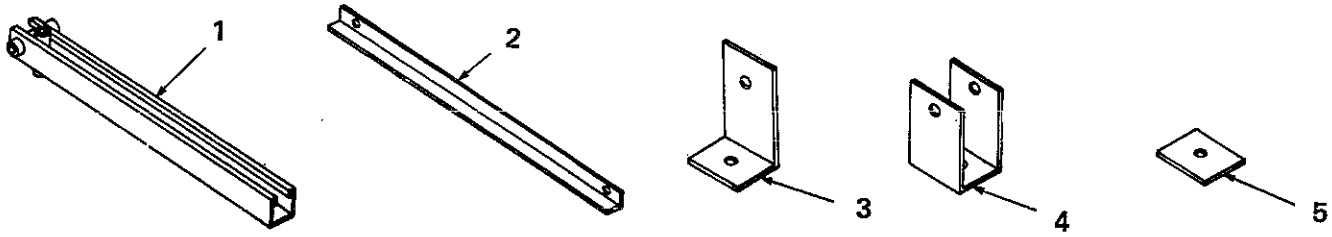
KEY NO.	PART DESCRIPTION	QUANTITY
1	Threaded Rod & Pressure Plate Assembly	4
2	Large Washers (4½" Dia.)	4
3	Mounting Bracket	4
*4	Small Reinforcing Pad (1½" x 3")	4
A	Bolt (½" — 13 x 4")	2
B	Bolt (½" — 13 x 1½") (Shipping Bolt)	4
C	½" Lockwasher	4
D	½" Flatwasher	4
E	Bolt (½" — 13 x 1¼)	2
F	Tilt Brace Lock Nut	2
G	Hex Nut (½" — 13) (Several used in shipping)	20 (Min.)

*Small reinforcing pads are used in securing panel to wooden shipping crate.



KIT B
TILT ASSEMBLY

KEY NO.	PART DESCRIPTION	QUANTITY
1	Tilt Brace	2
2	Angle Brace	2
3	Angle Bracket	2
4	U. Bracket	2
5	Large Reinforcing Pad (3" x 3")	2



4 COLLECTOR PANEL DRILL TEMPLATE

Refer to remote sensor lead section, page 20 before proceeding with the installation.

The bottom half of the collector carton is stenciled to provide a template to locate the holes which must be drilled for the threaded rod pressure plate assemblies. Four holes must be drilled to anchor each collector panel.

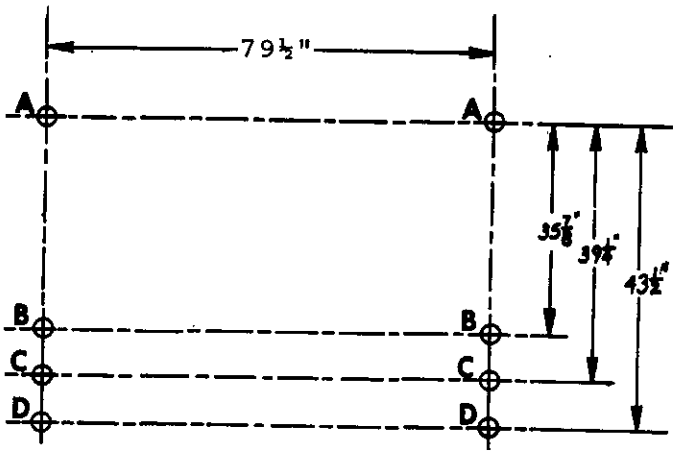
The way in which the panels are to be mounted will determine which of the four hole locations are used on the drill template. Pick the installation at right that best suits your needs.

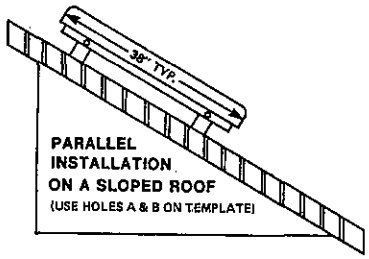
IMPORTANT: Be sure to check the dimensions of the drill template. A "dimension" sheet is provided with each collector which should be used for that purpose. The distance between hole locations should match the dimension sheet.

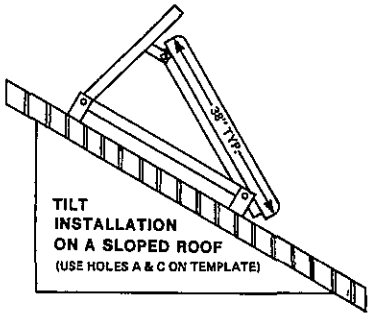
NOTE: When panels are to be installed on a sloped roof, locating the panels close to the peak will allow more working room in the attic.

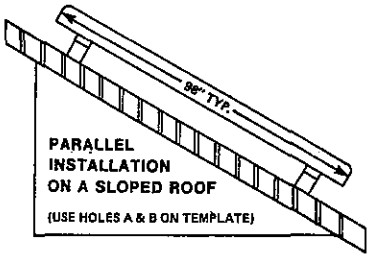
NOTE: Before drilling through the roof, locate your roof joists. Roof joists must not be penetrated as this will weaken the roof structure.

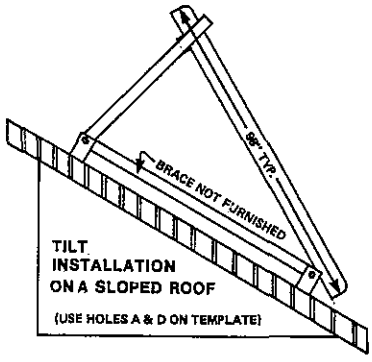
DRILL TEMPLATE











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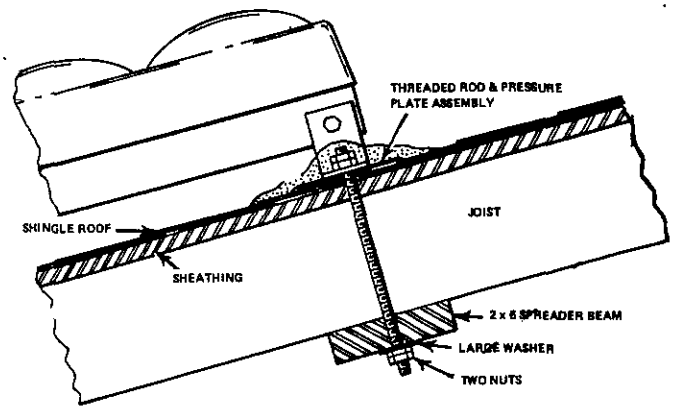
5 ROOF MOUNTING TECHNIQUES

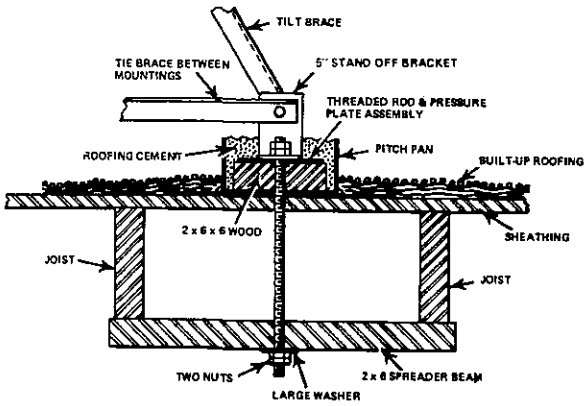
When mounting the Solar collectors, it is extremely important to install and secure them against all wind and snow loads. A minimum design wind load should be 90 miles an hour. This wind factor requires the collectors be anchored to the roof rafters. Never use lag screws; they will loosen in time.

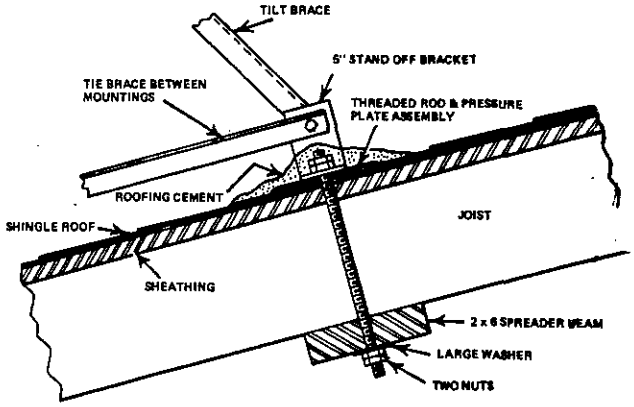
The collector panel w/sensor installed (see remote sensor lead section, page 20) must be mounted so that (1) this panel is the highest in the installation; and (2) that the sensor is on the highest corner.

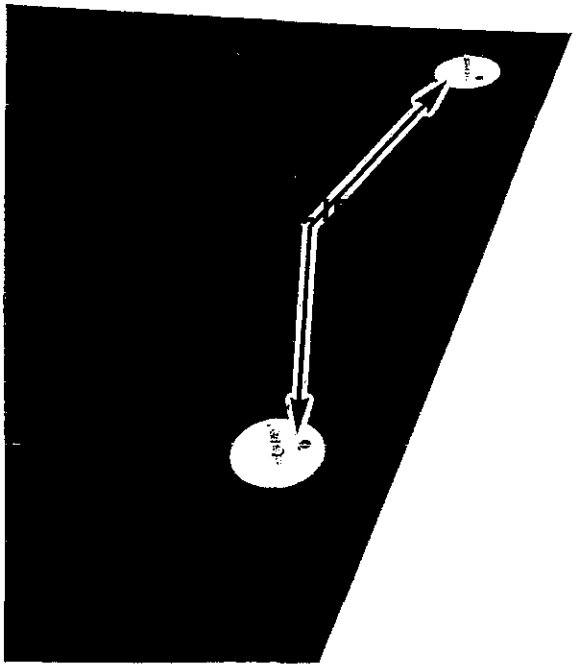
ALWAYS USE THE THREADED ROD AND PRESSURE PLATE ASSEMBLY PROVIDED WITH THE PANEL.

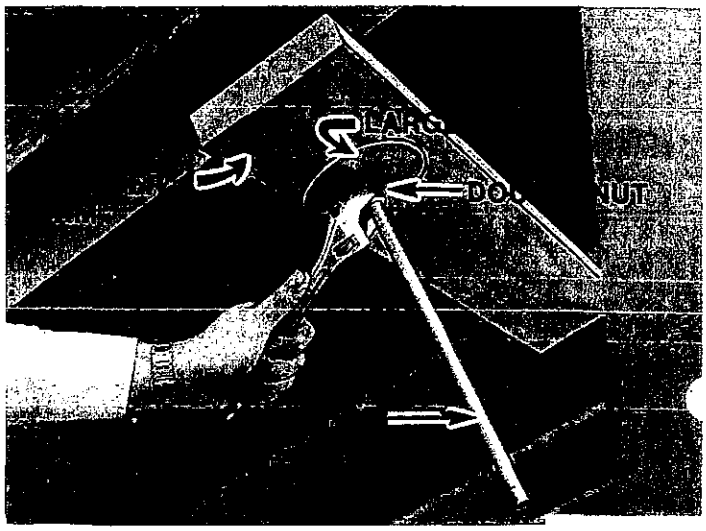
The illustrations at the right show three different mounting techniques which all employ the threaded rod and pressure plate assembly bolted through a spreader beam.











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6 TILT BRACE INSTALLATION

In order to achieve the desired panel tilt angle it may be necessary to use the tilt brace hardware supplied. There are two ways to tilt the collector panels. Either the 38" or 98" dimension may be tilted.

Tilt brace installation may also be considered if access to the installation, piping, or roof is of importance. The tilt installation may also allow more than one installation site. For instance, panels can be installed on a north roof slope facing south.

NOTE: An angle brace should be installed when the panels are tilted along the 98" dimension (Fig. No. 2). The brace is NOT supplied. One may be fabricated from 1½" x 1½" angle iron.

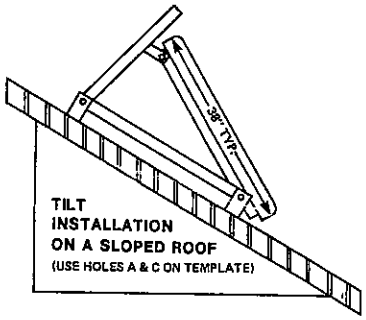


Figure 1

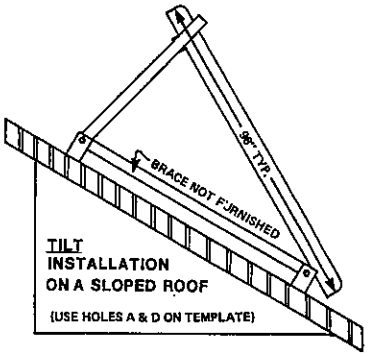
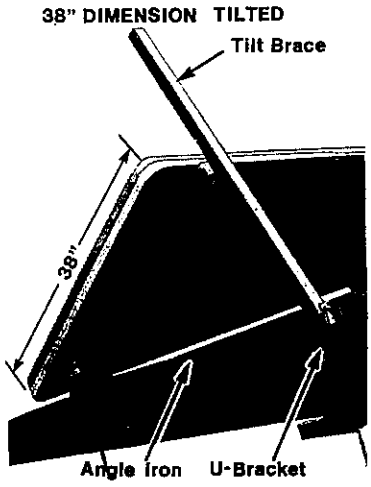
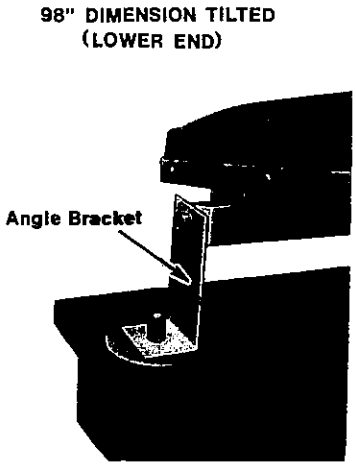
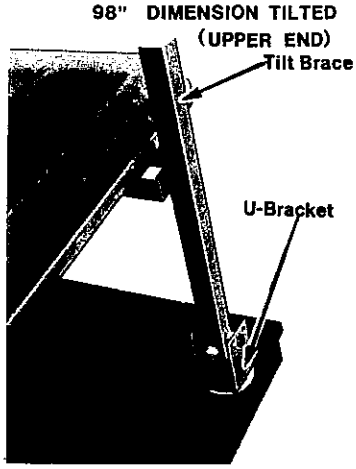


Figure 2

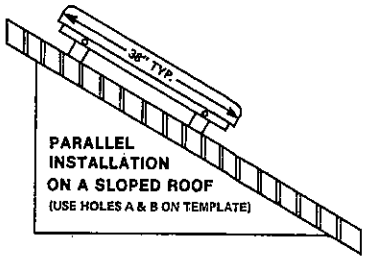


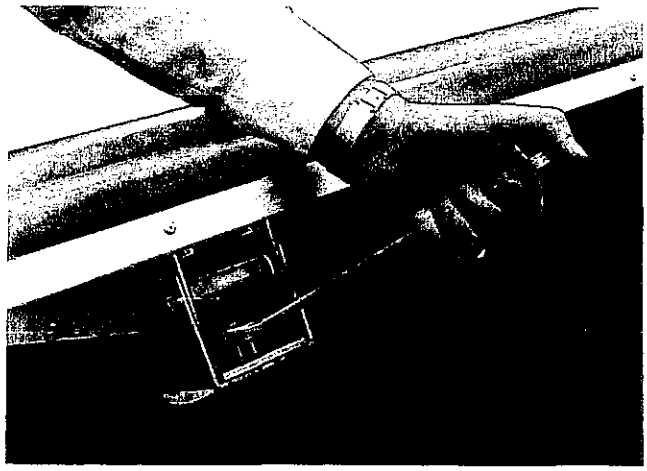


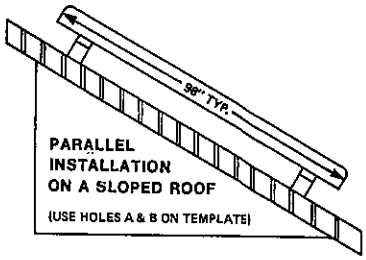


7 PARALLEL INSTALLATION

For homes with the proper roof slope,the panels may be installed parallel to the roof surface with either the 38" or 98" dimension following the roof slope. All four mounting legs are anchored directly to the rod and pressure plate assembly as shown below.







8 COLLECTOR PANEL MANIFOLD PIPING

The following pages show the proper piping arrangement for collector panels installed in multiples. These piping arrangements (manifolds) are designed to distribute equal amounts of water to each collector panel and to allow the panels to drain when the circulating pump stops. Please follow these drawings as closely as possible.

Manifold piping should be constructed of ½" nominal hard copper tube. Galvanized pipe or rigid CPVC plastic pipe may be used.

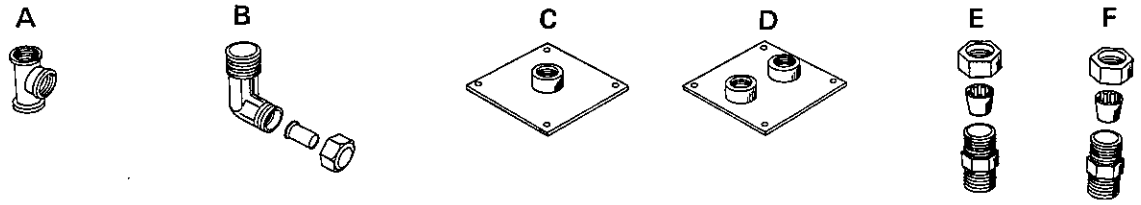
All manifold piping as well as the air transfer line, and all circulation lines must be insulated with an insulation suitable for outdoor use. This insulation is available from the manufacturer as an optional extra. It may also be purchased locally.

For proper drainage, all piping should be straight with no dips, bends, or loops which could create water traps and freeze during winter months. All piping should slope back toward the water heater.

COLLECTOR MANIFOLD PIPING

FITTINGS PROVIDED

The following fittings are supplied as components of your system.

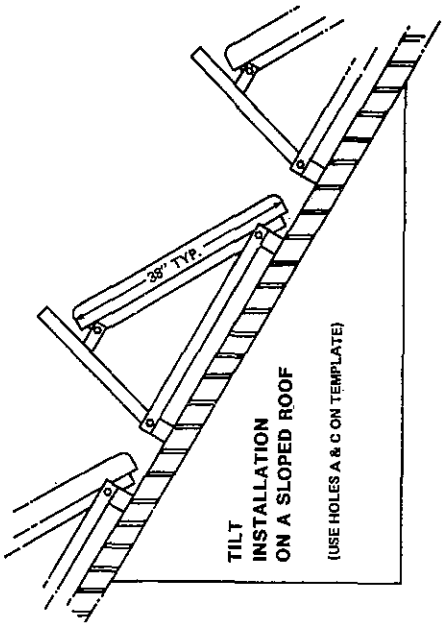


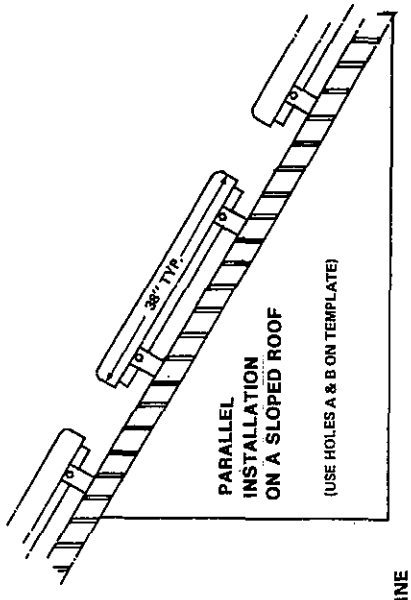
Key No.	PART DESCRIPTION	Quantity
A	Tee, ½" Galvanized	1
B	Elbow, ½" Tube x ¾" Male Pipe x 90° Brass	*2 (per panel)
C	Roof Jack—Single Opening	1
D	Roof Jack—Double Opening	1
E	Adapter ½" Tube x ½" Male Pipe (drilled)**	1
F	Adapter ¼" Tube x ½" Male Pipe (drilled)**	1

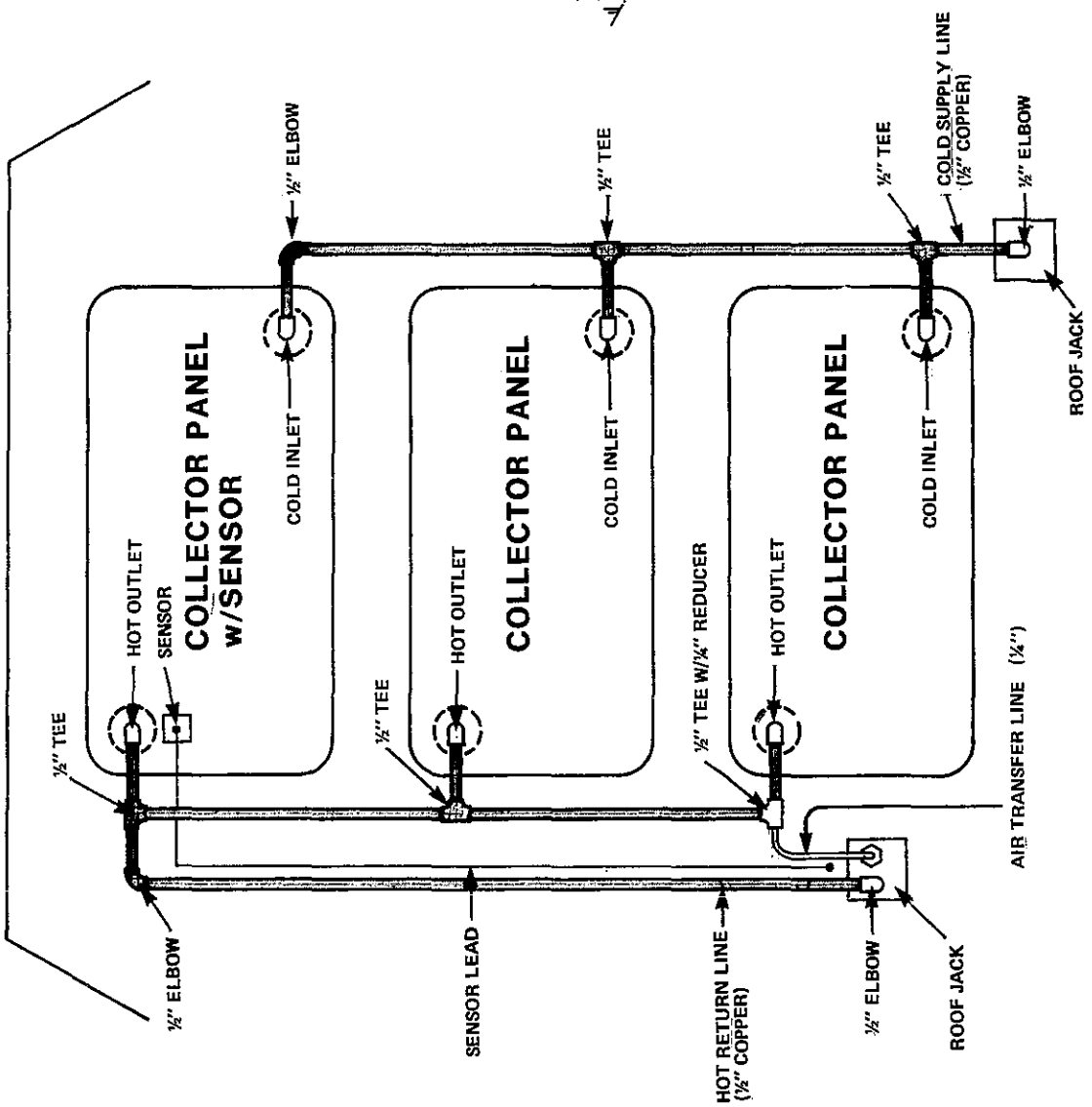
*Installed by factory.
**These fittings are installed in the roof jacks and have been drilled so pipe will go through fittings.

