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US EPA RECORDS CENTER REGION 5
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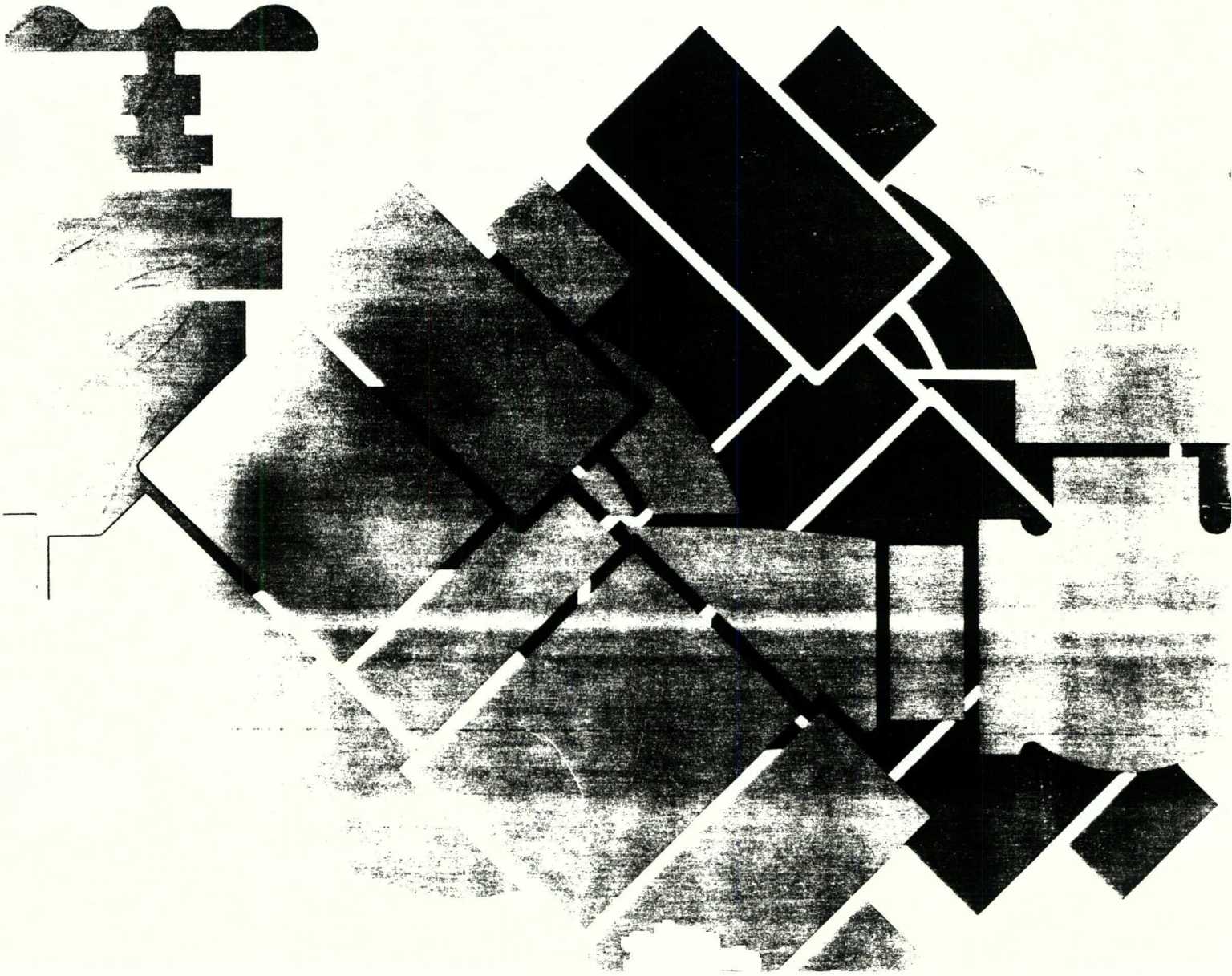
BACKFLOW PREVENTION DEVICES

Low Head Loss, Reliable Operation, Easily Serviceable



FEBCO

Specialists in the Protection of

Backflow Prevention Devices: Why They Are Needed

A cross connection control program protects the potable water supply from contaminants being introduced into the potable water system caused by backsiphonage or backpressure. Approved backflow prevention devices are necessary to protect the potable water from this contamination. Understanding backflow prevention devices and why they are used requires knowing what a cross connection is and why backflow can occur at a cross connection.

CROSS CONNECTION: Any point on a water system where a polluting substance may come in contact with potable water.

Examples: Any system piping that allows access to the potable water supply, any connected auxiliary water supply, submerged inlets, bypass arrangements, jumper connections, removable sections, swivel/changeover devices, temporary devices.

BACKFLOW: The undesirable reversal of the flow of water or mixtures of water and other undesirable substances from any source (such as used water, industrial fluids, gasses, or any substance other than the intended potable water) into the distribution pipes of the potable water system. There are two types of backflow conditions, backpressure and backsiphonage.

Backpressure: Occurs when the user system is at a higher pressure than the supply water system allowing undesirable substances to be "pushed" back into the potable water system. Causes can be booster pumps, potable water system connections for boilers, interconnections with other piping systems operating at higher pressures, higher elevations in user systems such as highrise buildings.

Backsiphonage: Occurs when negative or reduced pressure exists in the supply piping allowing undesirable substances to be "drawn" into the potable water supply. Causes can be undersized supply piping, supplyline breaks, reduced supply system pressure on the suction side of an on-line booster pump, sudden upstream high demand.

LOW HAZARD CROSS CONNECTION: Any point on a water supply system where a polluting substance may come in contact with potable water aesthetically affecting the taste, odor or appearance, but not hazardous to health (non-toxic).

HIGH HAZARD CROSS CONNECTION: Any point on a water supply system where a polluting substance may come in contact with potable water creating a health hazard, causing sickness or death (toxic).

CONTINUOUS PRESSURE: In order to deliver water for immediate use most piping systems are continuously pressurized. Some backflow prevention devices cannot operate properly under continuous pressure. Check the charts below to determine where each device is applicable and under which conditions each can be used.

of Hazards and Backflow Prevention Devices

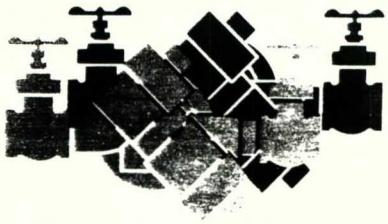
Condition	Atmospheric Vacuum Breaker	Pressure Vacuum Breaker	Double Check	Reduced Pressure
Continuous Pressure		X	X	X
Possible Back Pressure			X	X
Low Hazard	X	X	X	X
High Hazard	X*	X		X

* Consult local codes.

Market Uses for Backflow Prevention Devices

Market	Reduced Pressure Device	Double Check Device	Double Detector Check	Pressure Vacuum Breaker	Atmospheric Vacuum Breaker
Irrigation	X	X		X	X
Plumbing	X	X		X	X
Waterworks	X	X			
Industrial	X	X		X	X
Fire	X	X	X		

Potable Water Supplies



825Y Reduced Pressure Device ¾"-2"	**Sizes:** ¾", 1", 1¼", 1½", 2" **Applications:** Industrial plants, hospitals, irrigation, morgues, boiler feeds, mortuaries, water lines needing maximum protection, chemical plants ① **Approvals:** ASSE, USC, SBCC, IAPMO, CSA
825 Reduced Pressure Device 2½"-10"	**Sizes:** 2½", 3", 4", 6", 8", 10" **Applications:** Industrial plants, hospitals, irrigation, morgues, boiler feeds, mortuaries, chemical plants, fire sprinkler systems with chemical additives **Approvals:** ASSE, USC, IAPMO, SBCC, CSA, UL ②, FM ③
805 Y Double Check Device ¾"-2"	**Sizes:** ¾", 1", 1½", 2" **Applications:** Irrigation systems, industrial in-plant plumbing **Approvals:** ASSE, USC, SBCC, IAPMO, CSA
805Y Double Check Device 2½"-10"	**Sizes:** 2½", 3", 4", 6", 8", 10" **Applications:** Sprinkler irrigation systems, fire sprinkler systems without chemical additives, in-plant plumbing systems, protection of industrial plants **Approvals:** ASSE, CSA, UL ②, USC, IAPMO, SBCC, FM ③
806DDC Double Detector Check	**Sizes:** 3", 4", 6", 8", 10" ¾" Bypass **Applications:** Fire sprinkler systems **Approvals:** UL ②, USC ③, FM ③ ASSE, CSA
765 Pressure Vacuum Breaker	**Sizes:** ½", ¾", 1", 1¼", 1½", 2" **Applications:** In-plant industrial applications for toxic or non-toxic protection, laboratories, swimming pools, laundries, lawn sprinkler systems, irrigation systems, dentist offices **Approvals:** SBCC, IAPMO, USC, ASSE, CSA
775 Pressure Vacuum Breaker	**Sizes:** 3", 4", 6", 8", 10" **Applications:** In-plant industrial applications for toxic or non-toxic protection, laboratories, large irrigation systems, golf courses **Approvals:** IAPMO

710/715 Atmospheric Vacuum Breaker	**Sizes:** ½", ¾", 1", 1¼", 1½", 2" **Applications:** Commercial dishwasher and laundry machines, lawn sprinkler systems, chemical vats, X-ray tanks, laboratory sinks **Approvals:** IAPMO, SBCC, CSA, USC, ASSE
810 Dual Check	**Sizes:** ¾", 1" (Pipe, meter threads) **Application:** Residential water service **Approvals:** ASSE, SBCC
815DCAP Double Check with Atmospheric Port	**Sizes:** ½", ¾" (Union and sweat connections) **Applications:** Boiler feed lines, non-toxic laboratory equipment installations, sterilizers, and other low hazard applications. **Approvals:** ASSE

MISCELLANEOUS PRODUCTS

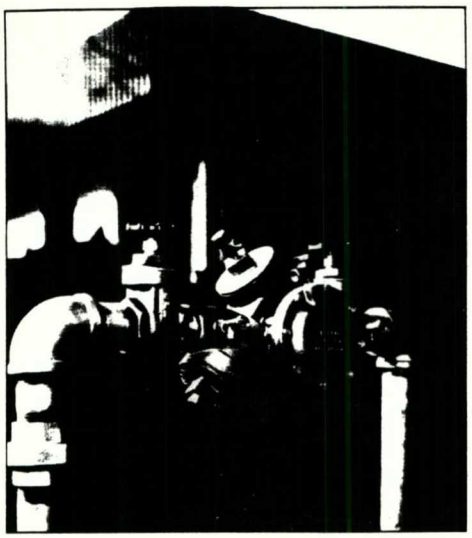
406DC Detector Check Valve	**Sizes:** 3", 4", 6", 8", 10" **Applications:** Municipal, fire sprinkler line check valve. Low hazard horizontal or vertical installation when a backflow prevention device is not needed **Approvals:** FM ③

"Y" STRAINERS

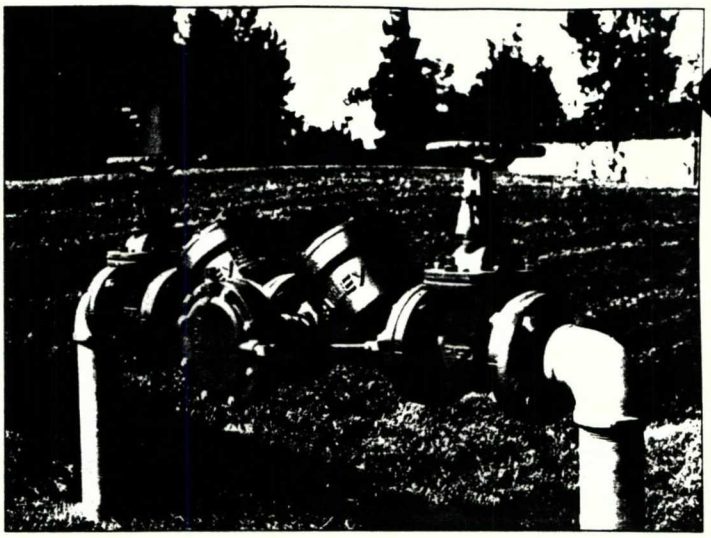
Model 100B-150 ½"-2" bronze, screwed end ④	**Model 100B-300** ½"-2" bronze, screwed end ④
Model 100A-250 ½"-2" cast iron, screwed end ④	**Model 100A-125F** 2½"-12" cast iron flanged end ④

NOTES: ① Consult the factory for special high temperature devices ② UL approved installations must include O S & Y gate valves ③ Consult local representative or factory for sizes ④ Consult CMB Industries Literature

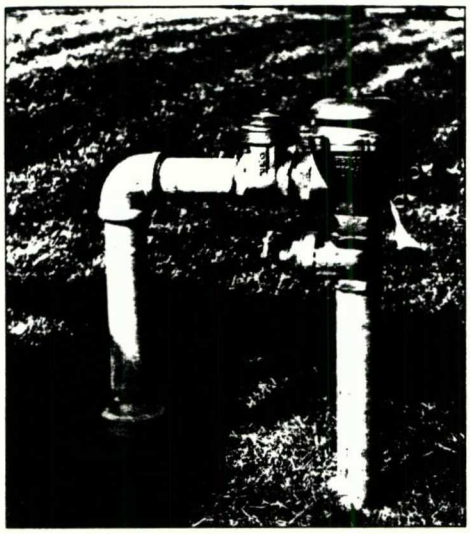
Some of Our Installations



825Y Reduced Pressure Device used on doctor's office water supply.



825 Reduced Pressure Device protecting highrise office building water supply.



765 Pressure Vacuum Breaker utilized on sprinkler irrigation system.

805Y Double Check Device utilized on bottling plant water supply.

For a quarter of a century Febco has been in the business of producing quality backflow prevention devices for the irrigation, industrial, plumbing and water works industries throughout the world.

And today they continue to produce the finest backflow prevention devices with the ultimate in backflow design insuring low head loss, reliable operation, and ease of maintenance in the field.

Approving agencies include the University of Southern California Foundation for Cross Connection Control and Hydraulic Research, the American Waterworks Association, the American Society of Sanitary Engineering, Canadian Standards Association, the Southern Building Code Congress, Underwriters Laboratory, and Factory Mutual.

Febco provides data regarding flow curves and performance that is accurate and is the only backflow preventer manufacturer to supply verification of that performance by independent testing laboratories.

BAILEY CONTROL VALVES

Another division of CMB Industries, Bailey produces a wide line of quality control valves, duplex and simplex strainers and polyjets. Bailey's heavy-duty valves are designed in both standard and special materials allowing control of water, petroleum products, and other liquids in a wide range of applications.

CMB "Y" TYPE STRAINERS

CMB Industries also has a line of commercial grade "Y" type strainers for use whenever protection of equipment from foreign material is desired.

For more information on how Febco can provide your project or installation with the latest in Backflow Prevention technology, call or write:

Febco, P.O. Box 8070, Fresno, California 93747 (209) 252-0791 Telex: 33-7616 CMB FSO
A division of CMB Industries

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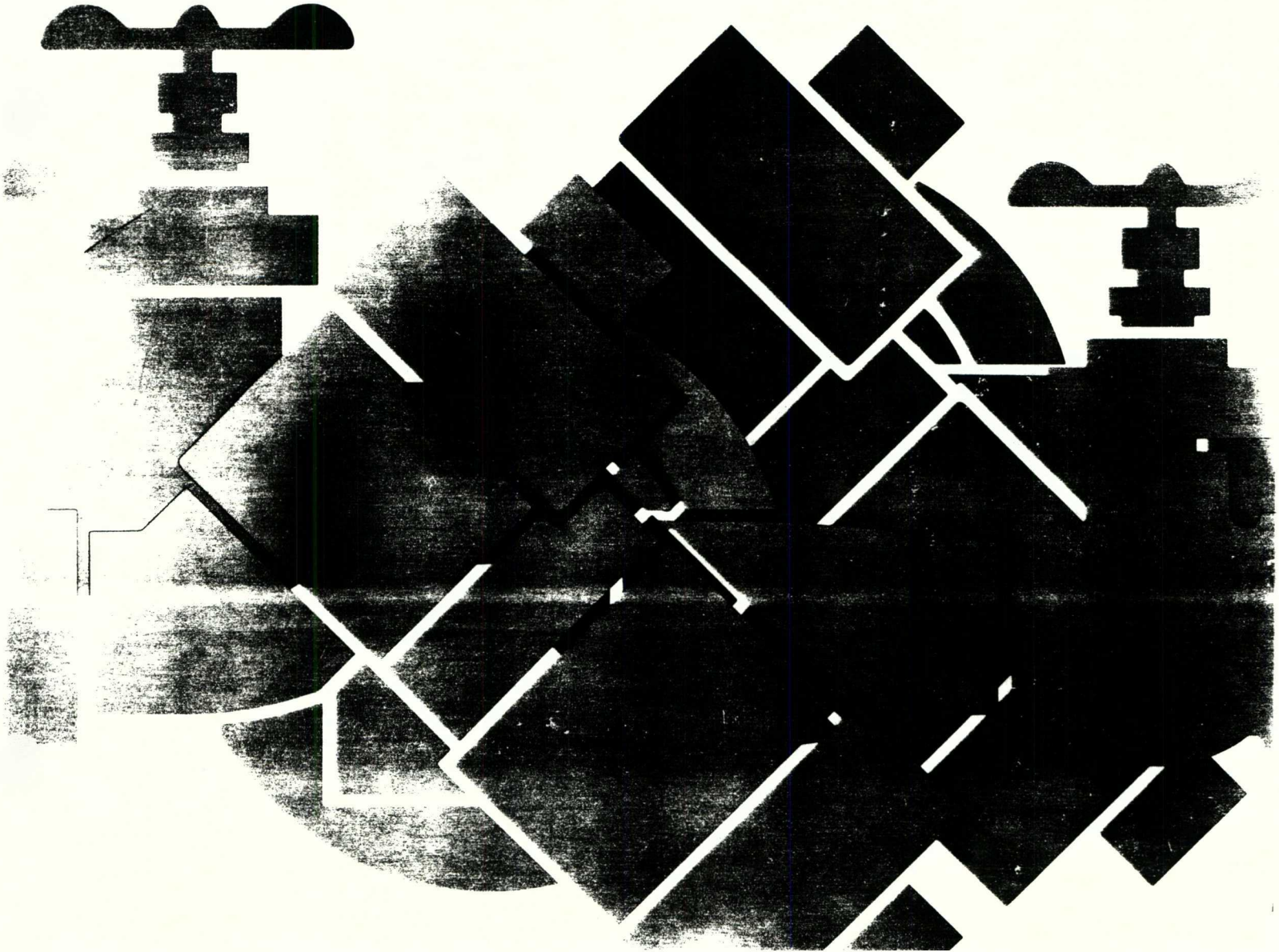
FEBCO

Model 825Y Reduced Pressure Backflow Prevention Device

...Low Head Loss
...Reliable Operation
...Easily Serviceable



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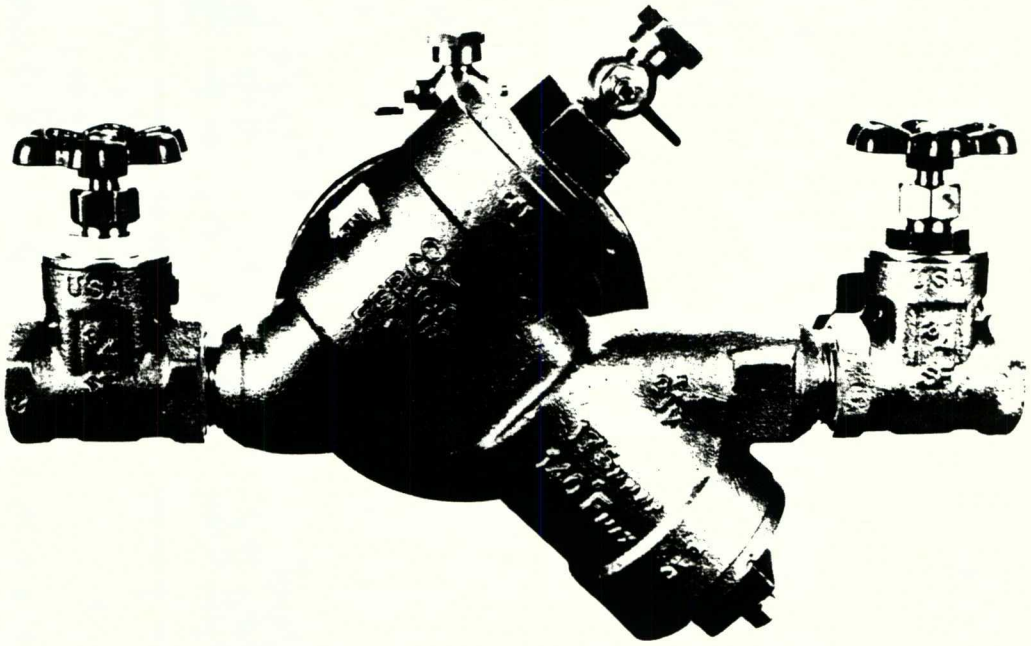


The superior design of the 825Y Reduced Pressure Backflow Preventer protects our drinking water systems against contamination. Specifically designed for high hazard use, it will also prevent backflow of contaminants that are objectionable but not toxic. The Model 825Y works against pump or elevation back pressures.

USE THE MODEL 825Y:

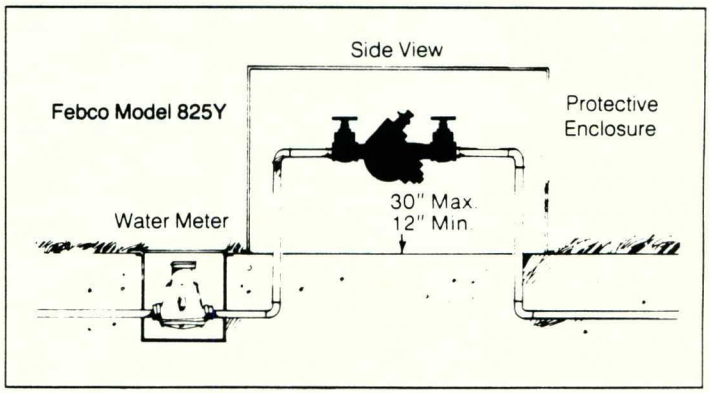
The Model 825Y Reduced Pressure Device is designed for use in a wide number of applications. Protecting our water supplies in high hazard (toxic) systems, the Model 825Y performs flawlessly.

Typical applications include:

- Industrial plants
- Hospitals
- Morgues
- Mortuaries
- Chemical Plants
- Irrigation Systems
- Boiler Feed
- Water Lines
- Installations requiring maximum protection

HOW TO INSTALL THE 825Y:

Reduced Pressure Backflow Preventers should be installed with minimum clearance of 12" between relief port and floor or grade. They must be installed where discharge will not be objectionable and can be positively drained away. They should be installed where easily accessible for testing and maintenance and must be protected from freezing. Thermal water expansion and/or water hammer downstream of the backflow preventer can cause excessive pressure. Excessive pressure situations should be eliminated to avoid possible damage to the system and device.



Typical installation of the Febco 825Y Reduced Pressure Backflow Prevention Device.

Designed for

The Model 825Y Reduced Pressure Device consists of 2 independently operating, spring loaded, "Y" pattern check valves and one hydraulically dependent differential relief valve. The device automatically reduces the pressure in the 'zone' between the check valves to at least 5 PSI lower than the inlet pressure.

If the differential between upstream and the zone of the unit drops to 2 PSI, the differential relief valve shall open and maintain the proper differential.