COLLECTOR MANIFOLD PIPING

NOTE: For systems equipped with more than two panels, be sure that spacing between panels is equal.







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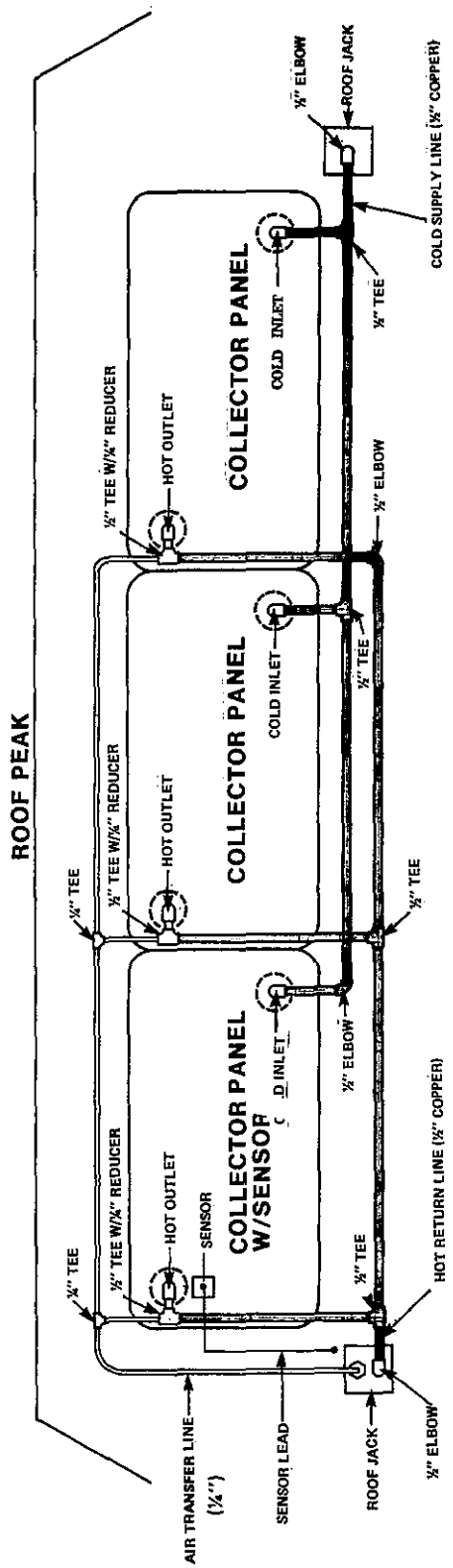
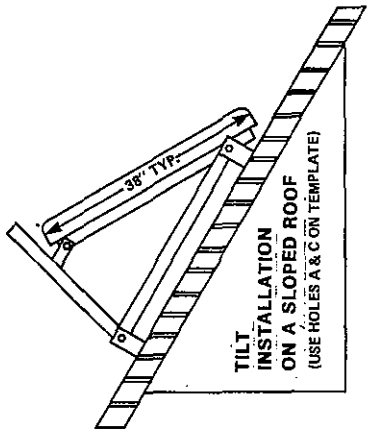
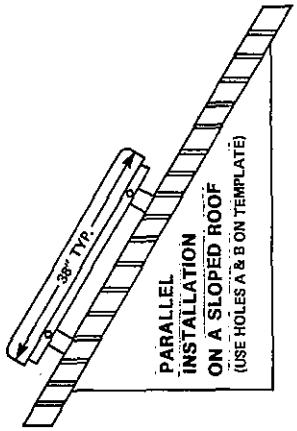
COLLECTOR MANIFOLD PIPING

NOTE: For systems equipped with more than two panels, be sure that spacing between panels is equal.

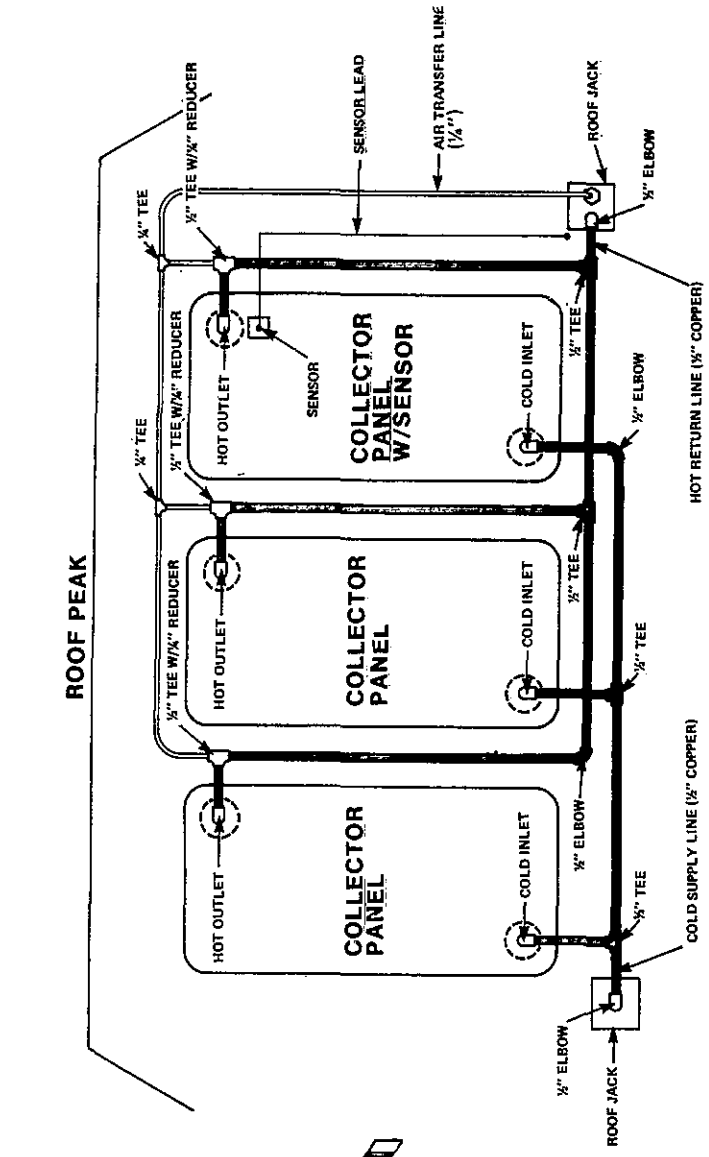


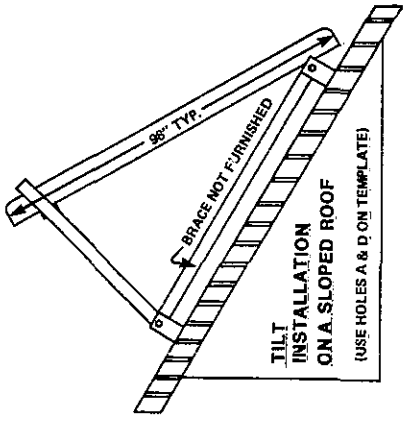


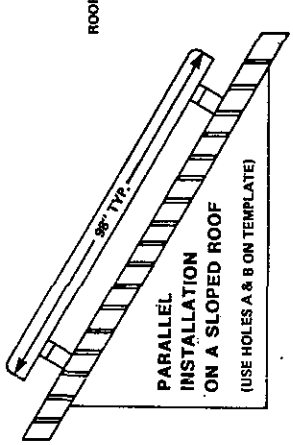


COLLECTOR MANIFOLD PIPING

NOTE: For systems equipped with more tan two panels, be sure that spacing between panels is equal.

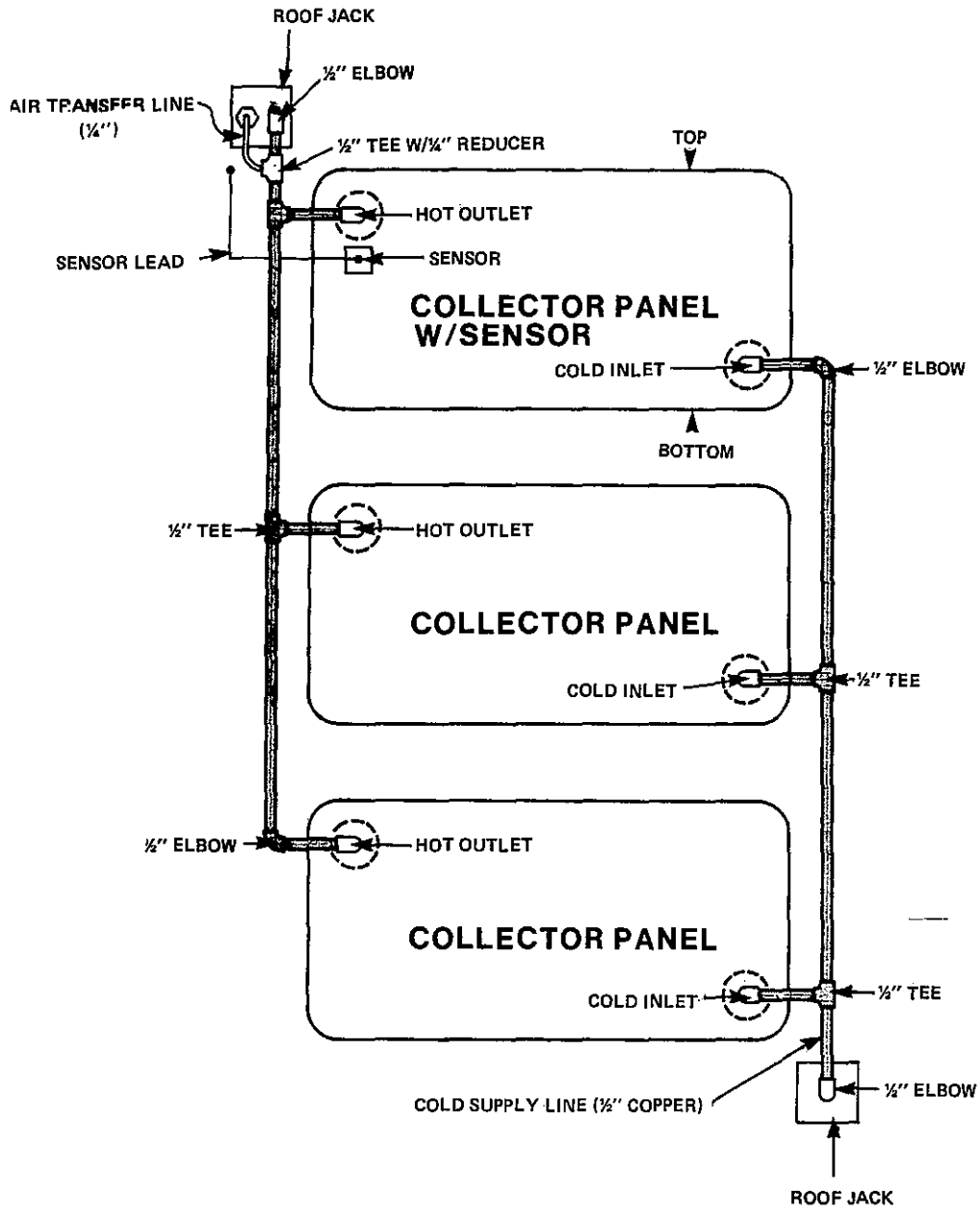


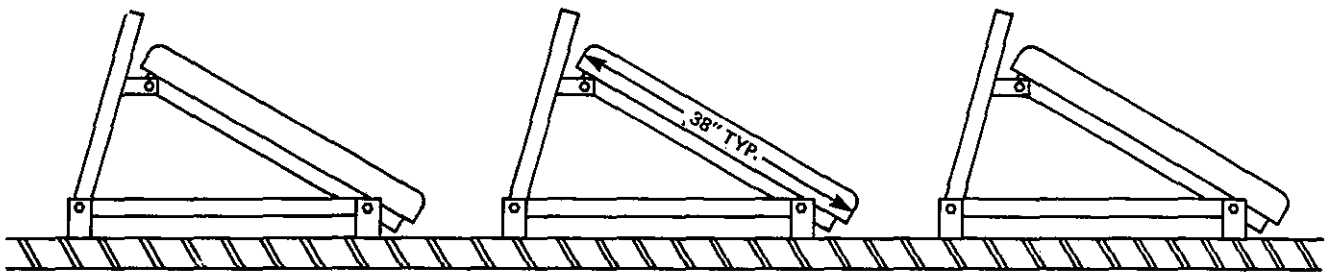




COLLECTOR MANIFOLD PIPING

NOTE: For systems equipped with more than two panels, be sure that spacing between panels is equal.





TILT INSTALLATION ON A FLAT ROOF

(USE HOLES A & C ON TEMPLATE)

9 CONNECTING THE PANELS AND HEATER

GENERAL

There are four lines which must be routed between the heater and the collector panels.

1. Cold distilled water supply line (½")
2. Hot distilled water return line (½")
3. Air transfer line (¼")
4. Sensor lead (three conductor wire)

LOCAL CODES

You should check your (H.U.D. & F.H.A.), state, local and electric utility requirements. The installation must be made in compliance with their rules, and this installation and instruction manual.

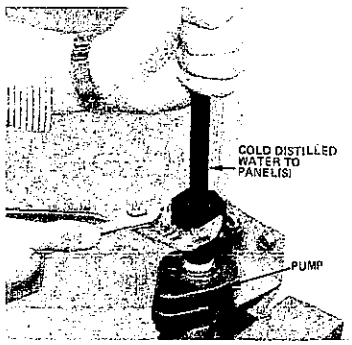
HOW TO RUN PIPING

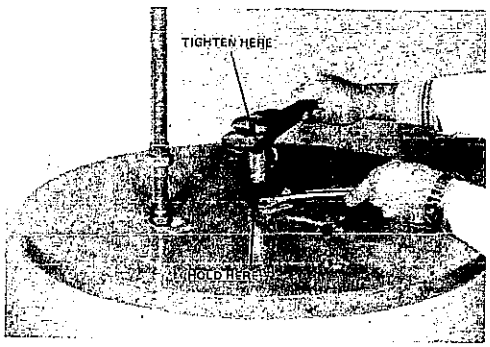
Flexible piping should be supported every three feet or so by pipe hangers or tube clamps. All piping must be insulated. This is most easily done while pipe is being routed.

NOTE:
ALL WATER PIPING SHOULD SLOPE DOWNWARD SO THAT THE PANELS AND PIPING WILL DRAIN WHEN THE PUMP STOPS.

PIPING CONNECTIONS AT THE HEATER

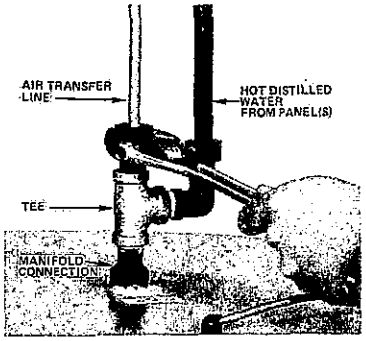
The cold supply line to the collectors must be attached to the pump as shown in the picture at right.



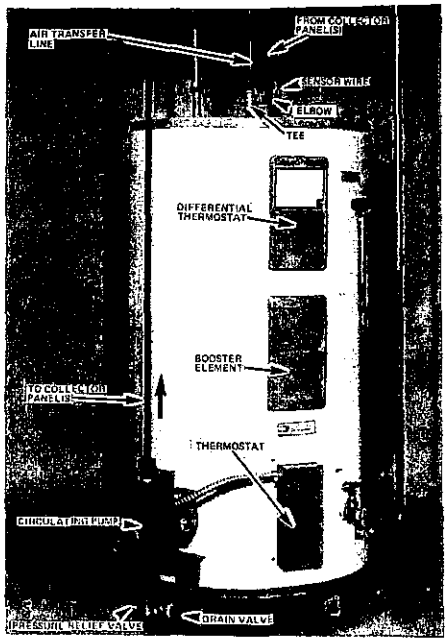


NOTE:
THE MANIFOLD (HOT RETURN) CONNECTION MUST BE HELD SECURELY WITH A WRENCH WHEN PIPING CONNECTIONS ARE INSTALLED. ANY STRAIN ON THE HOT RETURN CONNECTION COULD RESULT IN DAMAGE TO THE SYSTEM.

The hot return line from the collector panel along with the air transfer line must be installed at the heater top as shown in the photo at right.



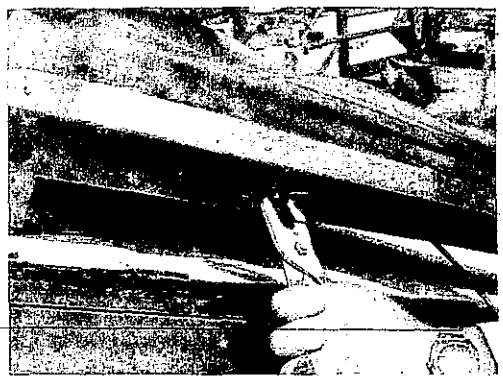
The photo at right shows how the heater should look at this point. All household water connections have been made. All piping must be insulated.



REMOTE SENSOR LEAD

The sensor w/mounting plug and sensor cover are placed in a small cardboard box within the tank crate. Look on the bottom of the collector panel, next to one of the inlet/outlet fittings you will find a blank fitting. This is where you should secure the sensor. Holes have been supplied to secure the sensor cover with the two sheet metal screws supplied.

A three conductor sensor lead (50 feet long) is supplied to connect the remote sensor in the collector to the heater's differential thermostat. The connection at the heater is made by the factory. The sensor lead should be routed along the same path as the hot distilled water return line since the connection at the panel is in the same area.



The black and white wires should be connected to the sensor wires on the sensor equipped collector. The red wire is a ground wire and should be connected to the sheet metal screw holding the sensor cover box in place.

NOTE: A separate hole must be drilled through the roof for the sensor lead. The hole should be sealed with silicone caulk or cold roof tar.

ROOF JACKS & CONNECTION TO COLLECTOR MANIFOLD

Two roof jacks (flanges) are supplied. Their purpose is to provide a water tight seal around the piping where it passes through the roof line.

After the holes have been drilled for the piping, the pipe should be pulled through the roof.

The cold supply roof jack (Fig. 1) has one tube fitting. The cold supply line should pass through the fitting. Slide the roof jack over the tubing. Set the roof jack in a bed of sealant and nail down.

Follow the same procedure for the hot return roof jack (Fig. 2). This roof jack has two fittings—one ½" fitting and one ¼" fitting.

After positipning the roof jacks tighten the compression fittings to provide a weather right seal around the piping.

For proper location of the roof jacks, refer to the "collector manifold piping" drawings on pages 13, 14, 15 & 16.

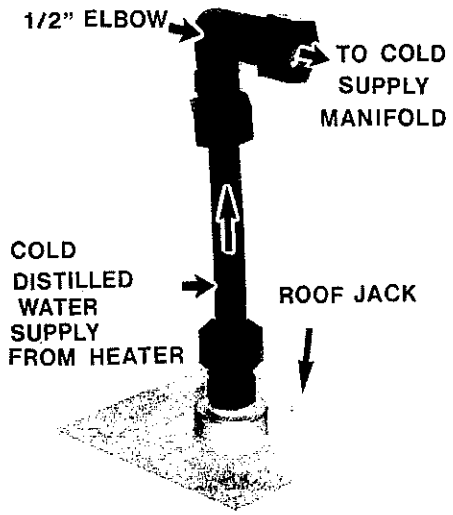


Figure 1

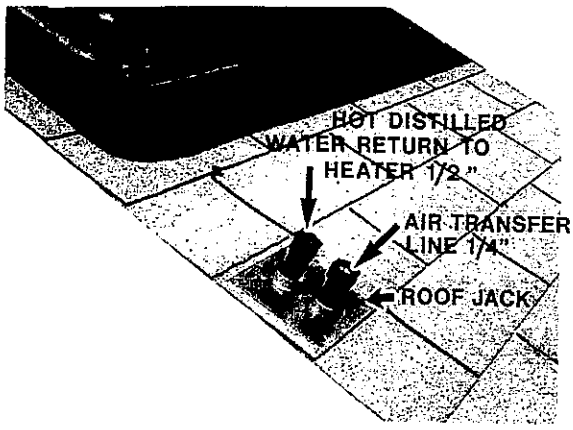


Figure 2

10 PIPE INSULATION

All piping in the Solar system must be insulated for maximum efficiency. It is also recommended that hot water piping runs be insulated wherever possible.

Any piping exposed to the weather should be insulated with a material suitable for outdoor use. For maximum durability the insulation should be painted with two coats of a good exterior latex paint. White is the best paint color. However, the trim color on the house can be used.

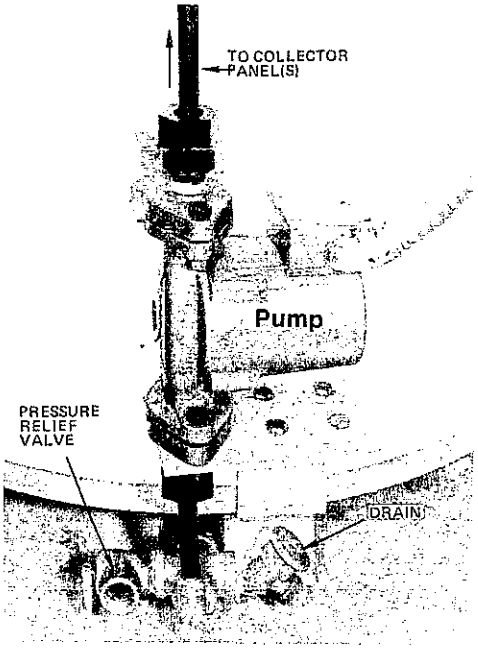
installation

11 FILLING THE SOLAR HEAT EXCHANGER

1. Attach a 7 or 8 foot length of garden hose to the heat exchanger drain.
2. Open the drain. (located beneath the pump.)
3. With the other end of the garden hose even with the top of the heater, begin pouring in distilled water. About 7 gallons are required for the 82 gallon model—11 gallons for the 120 gallon.
4. When the water level in the hose is even with the top of the heater, the heat exchanger is full.
5. Close the drain valve.

NOTE: It may be necessary to loosen the air transfer line fitting above the heater to allow air to escape while the heat exchanger is being filled.

NOTE: You must not turn electricity on until the heat exchanger is full of water.



If for any reason the distilled water must be replaced, please contact the manufacturer at this toll free number: 1-800-251-8170, and ask for the Product Service Department.

NOTE: USE OF WATER OTHER THAN DISTILLED WATER MAY RESULT IN DAMAGE OR A MALFUNCTION OF YOUR SYSTEM. DO NOT INSTALL ANTI-FREEZE.

12 WIRING

NEVER USE THIS HEATER UNLESS IT IS COMPLETELY FULL OF WATER.

You must provide all wiring of the proper size outside of the heater. You must obey local codes and electric utility requirements when you install this wiring.