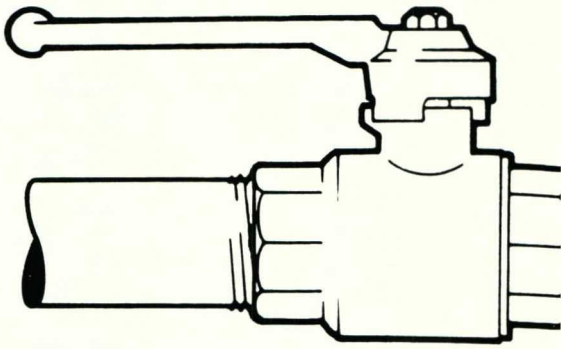
Operational water tests are performed on 100% of the 825Y devices before delivery to the field.

Maximum Working Pressure	175 PSI
Hydrostatic Test Pressure	350 PSI
Temperature Range	32°F to 140°F
Fluid	Water
End Detail	¾" thru 2" Threaded ANSI B2.1
Main Valve Body	Bronze ASTM B584-78
Relief Valve Body	Bronze ASTM B584-78
Elastomers	Nitrile ASTM D-2000 Seat Disc. Diaphragms: Nitrile fabric reinforced
Springs	Stainless Steel, 300 series

Fe

GUIDING SURFACES OF THE CENTER STEM GUIDED CHECKS are out of the water flow path which reduces the possibility of check fouling.

CHECK GUIDIN FACES are loca relief caps. If an lem is experienc the guiding surf can be easily ar pensively chang



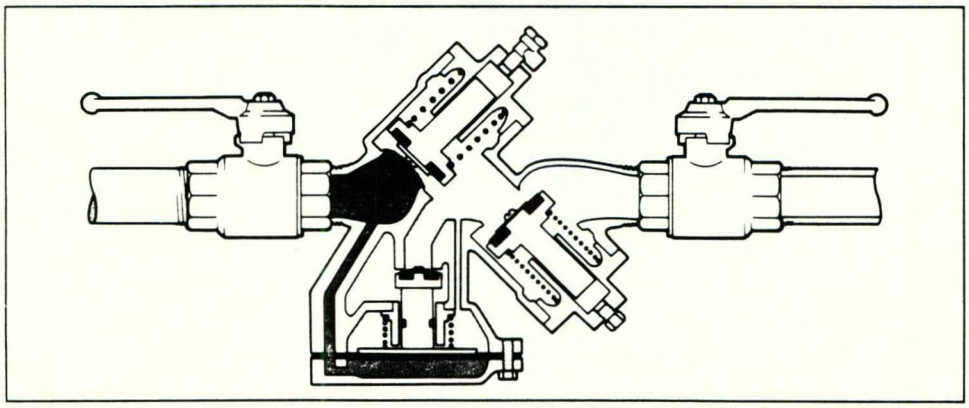
THE INTERNAL PRESSURE SENSING PORTS are positioned to resist the clogging of the passages by dirt and debris.

NOTE: The relief valve is rotated 90° for purposes of illustration.

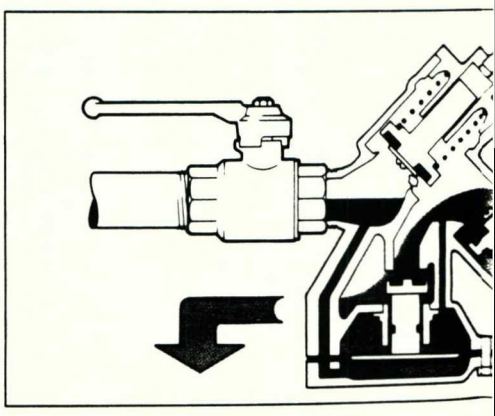
Febco publishes **FLOW CHARTS** obtained from independent laboratories.

* SHOWN WITH OPTIONAL BALL VALVE SHUTOFFS.

HOW THE MODEL 825Y WORKS: OPERATION U

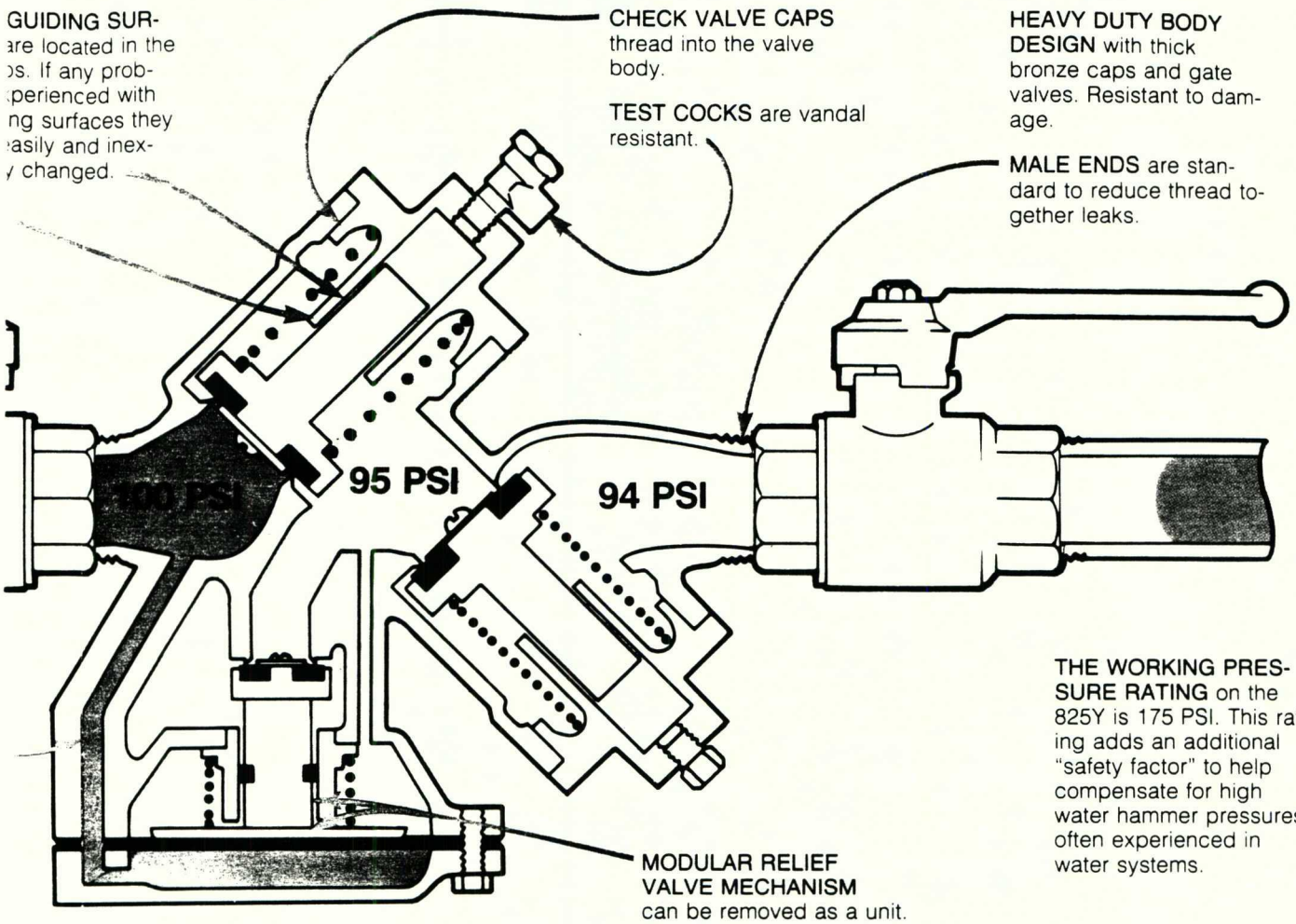


Model 825Y in Normal Flow Condition



Model 825Y in Backsiph
(Both Check Va

Features of the Model 825Y (¾" thru 2")



GUIDING SUR- are located in the ...s. If any prob- ...perienced with ...ng surfaces they ...asily and inex- ...y changed.

CHECK VALVE CAPS thread into the valve body.

TEST COCKS are vandal resistant.

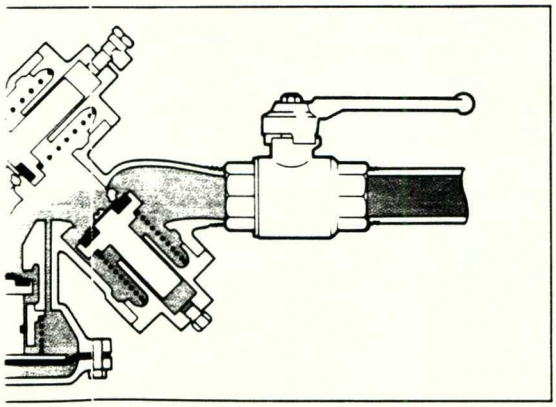
HEAVY DUTY BODY DESIGN with thick bronze caps and gate valves. Resistant to damage.

MALE ENDS are standard to reduce thread together leaks.

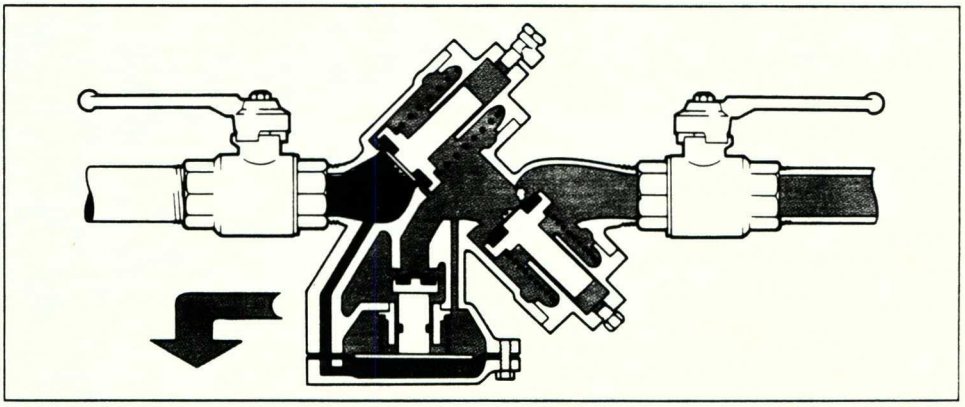
THE WORKING PRESSURE RATING on the 825Y is 175 PSI. This rating adds an additional "safety factor" to help compensate for high water hammer pressures often experienced in water systems.

MODULAR RELIEF VALVE MECHANISM can be removed as a unit. Because no special tools are required, the ease of service and repair is insured.

...A...OUS WATER SYSTEM CONDITIONS



...ksiphonage Flow Condition
...ck Valves Fouled)



Model 825Y in Back Pressure Flow Condition
(Second Check Valve Fouled)

Designed for Low Head Loss!

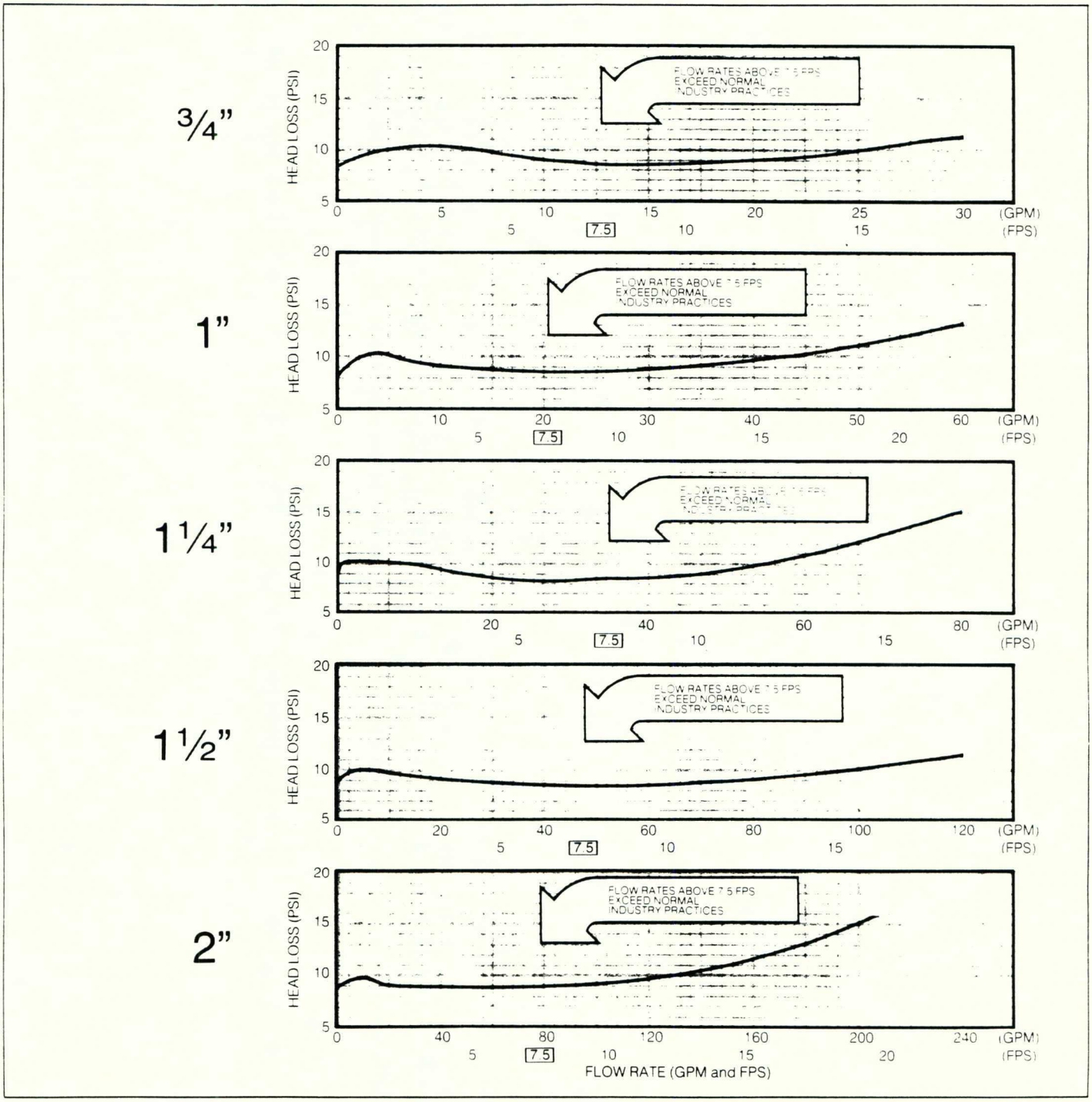
Standard features of the Febco Model 825Y Reduced Pressure Backflow Prevention Device include the "Y" body design to insure low pressure loss, reliable operation, and serviceability. At the typically designed flow rates of 0 to 7.5 feet per second the Model 825Y has one of the lowest pressure losses in the industry.

Febco publishes flow loss charts obtained from independent laboratories. Febco's philosophy is to provide accurate information to the engineering discipline to insure proper water system designs.

The elementary yet efficient design of the Model 825Y provides consistent operation in the harshest water environments. It meets all specifications of AWWA, ASSE, CSA, and USC Foundation for Cross Connection Control and Hydraulic Research.

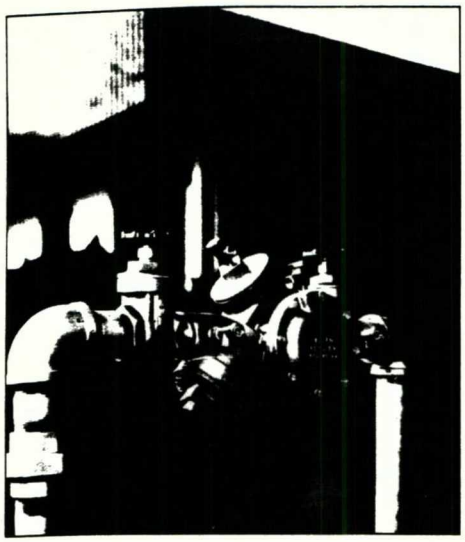
Model 825Y Flow Curves

(Flow Curves as Established by the USC Foundation for Cross Connection Control and Hydraulic Reseach)



NOTES: 1.) Velocities are calculated for flows in Schedule 40 steel pipe.
2.) Typical water system flow velocities of 0 to 7.5 FPS should be used for head loss efficiency comparisions.

Some of Our Installations



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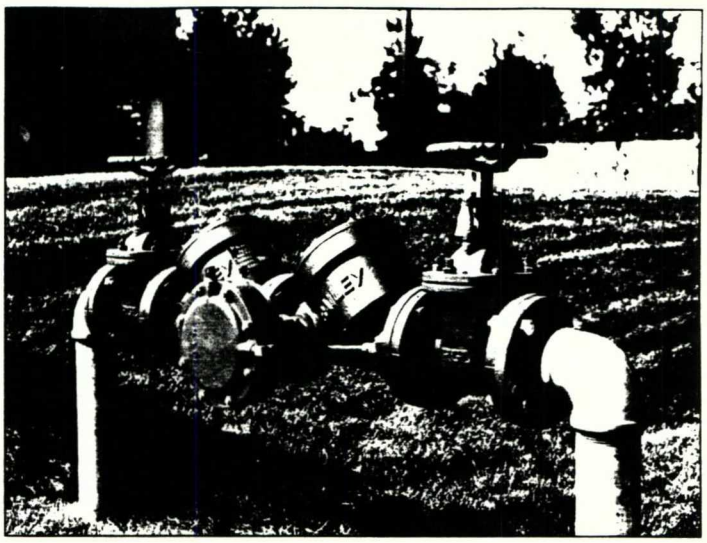

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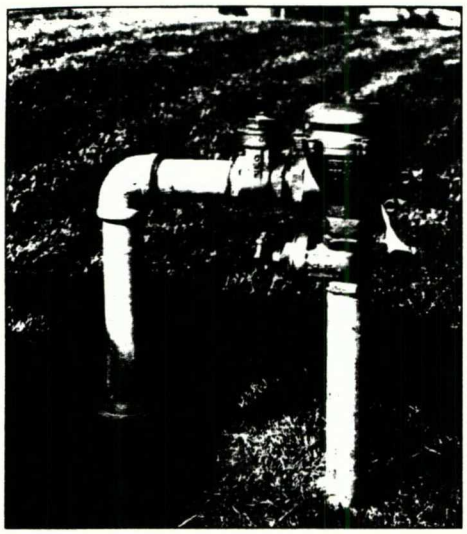

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OTHER DIVISIONS OF CMB INDUSTRIES

The Bailey division of CMB Industries produces a complete line of quality control valves, strainers and polyjets for both commercial and marine service.

The CMB division manufactures a line of commercial grade "Y"-type strainers for use whenever protection of equipment from foreign material is required.

For more information on how Febco can provide your project or installation with the latest in Backflow Prevention technology, call or write:

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Form No.
804
Rev. 9/82

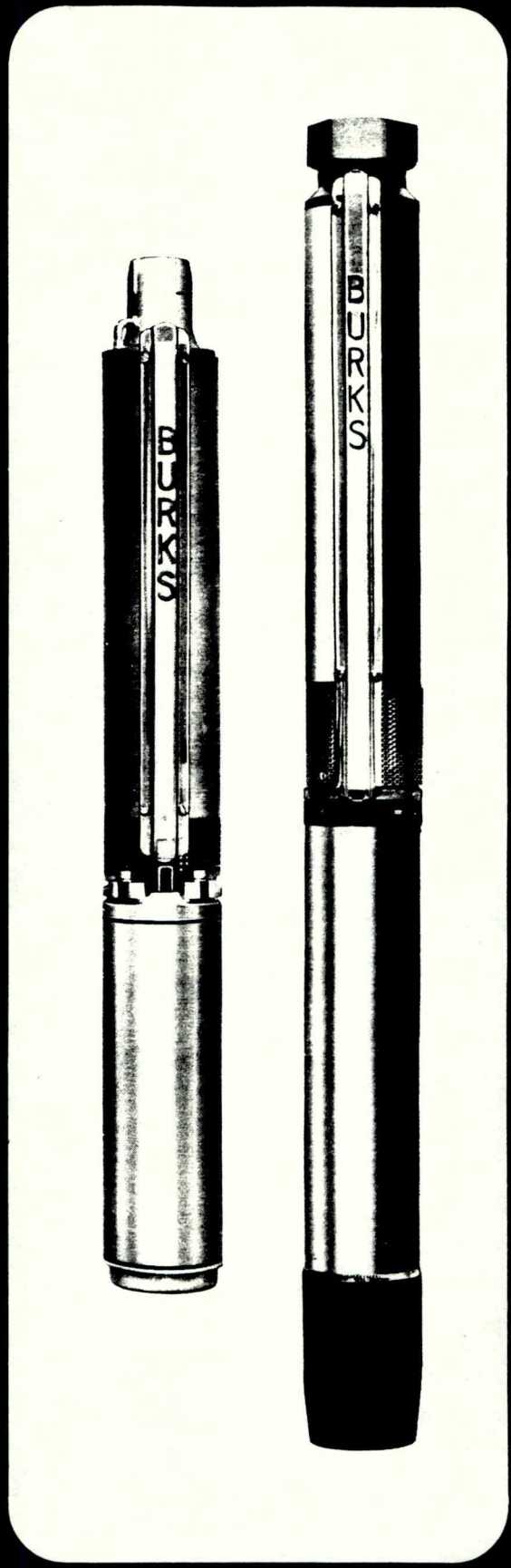
burks

HydroSub®

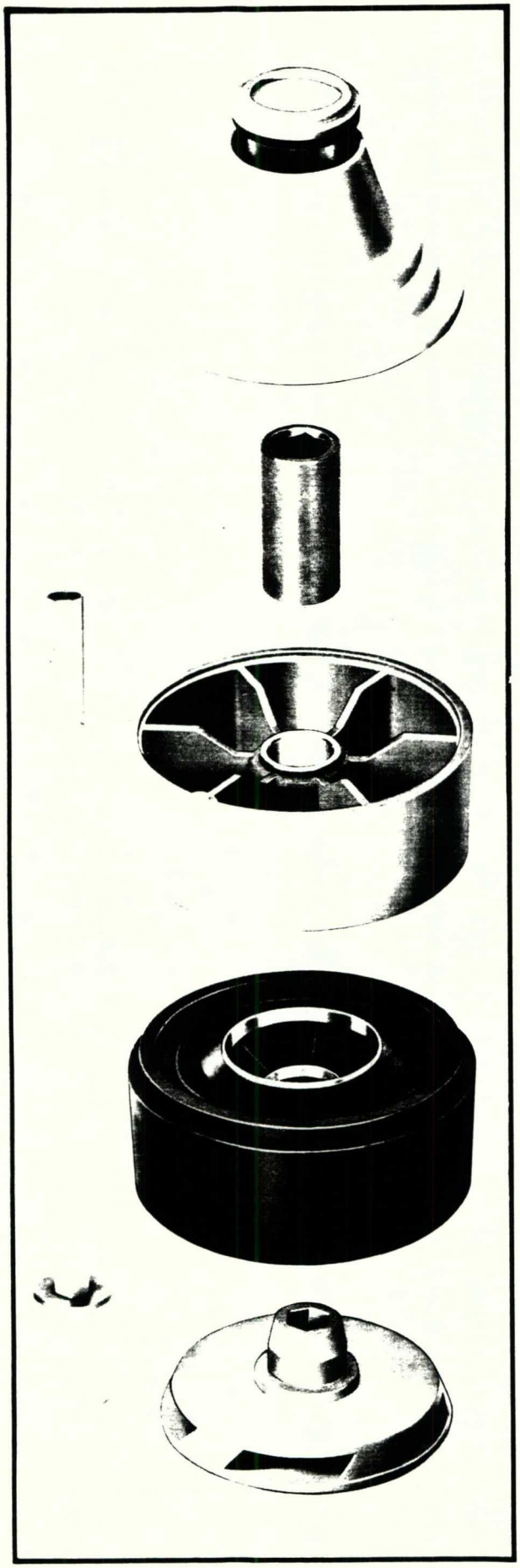
SERIES SN
4″
SUBMERSIBLES

1/3 th

5 GPM
thru
75 GPM



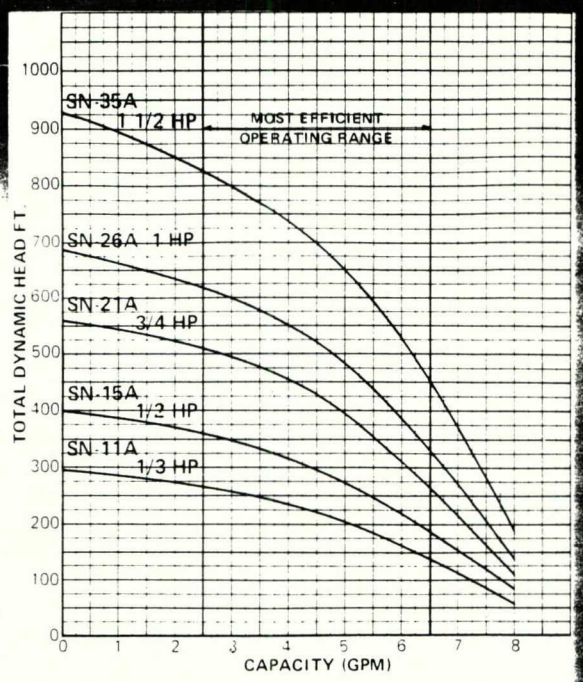
5 GPM thru 28 GPM



- Minlon® Check Valve Body with "O" Ring Type Poppet Valve Provides Positive Seal.
- Stainless Steel Shaft Sleeve Prevents Shaft Damage.
- Glass Filled Noryl® Bearing Spider With Molded-In Bronze Bearing Maintains Shaft Alignment.
  Intermediate Bearings Are Provided On Pumps With 17 Or More Stages.
- Noryl® Diffusers Have A Molded-In Stainless Steel Wear Ring.
- Noryl® Impellers Provide Micro-Smooth Water Passages 18 and 28 GPM Impellers Are Glass-Filled For Added Strength Where It's Needed.
- Stainless Steel Hex Shaft And Motor Coupling.
- Stainless Steel Pump Shell.
- Stainless Steel Cable Guard.
- Polyethylene Inlet Screen Prevents Sediment Build-Up.
- Bronze Frame And Discharge Head. Cast Iron Available.
- Super Stainless Motors With Built-In Lightning Protection HP.
- BURKS "Control Flow" Stage Design Eliminates Motor

Assemblies Available.

For Hydraulic And



5 GPM

⅓ thru 1½ h.p.

MAXIMUM DIAMETER	3 13/16"
DISCHARGE N.P.T.	1"

* Pump Number	H.P.	Stages	Discharge P.S.I.	PUMPING LEVEL FEET																							MAXIMUM PRESSURE	
				20	40	60	80	100	120	140	160	180	200	225	250	275	300	325	350	400	450	500	600	700	800			
				CAPACITY – GALLONS PER HOUR																							PSI	FT.
SN11A SNB11A	⅓	11	0			475	455	430	405	385	360	330	300	255	190	95											126	291
			20	470	445	420	400	375	350	325	295	255	205	115														
			30	445	420	395	375	350	320	290	250	195	120															
			40	415	395	370	345	315	285	240	185	100																
			50	390	366	336	312	277	240	186	108																	
			60	360	335	305	270	230	165																			
SN15A SNB15A	½	15	0				475	460	445	425	410	390	375	350	325	295	260	220	165								171	395
			20		470	455	440	420	405	385	370	350	330	300	270	225	180	100										
			30	470	455	435	420	400	385	365	340	325	305	270	235	180	115											
			40	450	435	420	400	375	365	340	325	300	275	235	190	120												
			50	435	420	402	384	363	342	321	291	270	240	192	132													
			60	410	395	375	355	335	315	295	265	235	195	130														
SN21A SNB21A	¾	21	0						470	460	450	435	425	410	395	380	360	345	325	290	235	155					249	553
			20			480	470	455	445	435	420	410	400	380	365	350	330	310	290	240	160							
			30		480	465	455	445	430	420	410	395	380	365	350	330	315	290	270	210	115							
			40	475	465	455	445	430	420	405	395	380	370	350	335	315	295	270	245	175								
			50	468	456	444	432	420	408	392	381	367	354	333	318	300	273	249	219	132								
			60	450	440	430	415	400	390	375	365	350	335	315	300	275	250	220	180									
SN26A SNB26A	1	26	0							475	465	455	450	440	425	415	400	390	375	350	315	280	175				296	683
			20					475	465	455	445	435	430	415	405	390	380	365	350	320	285	240	95					
			30				470	465	455	445	435	425	415	405	395	380	365	350	335	300	265	215						
			40		480	470	460	460	450	435	425	415	405	395	380	365	355	340	320	290	245	185						
			50		474	465	456	444	435	426	417	408	396	381	372	359	342	327	311	270	219	156						
			60	470	460	450	440	430	420	415	400	395	385	370	355	340	325	310	290	245	190	110						
SN35A SNB35A	1½	35	0									480	470	465	455	450	440	430	420	405	385	365	325	260	180		399	922
			20							475	470	465	460	450	440	435	425	415	405	390	370	345	300	230	125			
			30						475	470	465	455	450	445	435	425	415	405	400	380	360	335	285	210	95			
			40					475	470	465	455	450	440	435	425	415	410	400	390	370	350	325	265	190				
			50				479	470	463	459	450	444	438	429	420	411	402	293	384	363	342	318	255	162				
			60		480	475	465	460	455	445	440	435	425	415	410	400	390	380	370	350	330	300	235	135				

*Refer to price list for complete catalog [illegible]

Complete Pumping Unit Includes: [illegible]

Single Phase: [illegible]

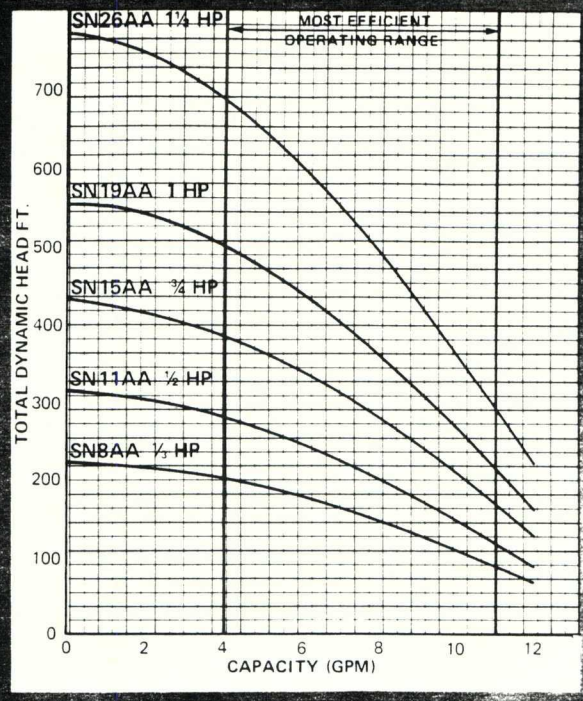
Three Phase: [illegible] with 3 Overload Protectors.

Series SN-AA

7 GPM

⅓ thru 1½ h.p.

MAXIMUM DIAMETER	3 13/16"
DISCHARGE N.P.T.	1"

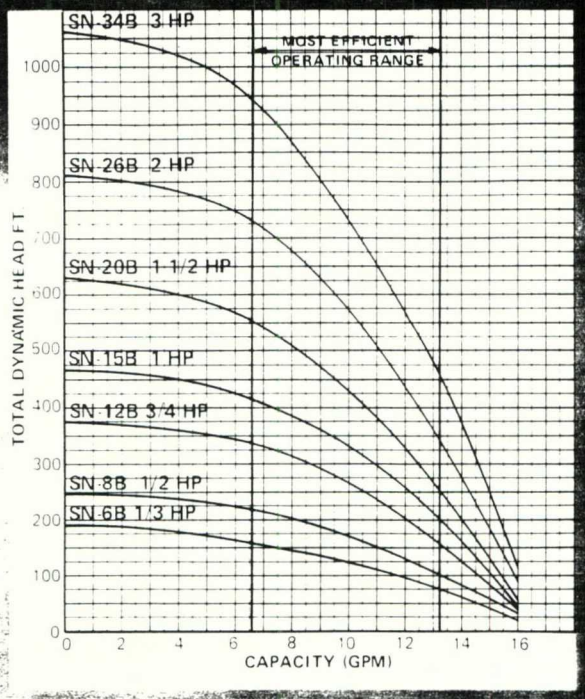


* Pump Number	H.P.	Stages	Discharge P.S.I.	PUMPING LEVEL FEET 20	40	60	80	100	120	140	160	180	200	225	250	275	300	325	350	400	450	500	600	700	MAXIMUM PRESSURE PSI	FT.
				CAPACITY – GALLONS PER HOUR																						
SN8AA SNB8AA	⅓	8	0				678	624	564	504	432	360	258												98	225
			20		660	600	546	480	414	336	216															
			30	624	600	540	471	402	312	192																
			40	588	525	459	384	300	156																	
			50	516	450	372	264	132																		
			60	444	360	264	108																			
SN11AA SNB11AA	½	11	0					699	660	615	576	528	483	420	354	270	150								137	315
			20			690	648	606	564	516	468	444	366	282	180											
			30		678	642	600	552	504	456	408	354	288	186												
			40	678	630	594	552	504	456	402	348	276	192													
			50	630	591	540	486	444	393	336	252	162														
			60	582	540	486	438	384	324	258	156															
SN15AA SNB15AA	¾	15	0							705	678	648	618	576	537	497	450	402	342	186					188	434
			20					696	672	642	609	582	546	501	456	405	354	288	204							
			30			720	690	660	633	606	588	540	507	462	414	360	294	210	150							
			40		717	687	660	630	600	564	534	501	462	420	360	300	222	114								
			50	708	684	654	624	594	561	528	492	456	420	363	300	228	120									
			60	687	648	618	585	558	522	486	450	414	366	300	228	120										
SN19AA SNB19AA	1	19	0									705	681	651	621	594	561	528	495	423	342	246			242	558
			20						720	696	678	654	630	597	570	534	501	465	432	354	258	108				
			30					717	693	672	648	624	600	570	537	504	468	432	396	312	204					
			40				714	690	669	643	621	594	570	540	504	474	435	399	357	261	120					
			50			711	690	666	642	615	594	567	541	507	475	437	402	360	318	204						
			60		706	684	660	636	612	588	562	537	510	474	441	402	366	318	273	138						
SN26AA SNB26AA	1½	26	0												705	684	660	639	618	573	528	477	369	225	335	772
			20										708	672	666	642	621	600	577	534	486	432	312	120		
			30								720	705	687	665	645	622	600	578	558	510	459	406	276			
			40							721	702	686	666	648	624	605	567	559	534	486	435	379	237			
			50						719	698	681	665	647	625	605	581	559	535	512	462	408	349	197			
			60					714	696	680	660	645	630	606	583	561	537	513	491	438	384	321	144			

*Refer to price list for complete catalog ordering number which includes motor type, [illegible], voltage, phase, etc.

Complete Pumping Unit Includes:

Single Phase, 2 Wire: Pump, Motor and Motor Lead.
Single Phase, 3 Wire: Pump, Motor, Motor Lead and Control Box.
Three Phase: Pump, Motor, Motor Lead and Magnetic Starter with 3 Overload Protectors.



Series SN-B

10 GPM

⅓ thru 3 h.p.

MAXIMUM DIAMETER	3 13/16"
DISCHARGE N.P.T.	1"

* Pump Number	H.P.	Stages	Discharge P.S.I.	PUMPING LEVEL FEET																									MAXIMUM PRESSURE	
				CAPACITY – GALLONS PER HOUR																									PSI	FT.
SN6B SNB6B	⅓	6		960	905	845	780	710	630	540	415	210																	80	184
				830	760	690	600	505	360																					
				750	675	590	485	320																						
				660	570	470	300																							
				552	432	192																								
				420	210																									
SN8B SNB8B	½	8			935	890	850	800	750	685	635	575	490	360															106	246
				880	835	790	740	685	625	560	460	420	90																	
				830	780	725	670	610	540	450	330																			
				770	720	660	600	525	430	295																				
				702	644	576	504	408	240																					
				645	570	505	400	245																						
SN12B SNB12B	¾	12			955	930	900	875	845	815	785	750	720	685	625	580	510	440	340										161	372
				920	895	870	840	810	780	745	715	670	640	585	520	445	340	120												
				895	865	835	805	775	740	700	665	625	580	520	450	350	155													
				860	830	800	770	740	690	660	625	575	520	445	335	60														
				822	780	756	720	690	654	618	576	534	474	360	132															
				790	755	720	685	650	615	570	515	460	360	180																
SN15B SNB15B	1	15				950	925	905	880	860	835	810	785	755	720	685	645	605	560	440	240								200	464
				940	920	900	875	850	830	805	780	755	725	690	655	610	570	510	455	250										
				920	900	875	850	825	800	775	750	725	695	660	610	570	515	460	380											
				890	870	845	820	800	775	745	715	685	650	610	565	510	450	365	245											
				870	840	816	792	768	738	711	681	648	612	561	507	444	372	270												
				840	815	790	765	740	710	680	650	625	570	525	460	385	270													
SN20B SNB20B	1½	20					940	930	910	895	875	860	840	820	800	775	750	725	695	640	580	500	240						272	627
				955	940	920	905	890	870	850	840	815	800	780	755	725	700	685	650	580	510	405	235							
				930	920	905	890	870	850	835	815	795	780	755	730	710	680	655	620	550	465	350								
				920	900	880	865	845	825	810	790	775	755	730	710	680	650	620	590	510	400	250								
				900	880	860	840	830	810	790	775	755	731	710	685	654	624	585	552	474	360									
				880	865	845	830	810	790	775	760	735	720	680	660	625	595	560	510	350	270									
SN26B SNB26B	2	26					960	950	940	925	910	900	890	870	850	835	815	810	780	745	710	670	575	440	150				350	810
					960	950	935	925	910	900	880	870	855	835	820	800	785	770	750	710	670	630	510	350						
				960	945	935	920	905	895	880	870	850	840	820	805	790	775	750	730	690	650	605	495	285						
				940	930	915	905	890	875	865	850	835	825	805	785	770	750	730	710	670	630	580	480	160						
				925	915	905	890	875	860	850	840	825	810	789	771	750	731	708	684	645	597	546	408							
				915	900	890	875	865	845	835	820	810	785	770	750	730	710	695	670	630	580	530	350							
SN34B SNB34B	3	34							960	950	940	935	925	910	900	890	870	860	845	820	790	760	700	630	550	450	305		461	1064
							955	950	940	930	920	910	900	890	875	860	845	835	820	790	770	710	675	595	505	400	110			
					965	955	950	935	930	920	905	895	890	875	860	850	835	820	810	780	750	720	650	575	485	370				
				960	955	945	935	925	920	905	895	890	875	860	845	835	820	805	790	765	735	700	630	560	455	320				
				955	945	935	925	915	910	895	890	875	860	845	832	820	805	790	780	750	708	680	615	530	432	270				
				940	935	925	910	905	895	880	870	860	850	835	820	810	790	780	770	740	700	670	595	510	400	180				

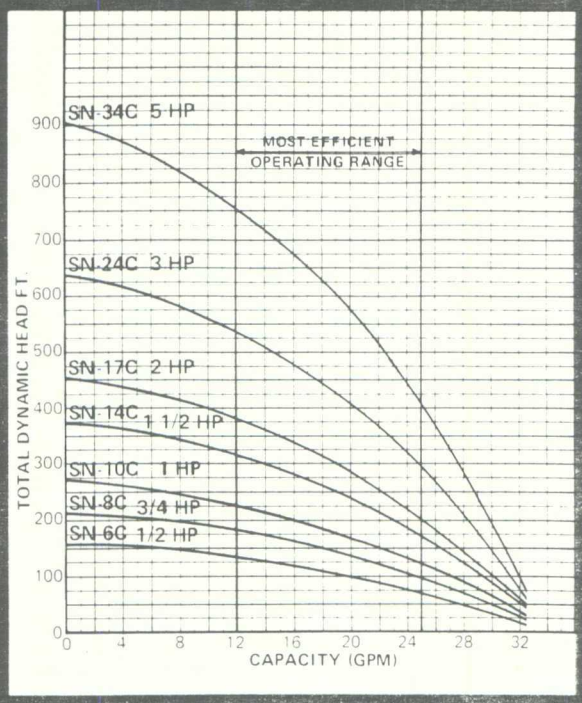
*See * opposite page.

Series SN-C

18 GPM

½ thru 5 h.p.

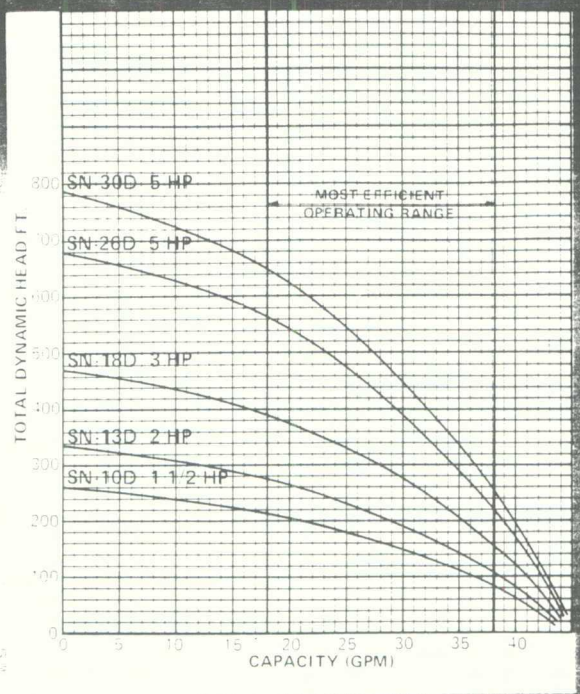
MAXIMUM DIAMETER	3 13/16"
DISCHARGE N.P.T.	1¼"



* Pump Number	H.P.	Stages	Discharge P.S.I.	PUMPING LEVEL FEET — CAPACITY – GALLONS PER HOUR																							MAXIMUM PRESSURE PSI	MAXIMUM PRESSURE FT.
SN6C SNB6C	½	6	0	1960	1680	1650	1560	1140	870	540																	66	153
			20	1530	1350																							
			30	1296	1068																							
			40	1032	762																							
			60	690																								
SN8C SNB8C	¾	8	0	1930	1825	1710	1590	1450	1300	1115	905	660	300														90	207
			20	1680	1550	1410	1250	1055	840	570	60																	
			30	1525	1390	1230	1020	790	515																			
			40	1360	1195	985	755	450																				
			50	1170	960	720	420																					
			60	925	685	340																						
SN10C SNB10C	1	10	0	1950	1870	1790	1700	1610	1500	1390	1260	1100	930	680	360												114	264
			20	1765	1675	1570	1475	1355	1210	1050	870	670	425															
			30	1660	1565	1450	1330	1190	1020	840	635	380																
			40	1540	1435	1310	1165	995	810	600	320																	
			50	1410	1290	1140	990	792	570	300																		
			60	1270	1115	940	755	535	215																			
SN14C SNB14C	1½	14	0		1915	1860	1800	1735	1670	1595	1530	1450	1370	1255	1120	970	800	600	350								161	371
			20	1840	1780	1720	1650	1580	1505	1430	1345	1250	1145	990	830	630	395											
			30	1770	1710	1640	1565	1495	1415	1330	1235	1130	1010	840	655	410	50											
			40	1700	1635	1555	1480	1400	1315	1225	1105	985	820	625	385													
			50	1620	1548	1470	1380	1302	1200	1080	972	840	690	450														
			60	1535	1460	1380	1290	1190	1075	950	815	660	420	60														
SN17C SNB17C	2	17	0		1940	1890	1840	1795	1740	1685	1625	1565	1505	1430	1345	1250	1140	1015	875	545							194	449
			20	1875	1830	1775	1720	1670	1615	1550	1495	1430	1360	1260	1160	1030	900	745	580	60								
			30	1820	1770	1715	1665	1600	1540	1480	1415	1350	1270	1165	1050	905	760	590	390									
			40	1760	1705	1650	1590	1530	1470	1405	1330	1255	1180	1025	890	740	565	355	40									
			50	1698	1650	1590	1530	1470	1392	1320	1242	1152	1068	930	780	600	420	120										
			60	1630	1580	1510	1450	1385	1310	1235	1145	1055	905	760	595	395	110											
SN24C SNB24C	3	24	0			1930	1900	1865	1830	1800	1765	1730	1685	1645	1590	1540	1475	1420	1355	1210	1045	850	330				275	635
			20	1925	1895	1860	1825	1790	1750	1715	1680	1640	1600	1540	1490	1420	1360	1295	1225	1060	870	650						
			30	1890	1855	1820	1780	1745	1710	1675	1630	1590	1550	1495	1435	1370	1300	1230	1145	970	770	520						
			40	1850	1810	1775	1740	1705	1670	1625	1585	1540	1480	1420	1360	1290	1220	1140	1055	865	640	350						
			50	1800	1770	1740	1698	1662	1620	1572	1536	1488	1440	1368	1302	1236	1164	1080	990	792	540	210						
			60	1770	1735	1690	1655	1615	1570	1530	1480	1440	1365	1300	1230	1150	1070	980	875	655	380							
SN34C SNB34C	5	34	0				1940	1915	1890	1865	1835	1810	1790	1750	1720	1690	1655	1620	1585	1505	1430	1345	1140	880	550		390	900
			20		1930	1910	1885	1860	1835	1810	1780	1750	1730	1690	1660	1625	1595	1555	1520	1440	1355	1260	1030	740	350			
			30	1925	1900	1880	1855	1830	1800	1775	1745	1720	1690	1660	1625	1595	1560	1520	1480	1400	1310	1205	965	665	215			
			40	1895	1870	1850	1825	1800	1770	1745	1715	1690	1655	1620	1590	1555	1510	1470	1435	1350	1255	1150	895	560				
			50	1872	1848	1824	1798	1770	1740	1716	1685	1662	1632	1602	1560	1521	1485	1497	1404	1317	1218	1110	840	480				
			60	1840	1820	1790	1765	1740	1710	1685	1655	1625	1595	1560	1520	1480	1440	1400	1355	1265	1160	1040	750	360				

*Refer to price list for complete catalog ordering [illegible]

Complete Pumping Unit Includes: Single Phase, 2-Wire: Pump, Motor and [illegible]
Single Phase, 3-Wire: Pump, Motor, [illegible]
Three Phase: Pump, Motor, Water [illegible] with 3 Threaded Connections



Series SN-D

28 GPM

1½ thru 5 h.p.