1. Remove the electrical junction cover and push the 4 heater wires back through the conduit connection and bring them out through the wiring access hole. (Fig. 1)

2. You must install and connect two circuits directly from the fuse box. Refer to the specification chart on page 3 for the correct wire and fuse size for each circuit. (Fig. 2)

3. A standard ½" conduit connection has been provided in the heater junction box for the conduit connection.

4. Provide a way to easily shut off the electric power when working on the heater. This could be a circuit breaker or fuse block in the fuse box or a separate disconnect switch.

5. There is a black wire and a white wire at the electrical junction box. The black wire should be connected to one leg of the 120V power supply. The white wire should be connected to the other leg. This circuit will power the Solar system.

6. There is one red wire and one blue wire at the electrical junction box. These wires should be connected to the 240V power supply. The circuit will power the electric booster element.

7. Make wire nut connections as shown at the right. (Fig. 3)

8. Run the neutral wire from the electrical supply to the grounding screw near the junction box cover. This will give you a good "ground" (Fig. 4)

9. After wiring is complete, reinstall the junction cover.

Fig. 1

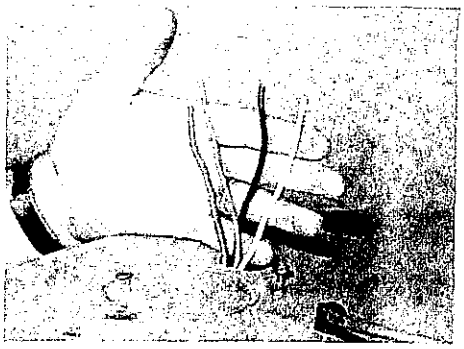


Fig. 2

Fig. 3

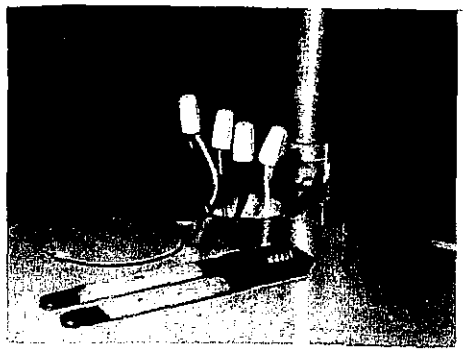
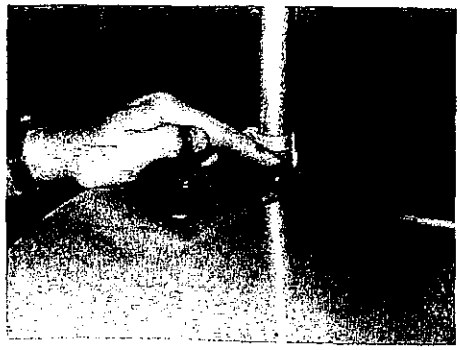


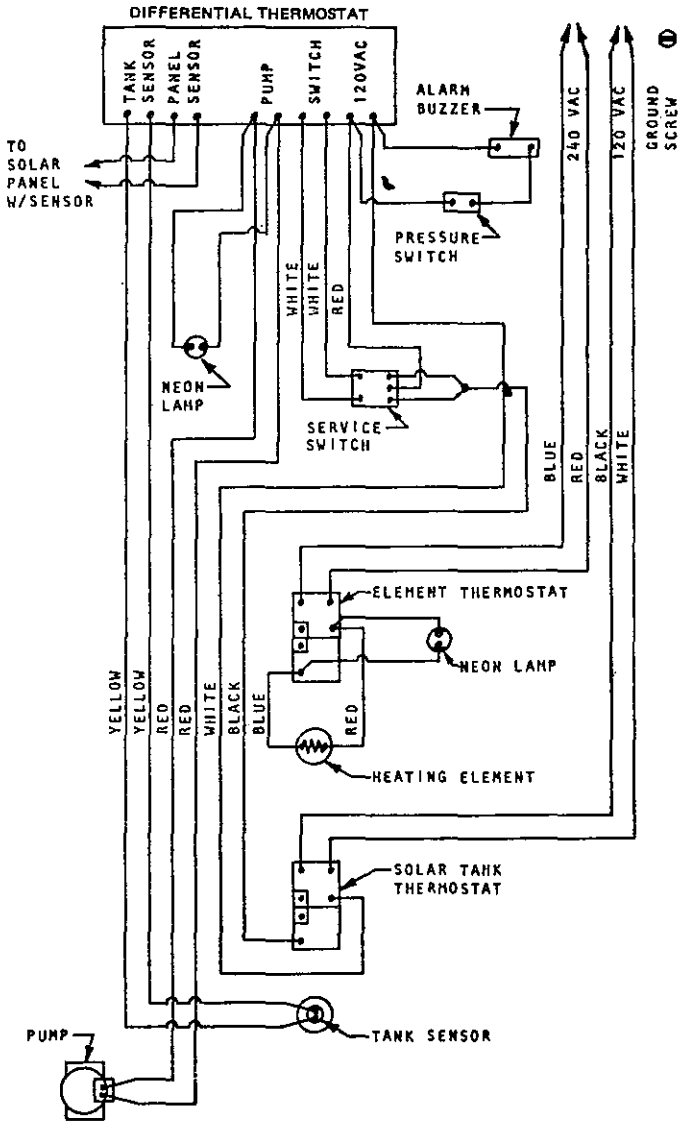
Fig. 4



WIRING DIAGRAM

The wiring diagram shows the factory installed wiring on your heater. A diagram identical to this one is located under the upper access panel.

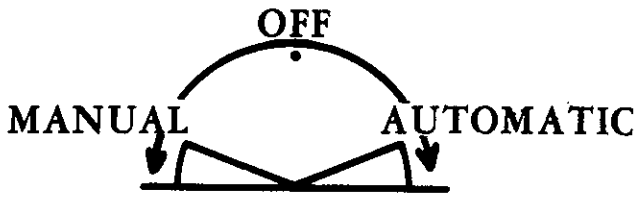
NOTE: BE SURE TO TURN OFF ELECTRIC POWER TO HEATER BEFORE REMOVING ACCESS PANELS.



operation & maintenance

DIFFERENTIAL THERMOSTAT AND CONTROL SWITCH

The differential thermostat and a three position control switch are located under the upper access panel. The differential thermostat is factory calibrated and field adjustments should not be attempted. The control switch has three settings as shown in the diagram at right.



OFF– The system will not function in the **OFF** position. The heater is shipped from the factory with the switch in the **OFF** position.

MANUAL– With the switch in the **MANUAL** position, the circulating pump will run. The differential thermostat is blocked out of the control system when the switch is turned to **MANUAL.** This position can be used for run tests at night, etc.

AUTOMATIC– For normal operation of the solar system, the switch should be turned to **AUTOMATIC.** The **AUTOMATIC** position allows the differential thermostat to operate the solar system for the maximum "free run energy".

HEAT EXCHANGER DRAIN DOWN

Allow the system to operate for approximately 30 minutes. (If sunlight is not available, switch the differential control switch to manual.) Check piping for leaks. After the 30 minute run is complete, drain the number of cups shown in the chart below from the heat exchanger. Find your heater size (82 or 120 gal.), the length of piping (total run in feet to and from collector including manifolds), the number of panels with your system, locate these items on the chart and read the number of cups of fluid to be drained.

Draining the specified amount of fluid from your heat exchanger will ensure optimum performance of your Solarcraft System.

SOLARCRAFT III
82 Gallon Tank

Total Feet of Piping	Cups to Drain from the Heat Exchanger — Number of Collector Panels			
	1	2	3	4
25	31	20	13	2
50	27	15	9	NONE
75	27	11	5	NONE
100	19	7	1	36
125	14	3	NONE	32
150	11	NONE	35	28
175	8	37	31	24
200	3	33	27	20
225	NONE	29	23	16

SOLARCRAFT IV
120 Gallon Tank

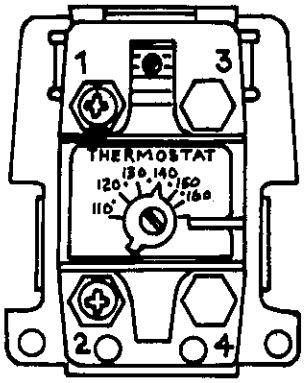
Total Feet of Piping	Cups to Drain from the Heat Exchanger — Number of Collector Panels			
	1	2	3	4
25	48	36	26	14
50	44	32	22	10
75	40	28	18	6
100	36	24	14	2
125	32	20	9	NONE
150	28	16	6	36
175	25	12	1	32
200	20	8	NONE	28
225	15	4	35	24
250	11	NONE	31	20
275	7	38	27	16
300	3	34	23	12
325	NONE	30	19	8

NOTE: If the heater is to be used with the booster element disconnected no drain down is required.

NOTE: Shaded areas on charts require the use of an "auxiliary fluid reservoir". The reservoir may be purchased through your dealer.

TEMPERATURE REGULATION

ELECTRIC BOOSTER ELEMENT

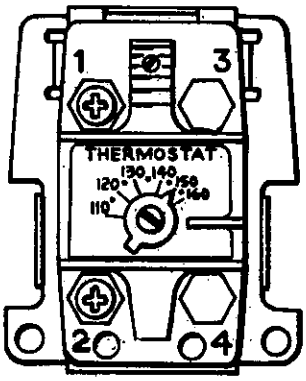


1. Turn off the electrical supply to your heater.
2. Take off the middle access panel.
3. Pull back the insulation. Adjust the thermostat to the water temperature you want.
   Normal setting is 140° F.
4. Put the insulation and the access panel back.
5. Turn on the electrical supply.

ENERGY SAVING

The thermostat controlling your booster element is factory pre-set at 140° F. The factory recommends this setting for maximum energy savings. If more or hotter water is desired the thermostat may be turned to a higher setting. Remember, after the period of increased demand is passed, return the thermostat to its previous lower setting.

SOLAR SYSTEM

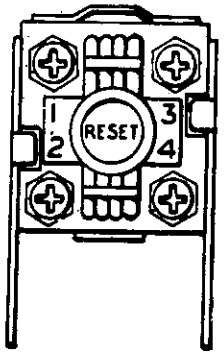


1. Turn off the electrical supply to your heater.
2. Take off the lower access panel.
3. Pull back the insulation. Adjust the thermostats to the water temperature you want.
   Normal setting is 150°F.
4. Put the insulation and the access panels back.
5. Turn on the electrical supply.

The normal setting for the thermostat controlling the solar system is 150°F. The purpose for this high setting is to achieve maximum benefit from the solar system. If lower temperature is desired the thermostat may be turned to a lower setting.

RESETTING

High Limit (Temperature) Shut Off System



1. Turn off the electrical supply to the heater.
2. Take off the middle access panel.
3. Pull back the insulation. Reset the control by pushing in the red button marked "RESET".
4. Put the insulation and access panel back on.
5. Turn on the electricity. If the high limit must be reset again, call a qualified service man to find out why the high limit switch turned off the power.

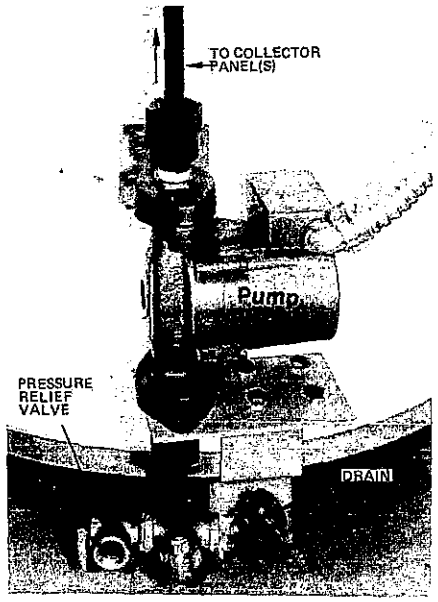
The solar system is equipped with a similar limit control located under the lower access panel. To reset the control, follow steps 1-5.

PRESSURE RELIEF VALVE

The solar circulating system is equipped with a pressure relief valve activated by water pressure in excess of 35 p.s.i.

The pressure relief valve should be equipped with a drain line. The drain line should terminate near a tub, sink or open drain. There should be a 6" air gap between the end of the drain line and the drain. The drain line must be open and unthreaded. The drain line should terminate in an area not likely to freeze. The manufacturer cannot be held responsible for water damage due to an improperly installed drain line.

WARNING:
DO NOT INSTALL A SHUT-OFF VALVE, PLUG, OR CAP IN THE PRESSURE RELIEF VALVE DRAIN LINE. DAMAGE COULD RESULT, ESPECIALLY TO THE COLLECTOR(S), IF THE VALVE OPENS AND THE DRAIN LINE IS BLOCKED.



WARNING BUZZER

The heater is equipped with a warning buzzer activated by pressures greater than 30 p.s.i. in the solar circulating system. If the buzzer is activated:

1. Turn off all power to the heater.
2. Turn off the cold water supply to the heater.
3. Open the drain valve located under the circulating pump.
4. Call the dealer or the manufacturer listed on your warranty sheet for service.

ADJUSTING PUMP FLOW RATE

The circulating pump is equipped with a screw driver adjustable ball valve. The pump flow rate should be adjusted so that the hot distilled water returning from the collector panel(s) is about 10° warmer than the distilled water going to the panels.

Since the valve is shipped from the factory in the full open position, it will have to be closed gradually to achieve the 10° differential. The adjustment should be made after the system has been in operation for about 30 minutes in bright sunlight.

OPERATIONAL CHECK LIST

Check the water heater installation before you call a serviceman. The heater may not be working because something is wrong outside the heater. You can often find what is wrong by checking the operational check list. Then you won't have to wait for a serviceman to get hot water.

NOT ENOUGH OR NO HOT WATER

1. In a new installation the heater may not have had enough time to heat the water. If the solar system is used without the booster element connected, a full day of operation with good sunlight may be required to heat the water to a useable temperature.
2. In a new installation the heater may not be properly connected. Make sure the cold water supply valve is open. Check the piping installation. Review the installation section.
3. Make sure the electrical supply to your water heater is ON.
4. Check for loose or blown fuses in your heater circuit. Circuit breakers weaken with age and may not handle their rated load and should be replaced.
5. If the water was too hot and is now cold, the high temperature limit switch may have shut the power off. See the "Resetting High Limit Shutoff System" section.
6. You may have used more hot water than the heater can store.
7. The heater may be controlled by a timer. If it is, you will not get hot water until your heater gets electricity. Check with your electric company.
8. The temperature of cold water going into your heater may be colder because it is winter. If it is, it will take more time to heat the water.
9. Look for leaking or open hot water faucets.

WATER IS TOO HOT

1. Adjust the thermostats to a lower setting. See the temperature regulation section, page 26.

TANK LEAKAGE IS SUSPECTED

1. Check all the pipe fittings for leaks. Also check your heater drain and the T & P valve for leaks.
2. What seems like leakage may be condensation. Condensation can gather in places where it is warm or humid. When it does, it can run from the heater or its piping to the area below the heater giving the appearance of a leak. This will usually evaporate after the heater has not been used for several hours.
3. Water running from your T & P valve does not always mean there is a problem. The T & P valve is only doing its job. As water is heated, it expands. This creates higher pressures. In most cases, the expanding water pressure goes back into the water main. If a check valve, or a pressure reducing valve without a bypass, or a non-reversing water meter is installed, the extra pressure cannot be relieved by backing into the water main. The T & P valve may open for a moment to relieve the excess pressure. Refer to page 5 for more information.
4. If you cannot find or fix the leak:
   a. Turn off the electrical supply to your heater.
   b. Close the cold water inlet valve to the heater.
   c. Call a qualified serviceman.

SOLAR SYSTEM SHUT-DOWN

1. Make sure the electrical supply is on.
2. Check for loose or blown fuses.
3. Differential thermostat may have shut the system down because the panels have cooled off.
4. If water was too hot and is now cold, the high temperature limit switch may have shut the pump down. See "Resetting the High Limit Shut-Off System" section.
5. Make sure the remote sensor lead is connected at the collector panel.
6. The circulating pump is equpped with an internal thermal overload switch which shuts down the pump if it reaches 250° F. The switch will automatically reset when the pump cools.

SOLAR SYSTEM RUNS CONTINUOUSLY

1. Control switch may be set to manual position. See section on differential thermostat control switch.
2. Check for a short in the panel sensor lead.
3. Check for an open circuit in the tank sensor lead.

NOISY PUMP OPERATION

1. The sound of air bubbles on initial startup is normal.
2. A scraping or grinding sound is NOT normal. If this is noticed, the pump should be shut down and the heat exchanger fluid level checked. Continued operation of the pump without fluid in the heat exchanger will cause permanent damage to the pump.

IF YOU ARE UNABLE TO FIND THE PROBLEM CONTACT THE DEALER WHO SOLD THE SYSTEM, OR THE MANUFACTURER LISTED ON YOUR WARRANTY SHEET.

DRAINING

You may want to shut off your water heater for long periods of time. If you do and your heater may be exposed to freezing temperatures, it must be drained. Water will expand when frozen, damaging your heater. This is not covered by the warranty. Both the storage tank and the Solar system must be drained.

1. Turn off the electrical supply to your heater. Then turn off the cold water supply.
2. Connect hose to the drain valve.
3. Open a nearby hot water faucet. Open your heater drain valve.
4. Keep the drain valve open during the shutdown period.
5. See your filling instructions to restart the water heater.

TANK CLEANING

Once a month your drain valve should be opened. The water should be allowed to run until it flows clean. This will keep sediment from building up in your tank bottom.

Sometimes bacteria and minerals will react with an anode making your water smell. Chlorination of your water supply will eliminate the bacteria and get rid of the odor.

ELEMENT

In some water areas, scale or mineral deposits will build up on your heating elements. This buildup will cause a rumbling noise. Follow the element replacement directions to remove the element from your tank. Soaking in vinegar and scraping will remove the mineral deposit. Be careful not to bend element.

If your element is burned out, make sure the new element does not exceed your circuit's capacity. See the chart on page 3 for details.

ELEMENT REPLACEMENT

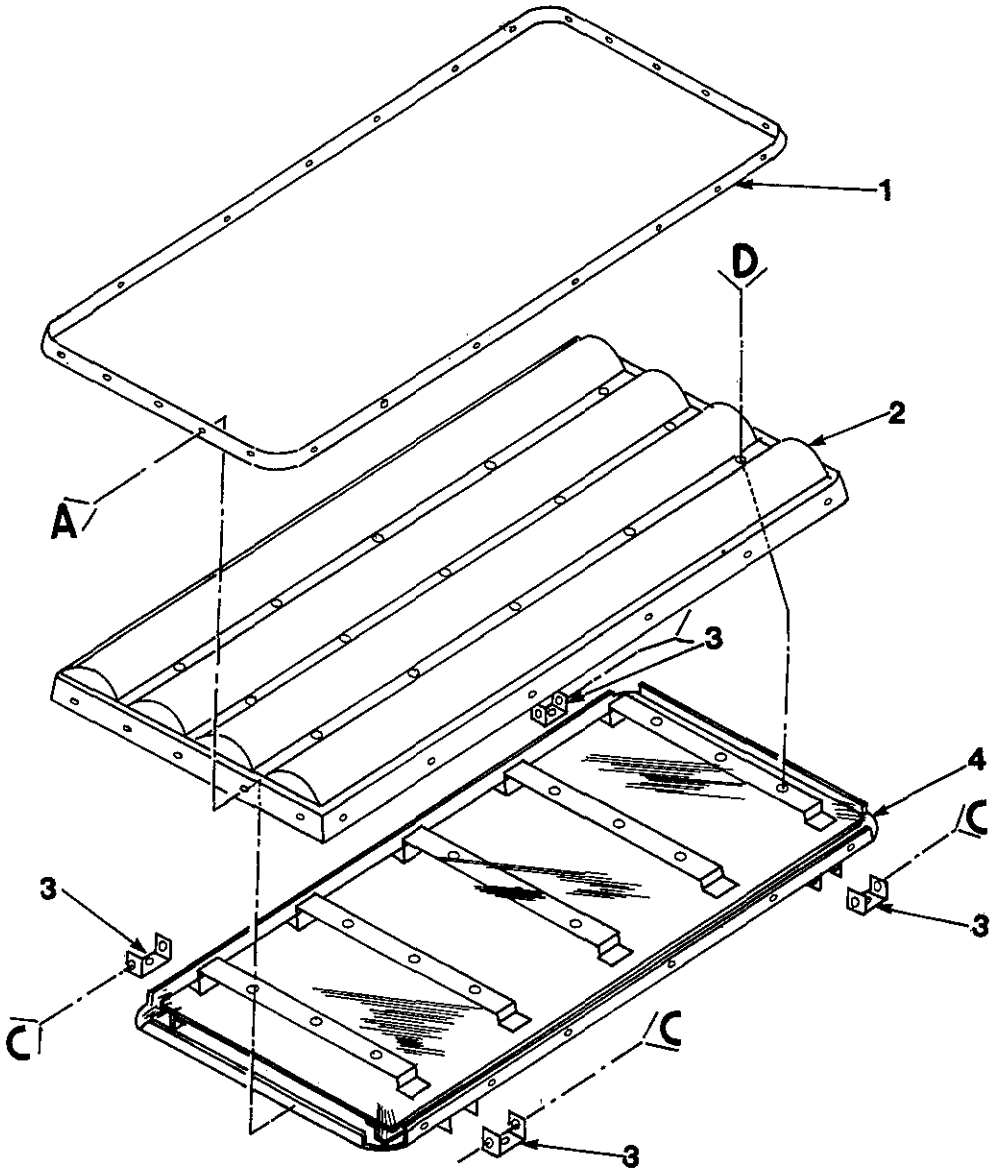
1. Turn off electrical supply to heater.
2. Drain your water heater. Follow the directions for draining.
3. Take off the access panel and turn back the insulation. Disconnect the wires from the heating element terminals.
4. Remove the element and gasket. You should always use a new gasket when you replace the element.
5. Install new element.
6. Reconnect the wires as they were.
7. Fill your tank, following the filling directions on page 6. Fill the tank with water, BEFORE you turn on the electric supply.

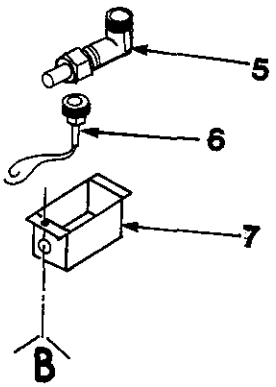
PANEL MAINTENANCE

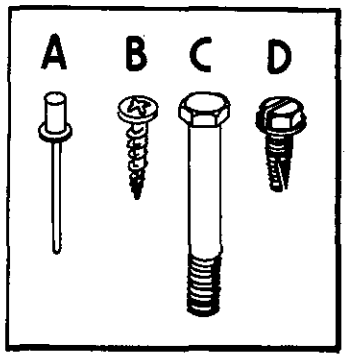
If excessive amounts of dirt build up on the panel's outer cover, it may be removed by washing with a mild soap and a soft cloth or sponge.