MAXIMUM DIAMETER	3 13/16"
DISCHARGE N.P.T.	1¼"

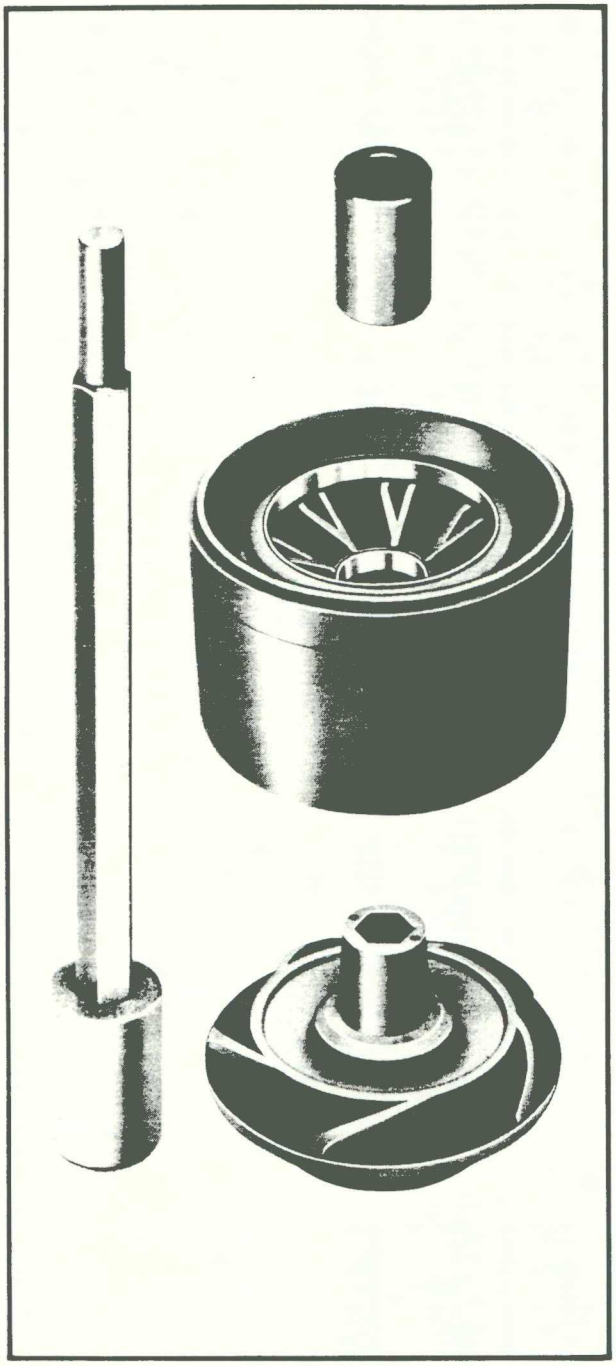
*Pump Number	H.P.	Stages	Discharge P.S.I.	PUMPING LEVEL FEET 20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	320	340	360	380	400	MAXIMUM PRESSURE PSI	FT.
				CAPACITY – GALLONS PER HOUR																					
SN10D SNB10D	1½	10	0	2570	2485	2380	2280	2150	2010	1850	1670	1470	1230	840	245									111	257
			20	2350	2240	2110	1960	1800	1610	1380	1130	830	370												
			30	2220	2090	1940	1770	1570	1345	1085	760	280													
			40	2070	1920	1740	1550	1300	1045	710	200														
			50	1908	1740	1536	1320	1038	660																
			60	1685	1475	1220	950	550																	
SN13D SNB13D	2	13	0	2590	2520	2450	2370	2280	2190	2080	1970	1840	1705	1520	1310	1055	720	240						144	333
			20	2440	2360	2260	2160	2050	1940	1805	1660	1510	1340	1100	785	325									
			30	2330	2240	2140	2035	1915	1780	1640	1480	1315	1120	810	370										
			40	2225	2130	2015	1900	1765	1620	1465	1290	1090	770	310											
			50	2130	2010	1890	1752	1614	1458	1240	1080	822	450												
			60	1980	1855	1715	1570	1410	1230	1010	745	390													
SN18D SNB18D	3	18	0	2650	2610	2570	2515	2455	2395	2330	2260	2185	2105	2000	1890	1760	1625	1490	1350	990	365			203	469
			20	2550	2500	2440	2380	2310	2240	2165	2080	1990	1900	1780	1655	1510	1370	1240	1020	450					
			30	2490	2430	2370	2300	2230	2155	2070	1985	1895	1795	1660	1530	1380	1225	1040	800						
			40	2420	2360	2285	2215	2140	2050	1970	1870	1780	1650	1505	1360	1200	1010	725	425						
			50	2352	2286	2220	2148	2070	1974	1890	1782	1674	1566	1422	1260	1092	858	558							
			60	2270	2195	2110	2030	1950	1850	1750	1645	1530	1380	1230	1050	810	480								
SN26D SNB26D	5	26	0	2660	2635	2605	2570	2530	2490	2455	2410	2370	2320	2260	2195	2130	2065	1990	1920	1760	1570	1360	830	293	677
			20	2590	2560	2525	2485	2440	2400	2350	2310	2260	2200	2140	2075	2005	1930	1850	1775	1590	1385	1150	420		
			30	2555	2520	2480	2435	2395	2350	2300	2250	2195	2150	2080	2010	1940	1865	1780	1690	1500	1285	1030	100		
			40	2510	2470	2430	2390	2340	2290	2245	2190	2140	2075	2000	1930	1850	1770	1680	1590	1380	1145	850			
			50	2460	2436	2388	2334	2286	2232	2178	2130	2082	2022	1950	1875	1794	1710	1620	1524	1314	1068	720			
			60	2420	2375	2330	2280	2230	2180	2125	2070	2010	1940	1865	1790	1690	1600	1500	1400	1170	890	445			
SN30D SNB30D	5	30	0	2675	2650	2630	2600	2570	2540	2500	2465	2430	2390	2340	2285	2230	2170	2110	2045	1920	1780	1625	1280	755	338	781
			20	2620	2590	2560	2530	2495	2455	2420	2380	2335	2290	2240	2180	2120	2070	1990	1930	1795	1640	1475	1080	390	
			30	2585	2555	2525	2490	2455	2410	2370	2335	2285	2245	2185	2130	2065	2005	1940	1870	1730	1565	1390	960	150	
			40	2550	2515	2485	2440	2405	2365	2320	2280	2240	2180	2120	2050	1990	1930	1860	1795	1640	1470	1290	780		
			50	2508	2475	2442	2406	2364	2325	2280	2235	2190	2022	2088	2028	1950	1890	1812	1752	1590	1422	1224	672		
			60	2470	2435	2395	2360	2315	2270	2220	2170	2130	2065	2000	1940	1870	1805	1730	1650	1480	1300	1090	420		

*Refer to price list for [illegible]

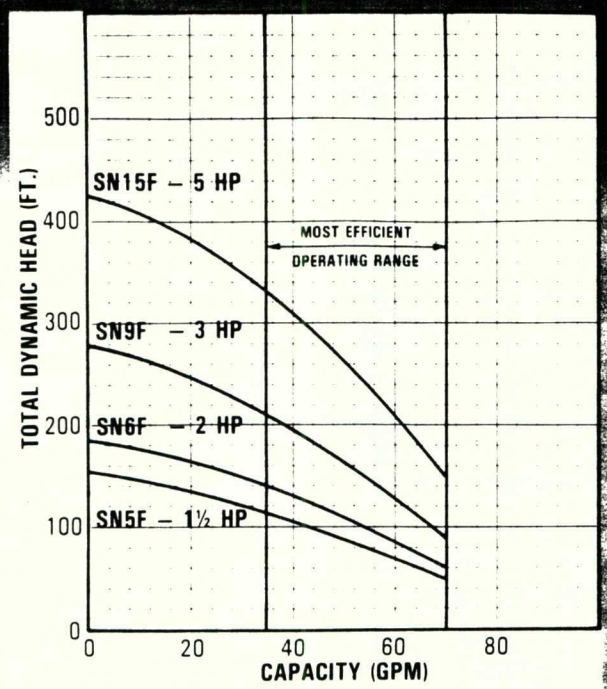
Complete Pumping Unit Includes: [illegible]

50 GPM & 75 GPM

FEATURES



Plus...



50 GPM

1½ thru 5 h.p.

MAXIMUM DIAMETER	3 13/16"
DISCHARGE N.P.T.	2"

*Pump Number	H.P.	Stages	Discharge P.S.I.	PUMPING LEVEL FEET 20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	340	380	420	MAXIMUM PRESSURE PSI	FT.
				CAPACITY – GALLONS PER MINUTE																			
SN5F SNB5F	1½	5	0			65	55	44	32	17												67	155
			20	62	52	41	28	11															
			30	50	41	26	7																
			40	37	22	5																	
			50	20																			
SN6F SNB6F	2	6	0			70	62	54	45	35	25	8										81	186
			20	68	60	52	42	32	20														
			30	58	50	40	30	16															
			40	47	39	28	15																
			50	38	26	12																	
			60	24	9																		
SN9F SNB9F	3	9	0					69	62	57	51	45	38	31	23	13						121	280
			20			66	60	55	49	43	36	28	20	10									
			30		65	60	54	48	42	35	27	19	8										
			40	64	59	53	47	41	33	26	17	6											
			50	58	52	46	40	32	24	15													
			60	51	45	38	31	23	13														
SN15F SNB15F	5	15	[illegible]								68	65	61	58	55	51	48	42	33	20	4	184	425
			[illegible]						67	64	61	57	53	49	45	41	36	31	18				
			[illegible]					66	63	60	56	53	49	45	40	35	30	24	9				
			[illegible]			69	66	63	59	56	52	48	44	39	34	29	23	16					
			[illegible]		69	65	62	59	56	51	47	43	39	34	28	22	15	6					
			[illegible]	68	65	62	58	55	51	47	42	38	33	27	21	13	4						

*Refer to price list for [illegible]

Complete Pumping Unit Includes: Single Phase: [illegible]
Single Phase: [illegible] Check Valve
Three Phase: [illegible] Overload Protectors and External Check Valve

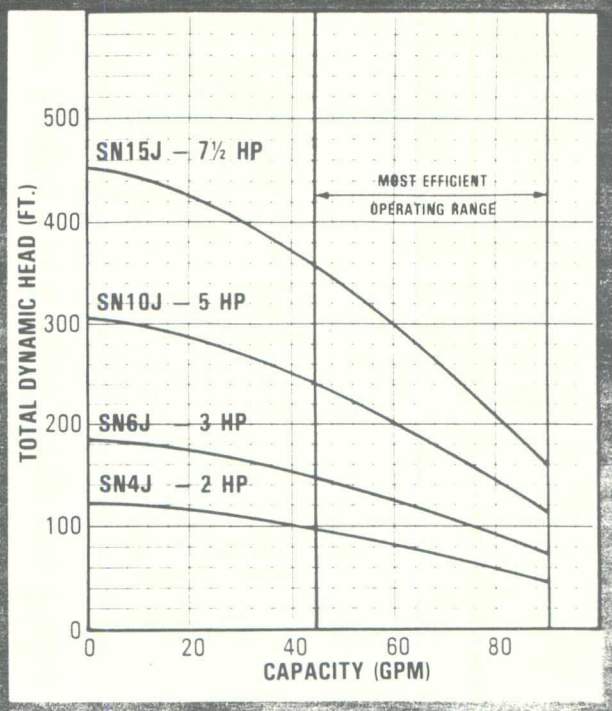
When installation conditions permit higher capacity pumps to operate at lower heads and greater flow rates than those shown on the performance curves, upthrust may occur. A BURKS flow Control Venturi will insure that this will not happen. See Form #908.
Operation of Series SN-F pumps at capacities greater than 70 GPM will cause the pump to run in an upthrust condition and will void the pump warranty.

Series SN-J

75 GPM

2 thru 7½ h.p.

MAXIMUM DIAMETER	3 13/16"
DISCHARGE N.P.T.	2"



*Pump Number	H.P.	Stages	Discharge P.S.I.	PUMPING LEVEL FEET 20	40	60	80	100	120	140	160	180	200	220	240	260	280	300	340	360	420	MAXIMUM PRESSURE PSI	FT.
				CAPACITY — GALLONS PER MINUTE																			
SN4J SNB4J	2	4	0			79	61	41	12													53	123
			20	74	56	34																	
			30	52	29																		
			40	26																			
SN6J SNB6J	3	6	0				85	75	63	51	35	13										80	185
			20		83	72	60	50	30														
			30	81	70	58	44	26															
			40	68	56	42	23																
			50	53	38	18																	
			60	36	14																		
SN10J SNB10J	5	10	0						87	81	75	68	61	53	45	35	24					132	305
			20				85	79	73	66	59	51	42	32	20								
			30		90	84	78	71	63	57	50	40	30	16									
			40	89	83	77	70	64	56	48	39	28	14										
			50	82	76	69	62	56	46	37	26	10											
			60	75	68	61	54	45	36	24													
SN15J SNB15J	7½	15	[illegible]								90	87	81	76	72	67	63	58	49	38	23	195	450
									89	84	79	73	70	63	61	57	52	47	36	20			
								88	83	79	74	69	65	61	56	51	46	41	28				
							87	82	78	73	69	64	60	55	51	45	40	36	16				
						87	81	77	72	68	63	59	54	50	45	39	33	27					
				90	85	81	76	72	67	63	58	54	49	44	38	31	23	12					

*Refer to price list for complete [illegible] phase, etc.

Complete Pumping Unit Includes: [illegible]

When installation conditions permit higher capacity pumps to operate at [illegible] flow rates than those shown on the performance curves, upthrust may occur. A BURKS Flow Control Venturi will insure that this will not happen. See Form #[illegible].
Operation of Series SN-J pumps at capacities greater than 80 GPM will cause the pump to run in an upthrust condition and will void the pump warranty.

SPECIFICATIONS

SERIES SN-A	SN11A	SN15A	SN21A	SN26A	SN35A
HP	⅓	½	¾	1	1½
LENGTH	28"	32"	41"	47"	58"
WEIGHT	30 lbs.	33 lbs.	40 lbs.	45 lbs.	65 lbs.

SERIES SN-AA	SN8AA	SN11AA	SN15AA	SN19AA	SN26AA
HP	⅓	½	¾	1	1½
LENGTH	25"	28"	32"	40"	49"
WEIGHT	28 lbs.	32 lbs.	36 lbs.	42 lbs.	67 lbs.

SERIES SN-B	SN6B	SN8B	SN12B	SN15B	SN20B	SN26B	SN34B
HP	⅓	½	¾	1	1½	2	3
LENGTH	23"	26"	31"	35"	45"	55"	65"
WEIGHT	27 lbs.	31 lbs.	35 lbs.	40 lbs.	50 lbs.	80 lbs.	110 lbs.

SERIES SN-C	SN6C	SN8C	SN10C	SN14C	SN17C	SN24C	SN34C
HP	½	¾	1	1½	2	3	5
LENGTH	23"	30"	34"	42"	53"	66"	82"
WEIGHT	30 lbs.	35 lbs.	40 lbs.	50 lbs.	90 lbs.	115 lbs.	155 lbs.

SERIES SN-D	SN10D	SN13D	SN18D	SN26D	SN30D
HP	1½	2	3	5	5
LENGTH	37"	47"	56"	72"	77"
WEIGHT	47 lbs.	70 lbs.	95 lbs.	125 lbs.	130 lbs.

SERIES SN-F	SN5F	SN6F	SN9F	SN15F
HP	1½	2	3	5
LENGTH	36"	43"	51"	70"
WEIGHT	47 lbs.	57 lbs.	71 lbs.	91 lbs.

SERIES SN-J	SN4J	SN6J	SN10J	SN15J
HP	2	3	5	7½
LENGTH	39"	45"	59"	89"
WEIGHT	55 lbs.	69 lbs.	86 lbs.	159 lbs.

CABLE SELECTION CHART

TWO WIRE AND THREE WIRE FRANKLIN MOTORS

Phase	Motor Volts	Motor H.P.	WIRE SIZE 14	12	10	8	6	4	2	0
1	115	⅓	134	212	333	522				
		½	100	159	249	390	608			
	230	⅓	433	687						
		½	404	641	1003					
		¾	293	473	740	1161				
		1	248	392	617	968	1507			
		1½	205	326	510	801	1248			
		2	180	286	449	703	1096	1675		
		3		229	359	563	877	1339	2041	
		5			216	315	490	750	1142	1540
3	200	1½	320	510	800	1260				
		2	250	390	610	960	1500			
		3	180	290	450	710	1110	1690		
		5			300	470	730	1110	1690	
		7½				340	530	810	1230	1660
	230	1½	430	680	1070	1680				
		2	320	510	790	1250	1940			
		3	240	380	600	940	1470	2240		
		5		250	390	620	960	1470	2230	
		7½			290	450	700	1070	1630	2200
	460	1½	1720							
		2	1280	2030						
		3	960	1530	2400					
		5	630	1000	1570	2470				
		7½	460	730	1150	1800	2810			
	575	1½	2640							
		2	1860							
		3	1490	2370						
		5	980	1560	2440					
		7½	720	1150	1800	2820				

If required length falls between two wire sizes, use larger of two wire sizes (smaller number).

CAUTION!! Use of wires smaller than determined in chart will void warranty, since low starting voltage and early failure of the unit will result. Larger wire sizes (smaller numbers) may always be used to improve economy of operation. Voltage at control box or starter must be within the following limits.

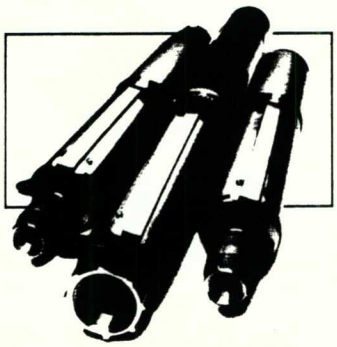
Volts	Phase	Minimum	Maximum
115	1	104	126
230	1	207	246
200	3	180	220
230	3	207	246
460	3	414	506
575	3	518	632

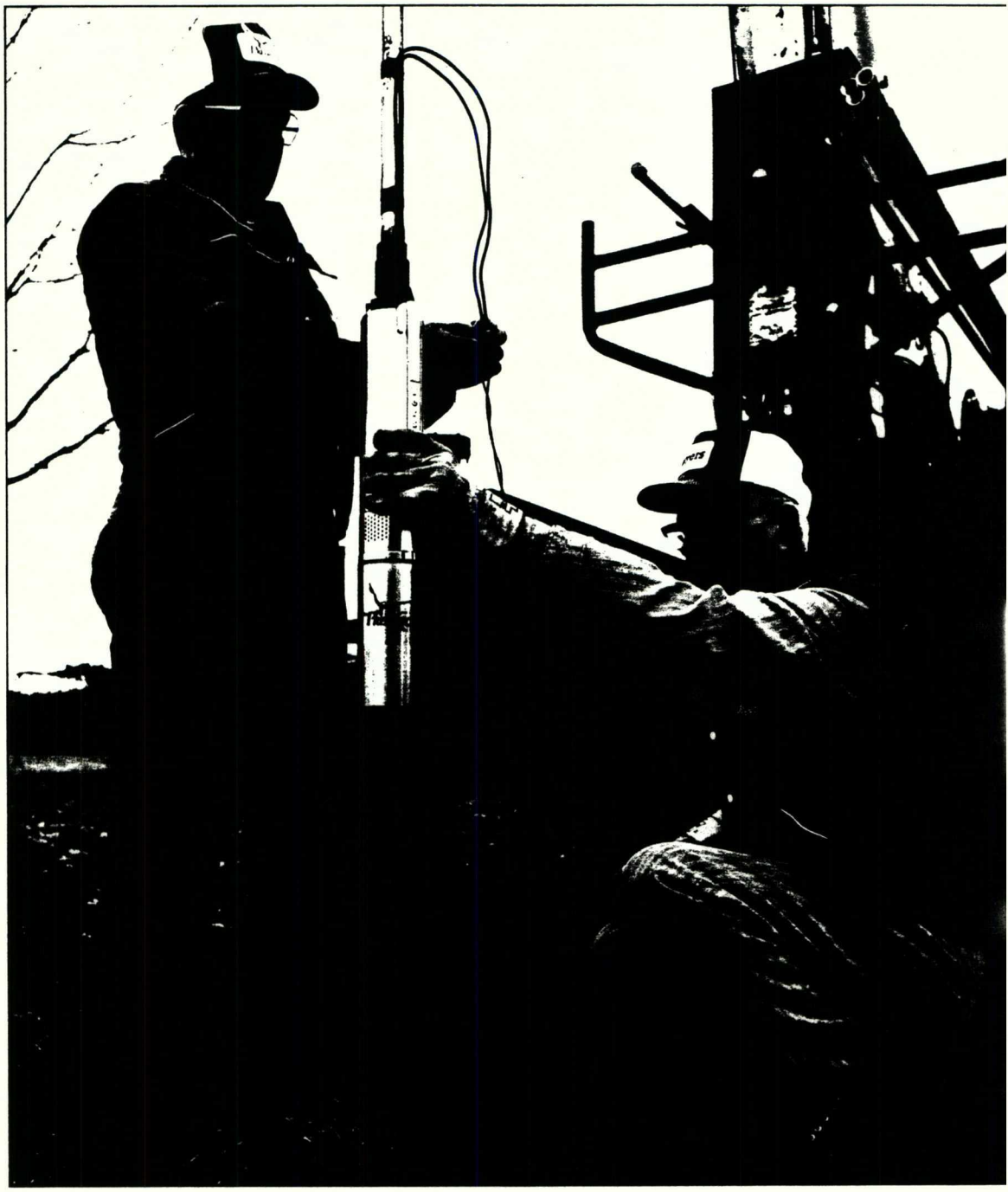
Single phase control boxes may be connected at any point of the total cable length.

The portion of the total cable which is between the service entrance and a 3 ϕ motor starter should not exceed 25% of the total maximum length to assure reliable starter operation.

Myers®

SJ Series Stainless Steel 4″ Submersible Pumps





CH2M HILL TELEPHONE CONVERSATION RECORD

Date 2/16/87 Time 2^27 a.m. p.m. Phone No. 419 289 1144 Project No. 463720.FR

x To (A) Jerry Jones / F.E. Myers

x From (B) Linda R

Subject

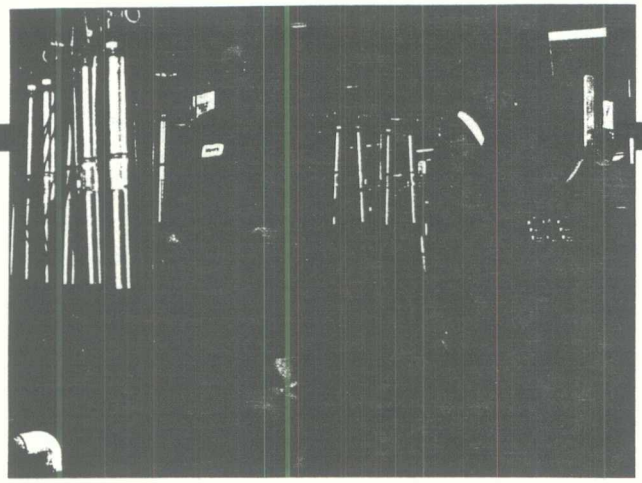
Discussed adequacy of Wegner Pumps models J3050, J2050 for SLP W23 application.

BY

Myers 4" Submersibles: Setting New Standards of Quality

THE PREDATOR

SJ 4-8-11-18 GPM,
1/3 thru 1-1/2 HP

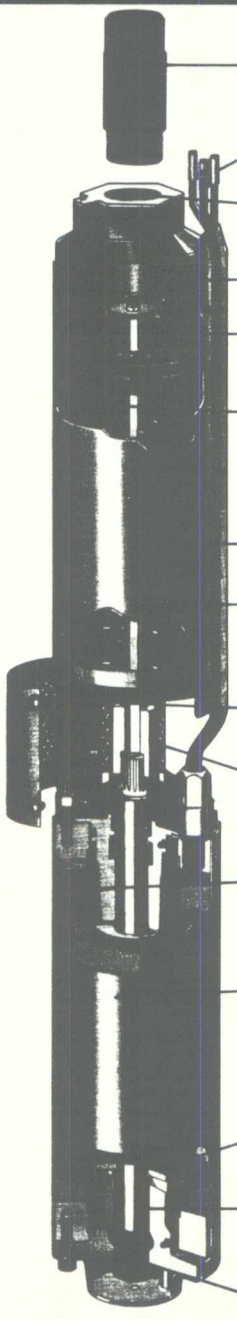


Myers builds on a tradition of excellence with its improved line of SJ submersible pumps. The Myers 4" submersible line offers water systems professionals a pump which meets every depth and performance requirement.