Cracks may be repaired with clear epoxy or clear silicone caulk.

repair parts–COLLECTOR PANEL







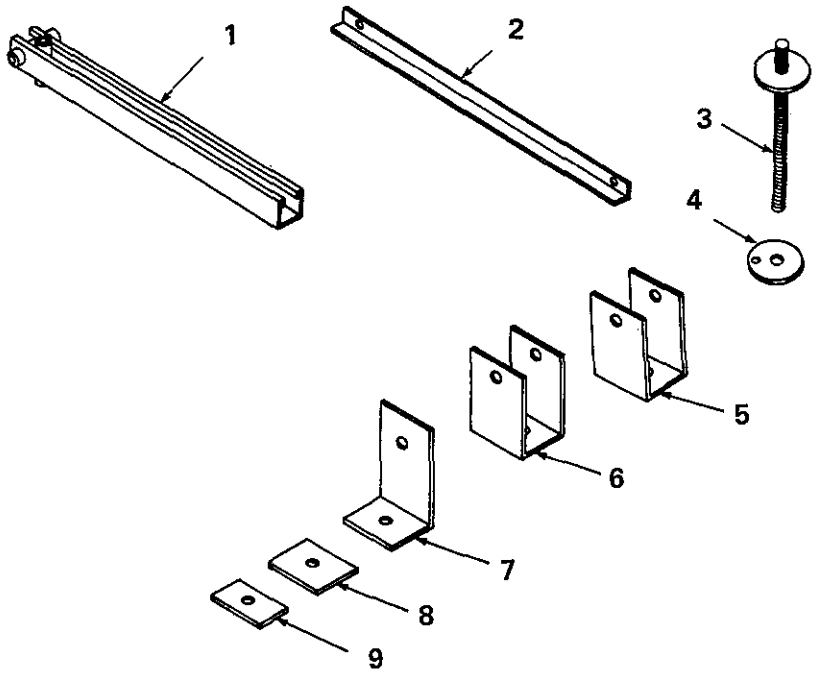
parts schedule-COLLECTOR PANEL

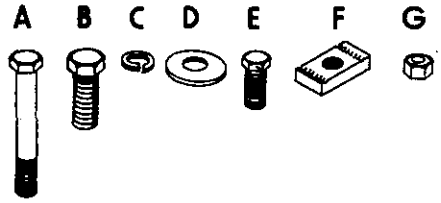
Key No.	DESCRIPTION	Qty.	PART NUMBER
1	Trim Molding (11 ft. 5 in.)	2	0570062
2	Outer Cover	1	0470114
3	Mounting Leg	4	1510515
4	Panel & Back Housing w/Inner Cover	1	1330003-02
5	Brass Compression Elbow (¾ pipe x ½ tube)	1	0660036
6	Remote Sensor*	1	1510587
7	Sensor Cover	1	1330004-01
A	Pop Rivet	40	1020061
B	Sheet Metal Screw No. 10A x ¾"**	1	0350003
C	Bolt ½—13 x 4"**	4	0340034
D	Screw, Thread Cutting, w/Washer	9	0350083
E	Snap Bushing	1	0930003

*Only one panel in the installation has a sensor.

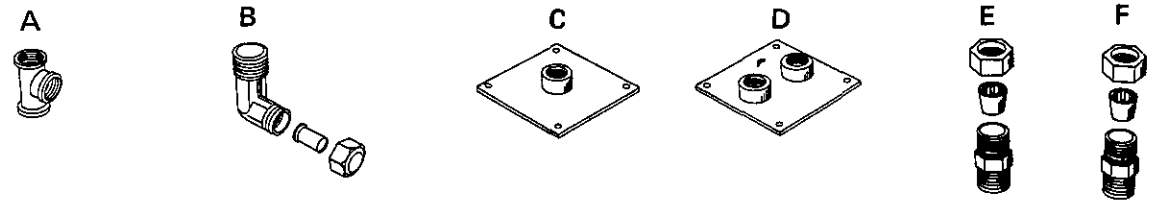
**Standard Hardware Item. May be purchased locally.

repair parts -HARDWARE





repair parts -FITTINGS



repair parts - HARDWARE

Key No.	PART DESCRIPTION	Qty.	PART NUMBER
1	Tilt Brace	2	1510518
2	Angle Brace	2	1510560
3	Threaded Rod & Pressure Plate Assembly	4	2190078
4	Large Washer (4½" dia.)	4	2190257
5	Mounting Bracket	4	1510515
6	U. Bracket	2	1510516
7	Angle Bracket	2	1510561
8	Large Reinforcing Pad (3" x 3")	2	1510559
9	Small Reinforcing Pad (1½" x 3")	4	1510557
A	Bolt (½" — 13 x 4")	2	0340034
B	Bolt (½" — 13 x 2½") (Shipping Bolt)	4	0340036
C	½" Lockwasher	4	0540030
D	½" Flatwasher	4	0540029
E	Bolt (½" — 13 x 1¼)	6	0340035
F	Tilt Brace Lock Nut	2	0240047
G	Hex Nut (½" — 13) (some used in shipping	16 (min.)	0240048

repair parts - FITTINGS

Key No.	PART DESCRIPTION	Quantity	PART NUMBER
A	Tee, ½" Galvanized	1	0490021
B	Elbow, ½" Tube x ¾" Male Pipe x 90° Brass	*2 (per panel)	0660036
C	Roof Jack—Single Opening	1	2190231
D	Roof Jack—Double Opening	1	2190232
E	Adapter, ½" Tube x ½" Male Pipe (drilled)**	1	1510585
F	Adapter, ¼" Tube x ½" Male Pipe (drilled)**	1	1510586

*Installed by factory.
**These fittings are installed in the roof jacks and have been drilled so pipe will go through fitting.

repair parts-HEATER

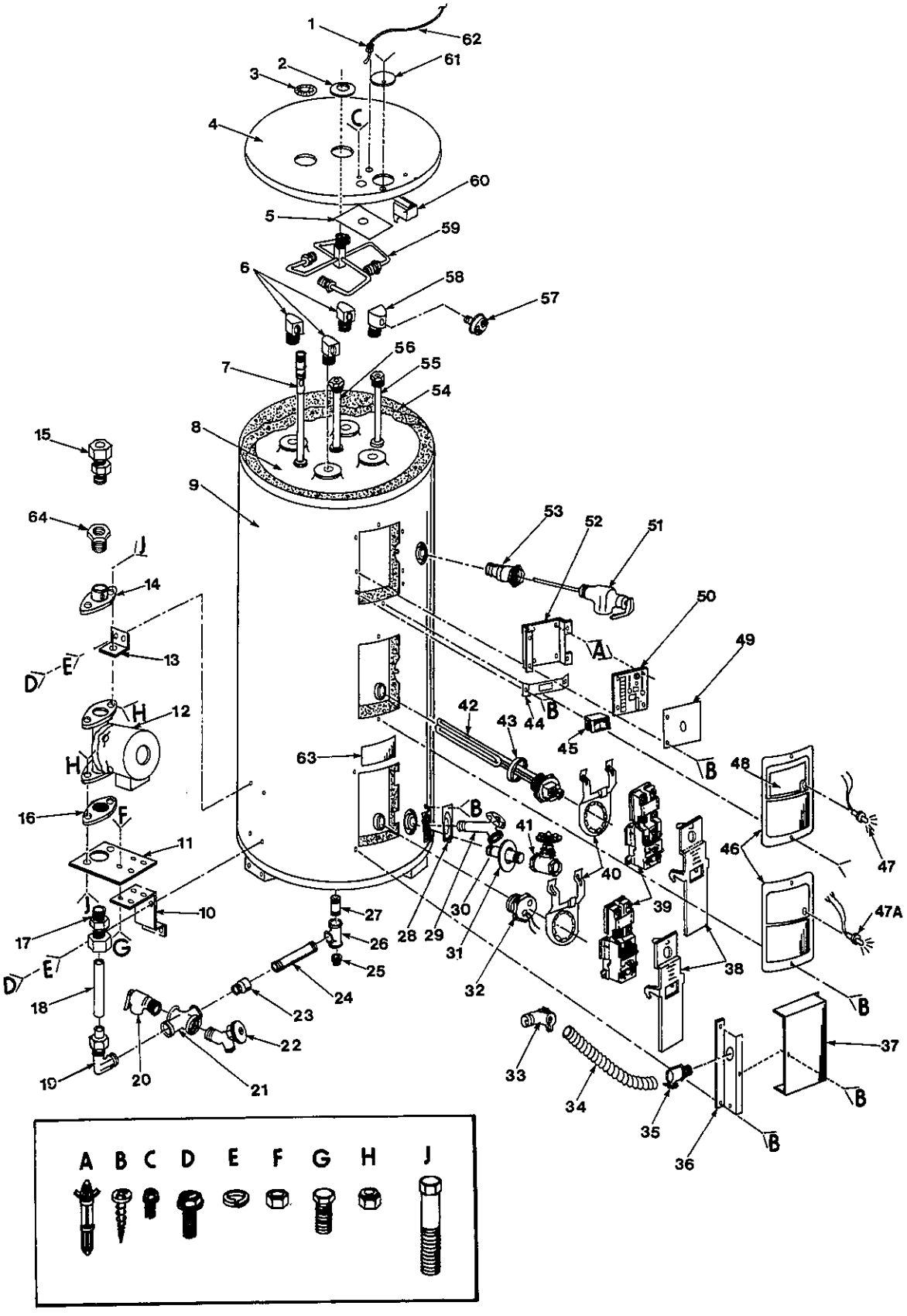
MODEL NUMBER			SCV-82-1TS7	SCV-120-1TS7
Key No.	DESCRIPTION	Qty.	PART NUMBERS	
1	Snap Bushing	(1)	0930027	0930027
2	Finishing Flange	(1)	0680001	0680001
3	Top Retainer	(1)	1020059	1020059
4	Jacket Top	(1)	2190219	2190219
5	Wiring Shield	(1)	0610014	0610014
6	Manifold Elbow	(3)	0660035	0660035
7	Anode w/Outlet Nipple	(1)	0160128	0160129
8	Tank**	(1)	9020352	9020353
9	Jacket	(1)	2190221	2190222
10	Lower Pump Mounting Bracket	(1)	2190242	2190242
11	Pump Mounting Plate	(1)	2190243	2190243
12	Circulating Pump	(1)	1340004	1340004
13	Upper Pump Mounting Bracket	(1)	2190244	2190244
14	Pump Outlet Flange /Valve (includes gasket)	(1)	0680059	0680059
15	Tube Adapter (¾ pipe x ½ tube)	(1)	0480066	0480066
16	Pump Inlet Flange (includes gasket)	(1)	0680053	0680053
17	Tube Adapter (¾ pipe x ½ tube)	(1)	0480066	0480066
18	Polybutylene Tube (5" length)	(1)	0370097	0370097
19	Compression Elbow (¾ pipe x ½ tube)	(1)	0660036	0660036
20	Pressure Relief Valve	(1)	0720061	0720061
21	Galvanized Cross (¾ NPT)	(1)	1050013	1050013
22	Drain Valve	(1)	0170032	0170032
23	Reducer Bushing (¾ male x ½ female)	(1)	0930019	0930019
24	Pipe Nipple	(1)	0560128	0560128
25	Magnetic Pipe Plug	(1)	0630054	0630054
26	Galvanized Tee (½" NPT)	(1)	0490021	0490021
27	Pipe Nipple	(1)	0560126	0560126
28	Drain Cover	(1)	1190956	1190956
29	Drain Valve	(1)	0170022	0170022
30	Pipe Nipple*	(1)	0560121	0560121
31	Finishing Flange	(1)	0680001	0680001
32	Tank Sensor & Plug	(1)	1510051	1510051
33	Conduit Elbow (½" x 90")*	(1)	0830023	0830023
34	Conduit (flexible)*	(1)	0370062	0370062
35	Conduit Adapter*	(1)	0830022	0830022
36	Access Panel Bracket	(1)	2190012	2190012
37	Access Panel	(1)	1190707	1190707
38	Terminal Protectors	(2)	0470096-01	0470096-01
39	Thermostat	(2)	0180030	0180030
40	Thermostat Bracket	(2)	0110238	0110238
41	Shut-Off Valve*	(1)	0720060	0720060

repair parts- HEATER

MODEL NUMBER			SCV-82-1TS7	SCV-120-1TS7
Key No.	DESCRIPTION	Qty.	PART NUMBERS	
42	Sandhog (R) Electric Heating Element	(1)	0740443	0740443
43	Element Gasket	(1)	0530037	0530037
44	Switch Bracket	(1)	2190253	2190253
45	Service Switch	(1)	0860022	0860022
46	Access Panels	(2)	1190885	1190885
47	Indicator Light (120V)	(1)	0790016	0790016
47A	Indicator Light (240V)	(1)	0790001-01	0790001-01
48	Emblem	(1)	0280368	0280368
49	Terminal Shield	(1)	0610070	0610070
50	Differential Thermostat	(1)	0180202	0180202
51	Temperature & Pressure Relief Valve	(1)	0720054	0720054
52	Thermostat Mounting Bracket	(1)	2190252	2190252
53	Relief Valve Adapter	(1)	0560111	0560111
54	Insulation	(1)	0130332	0130333
55	Anode	(1)	0160111	0160113
56	Anode	(1)	0160112	0160114
57	Pressure Switch	(1)	0860025	0860025
58	Manifold Elbow w/Switch Tapping	(1)	1510577	1510577
59	Manifold	(1)	1510536	1510536
60	Warning Buzzer	(1)	0180195	0180195
61	Electrical Junction Cover	(1)	0470062	0470062
62	Sensor Wire (50 feet)	(1)	0750195	0750195
63	Rating Plate†	(1)	0270105	0270105
64	Reducer Bushing (1"NPT x ¾ NPT Galv.) *	(2)	0930021	0930021
A	Nylon Thermostat Clip	(4)	1020057	1020057
B	Screw, S/M, No. 10A x ¾*	(3)	0350003	0350003
C	Green Ground Screw	(1)	0350076	0350076
D	Pump Bracket Screw	(6)	0350054	0350054
E	Lock Washer	(4)	0540002	0540002
F	Hex Nut	(4)	0240011	0240011
G	Machine Bolt	(4)	0340030	0340030
H	Lock Nut	(4)	0240049	0240049
J	Machine Bolt	(4)	0340037	0340037

†Replaced only upon return of damaged plate.
*Standard Hardware Item.
**Not a Replaceable Item.

repair parts-HEATER



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CRANE®

RESIDENTIAL GAS

PARTS BOOK

INSTALLATION AND OPERATING INSTRUCTIONS
REPAIR PARTS
GLASSLINED GAS
HI-RECOVERY WATER HEATERS

CGGP 770

INSTALLATION RECORD

MODEL NO. .....

SERIAL NO. .....

INSTALLED BY: .....

INSTALLATION DATE: .....

INSTALLATION

WARNING: Do not install water heater in a small enclosure unless amply ventilated. A minimum of 1 sq. in. of ventilation per each 1000 BTU input must be provided near the top and bottom of enclosure. Water heater must be vented to proper flue. Check to determine whether the proper type of gas for your water heater has been furnished.

Local Codes

The installation of the water heater must be in accordance with these instructions and all applicable local codes and gas utility requirements.

Safety

This heater is approved and equipped with an automatic gas shutoff system actuated by high water temperature. A listed temperature and pressure relief valve shall be installed at the time of installation of the heater. Local codes shall govern the installation of relief devices.

The pressure setting of the relief valve should not exceed the working pressure shown on the heater.

Failure to install a properly rated ASME — A.G.A. design certified temperature and pressure relief valve will release the manufacturer from any claim which might result from excessive temperatures or water pressures.

LOCATION

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

Locate the heater so that the vent (flue) will be as short as possible. On long horizontal runs use at least ¼" rise per foot of length.

In accordance with National Standards this heater must be installed with the draft diverter in place. Diameter of flue pipe must match the diameter of the draft diverter outlet. Connect ¾" water lines. Cold water inlet connects to right hand opening at the top of heater (facing heater), and hot water outlet connects to left hand opening, per illustration back of page. Fill tank with water. A hot water faucet in the house should be open to release entrapped air. Connect ½" gas line to thermostat with manual shutoff valve, drip leg, and a metal to metal type union. Use a pipe joint compound that is resistant to the action of liquified petroleum (LP) gases.

OPERATION

enever the heater is filled with cold water there will ually be a certain amount of condensation formed while the burner is "ON". Moisture from the products of combustion condenses on the cooler tank surfaces and forms drops of water which may fall onto the burner or other hot surfaces to produce a "sizzling" or "frying" noise. Condensation ceases when the tank becomes heated and the burner shuts off. Condensation is normal and does not indicate a tank leak.

LIGHTING

Lighting and operating instructions are located at the front of the heater, below the thermostat.

HIGH TEMPERATURE LIMIT SWITCH (Energy Cutoff)

All models have a nonadjustable limit switch built into the thermostat that guards against excessive water temperatures.

If the high limit switch functions, it shuts off the entire gas supply to heater. The pilot cannot be relit until the tank temperature drops to approximately 120° F.

Functions of the high limit switch may indicate a malfunction of the thermostat. Contact your serviceman or local utility immediately.

DRAINING

If the heater is to be shut off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater. To drain heater for this and other reasons:

1. Turn off the gas and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.
3. The drain valve must be left open during the shutdown period.

TEMPERATURE REGULATION

The water heater is equipped with an automatic temperature control.

The water temperature dial is factory set for WARM water temperatures and may be adjusted as desired.

The water temperatures produced in the tank for each setting are about:

140° — — WARM
150° — — CENTER DOT
160° — — HOT

For general household usage, the WARM or CENTER DOT setting will be satisfactory. However, the knob may be set to any position which satisfied temperature requirements.

CRANE SUPPLY COMPANY AND THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

CRANE01319

Cleaning Tank

To assure long life and efficiency, the water heater tank must have a small amount of water drained periodically.

Once a month the drain valve should be opened and the water allowed to run until it flows clean. This will help to prevent sediment buildup in the tank bottom.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

WATER HEATER MAKES SOUNDS

1. Occasional excessive condensation can cause sizzling sound as the moisture is vaporized by the gas flame. This is a normal sound and may be disregarded.
2. A sediment accumulation may be causing a rumbling noise.
3. If you cannot identify or remedy the condition, call your installer or qualified service man.

TYPICAL INSTALLATIONS

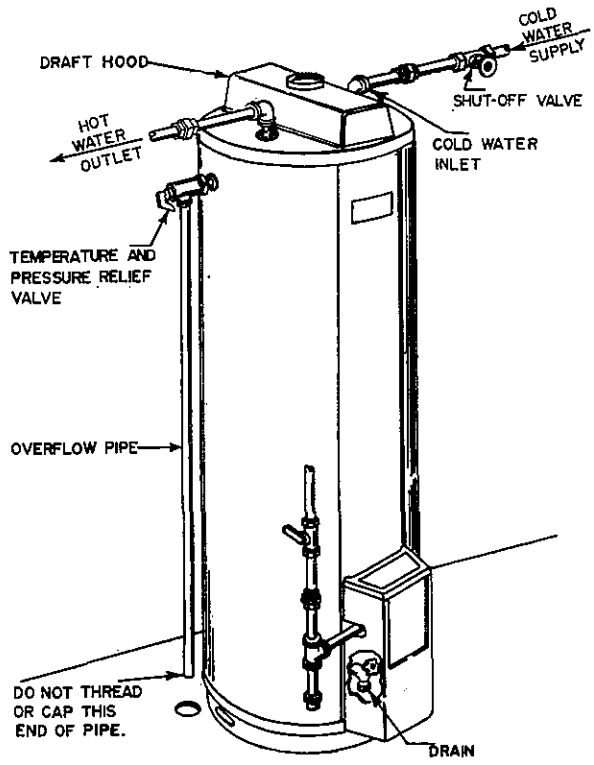
CHECK ALL CONNECTIONS, GAS AND WATER, FOR LEAKS. Check completed gas lines with a soapy water solution or other non-flamable leak detection fluid. The use of matches, candles, or other open flame may cause an extreme fire hazard. Consult YOUR LOCAL UTILITY COMPANY to EXAMINE INSTALLATION FOR PROPRIETY AND SAFETY.

PIPE SIZES

HOT & COLD WATER ¾" IPS

GAS ½" IPS

FLUE 4" DIA.



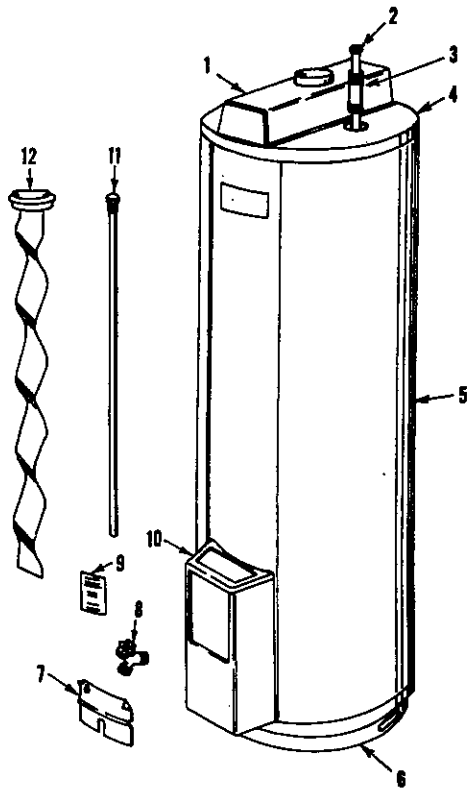
TO PROTECT AGAINST UNTIMELY CORROSION OF HOT AND COLD WATER FITTING, IT IS STRONGLY RECOMMENDED THAT DIELECTRIC UNIONS OR COUPLING BE INSTALLED ON THIS WATER HEATER WHEN CONNECTED TO COPPER PIPE.

REPAIR PARTS

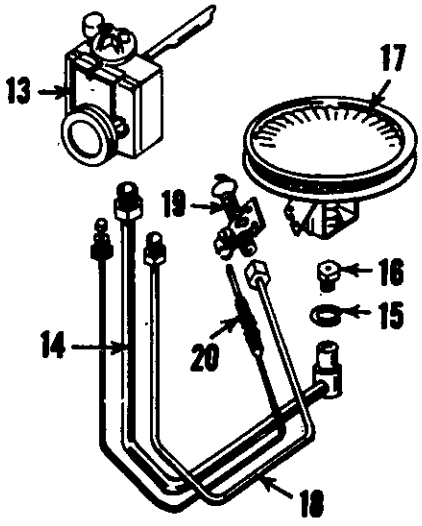
The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248, Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) model and serial number, (3) type of gas, (4) item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685

PARTS ILLUSTRATION



BURNER AND CONTROL GROUP



DO NOT ORDER BY ITEM NUMBER ONLY.

ITEM NO.	PART DESCRIPTION
1	Draft Hood 4" to 3"
	Draft Hood 4"
2	Dip Tube
3	Nipple
4	Jacket Top
5	Jacket
6	Base Assembly
7	Inner Door
8	Drain
9	Rating Plate †
10	Outer Door
11	Magnesium Anode
12	Flue Baffle
13 A	Thermostat Nat gas*
13 B	Thermostat L.P. gas*
14	Manifold
15	Burner Securing Ring
16	Orifice
17	Burner
18	Pilot Tubing w/Fitting
19	Pilot
20	Thermocouple
CGGP 770	Instruction Sheet

† Replaced only upon return of damaged plate.

*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 5.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordingly.