The capacities of the 4" SJ submersible line range from 4 through 80 GPM with operating depths to 1000 feet. Motors are available from 1/3 HP through 7-1/2 HP. All models have highly efficient, corrosion resistant, all stainless steel exterior construction. And all Myers submersible pumps are built using the most advanced manufacturing technology, so you can be sure of superior performance and long pump life.

From the Predator through the SJ Extension, the Myers submersible line builds on a century of reliability and excellence.

Myers: Quality in Motion



CHECK VALVE
Replaceable

ELECTRICAL CONNECTORS
Factory crimped to motor leads for easy installation.

COUPLING THREADS
Stainless Steel.

DISCHARGE BOWL
Totally corrosion resistant.

RUBBER BEARING
For maximum abrasion resistance and replaceability.

PBT POLYESTER PUMP STAGING
Balance impeller design, low friction for high efficiency and longer life.

CABLE GUARD
One Piece Stainless Steel.

PUMP SHELL
Heavy stainless steel for corrosion resistance and durability.

SUCTION BOWL
Corrosion resistant Lexan® 500.

SHAFT AND COUPLING
Unitized for easy assembly to motor face.

ON WINDING OVERLOADS
Provide best protection against motor failure due to heat. 2 & 3 wire motors.

HERMETICALLY SEALED MYERS NEMA MOTOR
Complete insulation and superior heat dissipation. Water lubricated.

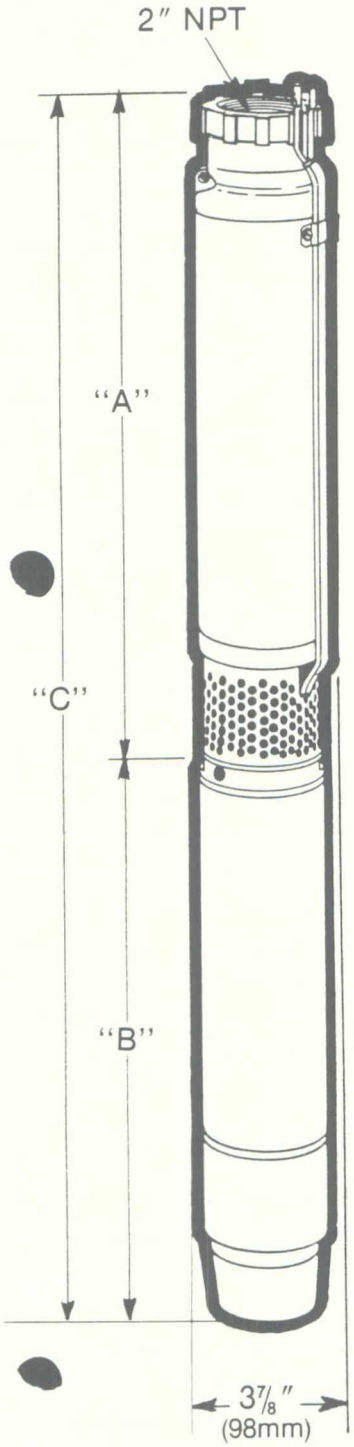
KINGSBURY THRUST BEARING
Provides long life and high thrust capability.

CARBON GRAPHITE SLEEVE BEARINGS
For positive alignment durability and longevity.

RUBBER DIAPHRAGM
Balances pressure differential between motor interior and well.

SJ Series 4″ Submersible Pumps Specifications for 25-80 GPM (95-303 LPM) 60 Hz

Myers®



PUMP SPECIFICATION TABLES

25 GPM (95 LPM)

PUMP CAT. NO.	HP	KW	STAGES	LENGTH "A"		WEIGHT		TOTAL LENGTH "C"		TOTAL WEIGHT	
				IN.	MM	LBS.	KG	IN.	MM	LBS.	KG
J1025	1	0.75	7	20	508	14	6	40	1016	43	19
J1525	1½	1.12	9	23	584	15	7	46	1168	49	22
J2025	2	1.49	11	26	660	17	8	46	1168	57	26
J3025	3	2.24	15	31	784	20	9	54	1371	73	33
J5025	5	3.73	25	49	1244	31	14	78	1981	97	44
J7525	7½	5.59	37	69	1752	45	20	116	2946	154	69

35 GPM (132 LPM)

PUMP CAT. NO.	HP	KW	STAGES	LENGTH "A"		WEIGHT		TOTAL LENGTH "C"		TOTAL WEIGHT	
				IN.	MM	LBS.	KG	IN.	MM	LBS.	KG
J1535	1½	1.12	6	20	508	14	6	43	1092	48	22
J2035	2	1.49	8	24	609	16	7	44	1117	56	25
J3035	3	2.24	11	29	736	25	11	52	1320	78	35
J5035	5	3.73	18	44	1117	30	14	73	1854	96	43
J7535	7½	5.59	28	62	1574	42	19	109	2768	151	68

50 GPM (189 LPM)

PUMP CAT. NO.	HP	KW	STAGES	LENGTH "A"		WEIGHT		TOTAL LENGTH "C"		TOTAL WEIGHT	
				IN.	MM	LBS.	KG	IN.	MM	LBS.	KG
J1550	1½	1.12	6	24	609	17	8	41	1041	49	22
J2050	2	1.49	7	26	660	19	9	46	1168	59	27
J3050	3	2.24	10	33	838	23	10	56	1422	76	34
J5050	5	3.73	16	50	1270	32	14	79	2006	98	44
J7550	7½	5.59	25	72	1828	46	21	119	3022	109	49

80 GPM (303 LPM)

PUMP CAT. NO.	HP	KW	STAGES	LENGTH "A"		WEIGHT		TOTAL LENGTH "C"		TOTAL WEIGHT	
				IN.	MM	LBS.	KG	IN.	MM	LBS.	KG
J2080	2	1.49	6	26	660	15	7	46	1168	55	25
J3080	3	2.24	9	36	914	19	9	59	1498	72	33
J5080	5	3.73	14	57	1447	29	13	86	2184	95	43
J7580	7½	5.59	22	84	2133	40	18	131	3327	149	68

NOTE: Overall length "C" may vary due to manufacturer and motor phase. **Motor lengths "B" listed on Page 11.**

CATALOG NUMBERING

Motor						Pump		
Submersible	Series	MFG*	HP**	Volts***	Phase°	Series	HP**	GPM∞
S	J	F	15	2	3	J	75	35

* F = Franklin
** 15 = 1½ HP, 20 = 2 HP, 30 = 3 HP; 50 = 5 HP; 75 = 7½ HP
*** 2 = 230, 1 = 115
° 1 = Single Phase, 3 = Three Phase
∞ 25 = 25 GPM; 35 = 35 GPM; 50 = 50 GPM; 80 = 80 GPM

NOTE: For Control Box Catalog Numbers Drop "F" & Use "C" in place of "S" in Motor Number.
SJF1523 = CJ1523 (Control Box Number).

SJ PUMP SELECTION TABLE

DISCH. PRESS.	CAT. NO.	HP	KW	GPM	LPM	DEPTH TO WATER LEVEL IN FEET* — CAPACITIES IN GPM																					SHUT-OFF HEAD	
						20	50	100	125	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	PSI	KPa
0	J1025	1	.75	25	95					28.2	15.8																99	683
	J1525	1½	1.12									13.3															120	827
	J2025	2	1.49									25.1	15.5														150	1034
	J3025	3	2.24										28.9	23.3	16.0												204	1407
	J5025	5	3.73														27.9	24.3	20.9	16.4							336	2317
	J7525	7½	5.59																33.8								506	3489
	J1535	1½	1.12	35	132				39.0	28.8																	77	531
	J2035	2	1.49						47.7	42.5	28.4																104	717
	J3035	3	2.24								43.2	34.0															143	986
	J5035	5	3.73										44.7	40.0	34.9	28.0											234	1613
	J7535	7½	5.59													44.3	41.5	37.2	34.9	31.0	26.5						363	2503
—	J1550	1½	1.12	50	189			51.5	39.0																		71	490
	J2050	2	1.49					60.0	51.0	40.0																	87	600
	J3050	3	2.24						62.2	55.5	40.6																120	827
	J5050	5	3.73								62.4	54.0	45.3														193	1331
	J7550	7½	5.59										62.8	57.1	51.9	45.9											295	2034
	J2080	2	1.49	80	303		82.5																				62	427
	J3080	3	2.24				97.5	77.0	64.0																		94	648
	J5080	5	3.73					98.5	89.5	80.5	61.5																148	1020
	J7580	7½	5.59							100.5	89.0	77.3	64.0														231	1593
40	J1025	1	.75	25	95		27.7	18.2																				
	J1525	1½	1.12					26.5	21.8	15.8																		
	J2025	2	1.49				37.4		30.1	26.3	17.2																	
	J3025	3	2.24								29.7	24.2	17.2															
	J5025	5	3.73												28.4	24.8	21.4	17.2										
	J7525	7½	5.59																30.6	28.6	26.5	24.0	21.3	18.7				
	J1535	1½	1.12	35	132	42.9	27.5																					
	J2035	2	1.49				42.0	31.1																				
	J3035	3	2.24					44.4	40.3	35.5																		
	J5035	5	3.73								45.4	40.7	35.8	29.2														
	J7535	7½	5.59											44.6	42.1	37.8	35.2	31.8	27.0									
	J1550	1½	1.12	50	189	45.7																						
	J2050	2	1.49			55.7	38.8																					
	J3050	3	2.24			65.3	54.8	43.1																				
	J5050	5	3.73					63.6	59.5	55.3	46.7																	
	J7550	7½	5.59								63.7	57.9	52.7	46.9	40.1													
	J2080	2	1.49	80	303																							
	J3080	3	2.24			70.7																						
	J5080	5	3.73			94.0	79.6	64.5																				
	J7580	7½	5.59				100.0	90.8	85.0	79.2	66.1																	
50	J1025	1	.75	25	95		22.6																					
	J1525	1½	1.12				29.2	22.2	16.2																			
	J2025	2	1.49						26.6	22.4																		
	J3025	3	2.24								27.3	21.3																
	J5025	5	3.73											30.1	26.8	23.2	19.7											
	J7525	7½	5.59																29.7	27.7	25.5	22.7	20.3	16.5				
	J1535	1½	1.12	35	132	35.3																						
	J2035	2	1.49			45.6	36.2																					
	J3035	3	2.24					40.6	35.9	30.7																		
	J5035	5	3.73								43.3	38.5	33.0	25.4														
	J7535	7½	5.59											43.7	40.1	36.3	34.1	29.3	25.6									
	J1550	1½	1.12	50	189																							
	J2050	2	1.49			46.8																						
	J3050	3	2.24			59.5	48.2																					
	J5050	5	3.73					59.8	55.6	51.4	42.3																	
	J7550	7½	5.59								61.0	55.5	50.2	43.8														
	J3080	3	2.24	80	303																							
	J5080	5	3.73			85.7	71.0																					
	J7580	7½	5.59				94.7	85.4	79.6	73.4	59.7																	
60	J1025	1	.75	25	95	26.4																						
	J1525	1½	1.12				25.4	16.7																				
	J2025	2	1.49					26.9	22.8	18.0																		
	J3025	3	2.24							30.0	24.7	17.8																
	J5025	5	3.73										28.7	25.1	21.7	17.6												
	J7525	7½	5.59														30.7	28.8	26.7	24.2	21.5	19.0						
	J1535	1½	1.12	35	132																							
	J2035	2	1.49			40.5	28.9																					
	J3035	3	2.24				43.4	36.3	31.1																			
	J5035	5	3.73							45.7	41.1	36.2	29.8															
	J7535	7½	5.59										44.7	42.4	38.1	35.4	32.2	27.2										
	J2050	2	1.49	50	189																							
	J3050	3	2.24			53.1	41.1																					
	J5050	5	3.73				62.6	55.9	51.7	47.4																		
	J7550	7½	5.59							64.1	58.3	53.1	47.4	40.6														
	J3080	3	2.24	80	303																							
	J5080	5	3.73			77.3	62.1																					
	J7580	7½	5.59			98.6	89.3	80.1	73.8	67.1																		

White Area Recommended Operating Range.

*Friction Losses Not Included.

Motor Leads/Pigtail.

Engineering No.	No. of Wires	Length
23144B	2	48"
23143B	3	48"
23143B1	3	100"

Note: All 5 & 7½ HP require 100" leads, all others use 48" leads.

DISCH. PRESS.	CAT. NO.	HP	KW	GPM	LPM	DEPTH TO WATER LEVEL IN FEET* — CAPACITIES IN GPM																			
						20	60	100	125	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
70	J1025	1	.75	25	95	21.1																				
	J1525	1½	1.12			28.3	20.9																			
	J2025	2	1.49				29.5	23.1	18.3																	
	J3025	3	2.24						30.2	27.7	21.8															
	J5025	5	3.73									30.3	27.1	23.5	20.0	15.1										
	J7525	7½	5.59															29.8	27.8	25.6	22.9	20.5	16.9			
	J2035	2	1.49	35	132	34.5																				
	J3035	3	2.24			45.9	39.5	31.5	25.3																	
	J5035	5	3.73						45.8	43.6	38.9	33.5	26.1													
	J7535	7½	5.59									43.9	40.5	36.5	34.3	29.7	25.9									
	J3050	3	2.24	50	189	46.4																				
	J5050	5	3.73			65.3	58.8	52.0	47.7	43.0																
	J7550	7½	5.59						64.3	61.4	55.9	50.6	44.4	37.3												
	J5080	5	3.73	80	303	68.6																				
	J7580	7½	5.59			93.3	84.0	74.3	67.7	60.8																

*Friction Losses Not Included.

MOTOR/CONTROL BOX SPECIFICATIONS

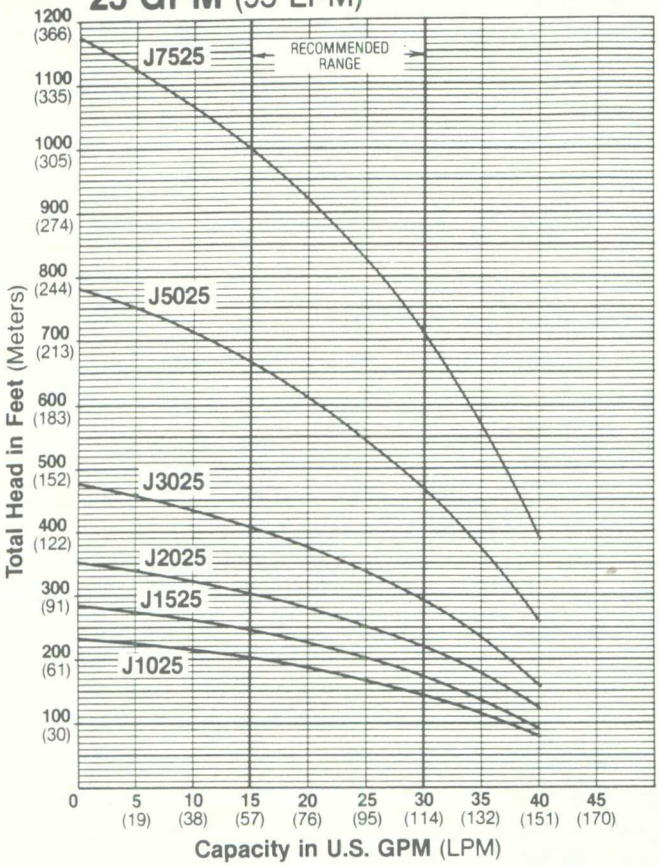
MOTOR CATALOG NUMBER	HP	KW	NO. OF WIRES	PH	VOLTS	MAX. AMPS.	LENGTH "B"		WEIGHT		CONTROL BOX CATALOG NUMBER	WEIGHT	
							IN.	MM	LBS.	KG		LBS.	KG
S2J102	1	0.75	2	1	230	9.5	20	508.0	29	13	—	—	—
SJ102	1	0.75	3	1	230	12.0	15	381.0	27	12	CJ10-2	4	2
S2J152	1½	1.12	2	1	230	6.4	23	584.2	34	15	—	—	—
SJ152	1½	1.12	3	1	230	11.6	17	431.8	32	14	CJ15-2	5	2
SJF1503	1½	1.12	3	3	200	7.4	18	457.2	25	11	CJ15-03	3	1
SJF1523	1½	1.12	3	3	230	6.4	18	457.2	25	11	CJ15-23	3	1
SJF1543	1½	1.12	3	3	460	3.2	18	457.2	25	11	CJ15-43	3	1
SJF2021	2	1.49	3	1	230	14.5	20	508.0	40	18	CJ20-21	11	5
SJF2003	2	1.49	3	3	200	9.4	20	508.0	40	18	CJ20-03	3	1
SJF2023	2	1.49	3	3	230	8.2	20	508.0	40	18	CJ20-23	3	1
SJF2043	2	1.49	3	3	460	4.1	20	508.0	40	18	CJ20-43	3	1
SJF3021	3	2.24	3	1	230	19.4	23	584.2	53	24	CJ30-21	15	7
SJF3003	3	2.24	3	3	200	13.1	23	584.2	53	24	CJ30-03	3	1
SJF3023	3	2.24	3	3	230	11.4	23	584.2	53	24	CJ30-23	3	1
SJF3043	3	2.24	3	3	460	5.7	23	584.2	53	24	CJ30-43	3	1
SJF5021	5	3.73	3	1	230	26.2	29	736.6	66	30	CJ50-31	15	7
SJF5003	5	3.73	3	3	200	20.0	29	736.6	66	30	CJ50-03	3	1
SJF5023	5	3.73	3	3	230	17.4	29	736.6	66	30	CJ50-23	3	1
SJF5043	5	3.73	3	3	460	8.7	29	736.6	66	30	CJ50-43	3	1
SJF5053	5	3.73	3	3	575	7.0	29	736.6	66	30	CJ50-53	3	1
SJF7503	7½	5.59	3	3	200	30.8	47	1193.8	109	49	CJ75-03	3	1
SJF7523	7½	5.59	3	3	230	26.8	47	1193.8	109	49	CJ75-23	3	1
SJF7543	7½	5.59	3	3	460	13.4	47	1193.8	109	49	CJ75-43	3	1
SJF7553	7½	5.59	3	3	575	10.7	47	1193.8	109	49	CJ75-53	3	1

SJ CABLE SELECTION CHART

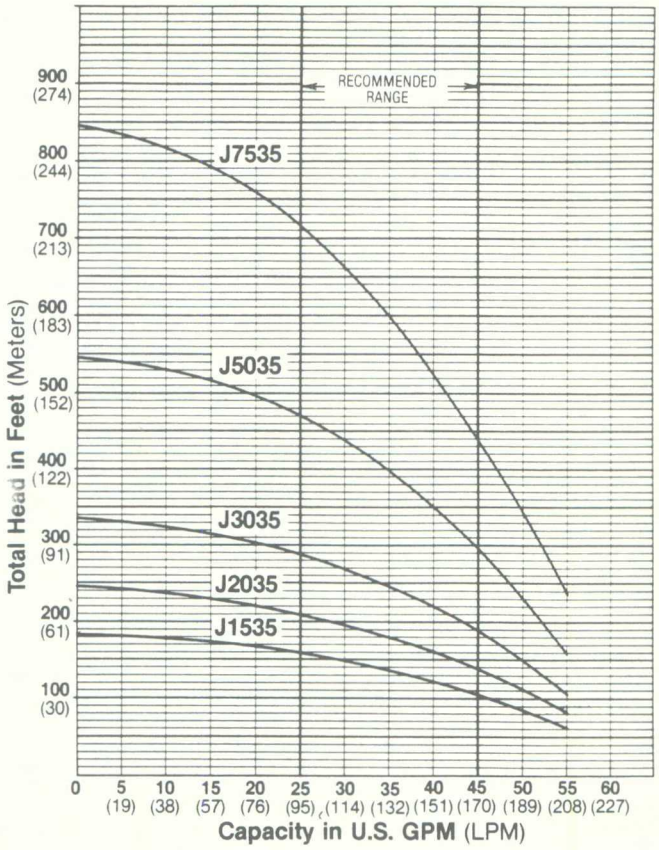
PUMP HP (KW)	PUMP WIRING	CATALOG NUMBER	VOLTS	PH	MAXIMUM CABLE LENGTH IN FEET (METERS)															
					#14		#12		#10		#8		#6		#4		#2		#0	
					FT.	M	FT.	M	FT.	M	FT.	M	FT.	M	FT.	M	FT.	M	FT.	M
1 (.75)	2-Wire	S2J102	230	1	245	74.6	389	118.5	610	185.9	957	291.6	1490	454.1	2277	694.0	3470	1057.6		
	3-Wire	SJ102	230	1			312	95.0	489	149.0	767	233.7	1195	364.2	1825	556.2	2782	847.9	3756	1144.8
1½ (1.12)	2-Wire	S2J152	230	1			312	95.0	489	149.0	767	233.7	1195	364.2	1875	571.5	2782	847.9	3756	1144.8
	3-Wire	SJ152	230	1			264	80.4	414	126.1	649	197.8	1011	308.1	1544	470.6	2354	717.4	3178	968.6
		SJF1503	200	3	320	97.5	510	155.4	800	243.8	1260	384.0								
		SJF1523	230	3	430	131.0	680	207.2	1070	326.1	1680	512.0								
		SJF1543	460	3	1720	524.2														
2 (1.49)	3-Wire	SJF2021	230	1	180	54.8	286	87.1	449	136.8	703	214.2	1096	334.0	1675	510.5				
		SJF2003	200	3	250	76.2	390	118.8	610	185.9	960	292.6	1500	457.2						
		SJF2023	230	3	320	97.5	510	155.4	790	240.7	1250	381.0	1940	591.3						
		SJF2043	460	3	1280	390.1	2030	618.7												
3 (2.24)	3-Wire	SJF3021	230	1			229	69.7	359	109.4	563	171.6	877	267.3	1339	408.1	2041	622.0		
		SJF3003	200	3	180	54.8	290	88.3	450	137.1	710	216.4	1110	338.3	1690	515.1				
		SJF3023	230	3	240	73.1	380	115.8	600	182.8	940	286.5	1470	448.0	2240	682.7				
		SJF3043	460	3	960	292.6	1530	466.3	2400	731.5										
5 (3.73)	3-Wire	SJF5021	230	1					216	65.8	315	96.0	490	149.3	750	228.6	1142	348.0	1540	469.3
		SJF5003	200	3					300	91.4	470	143.2	730	222.5	1110	338.3	1690	515.1		
		SJF5023	230	3			250	76.2	390	118.8	620	188.9	960	292.6	1470	448.0	2230	679.7		
		SJF5043	460	3	630	192.0	1000	304.8	1570	478.5	2470	752.8								
		SJF5053	575	3	780	237.7	1560	475.4	2440	743.7										
7½ (5.59)	3-Wire	SJF7503	200	3							340	103.6	530	161.5	810	246.8	1230	374.9	1660	505.9
		SJF7523	230	3					290	88.3	450	137.1	700	213.3	1070	326.1	1630	496.8	2200	670.5
		SJF7543	460	3	460	140.2	730	222.5	1150	350.5	1800	548.6	2810	856.4						
		SJF7553	575	3	720	219.4	1150	350.5	1800	548.6	2820	859.5								