REPAIR PART PRICES

The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248, Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) model and serial number, (3) type of gas, (4) item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685

DO NOT ORDER BY ITEM NUMBER ONLY

ITEM NO.	PART PRICES					PARTS DESCRIPTION
	30 GAL.	40 GAL.	40 GAL. SUPER	50 GAL. SUPER	75 GAL. SUPER	
1	4.20	4.20	— —	— —	— —	Draft Hood 4" to 3"
	— —	— —	4.20	4.20	4.20	Draft Hood 4"
2	2.40	2.25	2.25	2.55	2.55	Dip Tube
3	1.50	1.50	1.50	1.50	1.50	Nipple
4	6.00	6.75	6.75	8.40	8.40	Jacket Top
5	36.00	42.00	42.00	45.00	48.60	Jacket
6	9.00	9.75	9.75	10.80	10.80	Base Assembly
7	1.50	1.50	1.50	1.50	1.50	Inner Door
8	4.05	4.05	4.05	4.05	4.05	Drain
9	1.05	1.05	1.05	1.05	1.05	Rating Plate †
10	3.60	3.60	3.60	3.60	3.60	Outer Door
11	8.85	8.85	8.85	8.85	8.85	Magnesium Anode
12	3.15	3.15	3.00	3.00	3.00	Flue Baffle
13A	50.10	50.10	50.10	50.10	50.10	Thermostat Nat. gas*
13B	50.10	50.10	50.10	50.10	50.10	Thermostat L.P. gas*
14	3.45	3.45	3.45	3.15	3.15	Manifold
15	.75	.75	.75	.75	.75	Burner Securing Ring
16	.90	.90	.90	.90	.90	Orifice
17	5.70	5.70	5.70	5.70	5.70	Burner
18	1.80	1.80	1.80	1.80	1.80	Pilot Tubing w/Fitting
19	4.35	4.35	4.35	4.35	4.35	Pilot
20	5.10	5.10	5.10	5.70	5.70	Thermocouple
	← CGGP – 770 →					Instruction Sheet

† **Replaced only upon return of damaged plate.**

*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 5.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordingly.

If further information is required, it will be furnished from Crane Supply Company, Dept. CSW, Box 248, Ashland City, Tennessee 37015.

TERMS: NET CASH PRICES F.O.B. FACTORY

029168 **B**

INSTALLATION AND OPERATING INSTRUCTIONS
REPAIR PARTS
GLASSLINED GAS
REGULAR WATER HEATER CRGP 670

MODEL NO. .....

SERIAL NO. .....

INSTALLED BY: .....

INSTALLATION DATE: .....

INSTALLATION

WARNING: Do not install water heater in a small enclosure unless amply ventilated. A minimum of 1 sq. in. of ventilation per each 1000 BTU input must be provided near the top and bottom of enclosure. Water heater must be vented to proper flue. Check to determine whether the proper type of gas for your water heater has been furnished.

Local Codes

The installation of the water heater must be in accordance with these instructions and all applicable local codes and gas utility requirements.

Safety

This heater is approved and equipped with an automatic gas shutoff system actuated by high water temperature. A listed temperature and pressure relief valve shall be installed at the time of installation of the heater. Local codes shall govern the installation of relief devices.

The pressure setting of the relief valve should not exceed the working pressure shown on the heater.

Failure to install a properly rated ASME — A.G.A. design certified temperature and pressure relief valve will release the manufacturer from any claim which might result from excessive temperatures or water pressures.

LOCATION

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

Locate the heater so that the vent (flue) will be as short as possible. On long horizontal runs use at least ¼" rise per foot of length.

In accordance with National Standards this heater must be installed with the draft diverter in place. Diameter of flue pipe must match the diameter of the draft diverter outlet. Connect ¾" water lines. Cold water inlet connects to right hand opening at the top of heater (facing heater), and hot water outlet connects to left hand opening, per illustration back of page. Fill tank with water. A hot water faucet in the house should be open to release entrapped air. Connect ½" gas line to thermostat with manual shutoff valve, drip leg, and a metal to metal type union. Use a pipe joint compound that is resistant to the action of liquified petroleum (LP) gases.

OPERATION

Whenever the heater is filled with cold water there will usually be a certain amount of condensation formed while the burner is "ON". Moisture from the products of combustion condenses on the cooler tank surfaces and forms drops of water which may fall onto the burner or other hot surfaces to produce a "sizzling" or "frying" noise. Condensation ceases when the tank becomes heated and the burner shuts off. Condensation is normal and does not indicate a tank leak.

LIGHTING

Lighting and operating instructions are located at the front of the heater, below the thermostat.

HIGH TEMPERATURE LIMIT SWITCH (Energy Cutoff)

All models have a nonadjustable limit switch built into the thermostat that guards against excessive water temperatures.

If the high limit switch functions, it shuts off the entire gas supply to heater. The pilot cannot be relit until the tank temperature drops to approximately 120° F.

Functions of the high limit switch may indicate a malfunction of the thermostat. Contact your serviceman or local utility immediately.

DRAINING

If the heater is to be shut off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater. To drain heater for this and other reasons:

1. Turn off the gas and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.
3. The drain valve must be left open during the shutdown period.

TEMPERATURE REGULATION

The water heater is equipped with an automatic temperature control.

The water temperature dial is factory set for WARM water temperatures and may be adjusted as desired.

The water temperatures produced in the tank for each setting are about:

140° — — WARM
150° — — CENTER DOT
160° — — HOT

For general household usage, the WARM or CENTER DOT setting will be satisfactory. However, the knob may be set to any position which satisfied temperature requirements.

CRANE SUPPLY COMPANY AND THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

CRANE01323

Cleaning Tank

To assure long life and efficiency, the water heater tank must have a small amount of water drained periodically.

Once a month the drain valve should be opened and the water allowed to run until it flows clean. This will help to prevent sediment buildup in the tank bottom.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

WATER HEATER MAKES SOUNDS

1. Occasional excessive condensation can cause a sizzling sound as the moisture is vaporized by the gas flame. This is a normal sound and may be disregarded.
2. A sediment accumulation may be causing a rumbling noise.
3. If you cannot identify or remedy the condition, call your installer or qualified service man.

TYPICAL INSTALLATIONS

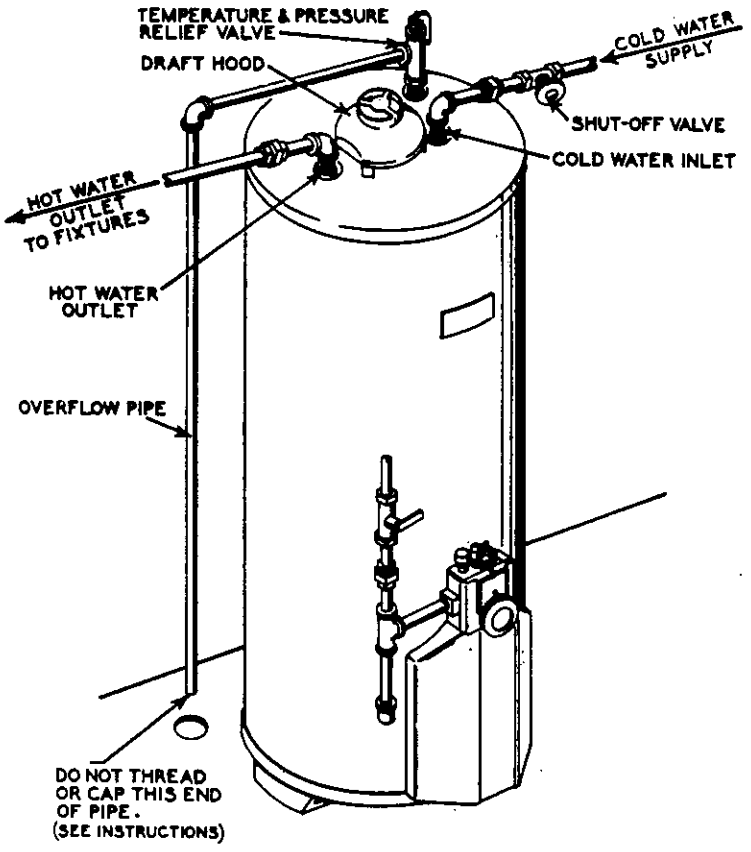
CHECK ALL CONNECTIONS, GAS AND WATER, FOR LEAKS. Check completed gas lines with a soapy water solution or other non-flamable leak detection fluid. The use of matches, candles, or other open flame may cause an extreme fire hazard. Consult YOUR LOCAL UTILITY COMPANY to EXAMINE INSTALLATION FOR PROPRIETY AND SAFETY.

PIPE SIZES

HOT & COLD WATER ¾" IPS

GAS ½" IPS

FLUE 3" DIA.



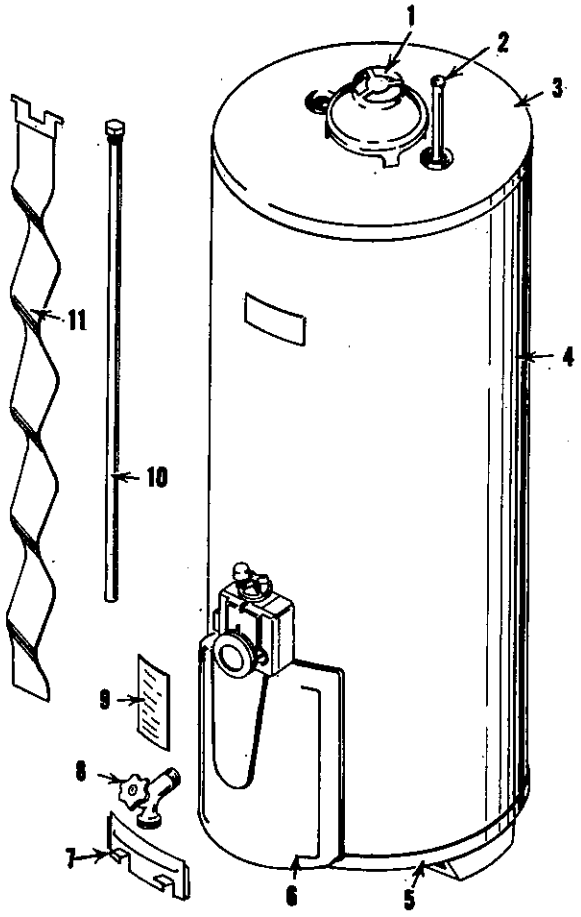
TO PROTECT AGAINST UNTIMELY CORROSION OF HOT AND COLD WATER FITTING, IT IS STRONGLY RECOMMENDED THAT DIELECTRIC UNIONS OR COUPLING BE INSTALLED ON THIS WATER HEATER WHEN CONNECTED TO COPPER PIPE.

REPAIR PARTS

The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248, Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) Model and serial number, (3) Type of gas, (4) Item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685.

PARTS ILLUSTRATION

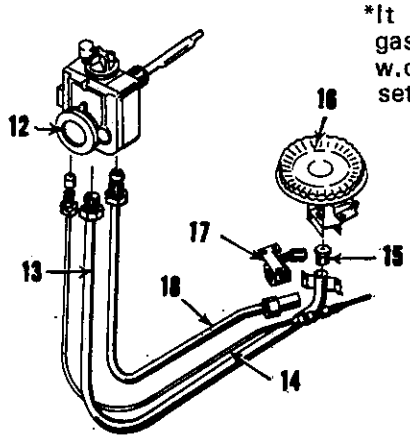


DO NOT ORDER BY ITEM NUMBER ONLY.

ITEM NO.	PART DESCRIPTION
1	Draft Hood
2	Dip Tube
3	Jacket Top
4	Jacket
5	Base Assembly
6	Deluxe Door
7	Inner Door
8	Drain
9	Rating Plate †
10	Magnesium Anode
11	Flue Baffle
12 A	Thermostat **Nat gas***
12 B	Thermostat **L.P. gas***
13	Manifold
14	Thermocouple
15	Orifice
16	Burner
17	Pilot
18	Pilot Tube w/Fittings
CRGP 670	Instruction Sheet

† Replaced only upon return of damaged plate.

BURNER AND CONTROL GROUP



*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 4.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordinly.

REPAIR PART PRICES

The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248, Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) Model and serial number, (3) Type of gas, (4) Item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685.

DO NOT ORDER BY ITEM NUMBER ONLY

ITEM NO.	20 GAL. Short	30 GAL. Short	30 GAL. Tall	40 GAL. Short	40 GAL. Tall	PART DESCRIPTION
1	3.00	3.00	3.00	3.00	3.00	Draft Hood
2	2.25	2.25	2.25	2.25	2.25	Dip Tube
3	6.00	6.75	6.00	7.50	6.75	Jacket Top
4	30.00	36.00	36.00	42.00	42.00	Jacket
5	9.00	9.75	9.00	10.50	9.75	Base Assembly
6	2.85	2.85	2.85	2.85	2.85	Deluxe Door
7	1.35	1.35	1.35	1.35	1.35	Inner Door
8	3.15	3.15	3.15	3.15	3.15	Drain
9	1.05	1.05	1.05	1.05	1.05	Rating Plate †
10	7.50	7.50	8.25	7.50	8.25	Magnesium Anode
11	3.00	3.00	3.00	3.00	3.00	Flue Baffle
12 A	39.30	39.30	39.30	39.30	39.30	Thermostat Nat gas*
12 B	39.30	39.30	39.30	39.30	39.30	Thermostat L.P. gas*
13	2.85	2.85	2.85	2.85	2.85	Manifold
14	5.10	5.10	5.10	5.10	5.10	Thermocouple
15	.90	.90	.90	.90	.90	Orifice
16	5.70	5.70	5.70	5.70	5.70	Burner
17	4.35	4.35	4.35	4.35	4.35	Pilot
18	1.80	1.80	1.80	1.80	1.80	Pilot Tube w/Fitting
	← CRGP 670 →					Instruction Sheet

† **Replaced only upon return of damaged plate**

*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 4.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordinly.

IMPORTANT

If further information is required, it will be furnished from Crane Supply Company, Dept. CSW, Box 248, Ashland City, Tennessee 37015.

TERMS: NET CASH PRICES F.O.B. FACTORY

INSTALLATION AND OPERATING INSTRUCTIONS
REPAIR PARTS
AUTOMATIC GLASSLINED GAS
LARGE CAPACITY WATER HEATERS CLGP 768

INSTALLATION RECORD

MODEL NO. _____

SERIAL NO. _____

INSTALLED BY: _____

INSTALLATION DATE: _____

INSTALLATION

WARNING: Do not install water heater in a small enclosure unless amply ventilated. A minimum of 1 sq. in. of ventilation per each 1000 BTU input must be provided near the top and bottom of enclosure. Water heater must be vented to proper flue. Check to determine whether the proper type of gas for your water heater has been furnished.

Local Codes

The installation of the water heater must be in accordance with these instructions and all applicable local codes and gas utility requirements.

Safety

This heater is approved and equipped with an automatic gas shutoff system actuated by high water temperature. A listed temperature and pressure relief valve shall be installed at the time of installation of the heater. Local codes shall govern the installation of relief devices.

The pressure setting of the relief valve should not exceed the working pressure shown on the heater.

Failure to install a properly rated ASME — A.G.A. design certified temperature and pressure relief valve will release the manufacturer from any claim which might result from excessive temperatures or water pressures.

LOCATION

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

Locate the heater so that the vent (flue) will be as short as possible. On long horizontal runs use at least ¼" rise per foot of length.

In accordance with National Standards this heater must be installed with the draft diverter in place. Diameter of flue pipe must match the diameter of the draft diverter outlet. Connect ¾" water lines. Cold water inlet connects to right hand opening at the top of heater (facing heater), and hot water outlet connects to left hand opening, per illustration back of page. Fill tank with water. A hot water faucet in the house should be open to release entrapped air. Connect ½" gas line to thermostat with manual shutoff valve, drip leg, and a metal to metal type union. Use a pipe joint compound that is resistant to the action of liquified petroleum (LP) gases.

OPERATION

Whenever the heater is filled with cold water there will usually be a certain amount of condensation formed while the burner is "ON". Moisture from the products of combustion condenses on the cooler tank surfaces and forms drops of water which may fall onto the burner or other hot surfaces to produce a "sizzling" or "frying" noise. Condensation ceases when the tank becomes heated and the burner shuts off. Condensation is normal and does not indicate a tank leak.

LIGHTING

Lighting and operating instructions are located at the front of the heater, below the thermostat.

HIGH TEMPERATURE LIMIT SWITCH (Energy Cutoff)

All models have a nonadjustable limit switch built into the thermostat that guards against excessive water temperatures.

If the high limit switch functions, it shuts off the entire gas supply to heater. The pilot cannot be relit until the tank temperature drops to approximately 120° F.

Functions of the high limit switch may indicate a malfunction of the thermostat. Contact your serviceman or local utility immediately.

DRAINING

If the heater is to be shut off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater. To drain heater for this and other reasons:

1. Turn off the gas and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.
3. The drain valve must be left open during the shutdown period.

TEMPERATURE REGULATION

The water heater is equipped with an automatic temperature control.

The water temperature dial is factory set for WARM water temperatures and may be adjusted as desired.

The water temperatures produced in the tank for each setting are about:

140° — — WARM
150° — — CENTER DOT
160° — — HOT

For general household usage, the WARM or CENTER DOT setting will be satisfactory. However, the knob may be set to any position which satisfied temperature requirements.

CRANE SUPPLY COMPANY AND THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

CRANE01327

Cleaning Tank

To assure long life and efficiency, the water heater tank must have a small amount of water drained periodically.

Once a month the drain valve should be opened and the water allowed to run until it flows clean. This will help to prevent sediment buildup in the tank bottom.

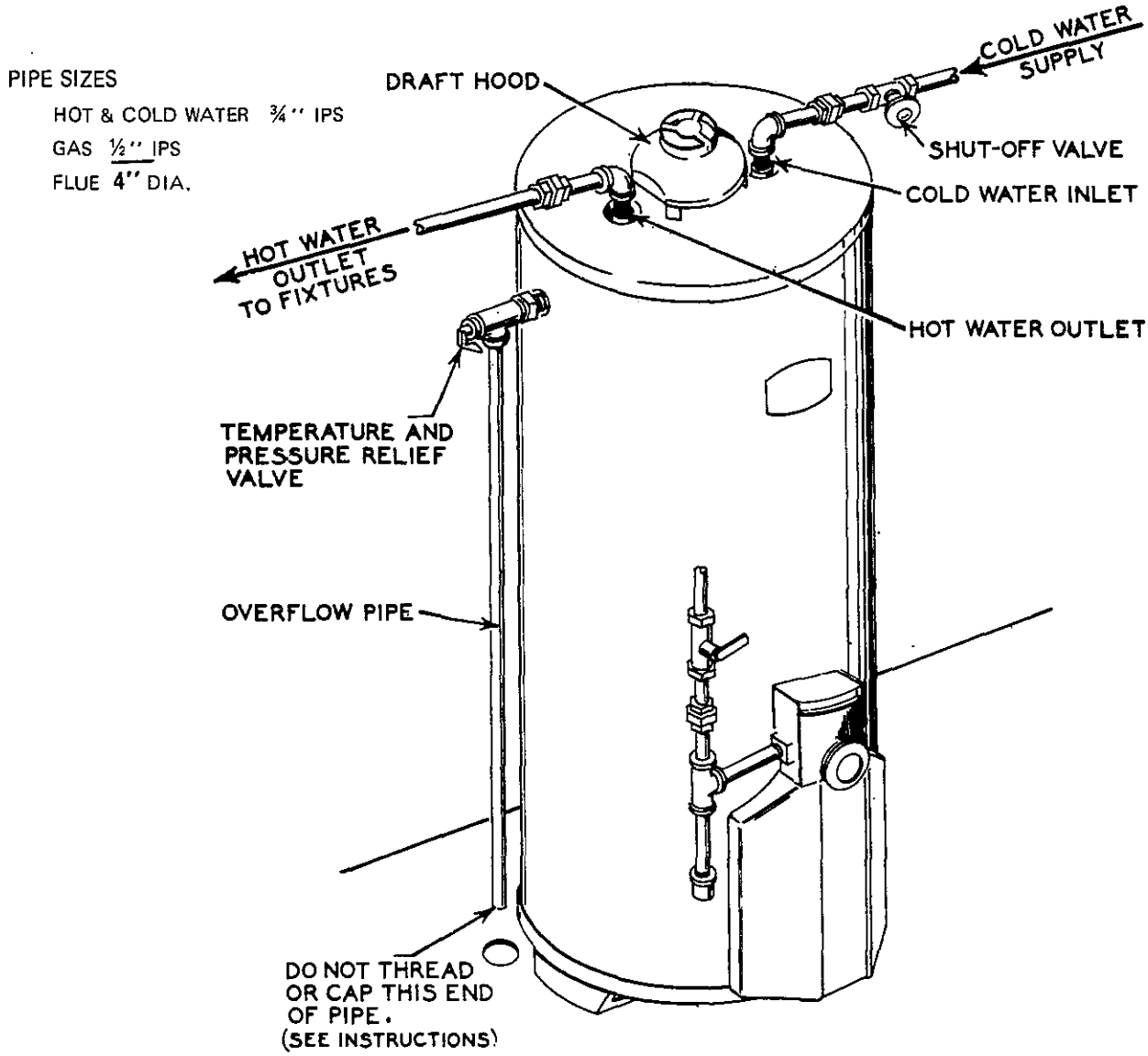
THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

WATER HEATER MAKES SOUNDS

1. Occasional excessive condensation can cause a sizzling sound as the moisture is vaporized by the gas flame. This is a normal sound and may be disregarded.
2. A sediment accumulation may be causing a rumbling noise.
3. If you cannot identify or remedy the condition, call your installer or qualified service man.

TYPICAL INSTALLATIONS

CHECK ALL CONNECTIONS, GAS AND WATER, FOR LEAKS. Check completed gas lines with a soapy water solution or other non-flamable leak detection fluid. The use of matches, candles, or other open flame may cause an extreme fire hazard. Consult YOUR LOCAL UTILITY COMPANY to EXAMINE INSTALLATION FOR PROPRIETY AND SAFETY.



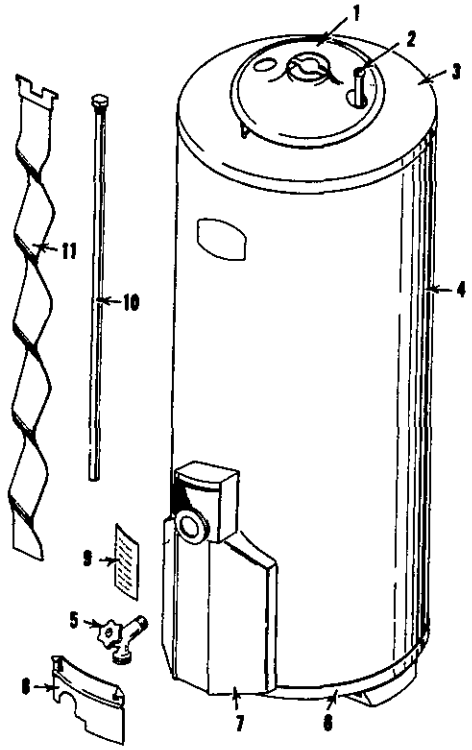
TO PROTECT AGAINST UNTIMELY CORROSION OF HOT AND COLD WATER FITTINGS, IT IS STRONGLY RECOMMENDED THAT DIELECTRIC UNIONS OR COUPLING BE INSTALLED ON THIS WATER HEATER WHEN CONNECTED TO COPPER PIPE.

REPAIR PARTS

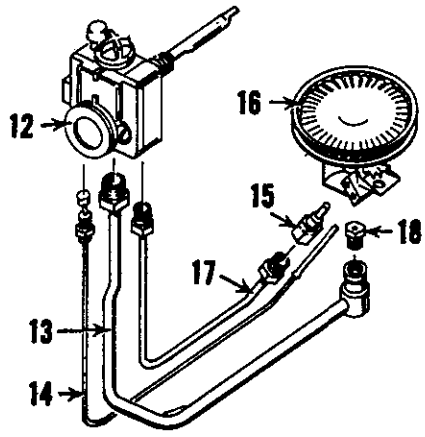
The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248, Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) Model and serial number, (3) Type of gas, (4) Item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685.

PARTS ILLUSTRATION



BURNER AND CONTROL GROUP



DO NOT ORDER BY ITEM NO. ONLY.

ITEM NO.	PART DESCRIPTION
1	Draft Hood 4"
2	Dip Tube
3	Jacket Top
4	Jacket *
5	Drain
6	Base Assembly
7	Outer Door
8	Inner Door
9	Rating & Inst. Plate †
10	Magnesium Anode
11	Flue Baffle
12 A	Thermostat Nat. gas*
12 B	Thermostat L.P. gas*
13	Manifold
14	Thermocouple
15	Pilot Orifice
16	Burner
17	Pilot Tube & Fittings
18	Orifice Spud
CLGP 768	Instructions Sheet

† Replaced only upon return of damaged plate

*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 4.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordingly.

REPAIR PART PRICES

The following parts may be ordered through your nearest Crane Supply Company branch office, or directly from: Dept. CSW, Box 248, Ashland City, Tennessee 37015.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) Model and serial number, (3) Type of gas, (4) Item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685.

DO NOT ORDER BY ITEM NUMBER ONLY.

ITEM NO.	PART PRICE		PART DESCRIPTION
	50 Gal.	75 Gal.	
1	3.75	3.75	Draft Hood 4"
2	2.25	2.25	Dip Tube
3	7.50	9.00	Jacket Top
4	48.00	52.50	Jacket*
5	3.00	3.00	Drain
6	10.50	12.50	Base Assembly
7	1.50	1.50	Outer Door
8	1.50	1.50	Inner Door
9	.60	.60	Rating & Inst. Plate †
10	7.50	7.50	Magnesium Anode
11	3.00	3.00	Flue Baffle
12 A	38.50	38.50	Thermostat Nat. gas*
12 B	38.50	38.50	Thermostat L.P. gas*
#	1.50	1.50	Thermostat Cover
13	2.25	2.25	Manifold
14	3.45	3.45	Thermocouple
15	.60	.60	Pilot Orifice
16	4.50	4.50	Burner
17	1.50	1.50	Pilot Tube & Fittings
18	.60	.60	Orifice Spud
	← CLGP 768 →		Instructions Sheet

† Replaced only upon return of damaged plate
* Not mailable
# Not illustrated

*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 4.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordingly.

If further information is required, it will be furnished from Crane Supply Company, Dept. CSW, Box 248, Ashland City, Tennessee 37015.

TERMS: NET CASH PRICES F.O.B. FACTORY

029076 B
C 72

CRANE01330

INSTALLATION RECORD

MODEL NO. _____

SERIAL NO. _____

INSTALLED BY: _____

INSTALLATION DATE: _____

INSTALLATION

WARNING: Do not install water heater in a small enclosure unless amply ventilated. A minimum of 1 sq. in. of ventilation per each 1000 BTU input must be provided near the top and bottom of enclosure. Water heater must be vented to proper flue. Check to determine whether the proper type of gas for your water heater has been furnished.

Local Codes

The installation of the water heater must be in accordance with these instructions and all applicable local codes and gas utility requirements.

Safety

This heater is approved and equipped with an automatic gas shutoff system actuated by high water temperature. A listed temperature and pressure relief valve shall be installed at the time of installation of the heater. Local codes shall govern the installation of relief devices.

The pressure setting of the relief valve should not exceed the working pressure shown on the heater.

Failure to install a properly rated ASME ——A.G.A. design certified temperature and pressure relief valve will release the manufacturer from any claim which might result from excessive temperatures or water pressures.

LOCATION

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

Locate the heater so that the vent (flue) will be as short as possible. On long horizontal runs use at least ¼" rise per foot of length.

In accordance with National Standards this heater must be installed with the draft diverter in place. Diameter of flue pipe must match the diameter of the draft diverter outlet. Connect ¾" water lines. Cold water inlet connects to right hand opening at the top of heater (facing heater), and hot water outlet connects to left hand opening, per illustration back of page. Fill tank with water. A hot water faucet in the house should be open to release entrapped air. Connect ½" gas line to thermostat with manual shutoff valve, drip leg, and a metal to metal type union. Use a pipe joint compound that is resistant to the action of liquified petroleum (LP) gases.

OPERATION

Whenever the heater is filled with cold water there will usually be a certain amount of condensation formed while the burner is "ON". Moisture from the products of combustion condenses on the cooler tank surfaces and forms drops of water which may fall onto the burner or other hot surfaces to produce a "sizzling" or "frying" noise. Condensation ceases when the tank becomes heated and the burner shuts off. Condensation is normal and does not indicate a tank leak.

LIGHTING

Lighting and operating instructions are located at the front of the heater, below the thermostat.

HIGH TEMPERATURE LIMIT SWITCH (Energy Cutoff)

All models have a nonadjustable limit switch built into the thermostat that guards against excessive water temperatures.

If the high limit switch functions, it shuts off the entire gas supply to heater. The pilot cannot be relit until the tank temperature drops to approximately 120° F.

Functions of the high limit switch may indicate a malfunction of the thermostat. Contact your serviceman or local utility immediately.

DRAINING

If the heater is to be shut off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater. To drain heater for this and other reasons:

1. Turn off the gas and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.
3. The drain valve must be left open during the shutdown period.

TEMPERATURE REGULATION

The water heater is equipped with an automatic temperature control.

The water temperature dial is factory set for WARM water temperatures and may be adjusted as desired.

The water temperatures produced in the tank for each setting are about:

140° – – WARM
150° – – CENTER DOT
160° – – HOT

For general household usage, the WARM or CENTER DOT setting will be satisfactory. However, the knob may be set to any position which satisfied temperature requirements.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATION INSTRUCTIONS

Cleaning Tank

To assure long life and efficiency, the water heater tank must have a small amount of water drained periodically.

Once a month the drain valve should be opened and the water allowed to run until it flows clean. This will help to prevent sediment buildup in the tank bottom.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

WATER HEATER MAKES SOUNDS

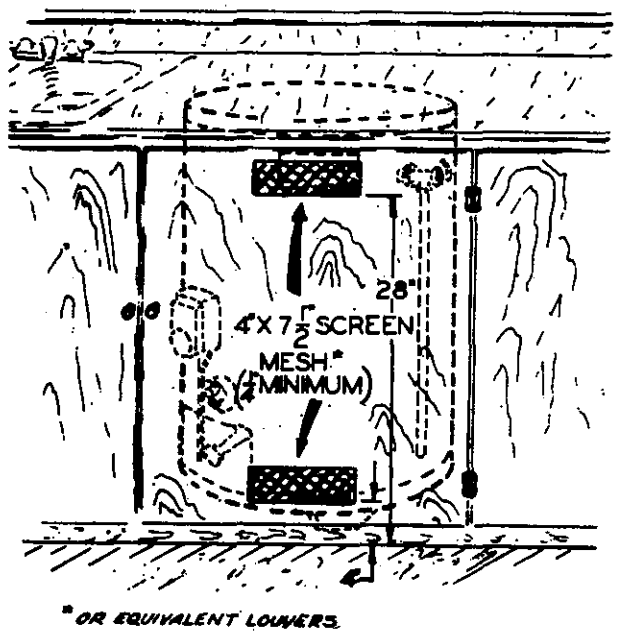
1. Occasional excessive condensation can cause a sizzling sound as the moisture is vaporized by the gas flame. This is a normal sound and may be disregarded.
2. A sediment accumulation may be causing a rumbling noise.
3. If you cannot identify or remedy the condition, call your installer or qualified service man.

TYPICAL INSTALLATIONS

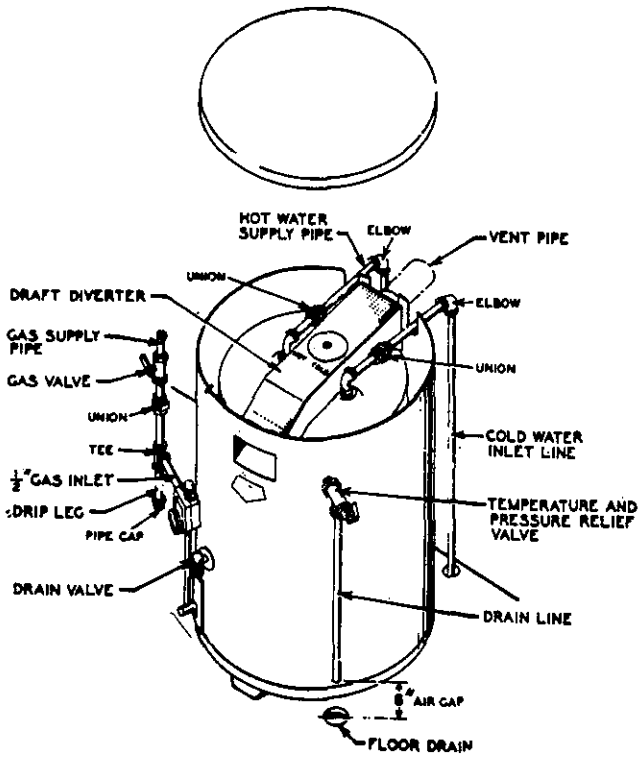
CHECK ALL CONNECTIONS, GAS AND WATER, FOR LEAKS. Check completed gas lines with a soapy water solution or other non-flamable leak detection fluid. The use of matches, candles, or other open flame may cause an extreme fire hazard. Consult YOUR LOCAL UTILITY COMPANY to EXAMINE INSTALLATION FOR PROPRIETY AND SAFETY.

PIPE SIZES

HOT & COLD WATER ¾" IPS
GAS ½" IPS
FLUE 3" DIA.



* OR EQUIVALENT LOUVERS



TO PROTECT AGAINST UNTIMELY CORROSION OF HOT AND COLD WATER FITTINGS, IT IS STRONGLY RECOMMENDED THAT DIELECTRIC UNIONS OR COUPLING BE INSTALLED ON THIS WATER HEATER WHEN CONNECTED TO COPPER PIPE.

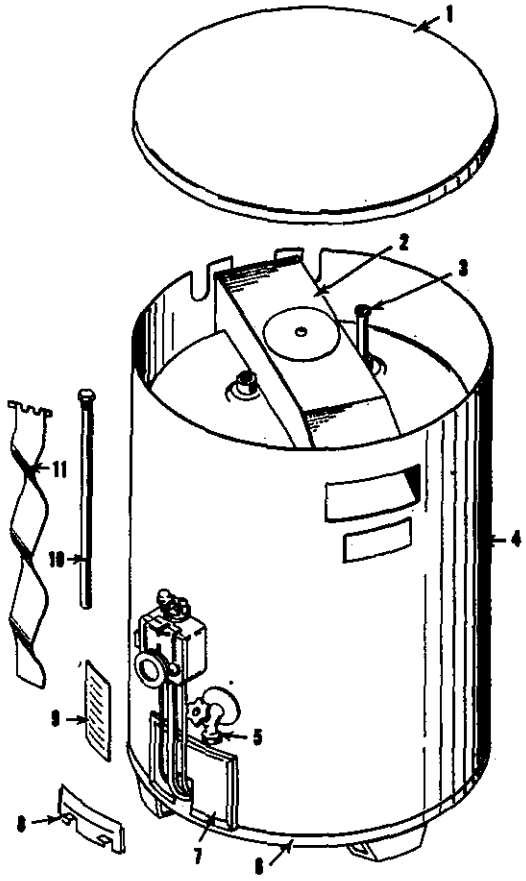
CRANE01332

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from the factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) Model and serial number, (3) Type of gas, (4) Item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685.

DO NOT ORDER BY ITEM NUMBER ONLY

PARTS ILLUSTRATION

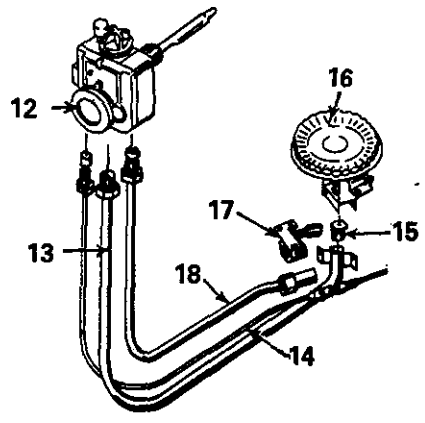


ITEM NO.	PARTS DESCRIPTION
1	Jacket Top
2	Draft Hood
3	Dip Tube
4	Jacket
5	Drain
6	Base Assembly
7	Outer Door
8	Inner Door
9	Rating & Inst. Plate †
10	Magnesium Anode
11	Flue Baffle
12 A	Thermostat Nat gas*
12 B	Thermostat L.P. gas*
13	Manifold
14	Thermocouple
15	Orifice
16	Burner
17	Pilot
18	Pilot Tube w/fitting
UGP 870	Instruction Sheet

† Replaced only upon return of damaged plate.

*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 4.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordinly.

BURNER AND CONTROL GROUP



REPAIR PARTS

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from the factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) Model and serial number, (3) Type of gas, (4) Item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685.

DO NOT ORDER BY ITEM NUMBER ONLY.

ITEM NO.	30 GAL.	40 GAL.	PART DESCRIPTION
1	9.00	9.00	Jacket Top
2	13.35	13.35	Draft Hood
3	2.25	2.25	Dip Tube
4	33.00	33.00	Jacket
5	4.50	4.50	Drain
6	12.50	12.50	Base Assembly
7	1.50	1.50	Outer Door
8	1.50	1.50	Inner Door
9	1.05	1.05	Rating & Inst. Plate †
10	7.50	7.50	Magnesium Anode
11	3.00	3.00	Flue Baffle
12 A	51.60	51.60	Thermostat Nat. gas*
12 B	51.60	51.60	Thermostat L.P. gas*
13	2.55	2.55	Manifold
14	5.70	5.70	Thermocouple
15	.90	.90	Orifice
16	5.70	5.70	Burner
17	4.35	4.35	Pilot
18	1.80	1.80	Pilot Tube w/fitting
	← UGP 870 →		Instruction Sheet

† **Replaced only upon return of damaged plate.**

*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 4.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordingly.

If Further Information is Required, It Will Be Furnished Direct From The Factory

TERMS: Net Cash Prices F.O.B. Factory

INSTALLATION AND OPERATING INSTRUCTIONS

REPAIR PARTS

GLASSLINED GAS

MOBILE HOME WATER HEATER SCP 573

INSTALLATION RECORD

MODEL NUMBER_____

SERIAL NUMBER_____

INSTALLED BY: _____

INSTALLATION DATE: _____

ANY INSTALLATION OTHER THAN SHOWN WILL VOID UL LISTING

Local Codes

The installation of the water heater must be in accordance with these instructions and all applicable local codes and gas utility requirements.

Safety

This heater is approved and equipped with an automatic gas shutoff system actuated by high water temperature. A listed temperature and pressure relief valve shall be installed at the time of installation of the heater. Local codes shall govern the installation of relief devices.

The pressure setting of the relief valve should not exceed the working pressure shown on the heater.

Failure to install a properly rated ASME – A.G.A. design certified temperature and pressure relief valve will release the manufacturer from any claim which might result from excessive temperatures or water pressures.

The thermostat of this heater is equipped with bleed tubing which will divert to the burner any gas attempting to escape the control body in the event of a malfunction of the pressure regulating diaphragm. Do not move or crimp this bleed line.

LOCATION

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

The axis of roof jack assembly heater, and lower flue pan assembly must be common.

This heater has been designed and approved as a sealed combustion unit and no draft diverter is to be used.

Connect ¾" water lines. Cold water inlet connects to right hand opening at the top of heater (facing heater), and hot water outlet connects to left hand opening, per illustration back of page. Fill tank with water. A hot water faucet in the house should be open to release entrapped air. Connect ½" gas line to thermostat with manual shutoff valve, drip leg, and a metal to metal type union. Use a pipe joint compound that is resistant to the action of liquified petroleum (LP) gases.

OPERATION

Whenever the heater is filled with cold water there will usually be a certain amount of condensation formed while the burner is "ON". Moisture from the products of combustion condenses on the cooler tank surfaces and forms drops of water which may fall onto the burner or other hot surfaces to produce a "sizzling" or "frying" noise. Condensation ceases when the tank becomes heated and the burner shuts off. Condensation is normal and does not indicate a tank leak.

Gas Conversion

Before Lighting heater, read instructions located on the front of the gas control, to make sure heater will be operating on proper gas.

LIGHTING

Lighting and operating instructions are located at the front of the heater, below the thermostat.

HIGH TEMPERATURE LIMIT SWITCH (Energy Cutoff)

All models have a nonadjustable limit switch built into the thermostat that guards against excessive water temperatures.

If the high limit switch functions, it shuts off the entire gas supply to heater. The pilot cannot be relit until the tank temperature drops to approximately 120° F.

Functions of the high limit switch may indicate a malfunction of the thermostat. Contact your serviceman or local utility immediately.

DRAINING

If the heater is to be shut off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater. To drain heater for this and other reasons:

1. Turn off the gas and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.
3. The drain valve must be left open during the shutdown period.

TEMPERATURE REGULATION

The water heater is equipped with an automatic temperature control.

The water temperature dial is factory set for WARM water temperatures and may be adjusted as desired.

The water temperatures produced in the tank for each setting are about:

140° – – WARM

150° – – CENTER DOT

160° – – HOT

For general household usage, the WARM or CENTER DOT setting will be satisfactory. However, the knob may be set to any position which satisfied temperature requirements.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATION INSTRUCTIONS.

Cleaning Tank

To assure long life and efficiency, the water heater tank must have a small amount of water drained periodically.

Once a month the drain valve should be opened and the water allowed to run until it flows clean. This will help to prevent sediment buildup in the tank bottom.

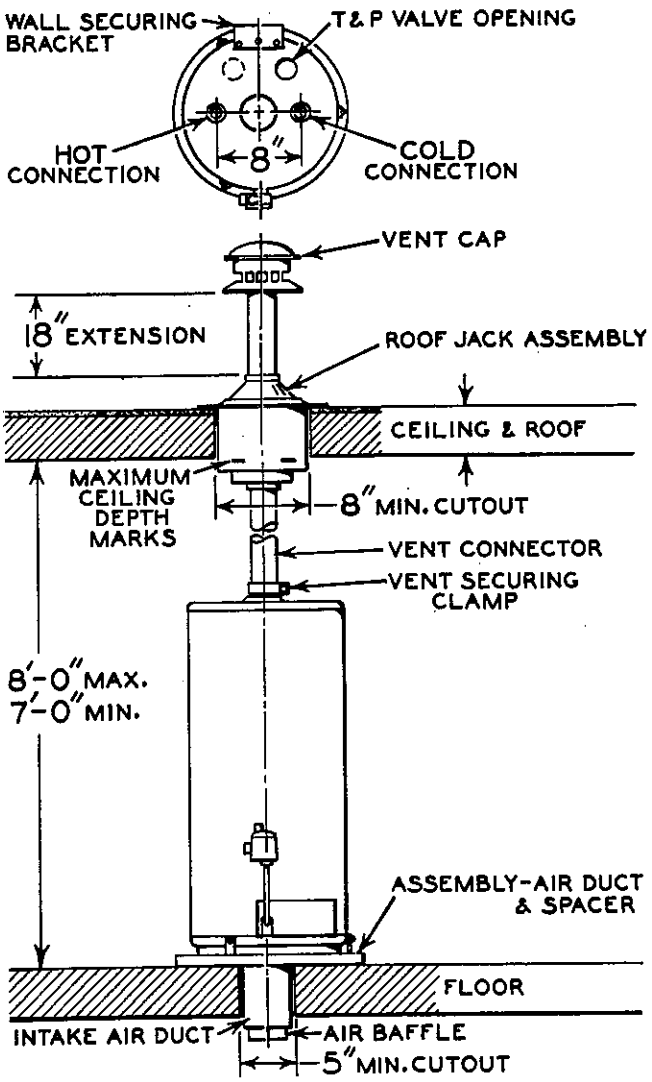
THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

WATER HEATER MAKES SOUNDS

1. Occasional excessive condensation can cause a sizzling sound as the moisture is vaporized by the gas flame. This is a normal sound and may be disregarded.
2. A sediment accumulation may be causing a rumbling noise.
3. If you cannot identify or remedy the condition, call your installer or qualified service man.

TYPICAL INSTALLATIONS

CHECK ALL CONNECTIONS, GAS AND WATER, FOR LEAKS. Check completed gas lines with a soapy water solution or other non-flamable leak detection fluid. The use of matches, candles, or other open flame may cause an extreme fire hazard. Consult YOUR LOCAL UTILITY COMPANY to EXAMINE INSTALLATION FOR PROPRIETY AND SAFETY.



When mobile home is skirted, an air intake opening with a minimum free area of 37.0 square inches must be provided in skirt.

If opening is covered by louvers or screen, total free area must be 37 square inches.

This Mobile Home Direct Vented water heater is to be installed as indicated in sketch at left.

Heater is to have 2 inch minimum clearance at side and back walls. Clearance is to be maintained by abutting walls to the side of lower spacer pan in which the heater rests (see diagram). If heater is to be enclosed, a 3½ inch clearance is required for control.

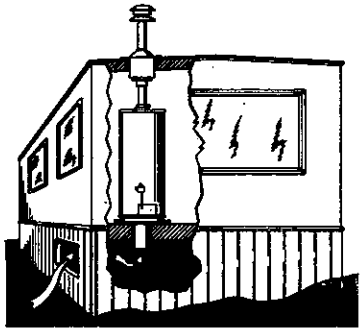
Combustion air must be supplied from outside mobile home by way of the furnished 5 inch diameter air intake duct assembly. A 5¼ inch diameter floor opening, centered below heater, is required to accommodate air intake duct assembly. Weight of heater on asbestos seals heater to air intake duct assembly.

Interior ceiling heights may vary from 84 to 96 inches, utilizing the adjustable vent connector. Locate vent securing clamp on tank flue over pre-drilled hole in top, and secure with sheet metal screw.