SJ PERFORMANCE CURVES

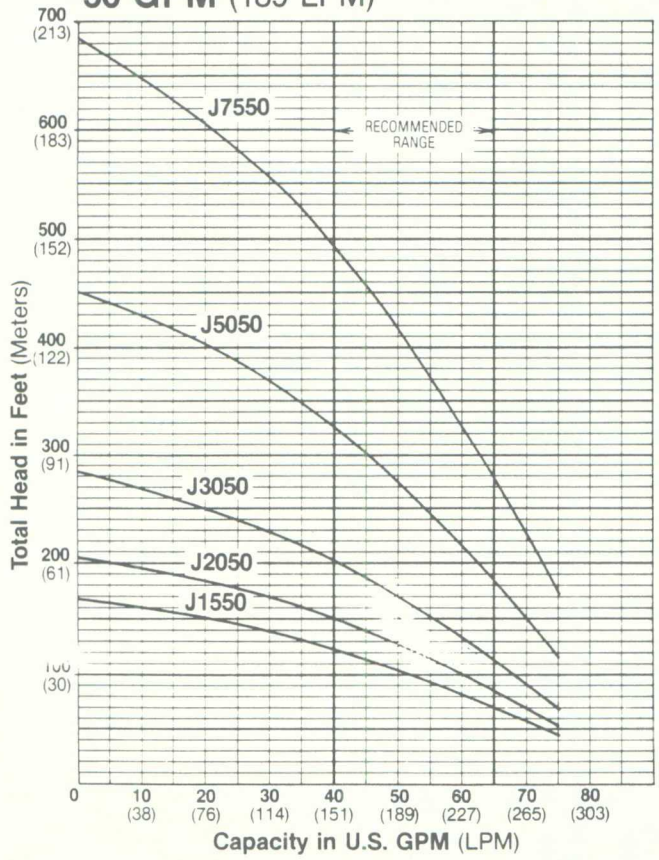
25 GPM (95 LPM)



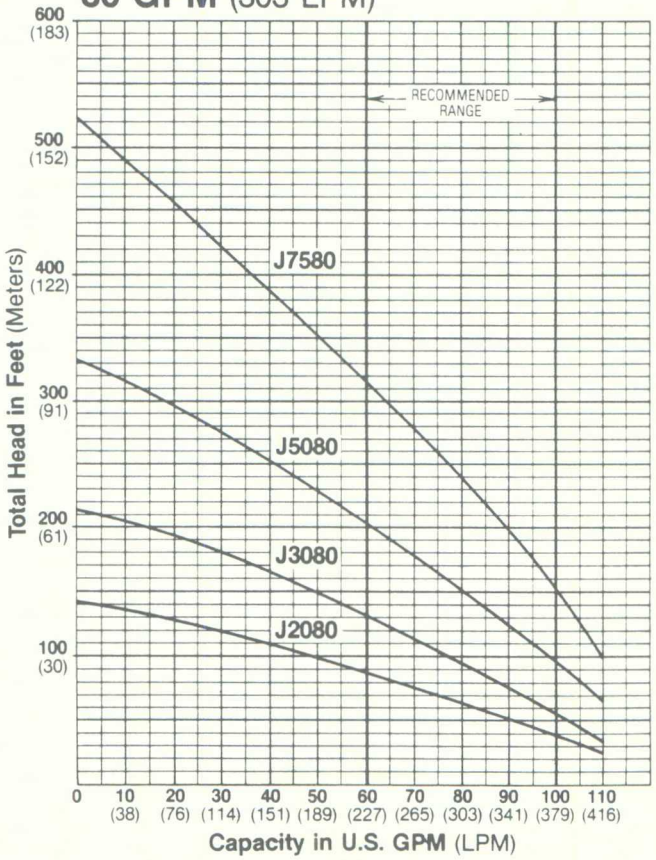
35 GPM (132 LPM)



50 GPM (189 LPM)

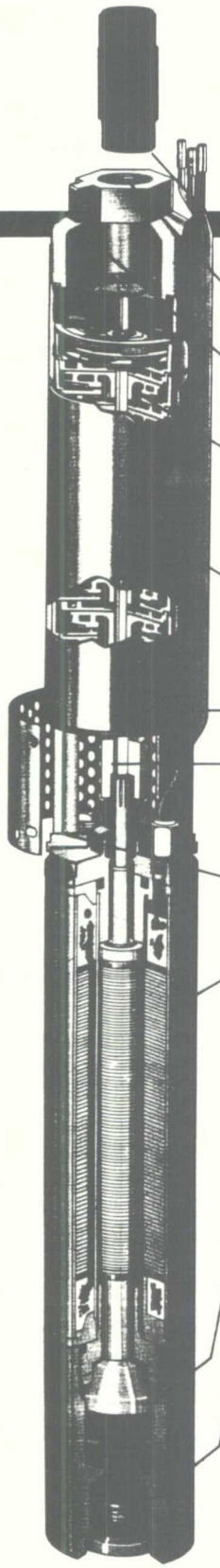


80 GPM (303 LPM)



F. E. MYERS CO.
400 ORANGE STREET
ASHLAND, OHIO 44805-2285
419 289-1144 TELEX 98-7443
DIVISION OF McNEIL CORPORATION

SJ 8-11-18 GPM, 2 thru 5 HP



CHECK VALVE
Replaceable

COUPLING THREADS
Stainless Steel.

DISCHARGE BOWL
Totally corrosion resistant stainless steel.

PBT POLYESTER PUMP STAGING
Balance impeller design, low friction for high efficiency and longer life.

PUMP SHELL
Heavy stainless steel for long wear and corrosion resistance.

CABLE GUARD
One Piece Stainless Steel.

SOLID STAINLESS STEEL COUPLING
Precision spline for positive drive connection easy assembly to motor shaft.

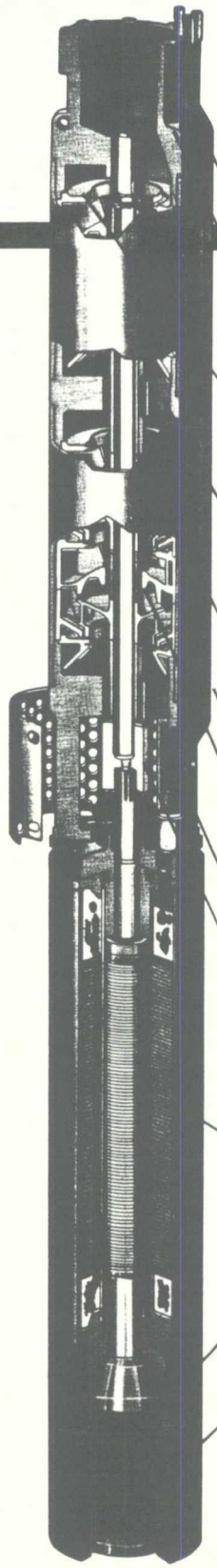
SUCTION BOWL
Solid cast stainless steel.

HERMETICALLY SEALED STATOR WINDINGS
With Anti-Track Resin System.

FRANKLIN NEMA MOTOR
Water lubricated with stainless steel outer shell and Kingsbury (shoe) thrust bearing.

PRESSURE EQUALIZING DIAPHRAGM
To balance pressure differential between motor interior and well.

SJ 25-35-50-80 GPM, 1 thru 7-1/2 HP



LEAD GUARD
Heavy gauge stainless steel.

DISCHARGE BOWL
Solid cast stainless steel with cast-in grounding terminal and safety rope lug.

STAGING
Made of glass-filled polycarbonate for strength and corrosion resistance. Designed for low friction and high efficiency.

INTERMEDIATE BEARING
On all 5 and 7-1/2 HP for positive shaft alignment. Cast stainless steel with bronze bearing insert.

PUMP SHELL
Heavy stainless steel for long wear and corrosion resistance.

CABLE GUARD
One Piece Stainless Steel.

HEAVY DUTY RUBBER BEARING
In each stage assembly on 50 and 80 GPM models.

SUCTION BOWL
Solid cast stainless steel

SOLID STAINLESS STEEL COUPLING
Precision spline for positive drive connection easy assembly to motor shaft.

HERMETICALLY SEALED STATOR WINDINGS
With Anti-Track Resin System.

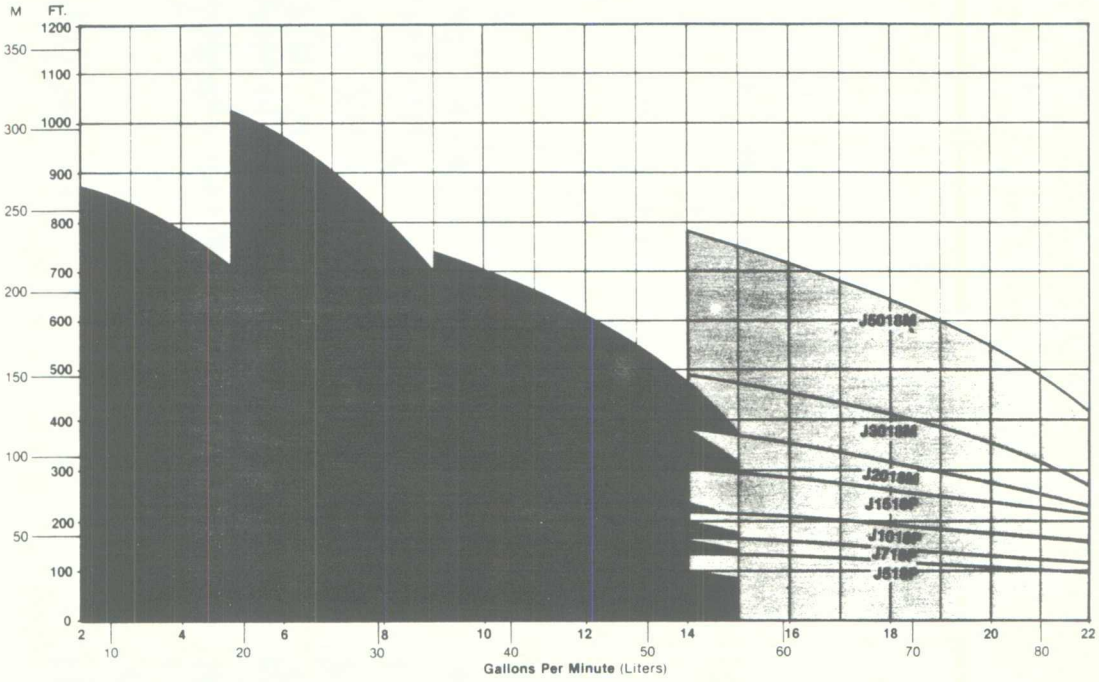
FRANKLIN NEMA MOTOR
Water lubricated with stainless steel outer shell and Kingsbury (shoe) thrust bearing.

PRESSURE EQUALIZING DIAPHRAGM
To balance pressure differential between motor interior and well.

Composite Selection Charts

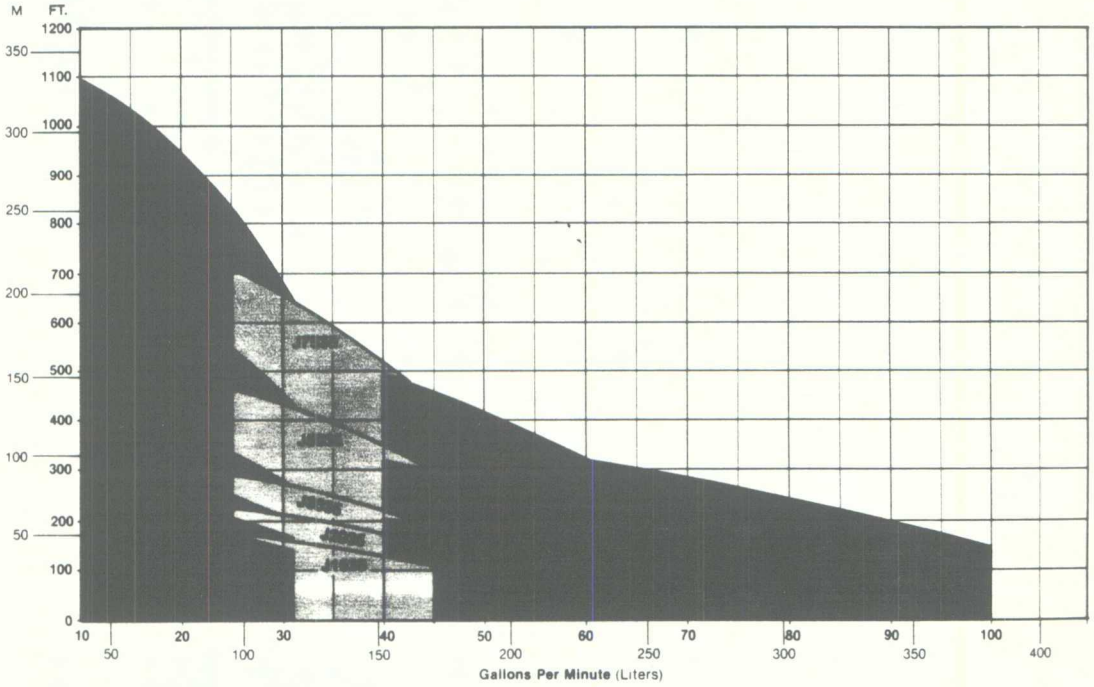
SJ SERIES 4" SUBMERSIBLE

4, 8, 11 & 18 GPM
1-1/4" Pump Discharge
1" & 1-1/4" Check Valve
1/3 thru 5 HP



SJ SERIES 4" SUBMERSIBLE

25, 35, 50 & 80 GPM
2" Discharge
1 thru 7-1/2 HP



Myers®

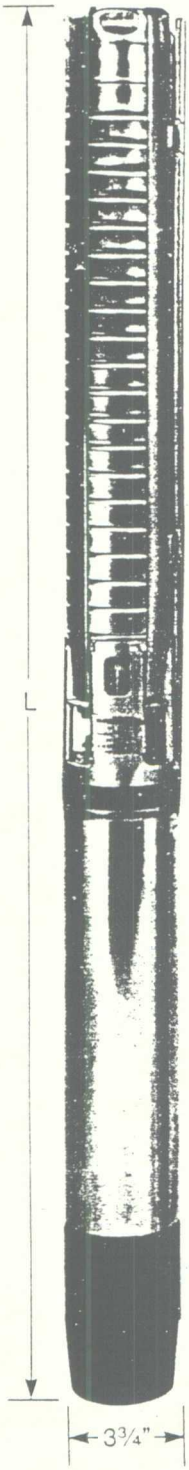
F.E. MYERS CO., Division of McNeil Corporation
400 Orange Street, Ashland, Ohio 44805-2285
419/289-1144 Telex 98-7443

K3143 3/86 Printed in U.S.A.

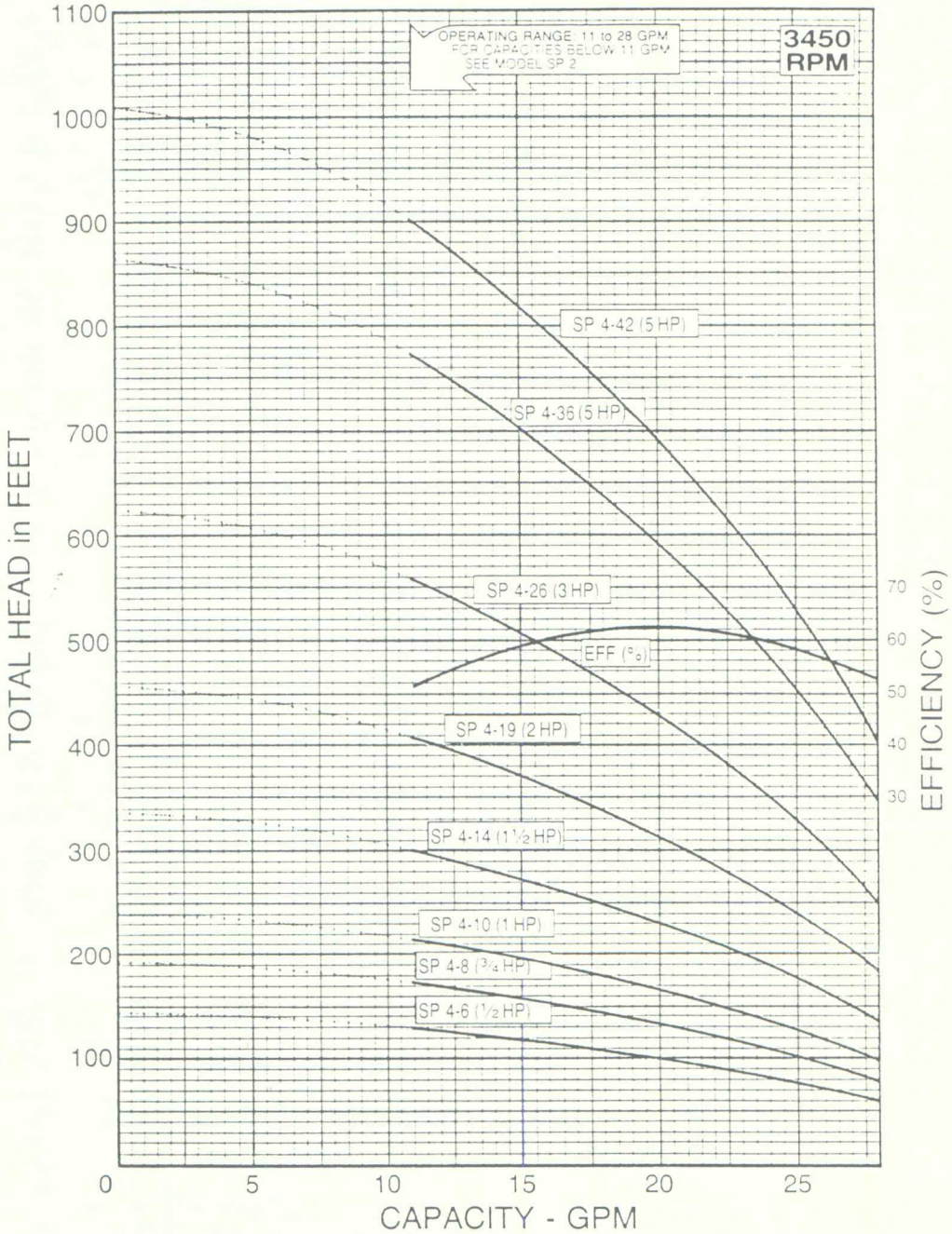
MODEL

SP 4

NOM. FLOW RATE
20 GPM
FLOW RANGE
11 to 28 GPM
PUMP OUTLET
1½" NPT



Performance Curves

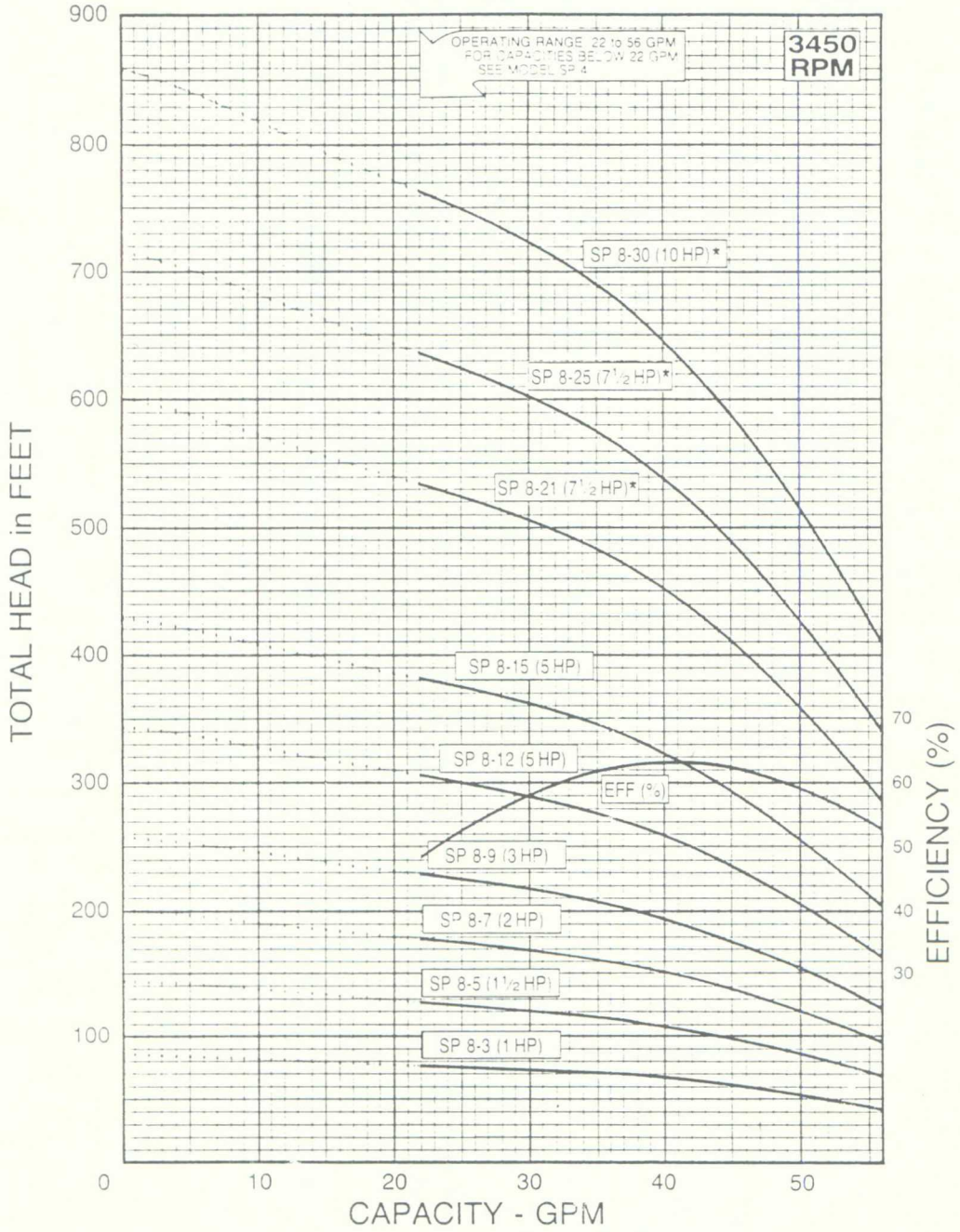


DIMENSIONS AND WEIGHTS

MODEL NO.	HP	LENGTH (L)	APPROX. UNIT SHIPPING WT. (LBS.)
SP 4-6	½	22⅞"	28
SP 4-8	¾	25¾"	33
SP 4-10	1	28⅝"	38
SP 4-14	1½	34⅝"	47
SP 4-19	2	43½"	59
SP 4-26	3	51¾"	78
SP 4-36	5	66⅛"	104
SP 4-42	5	71"	110

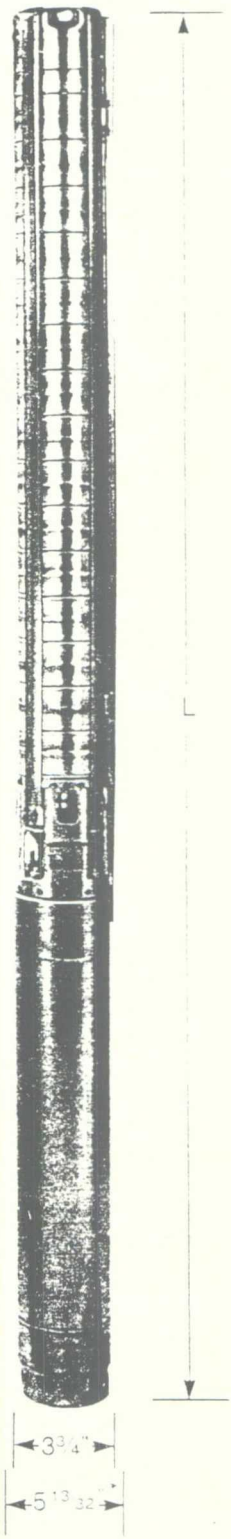
Specifications are subject to change without notice.