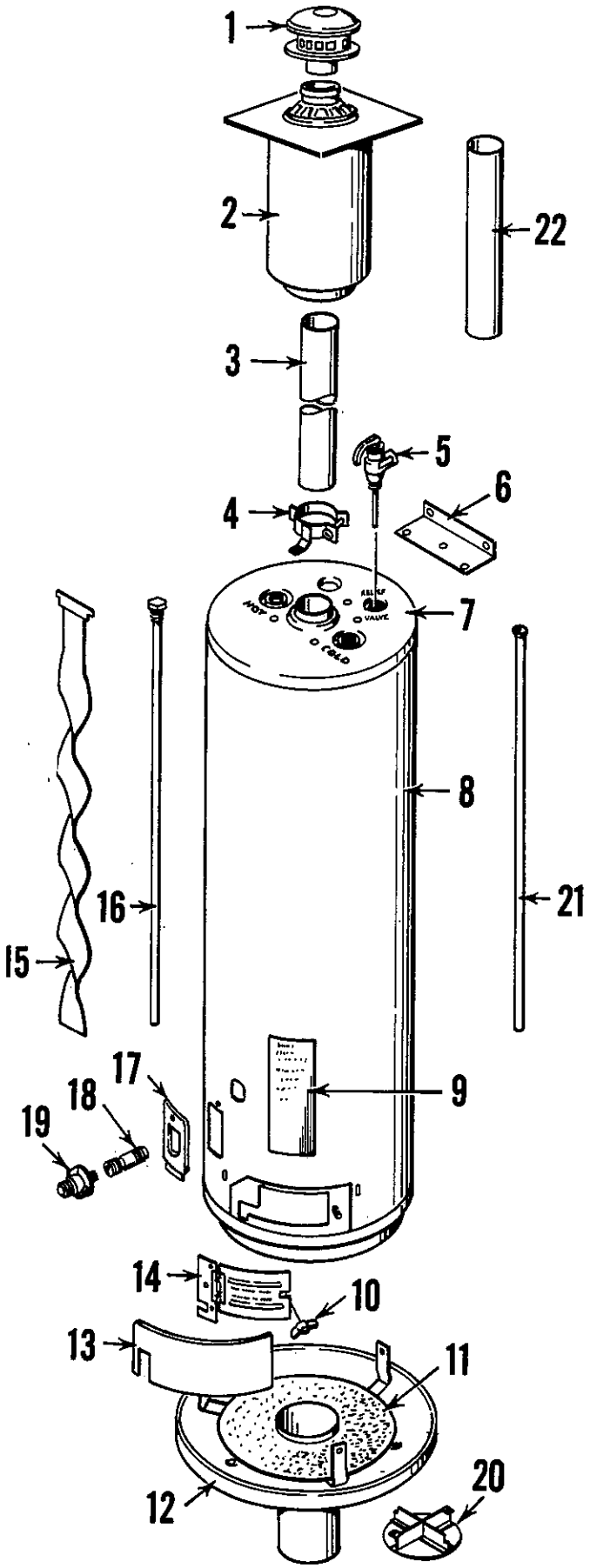
Roof jack assembly, with vent connector inserted, is to be installed in an 8¼ inch diameter opening in roof and sealed to roof, preventing wind and water leakage. Push vent cap on roof jack assembly until snapped into place.

Insert vent connector in securing clamp and over flue pipe: tighten nut and bolt of clamp until vent connector is tight in clamp.

Lighting and operating instructions are permanently attached to jacket near the thermostat for your convenience. A cloth bag containing orifices necessary for converting heater from one gas to another is also attached to heater.



TO PROTECT AGAINST UNTIMELY CORROSION OF HOT AND COLD WATER FITTING, IT IS STRONGLY RECOMMENDED THAT DIELECTRIC UNIONS OR COUPLING BE INSTALLED ON THIS WATER HEATER WHEN CONNECTED TO COPPER PIPE.



The following parts may be ordered through your Mobile Home Service Agency. Parts will be shipped at prevailing prices and you will be billed accordingly.

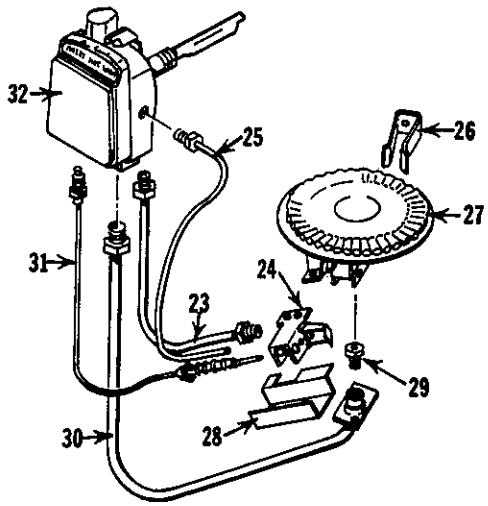
WHEN ORDERING REPAIR PARTS always give the following information: (1) Model and Serial Number, (2) Type of gas. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print.
EXAMPLE: G68-7685

DO NOT ORDER BY ITEM NUMBER ONLY

REPAIR PARTS PRICES

PART NO.	DESCRIPTION	PRICE
1	Vent Cap	8.70
2	Double Wall Roof Jack	21.45
3	30" Flue Assembly	3.30
4	Flue Collar Assembly	1.65
5	Temperature & Pressure Relief Valve	10.95
6	Mounting Brackets (2)	5.90
7	Jacket Top	3.90
8	Jacket	17.85
9	Model & Rating Plate †	1.35
10	Securing Wing Nut	.90
11	Floor Pan Asbestos Gasket	1.95
12	Floor Pan Assembly	8.85
13	Outer Door	4.80
14	Inner Door	3.00
15	Flue Baffle	2.25
16	Anode Rod	9.00
17	Drain Patch	1.05
18	Drain Cock Nipple (2")	3.00
19	Drain Cock (Plastic)	3.00
20	Air Baffle	2.85
21	Dip Tube	2.70
22	18" Vent Cap Extension	7.65
23	Pilot Tubing w/Fittings	1.20
24	Pilot Assembly *	4.50
25	Bleed Tubing w/Fittings	2.25
26	Air Shutter	1.35
27	Burner Assembly	5.70
28	Pilot Shield	1.05
29	Burner Orifice *	.90
30	Manifold (Gas)	2.85
31	Thermocouple	5.55
32	Control (Gas)	58.20

† Can only be replaced upon return of tag damaged plate.
* Indicate type gas when ordering.



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INSTALLATION AND OPERATING INSTRUCTIONS

REPAIR PARTS

GLASSLINED GAS

TABLE TOP WATER HEATERS TGP 870

INSTALLATION RECORD

MODEL NO. _____

SERIAL NO. _____

INSTALLED BY: _____

INSTALLATION DATE: _____

INSTALLATION

WARNING: Do not install water heater in a small enclosure unless amply ventilated. A minimum of 1 sq. in. of ventilation per each 1000 BTU input must be provided near the top and bottom of enclosure. Water heater must be vented to proper flue. Check to determine whether the proper type of gas for your water heater has been furnished.

Local Codes

The installation of the water heater must be in accordance with these instructions and all applicable local codes and gas utility requirements.

Safety

This heater is approved and equipped with an automatic gas shutoff system actuated by high water temperature. A listed temperature and pressure relief valve shall be installed at the time of installation of the heater. Local codes shall govern the installation of relief devices.

The pressure setting of the relief valve should not exceed the working pressure shown on the heater.

Failure to install a properly rated ASME —— A.G.A. design certified temperature and pressure relief valve will release the manufacturer from any claim which might result from excessive temperatures or water pressures.

LOCATION

Installation of the water heater must be accomplished in such a manner that if the tank or any connections should leak, the resulting flow of water shall not cause damage to the area adjoining the water heater installation. Under no circumstances is the manufacturer to be held liable for any water damage in connection with this water heater.

Locate the heater so that the vent (flue) will be as short as possible. On long horizontal runs use at least ¼" rise per foot of length.

In accordance with National Standards this heater must be installed with the draft diverter in place. Diameter of flue pipe must match the diameter of the draft diverter outlet. Connect ¾" water lines. Cold water inlet connects to right hand opening at the top of heater (facing heater), and hot water outlet connects to left hand opening, per illustration back of page. Fill tank with water. A hot water faucet in the house should be open to release entrapped air. Connect ½" gas line to thermostat with manual shutoff valve, drip leg, and a metal to metal type union. Use a pipe joint compound that is resistant to the action of liquified petroleum (LP) gases.

OPERATION

Whenever the heater is filled with cold water there will usually be a certain amount of condensation formed while the burner is "ON". Moisture from the products of combustion condenses on the cooler tank surfaces and forms drops of water which may fall onto the burner or other hot surfaces to produce a "sizzling" or "frying" noise. Condensation ceases when the tank becomes heated and the burner shuts off. Condensation is normal and does not indicate a tank leak.

LIGHTING

Lighting and operating instructions are located at the front of the heater, below the thermostat.

HIGH TEMPERATURE LIMIT SWITCH (Energy Cutoff)

All models have a nonadjustable limit switch built into the thermostat that guards against excessive water temperatures.

If the high limit switch functions, it shuts off the entire gas supply to heater. The pilot cannot be relit until the tank temperature drops to approximately 120° F.

Functions of the high limit switch may indicate a malfunction of the thermostat. Contact your serviceman or local utility immediately.

DRAINING

If the heater is to be shut off and exposed to freezing temperatures, it must be drained. Water, if left in the tank and allowed to freeze, will expand and damage the heater. To drain heater for this and other reasons:

1. Turn off the gas and cold water supply to the water heater.
2. Open a nearby hot water faucet and the heater drain valve.
3. The drain valve must be left open during the shutdown period.

TEMPERATURE REGULATION

The water heater is equipped with an automatic temperature control.

The water temperature dial is factory set for WARM water temperatures and may be adjusted as desired.

The water temperatures produced in the tank for each setting are about:

140° — — WARM
150° — — CENTER DOT
160° — — HOT

For general household usage, the WARM or CENTER DOT setting will be satisfactory. However, the knob may be set to any position which satisfied temperature requirements.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATION INSTRUCTIONS

CRANE01339

Cleaning Tank

To assure long life and efficiency, the water heater tank must have a small amount of water drained periodically.

Once a month the drain valve should be opened and the water allowed to run until it flows clean. This will help to prevent sediment buildup in the tank bottom.

THE MANUFACTURER OF THIS WATER HEATER WILL NOT BE LIABLE FOR ANY DAMAGE DUE TO FAILURE TO FOLLOW THESE INSTALLATION AND OPERATING INSTRUCTIONS.

WATER HEATER MAKES SOUNDS

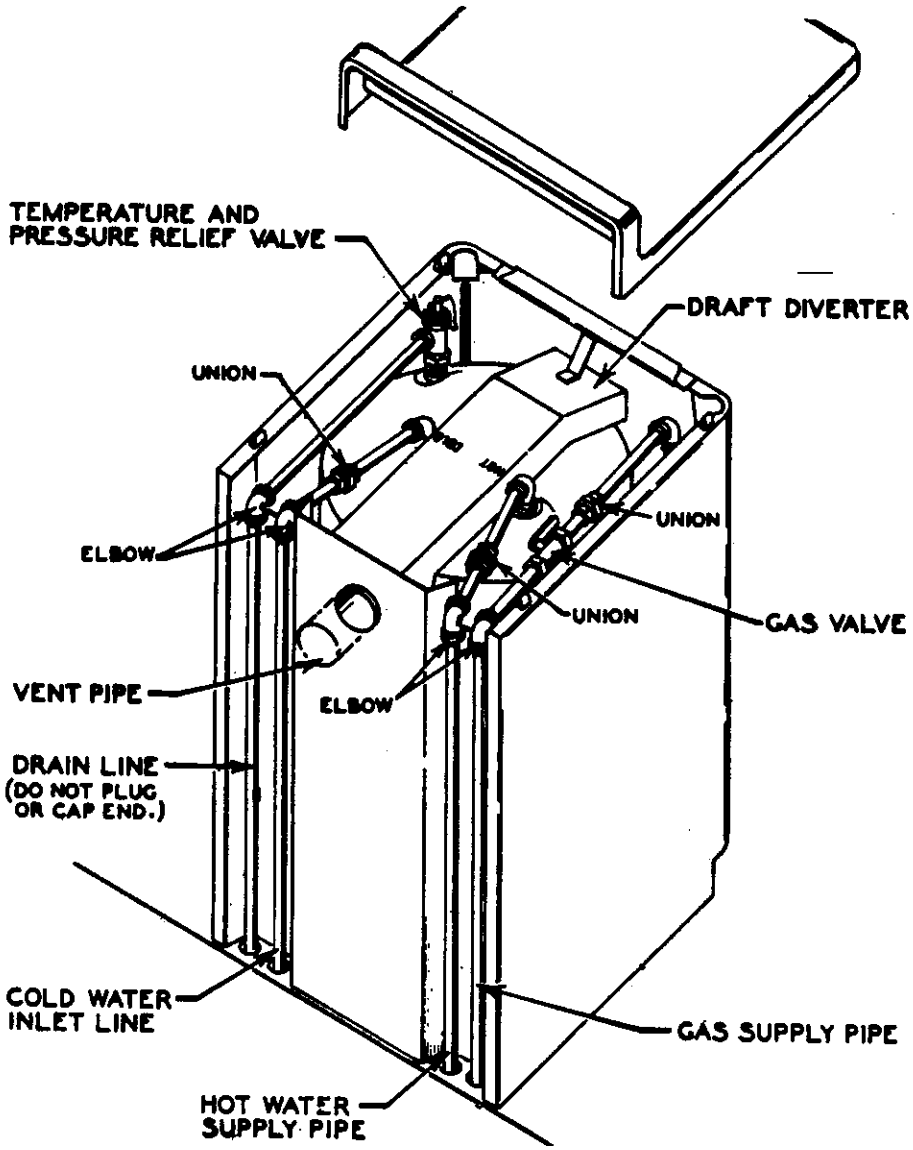
1. Occasional excessive condensation can cause a sizzling sound as the moisture is vaporized by the gas flame. This is a normal sound and may be disregarded.
2. A sediment accumulation may be causing a rumblir noise.
3. If you cannot identify or remedy the condition, call your installer or qualified service man.

TYPICAL INSTALLATIONS

CHECK ALL CONNECTIONS, GAS AND WATER, FOR LEAKS. Check completed gas lines with a soapy water solution or other non-flamable leak detection fluid. The use of matches, candles, or other open flame may cause an extreme fire hazard. Consult YOUR LOCAL UTILITY COMPANY to EXAMINE INSTALLATION FOR PROPRIETY AND SAFETY.

PIPE SIZES

HOT & COLD WATER ¾" IPS
GAS ½" IPS
FLUE 3" DIA.



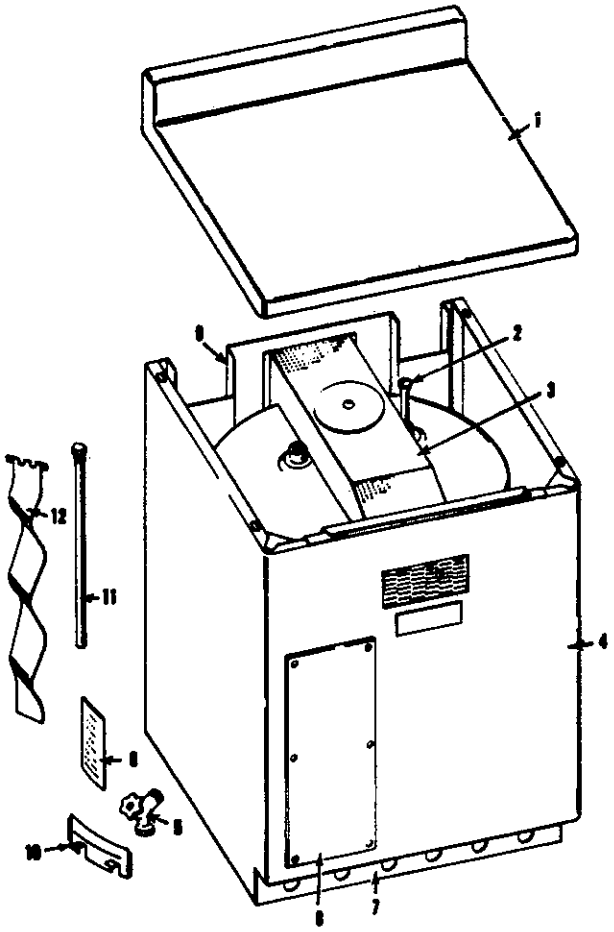
TO PROTECT AGAINST UNTIMELY CORROSION OF HOT AND COLD WATER FITTINGS, IT IS STRONGLY RECOMMENDED THAT DIELECTRIC UNIONS OR COUPLING BE INSTALLED ON THIS WATER HEATER WHEN CONNECTED TO COPPER PIPE.

REPAIR PARTS

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from the factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) Model and serial number, (3) Type of gas, (4) Item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685.

PARTS ILLUSTRATION

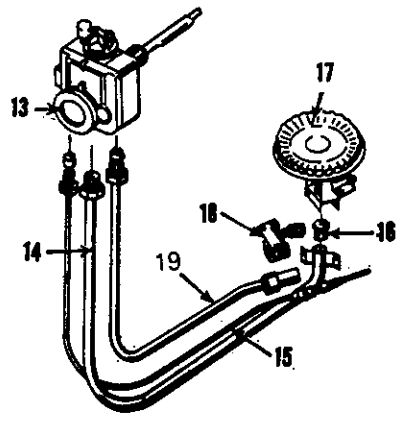


DO NOT ORDER BY ITEM NUMBER ONLY

ITEM NO.	PARTS DESCRIPTION
1	Porcelain Table Top
2	Dip Tube
3	Draft Hood
4	Cabinet Assembly
5	Drain
6	Rating & Inst. Plate †
7	Toe Panel
8	Front Panel
9	Inner Door
10	Extreme Back
11	Magnesium Anode
12	Flue Baffle
13 A	Thermostat Nat. gas*
13 B	Thermostat L.P. gas*
14	Manifold
15	Thermocouple
16	Orifice
17	Burner
18	Pilot
19	Pilot Tube w/fittings
TGP 870	Instruction Sheet

† Replaced only upon return of damaged plate

BURNER AND CONTROL GROUP



*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 4.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordingly.

REPAIR PARTS PRICES

The following parts may be ordered through your plumber, a local plumbing supply co., or direct from the factory. Parts will be shipped at prevailing prices and you will be billed accordingly.

WHEN ORDERING REPAIR PARTS always give the following information: (1) Part description, (2) Model and serial number, (3) Type of gas, (4) Item number. Please give the complete serial number, consisting of a capital letter and two numbers, followed by a four digit number in BOLD print. EXAMPLE: G68 7685.

DO NOT ORDER BY ITEM NUMBER ONLY.

ITEM NO.	30 GAL. 24" Table Top	PARTS DESCRIPTION
1	30.00	Porcelain Table Top
2	2.25	Dip Tube
3	21.60	Draft Hood
4	52.80	Cabinet Assembly
5	4.50	Drain
6	1.05	Rating & Inst. Plate †
7	2.55	Toe Panel
8	5.40	Front Panel
9	1.50	Inner Door
10	11.40	Extreme Back
11	7.50	Magnesium Anode
12	3.00	Flue Baffle
13 A	53.70	Thermostat Nat. gas*
13 B	53.70	Thermostat L.P. gas*
14	2.55	Manifold
15	5.70	Thermocouple
16	.90	Orifice
17	5.70	Burner
18	4.35	Pilot
19	1.80	Pilot Tube w/fittings
	←——TGP 870——→	Instruction Sheet

† **Replaced only upon return of damaged plate.**

*It is imperative that replacement thermostats be ordered for the proper gas. Natural, Manufactured, and Mixed gases will be marked with 4.5" w.c. pressure setting. L.P. gas will be marked with 11.0" w.c. pressure setting. Please order accordingly.

If Further Information Is Required, It Will Be Furnished Direct From The Factory.

TERMS:. Net Cash Prices F. O. B. Factory

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CRANE®

FOUNDED BY R. T. CRANE 1855

CRANE CO.

CRANE BUILDING
836 S. MICHIGAN AVE.

CHICAGO

1928

OFFICERS OF CRANE CO.

R. T. Crane, Jr.	*President*
J. B. Berryman	*First Vice President*
C. A. G. Wayman	*Vice President, Manufacturing Department*
A. F. Gartz, Jr.	*Assistant Vice President, Manufacturing Department*
G. H. Periolat	*Assistant Vice President, Manufacturing Department*
W. J. Clark	*Vice President, Real Property*
P. T. Kelly	*Vice President, Finance Department*
C. D. Little	*Vice President, Sales Department*
H. W. Seymour	*Vice President, Sales Department*
C. R. Crane II	*Assistant Vice President, Sales Department*
R. B. Stiles	*Vice President, Branch House Department*
D. G. Park	*Vice President, Purchasing Department*
L. B. Peeples	*Vice President*
W. Evensen	*Treasurer*
J. H. Steiner	*Assistant Treasurer*
R. O. Samuelson	*Assistant Treasurer*
H. P. Bishop	*Secretary*
J. S. Bell	*Assistant Secretary*
J. K. Prentice	*Assistant Secretary*

DIRECTORS OF CRANE CO.

YEARS OF SERVICE INDICATED

J. B. Berryman, 42	R. T. Crane, Jr., 32	J. A. Murphy, 43
W. J. Clark, 16	A. F. Gartz, Jr., 13	D. G. Park, 39
J. H. Collier, 25	V. E. Flodin, 26	H. W. Seymour, 23
C. R. Crane II, 20	P. T. Kelly, 37	R. B. Stiles, 37
H. P. Crane	C. D. Little, 34	C. A. G. Wayman, 46

AVERAGE YEARS OF SERVICE, 31

TO THE STOCKHOLDERS OF CRANE CO.

The Consolidated Balance Sheet of the Crane Companies—Crane Co., Crane, Limited, of Canada, Crane Export Corporation, Crane Enamelware Co., and the Trenton Potteries Co., for the year ending December 31, 1928, is presented herewith.

The assets and liabilities of Crane Co. of Minnesota, Crane-O'Fallon Co. of Colorado, Scioto Valley Supply Co., and Landon Radiator Co., are not included, but our investment is shown under the heading "Investments in other Companies."

Other subsidiary corporations, Crane-Bennett, Ltd., London, England, Canadian Potteries, Ltd., of St. John's, Que., and Warden King, Ltd., of Montreal, Que., are controlled by Crane, Limited, and Compagnie Crane of France is controlled by the Crane Export Corporation. Their assets and liabilities have been consolidated in our general balance sheet.

During the past year we sold about the same amount of merchandise, rated in dollars, as in 1927, but the tonnage handled was much greater, as some of our important lines sold at a lower price. The net earnings were greater and after paying 6% on the Common Stock and 7% on the Preferred, we were able to add $2,610,861 to the surplus account, which now stands at $20,443,276, showing a book value for the Common Stock of $33.71 per share, as compared with $32.59 in 1927.

The Company has been rapidly expanding its manufacturing and distributing facilities, which has had an effect upon our liquid assets, but our financial condition continues to be satisfactory. The current assets (Cash, Government Securities, Accounts Receivable and Inventories) exceed the current and accrued liabilities by $43,706,137, a ratio of 6⅙ to 1, as compared with a ratio of 6¾ to 1 in 1926, and 7½ to 1 in 1927. We have no bonded indebtedness, nor liabilities to banks for borrowed money.

EXPANSION

To care for our present and future needs, here and abroad, we expended, in 1928, the following sums:

Land	$ 786,000
Buildings	1,146,000
Equipment and Machinery	2,506,000
New Branches and Plants	2,679,000
	$7,117,000

This amount was invested as follows: $6,061,000 in the United States; $477,000 in Canada; $125,000 in England; $308,000 in France, and $146,000 in Cuba.