Performance Curves



MODEL
SP 8

NOM. FLOW RATE
40 GPM
FLOW RANGE
22 to 56 GPM
PUMP OUTLET
2" NPT



DIMENSIONS AND WEIGHTS

MODEL NO.	HP	LENGTH (L)	APPROX. UNIT SHIPPING WT. (LBS.)
SP 8-3	1	27⅞"	35
SP 8-5	1½	33¾"	43
SP 8-7	2	41⅞"	54
SP 8-9	3	47⅝"	70
SP 8-12	5	58⅝"	91
SP 8-15	5	63⅝"	97
SP 8-21	7½	75¾"	164
SP 8-25	7½	82⅜"	172
SP 8-30	10*	94⅜"	201

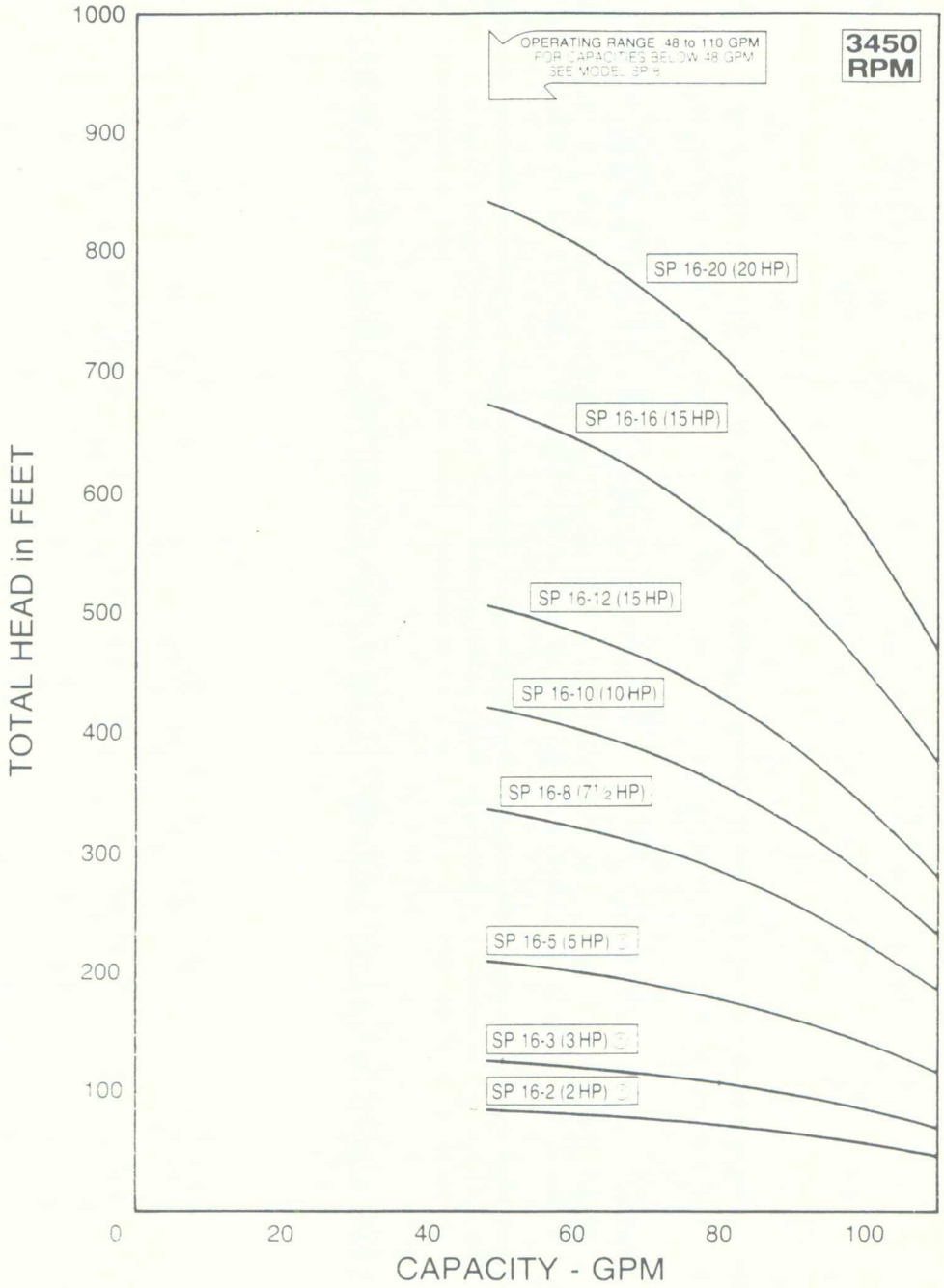
* A 6" minimum well diameter is required for the SP 8-21 (7½ HP), SP 8-25 (7½ HP) and SP 8-30 (10 HP) models.

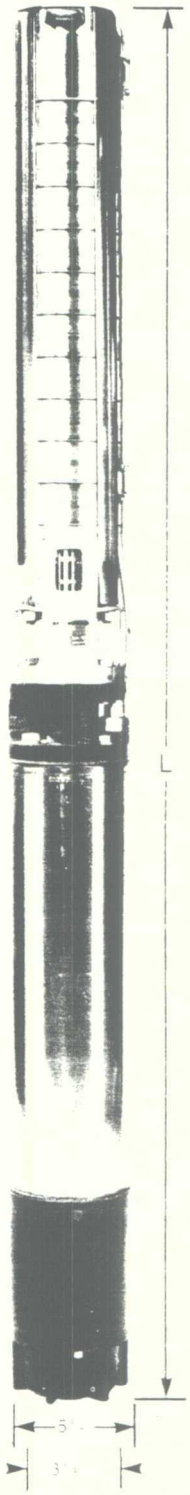
Specifications are subject to change without notice.

Performance Curves

MODEL
SP 16

NOM. FLOW RATE
80 GPM
FLOW RANGE
48 to 110 GPM
PUMP OUTLET
3" NPT





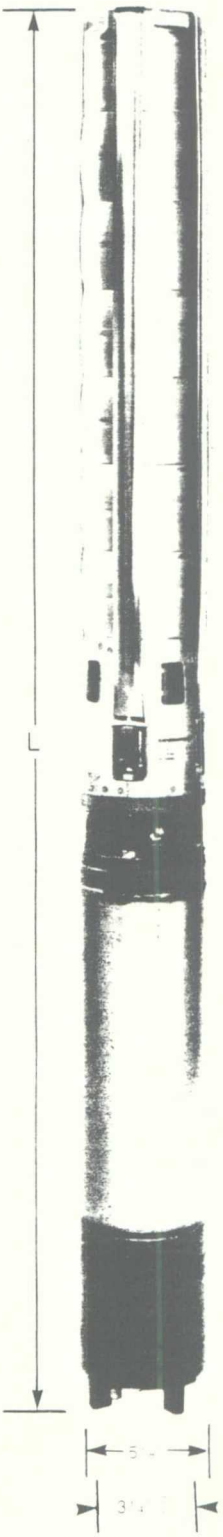
MODEL NO.	HP	MIN. WELL SIZE	LENGTH (L)	APPROX. UNIT SHIPPING WT. (LBS.)
SP 16-2	2	6"	33¾"	51
SP 16-3	3	6"	37⅞"	65
SP 16-5	5	6"	44⅜"	87
SP 16-8	7½	6"	51½"	144
SP 16-10	10	6"	56¼"	154
SP 16-12	15	6"	62¼"	173
SP 16-16	15	6"	69¼"	184
SP 16-20	20	6"	99"	207

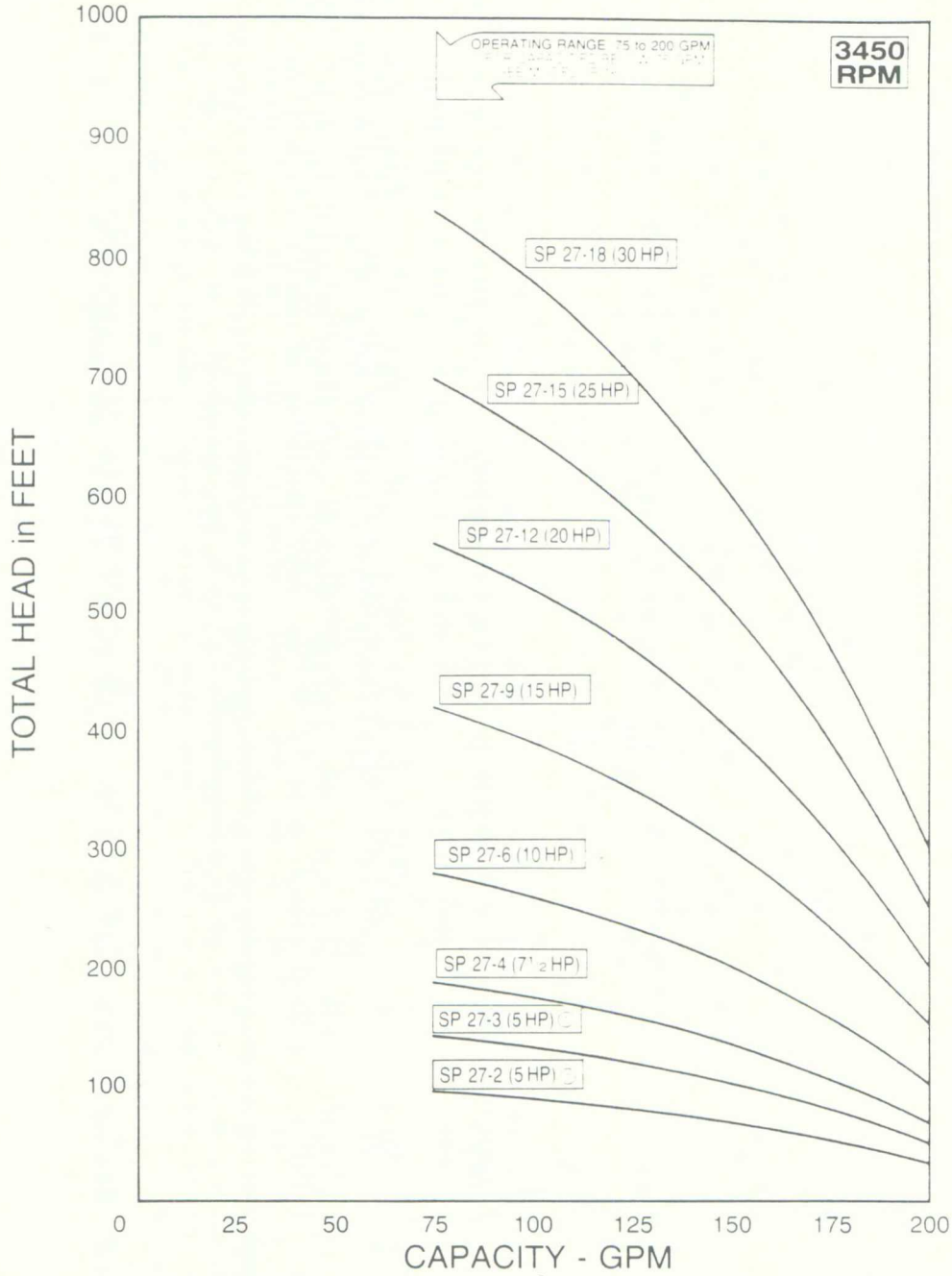
[illegible]

Specifications are subject to change without notice

MODEL SP 27

NOM. FLOW RATE
135 GPM
FLOW RANGE
75 to 200 GPM
PUMP OUTLET
3" NPT





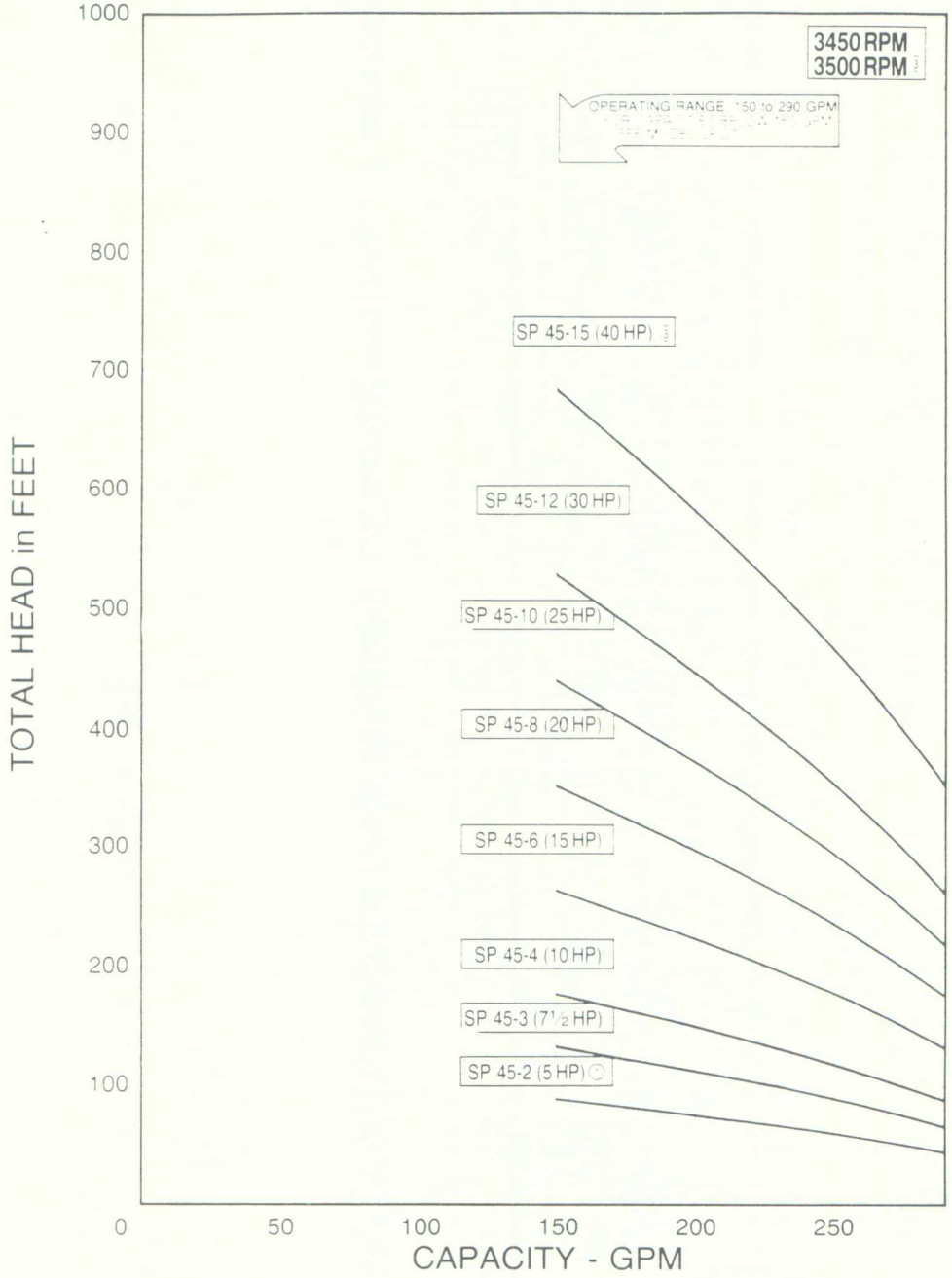
MODEL NO.	HP	MIN. WELL SIZE	LENGTH (L)	APPROX. UNIT SHIPPING WT. (LBS.)
SP 27-2	5	6"	42½"	84
SP 27-3	5	6"	47"	88
SP 27-4	7½	6"	51½"	146
SP 27-6	10	6"	59⅞"	167
SP 27-9	15	6"	73"	186
SP 27-12	20	6"	86¼"	225
SP 27-15	25	6"	99¼"	243
SP 27-18	30	6"	112⅜"	268

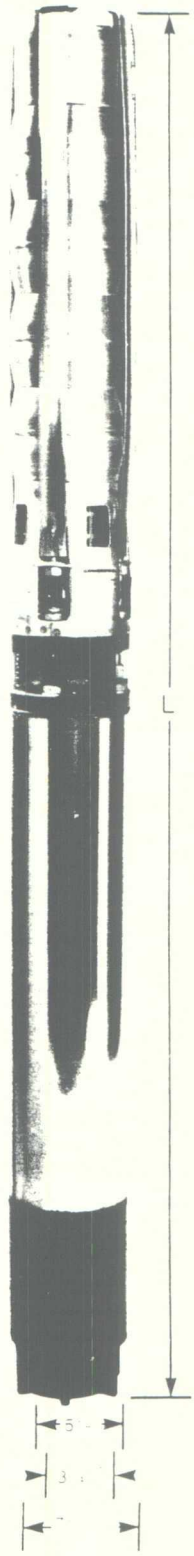
4 inch Motor

Specifications are subject to change without notice

MODEL SP 45

NOM. FLOW RATE
225 GPM
FLOW RANGE
150 to 290 GPM
PUMP OUTLET
3" NPT





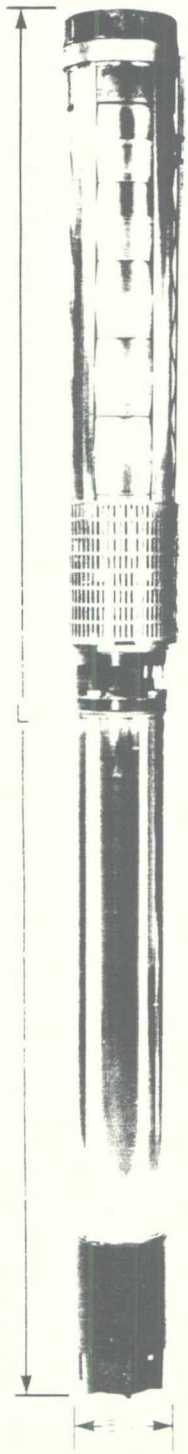
MODEL NO.	HP	MIN. WELL SIZE	LENGTH (L)	APPROX. UNIT SHIPPING WT. (LBS.)
SP 45-2	5	6"	43⅜"	86
SP 45-3	7½	6"	48½"	133
SP 45-4	10	6"	54⅜"	145
SP 45-6	15	6"	64¾"	174
SP 45-8	20	6"	75¼"	195
SP 45-10	25	6"	85⅝"	221
SP 45-12	30	6"	96⅞"	260
SP 45-15	40	8"	114"	456