New Branches, or Warehouses, were opened at the following points:

Cleveland, Ohio	Beaumont, Texas
Columbus, Ohio	Cicero, Ill.
Canton, Ohio	Grand Island, Neb.
Dallas, Texas	Saskatoon, Sask.
Macon, Ga.	Edmonton, Alta.
Greensboro, N. C.	Sherbrooke, Que.
Joliet, Ill.	Windsor, Ont.
Youngstown, Ohio	Havana, Cuba

As your Directors considered it advisable to round out our manufacturing lines by adding cast iron heating boilers and radiators, we purchased a large interest in the Landon Radiator Corporation of North Tonawanda, N. Y., now in production, and we are now getting ready to manufacture the full line in Chicago and Bridgeport, as the Landon plant has not sufficient capacity for our requirements.

MANUFACTURING

We continued during the year our policy of adding to our plants new machinery and equipment, to keep them up to date. The manufacturing division does not hesitate to discard machines if production can be increased and costs lowered; consequently, the amount written off has to be liberal. During the year we expended at Chicago for machinery and equipment, $1,422,000, and wrote off $912,000 for depreciation.

At Chicago we erected a new "Engineering Building," 80 x 500, two stories and basement, to house the staff of the Product Engineer, the Laboratory, the department for testing and experimenting in metals, the department of thermal research, and the department for testing new product.

At Montreal we remodeled the Warden King radiator plant and replaced old patterns with more modern designs.

At Trenton we added a fourth Tunnel Kiln to the Mutual plant, and it is now in operation.

At Paris, France, good progress has been made on the buildings and equipment for our new manufacturing unit, and operations will begin there during the current year.

The enamelware plant at Chattanooga is operating very successfully and making steady progress.

R. T. CRANE, Jr.
President.

Chicago, Illinois, February 20, 1929.

CRANE CO.

CONSOLIDATED BALANCE SHEET—DECEMBER 31, 1928

ASSETS

CURRENT ASSETS:			
Cash		$ 4,245,190.92	
U. S. Government Securities		4,444,945.25	
Accounts and Notes Receivable	$14,194,644.21		
Less: Reserve for Doubtful Accounts	615,897.88		
		13,578,746.33	
Inventories of Raw Material, Work in Process, Finished Goods and Supplies valued at cost or market, whichever is lower		29,909,238.55	
			$ 52,178,121.05
FIXED ASSETS:			
Land and Land Improvements		$ 8,650,942.15	
Buildings	$33,554,040.65		
Less: Reserve for Depreciation	7,292,759.33		
		26,261,281.32	
Machinery, Equipment, etc.	$31,523,431.20		
Less: Reserve for Depreciation	16,082,309.61		
		15,441,121.59	
			50,353,345.06
INVESTMENTS IN OTHER COMPANIES			3,429,450.13
			$105,960,916.24

LIABILITIES

CURRENT AND ACCRUED LIABILITIES:			
Accounts Payable—Current		$ 6,445,906.41	
Accrued General and Federal Taxes		2,026,077.47	
			$ 8,471,983.88
RESERVE FOR INVENTORY AND CONTINGENCIES			3,110,313.33
MINORITY STOCKHOLDERS' INTEREST IN SUBSIDIARY COMPANIES			277,717.46
CAPITAL STOCK:			
Preferred 7% Cumulative—(Authorized $15,000,000 par value $100 per share)		$14,962,000.00	
Common—(Authorized $75,000,000, par value $25 per share)		58,695,625.00	
			73,657,625.00
SURPLUS, DECEMBER 31, 1928			20,443,276.57
			$105,960,916.24

We have audited the accounts and records of the Crane Co. and have examined the audited reports of its Subsidiary Companies for the year ending December 31, 1928, and certify that, in our opinion, the above Consolidated Balance Sheet is properly drawn up to correctly exhibit the financial position of the Company at December 31, 1928. The accounts of the Foreign Subsidiaries have been converted at the rates of exchange prevailing at December 31, 1928. The inventories of material, merchandise and supplies on hand have been valued at cost or market whichever was lower.

ARTHUR YOUNG & CO.,
Certified Public Accountants.

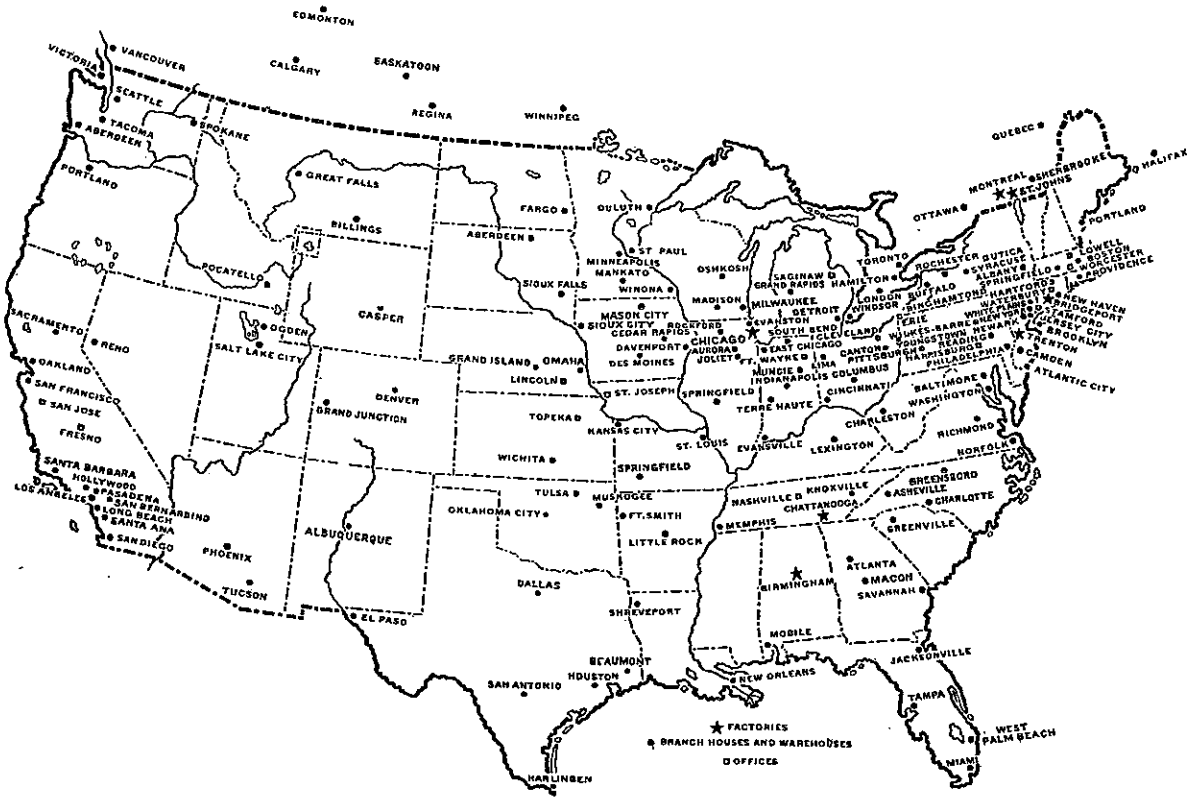
Chicago, Illinois, February 20, 1929.

CRANE CO.
DISTRIBUTION

THE products of our Company are marketed through Wholesale Distributors and our own Branch Houses and Sales Offices.

At the close of 1928 we had stocks of merchandise at 128 points in the United States, 16 in Canada, 1 in France, 1 in Belgium, 2 in Great Britain, 1 in Mexico, 1 in Cuba, and 28 Sales Offices.

SCOPE OF CRANE SERVICE



CRANE CO.
FOUNDED BY R. T. CRANE, 1855

CRANE-BENNETT, LTD.
LONDON, ENG.
BIRMINGHAM, LEEDS, MANCHESTER, ENGLAND
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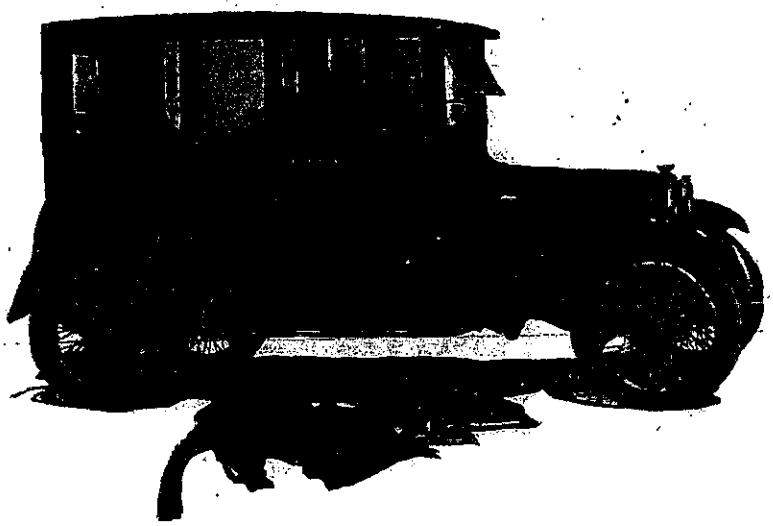

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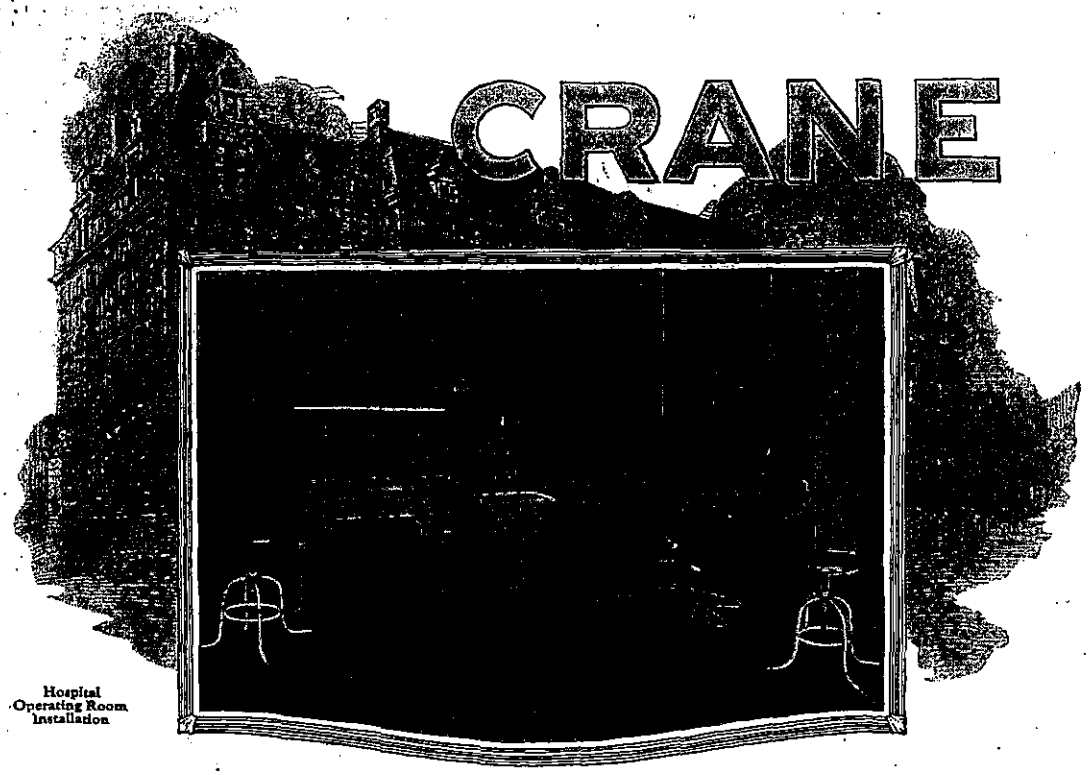

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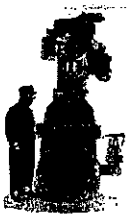

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			D28-150C & D150C CL20-150 & CL150 20 GAL. CAP. 150,000 BTU. INPUT 126 GPH REC'Y	D199C CL199 30 GAL. CAP. 199,990 BTU. INPUT 168 GPH REC'Y	D225C CL225 30 GAL. CAP. 225,000 BTU. INPUT 189 GPH REC'Y	D310C CL310 35 GAL. CAP. 310,000 BTU. INPUT 259 GPH REC'Y		D80-180C CL80-180 80 GAL. CAP. 180,000 BTU. INPUT 151 GPH REC'Y	B85-199C CL85-199 85 GAL. CAP. 189,900 BTU. INPUT 168 GPH REC'Y	D100-199C CL100-199 100 GAL. CAP. 199,900 BTU. INPUT 168 GPH REC'Y	D85-250C CL85-250 85 GAL. CAP. 250,000 BTU. INPUT 210 GPH REC'Y	D100-260W CL100-260W 100 GAL. CAP. 260,000 BTU. INPUT 218 GPH REC'Y	D100-270C CL100-270 100 GAL. CAP. 270,000 BTU. INPUT 227 GPH REC'Y	D75-360C CL75-360 75 GAL. CAP. 360,000 BTU. INPUT 302 GPH REC'Y		D70-500C CL70-500 70 GAL. CAP. 500,000 BTU. INPUT 420 GPH REC'Y			D70-725C CL70-725 65 GAL. CAP. 750,000 BTU. INPUT 628 GPH REC'Y
		570A M-140-73 73 GAL. CAP. 140,000 BTU. INPUT 117 GPH REC'Y					— 80-165A 80 GAL. CAP. 165,000 BTU. INPUT 138 GPH REC'Y	580A M-180-80 80-185A 80 GAL. CAP. 180,000 BTU. INPUT 151 GPH REC'Y	— 80-200A 80 GAL. CAP. 200,000 BTU. INPUT 168 GPH REC'Y	275A OR 280A M-199-100 425-100 100 GAL. CAP. 200,000 BTU. INPUT 168 GPH REC'Y	330A M-230-199 725-100 100 GAL. CAP. 230,000 BTU. INPUT 193 GPH REC'Y	360A M-260-100 825-100 100 GAL. CAP. 260,000 BTU. INPUT 218 GPH REC'Y	M-265-95 — 105 GAL. CAP. 270,000 BTU. INPUT 227 GPH REC'Y	8-400A M-400-75 B-400-75 75 GAL. CAP. 400,000 BTU. INPUT 336 GPH REC'Y		10-500A M-515-80 10-500-80 80 GAL. CAP. 515,000 BTU. INPUT 432 GPH REC'Y			— M-715-75 — 80 GAL. CAP. 720,000 BTU. INPUT 605 GPH REC'Y
30Q 32 GAL. CAP. 5,000 BTU. INPUT 80 GPH REC'Y	50Q 50 GAL. CAP. 110,000 BTU. INPUT 92 GPH REC'Y	75 GR2 75 GAL. CAP. 120,000 BTU. INPUT 101 GPH REC'Y					75G2 76 GAL. CAP. 150,000 BTU. INPUT 126 GPH REC'Y		70G-168 70 GAL. CAP. 200,000 BTU. INPUT 168 GPH REC'Y	100G2 100 GAL. CAP. 200,000 BTU. INPUT 168 GPH REC'Y	124G 60 GAL. CAP. 240,000 BTU. INPUT 202 GPH REC'Y	100G3 100 GAL. CAP. 240,000 BTU. INPUT 202 GPH REC'Y		85G-302 361G 85 GAL. CAP. 360,000 BTU. INPUT 302 GPH REC'Y	130G 100 GAL. CAP. 400,000 BTU. INPUT 336 GPH REC'Y	502G 70 GAL. CAP. 500,000 BTU. INPUT 420 GPH REC'Y	136A 135-GAL. CAP. 530,000 BTU. INPUT 445 GPH REC'Y		
			BW 20-105 20 GAL. CAP. 125,000 BTU. INPUT 105 GPH REC'Y				BW 85-126 85 GAL. CAP. 150,000 BTU. INPUT 126 GPH REC'Y		BW 85-168 85 GAL. CAP. 199,000 BTU. INPUT 167 GPH REC'Y	BW 100-168 100 GAL. CAP. 199,000 BTU. INPUT 167 GPH REC'Y	BW 85-210 85 GAL. CAP. 250,000 BTU. INPUT 210 GPH REC'Y	BW-100-210 100 GAL. CAP. 250,000 BTU. INPUT 210 GPH REC'Y	BW 100-227 100 GAL. CAP. 270,000 BTU. INPUT 227 GPH REC'Y	BW 75-294 75 GAL. CAP. 350,000 BTU. INPUT 294 GPH REC'Y			BW85-450 90 GAL. CAP. 540,000 BTU. INPUT 453 GPH REC'Y		BW75-600 80 GAL. CAP. 720,000 BTU. INPUT 605 GPH REC'Y
		90-100 JSB 100-90 PB-1 85 GAL. CAP. 120,000 BTU. INPUT 100 GPH REC'Y		40-150 JIB 150-40PB 40 GAL. CAP. 160,000 BTU. INPUT 151 GPH REC'Y					85-168 JSB 168-85 PB-1 85 GAL. CAP. 199,990 BTU. INPUT 168 GPH REC'Y	100 PBE-1 100 GAL. CAP. 199,999 BTU. INPUT 168 GPH REC'Y	85-200-JSB 200-85 PB-1 85 GAL. CAP. 240,000 BTU. INPUT 201 GPH REC'Y	100-210 JSB 210-100 PB-2A 100 GAL. CAP. 250,000 BTU. INPUT 210 GPH REC'Y		75-300-JIB 300-75PB-2 75 GAL. CAP. 360,000 BTU. INPUT 302 GPH REC'Y		65-420 JIB 420-65PB-2 65 GAL. CAP. 500,000 BTU. INPUT 420 GPH REC'Y			65-600 JIB 600-65PB-2 65 GAL. CAP. 714,000 BTU. INPUT 600 GPH REC'Y
		CBG 151-75 75 GAL. CAP. 150,000 BTU. INPUT 126 GPH REC'Y	CBG 151-35 35 GAL. CAP. 150,000 BTU. INPUT 126 GPH REC'Y				CBG 151-85 85 GAL. CAP. 151,000 BTU. INPUT 126 GPH REC'Y		CBG 199-85 85 GAL. CAP. 199,000 BTU. INPUT 167 GPH REC'Y	CBG 199-100 100 GAL. CAP. 199,000 BTU. INPUT 167 GPH REC'Y	CBG 220-85 85 GAL. CAP. 220,000 BTU. INPUT 185 GPH REC'Y	CBG 250-100 100 GAL. CAP. 250,000 BTU. INPUT 210 GPH REC'Y	CBG-301-75 75 GAL. CAP. 300,000 BTU. INPUT 252 GPH REC'Y	CBG 401-85 85 GAL. CAP. 400,000 BTU. INPUT 336 GPH REC'Y		CBG 501-65 65 GAL. CAP. 500,000 BTU. INPUT 420 GPH REC'Y			
		HA 60-105A CA 60-105A 73 GAL. CAP. 140,000 BTU. INPUT 117 GPH REC'Y						NA85-151 CA85-151A 60 GAL. CAP. 180,000 BTU. INPUT 151 GPH REC'Y		N100-168 C100-168B 100 GAL. CAP. 199,990 BTU. INPUT 168 GPH REC'Y	N100-193 C100-193B 100 GAL. CAP. 230,000 BTU. INPUT 193 GPH REC'Y	N100-210 C100-210B 100 GAL. CAP. 250,000 BTU. INPUT 210 GPH REC'Y		N90-302 C90-302B 90 GAL. CAP. 360,000 BTU. INPUT 302 GPH REC'Y		N70-420 C70-420B 70 GAL. CAP. 500,000 BTU. INPUT 420 GPH REC'Y			
		13NS110 110 GAL. CAP. 130,000 BTU. INPUT 109 GPH REC'Y								20NS 105 105 GAL. CAP. 199,900 BTU. INPUT 168 GPH REC'Y			27 NS 105 105 GAL. CAP. 270,000 BTU. INPUT 227 GPH REC'Y		40NS 100 100 GAL. CAP. 400,000 BTU. INPUT 336 GPH REC'Y		54NS 90 90 GAL. CAP. 540,000 BTU. INPUT 453 GPH REC'Y		72NS 80 80 GAL. CAP. 720,000 BTU. INPUT 605 GPH REC'Y
							A-85-126 81 GAL. CAP. 159,000 BTU. INPUT 126 GPH REC'Y		A-85-168 81 GAL. CAP. 199,990 BTU. INPUT 168 GPH REC'Y	S100-168A 100 GAL. CAP. 199,990 BTU. INPUT 169 GPH REC'Y		S100-210A 100 GAL. CAP. 250,000 BTU. INPUT 168 GPH REC'Y			A95-330 100 GAL. CAP. 393,000 BTU. INPUT 330 GPH REC'Y		A-85-440 90 GAL. CAP. 524,000 BTU. INPUT 440 GPH REC'Y		A-75-600 80 GAL. CAP. 714,000 BTU. INPUT 600 GPH REC'Y
G80-50 GL50-96 50 GAL. CAP. 96,000 BTU. INPUT 80 GPH REC'Y	G91-18 GL18-101 18 GAL. CAP. 108,000 BTU. INPUT 90 GPH REC'Y		G111-18 G131-37 GL18-132 GL37-156 18 GAL. CAP. 37 132,000 BTU. 156,000 111 GPH REC'Y 131	G168-37 GL37-200 37 GAL. CAP. 199,900 BTU. INPUT 168 GPH REC'Y			G131-85 GL85-156 85 GAL. CAP. 156,000 BTU. INPUT 131 GPH REC'Y	G131-100 GL100-156 100 GAL. CAP. 156,000 BTU. INPUT 131 GPH REC'Y	G168-85 GL85-200 85 GAL. CAP. 199,990 BTU. INPUT 168 GPH REC'Y	G168-100 GL100-200 100 GAL. CAP. 199,900 BTU. INPUT 168 GPH REC'Y	G210-75 G210-85 GL75-250 GL85-250 75 GAL. CAP. 85 250,000 BTU. INPUT 210 GPH REC'Y		G235-280 GL100-280 100 GAL. CAP. 280,000 BTU. INPUT 235 GPH REC'Y	G302-75 GL75-360 75 GAL. CAP. 360,000 BTU. INPUT 302 GPH REC'Y		G444-100 GL100-528 100 GAL. CAP. 528,000 BTU. INPUT 443 GPH REC'Y	G453-90 GL90-540 90 GAL. CAP. 540,000 BTU. INPUT 453 GPH REC'Y	G504-100 GL100-600 100 GAL. CAP. 600,000 BTU. INPUT 504 GPH REC'Y	G605-84 GL84-720 84 GAL. CAP. 720,000 BTU. INPUT 605 GPH REC'Y
			BP-16M 160,000 BTU. INPUT 134 GPH REC'Y COPPER COIL	BC-200 200,000 BTU. INPUT 168 GPH REC'Y COPPER COIL	BP-25M 225,000 BTU. INPUT 189 GPH REC'Y COPPER COIL	BC300 300,000 BTU. INPUT 252 GPH REC'Y COPPER COIL			BT-199 86 GAL. CAP. 199,000 BTU INPUT 167 GPH REC'Y	BT-197 100 GAL. CAP. 197,000 BTU. INPUT 165 GPH REC'Y	BT 251 GC 210 84 GAL. CAP. 250,000 BTU. INPUT 210 GPH REC'Y		BT 270 100 GAL. CAP. 270,000 BTU. INPUT 227 GPH REC'Y	BT365 75 GAL. CAP. 365,000 BTU. INPUT 306 GPH REC'Y		BT500 65 GAL. CAP. 500,000 BTU. INPUT 420 GPH REC'Y			