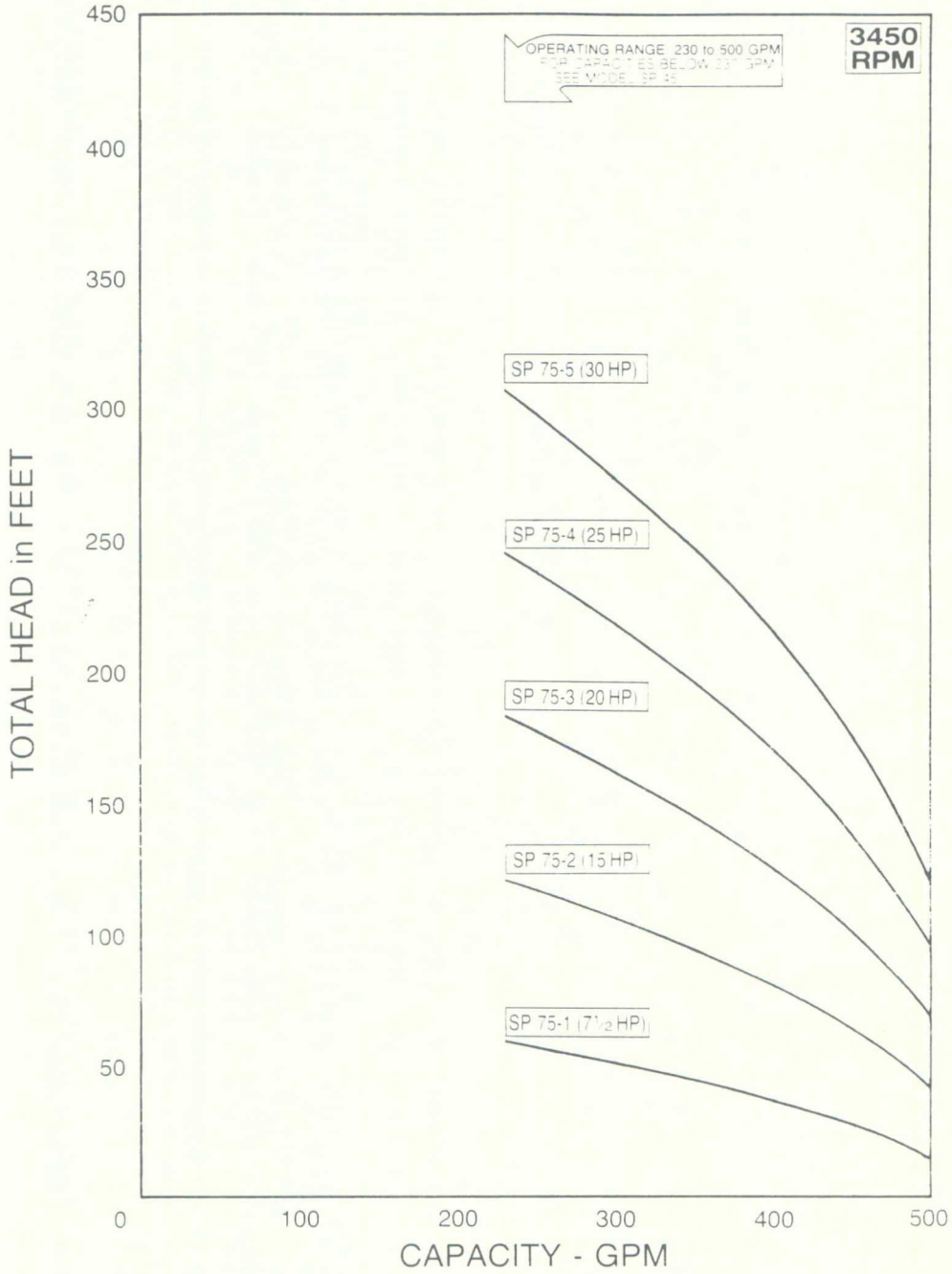
4 Inch Motor 8 Inch Motor

Specifications are subject to change without notice

MODEL SP 75

NOM. FLOW RATE
375 GPM
FLOW RANGE
230 to 500 GPM
PUMP OUTLET
4" NPT



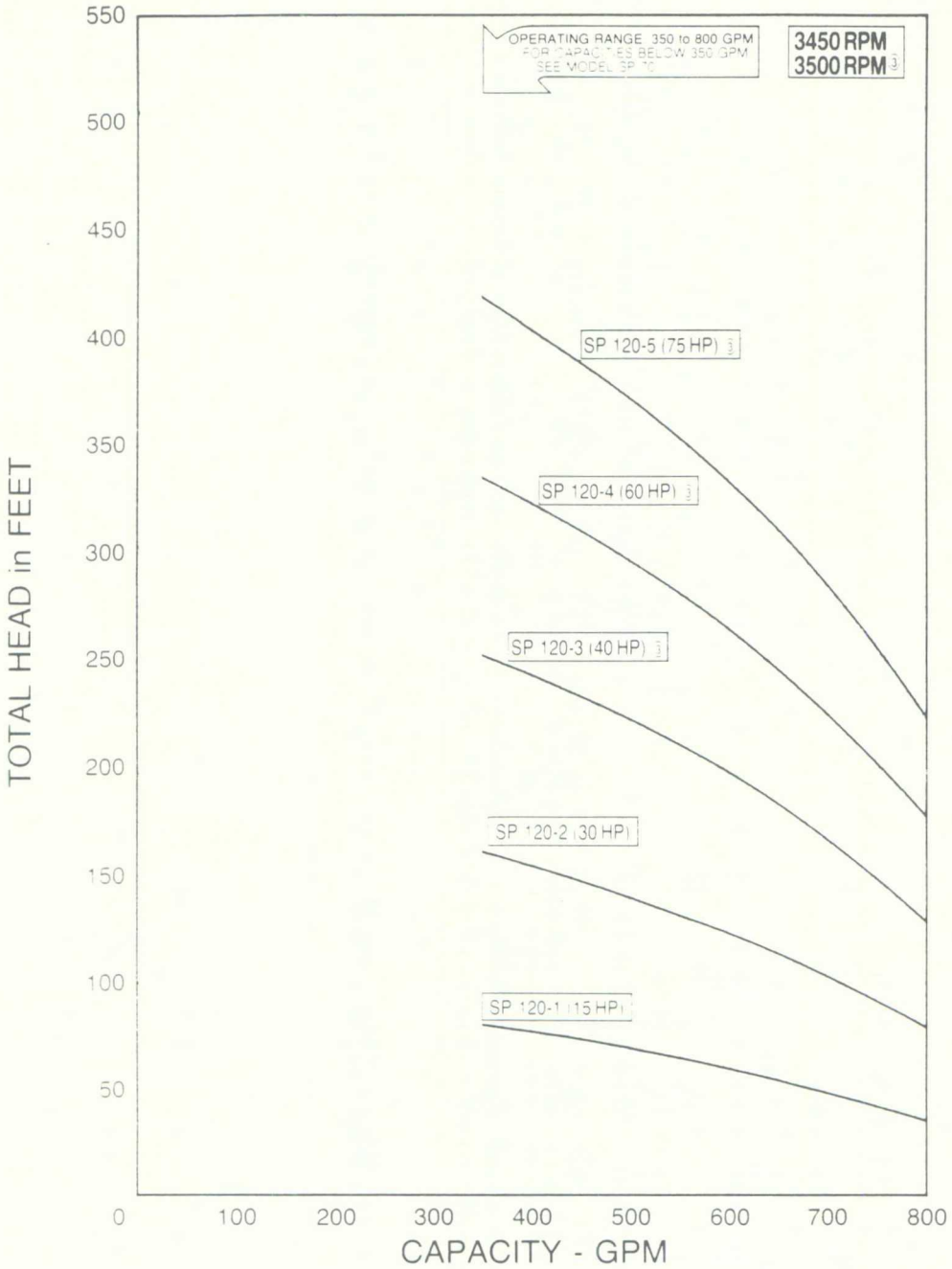


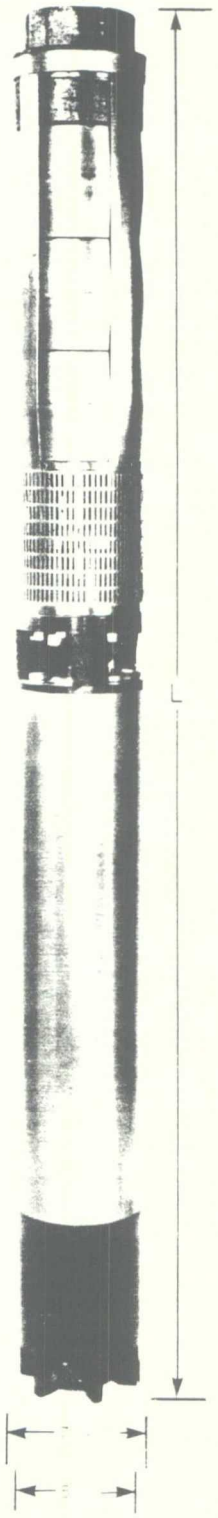
MODEL NO.	HP	MIN. WELL SIZE	LENGTH (L)	APPROX. UNIT SHIPPING WT. (LBS.)
SP 75-1	7½	8"	44¾"	153
SP 75-2	15	8"	53⅛"	181
SP 75-3	20	8"	60"	197
SP 75-4	25	8"	66⅞"	226
SP 75-5	30	8"	73¾"	245

Specifications are subject to change without notice.

MODEL SP 120

NOM. FLOW RATE
600 GPM
FLOW RANGE
350 to 800 GPM
PUMP OUTLET
5" NPT

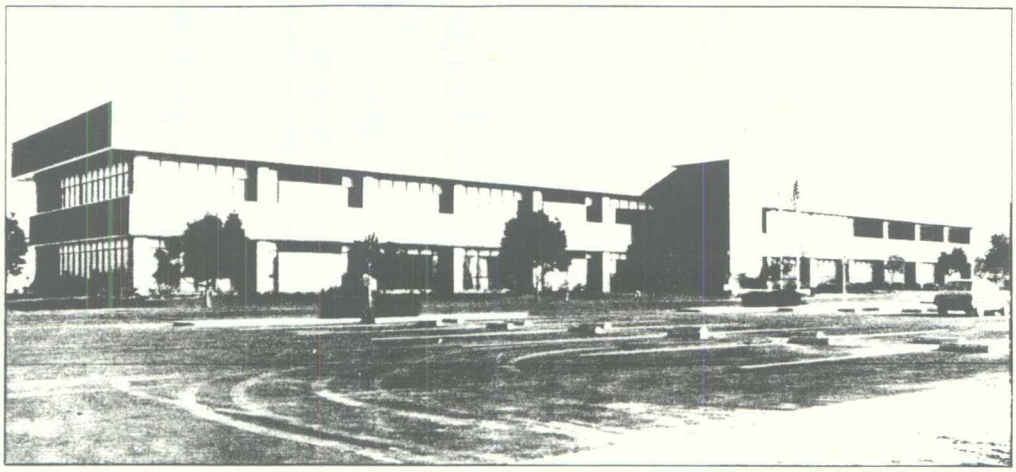


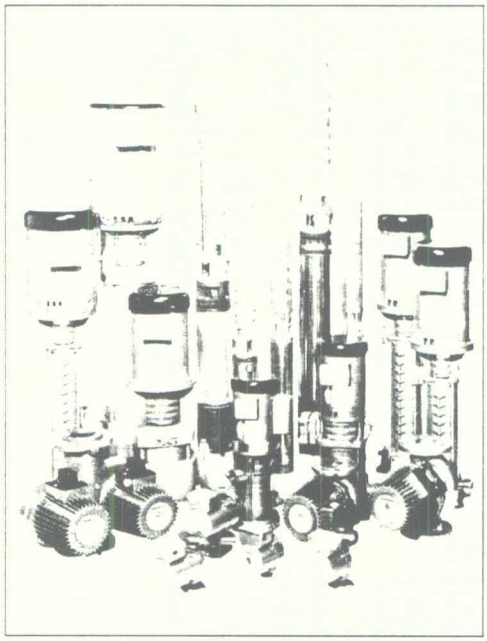


MODEL NO.	HP	MIN. WELL SIZE	LENGTH (L)	APPROX. UNIT SHIPPING WT. (LBS.)
SP 120-1	15	10"	52¼"	207
SP 120-2	30	10"	66⅜"	250
SP 120-3	40 ③	10"	75⅝"	482
SP 120-4	60 ③	10"	87¾"	567
SP 120-5	75 ③	10"	99"	635

③ Simon Motor

Specifications are subject to change without notice



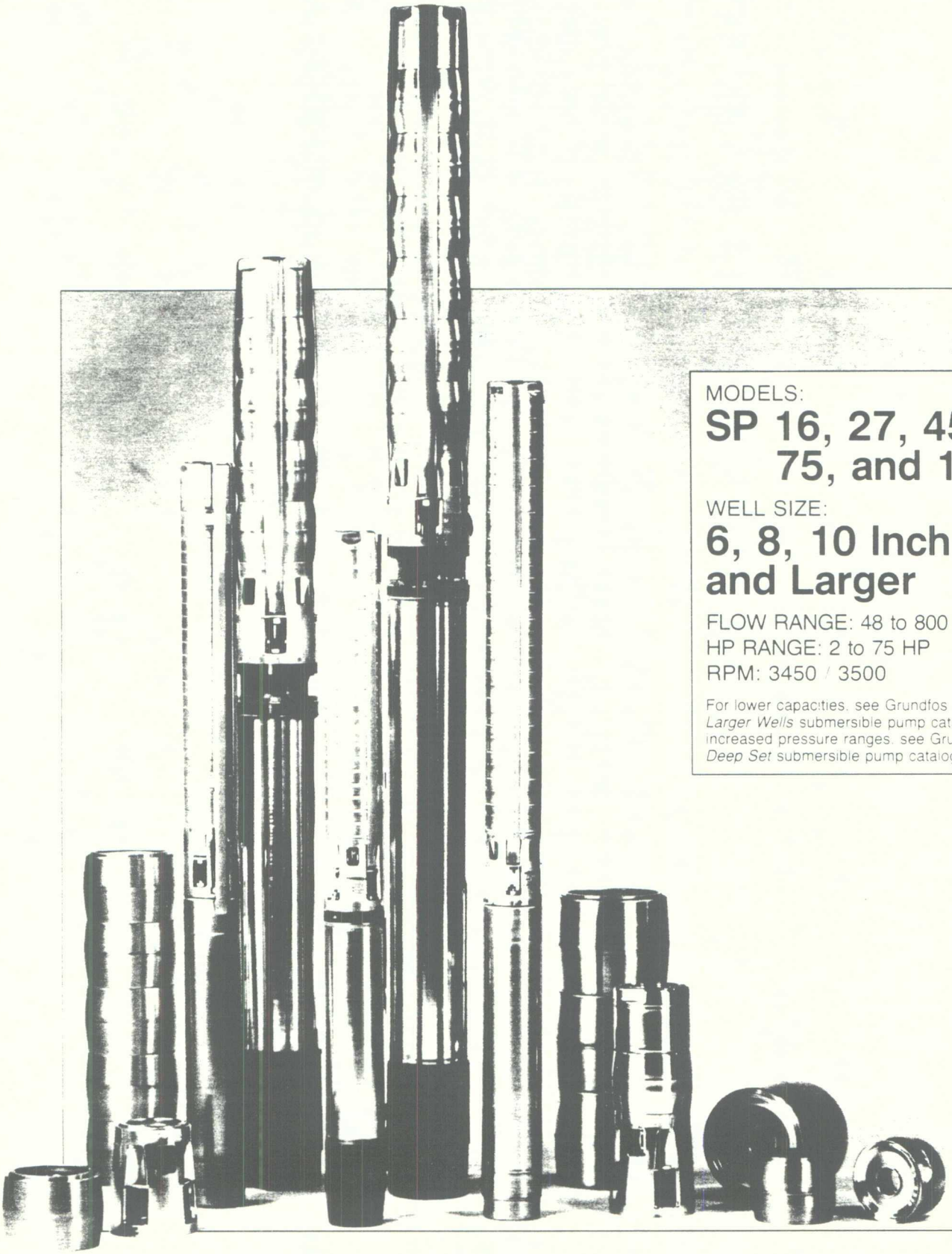


Grundfos Pumps Corporation makes its home in this modern facility in Clovis, California. Using high grade stainless steel as their primary construction material, Grundfos has fashioned their success using highly automated manufacturing processes which enable high precision production of countless components.

Today Grundfos Corporation manufactures a full range of domestic and commercial circulators, multi-stage centrifugals and stainless steel submersible pumps and distributes their products nationwide through an extensive network of manufacturer's representatives, distributors and dealers.

For more information on Grundfos and our products, see your nearest Grundfos dealer or contact us:

Grundfos Pumps Corporation
2555 Clovis Avenue
Box 549
Clovis, California 93613
(209) 292-8000
Telex: 35-5353



MODELS:

SP 16, 27, 45, 75, and 120

WELL SIZE:

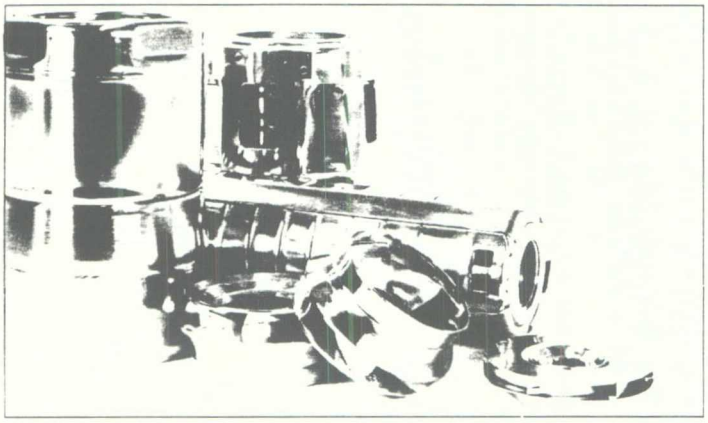
6, 8, 10 Inch and Larger

FLOW RANGE: 48 to 800 GPM
HP RANGE: 2 to 75 HP
RPM: 3450 / 3500

For lower capacities, see Grundfos *4 Inch and Larger Wells* submersible pump catalog. For increased pressure ranges, see Grundfos *Deep Set* submersible pump catalog.

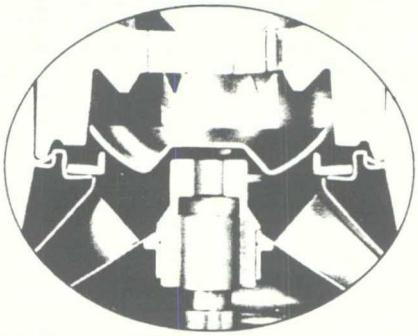
[illegible] Stainless [illegible]

Stainless steel has long been recognized as the best material for pump construction. Grundfos uses high grade stainless steel (primarily 304 and 316) for nearly every component in their submersibles. Stainless steel insures Grundfos quality with its strong, but lightweight properties, its ability to be precisely shaped and fabricated, and its resistance to corrosion and abrasion which far outranks ratings for commonly used plastic, bronze, and cast iron materials.

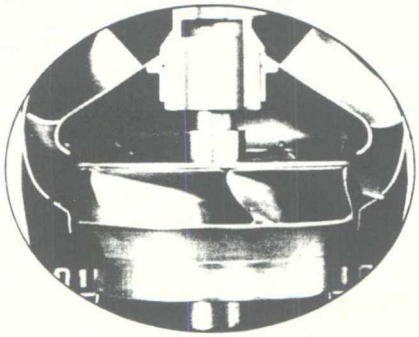


MODEL	MIN. WELL SIZE	FLOW RANGE (GPM)	MAX. HEAD (FEET)	MAX. HEAD (PSI)
SP 1	4"	1.2-7	1055	457
SP 2	4"	5-14	930	403
SP 4	4"	11-28	900	390
SP 6	4"	20-40	510	221
SP 8	4" & 6"	22-56	765	331
SP 16	6"	48-110	845	366
SP 27	6"	75-200	835	361
SP 45	6"	150-290	680	294
SP 75	8"	230-500	310	134
SP 120	10"	350-800	420	182
SP 1-DS	4" & 5"	1.2-7	1695	734
SP 2-DS	4" & 5"	5-14	1620	701
SP 4-DS	6"	11-28	1720	745
SP 8-DS	6"	22-56	1450	628
SP 16-DS	6" & 8"	48-110	1745	777
SP 27-DS	8"	75-200	1910	827
SP 45-DS	8"	150-290	1220	528
SP 75-DS	8"	230-500	1080	467
SP 120-DS	10"	350-800	590	255

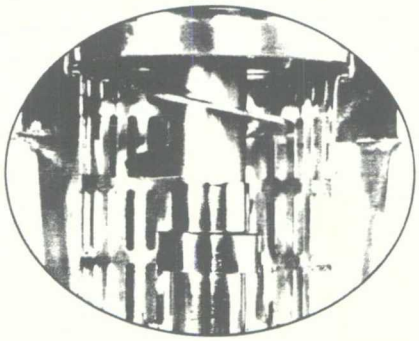
NOTE: Grundfos also has available alternate construction pumps for [illegible] seawater and other marine and corrosive environments.



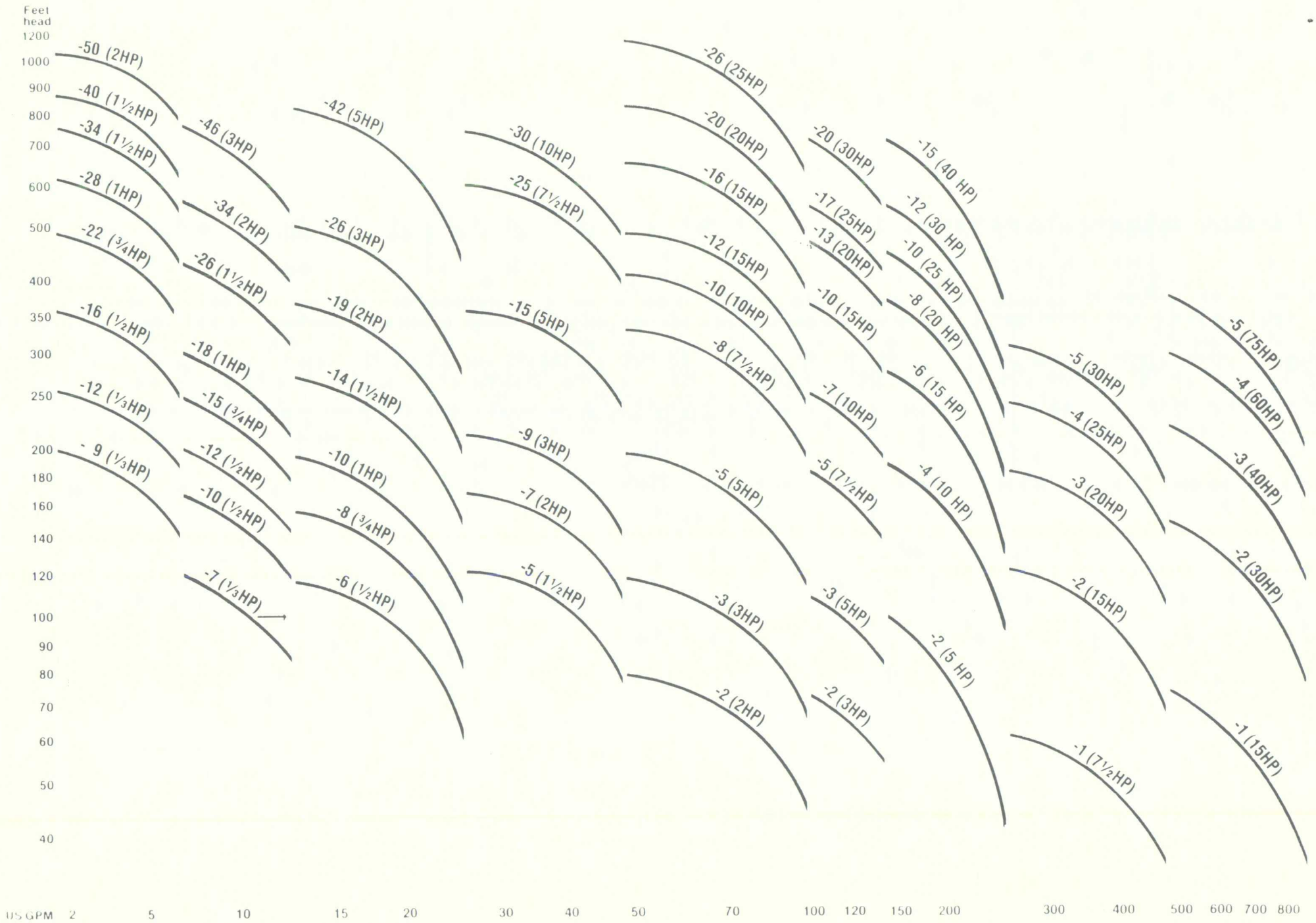
PATENTED, FAIL-SAFE CHECK VALVE DESIGN: Grundfos stainless steel check valves are built into the top pump chamber to prevent loss of head and backflow. These positive, non-clogging, non-slamming valves are sized to meet the maximum pressures for each model.



STAINLESS STEEL FABRICATION YIELDS MAXIMUM HYDRAULIC PERFORMANCE: Grundfos fabrication techniques for stainless steel permit ideal shaping of impeller and diffuser vanes to maximize hydraulic design. Combined with the inherent smoothness of stainless steel, the Grundfos design provides optimum performance and high operating efficiencies.



EXCLUSIVE PRIMING INDUCER PROTECTS AGAINST DRY RUNNING: The exclusive Grundfos priming inducer protects against damage due to dry running should water levels drop unexpectedly. In the axial, located in the suction interconnector, an impeller intake inducer screw provides enough water to lubricate the pump until the axial has time to recover.


Feet head
1200
1000
900
800
700
600
500
400
350
300
250
200
180
160
140
120
100
90
80
70
60
50
40
-50 (2HP)
-40 (1½HP)
-34 (1½HP)
-28 (1HP)
-22 (¾HP)
-16 (½HP)
-12 (⅓HP)
- 9 (⅓HP)
-46 (3HP)
-34 (2HP)
-26 (1½HP)
-18 (1HP)
-15 (¾HP)
-12 (½HP)
-10 (½HP)
-7 (⅓HP)
-42 (5HP)
-26 (3HP)
-19 (2HP)
-14 (1½HP)
-10 (1HP)
-8 (¾HP)
-6 (½HP)
-30 (10HP)
-25 (7½HP)
-15 (5HP)
-9 (3HP)
-7 (2HP)
-5 (1½HP)
-26 (25HP)
-20 (20HP)
-16 (15HP)
-12 (15HP)
-10 (10HP)
-8 (7½HP)
-5 (5HP)
-3 (3HP)
-2 (2HP)
-20 (30HP)
-17 (25HP)
-13 (20HP)
-10 (15HP)
-7 (10HP)
-5 (7½HP)
-3 (5HP)
-2 (3HP)
-15 (40 HP)
-12 (30 HP)
-10 (25 HP)
-8 (20 HP)
-6 (15 HP)
-4 (10 HP)
-2 (5 HP)
-5 (30HP)
-4 (25HP)
-3 (20HP)
-2 (15HP)
-1 (7½HP)
-5 (75HP)
-4 (60HP)
-3 (40HP)
-2 (30HP)
-1 (15HP)
US GPM
2
5
10
15
20
30
40
50
70
100
120
150
200
300
400
500
600
700
800

Neoprene jacketed RHW insulated wire.

full-flow, non-clog, non-slamming design. Valve positively seats on reinforced rubber ring assuring no back-flow. High-tensile strength

Integral fabricated units of specifically designed to eliminate up thrust. Chambers contain diffuser guide vanes and intermediate shaft bearings. Centerless-ground for true running.

or bronze. Fabricated to improve hydraulic efficiencies.

Long lasting abrasion resistant natural rubber. reinforced. Natural rubber of hexed design for long life and good lubrication.

Fabricated Strong, durable having a large flow area to match the rated flow capacity of the pump.

All assures proper pump lubrication and prevents dry running, even if the water level drops below pump intake.

Splined or keyed to assure positive nonslip action.

Rugged all or ni-resist cast iron.

Canned rotor design with a hermetically sealed epoxy encapsulated stator sealed in a enclosure. All parts that are in contact with the medium being pumped are constructed of corrosion resistant

Tungsten-carbide running on tungsten-carbide. The upper seal ring is molded into a rubber diaphragm which is spring loaded and acts as a relief valve for excess motor fluid.

Water-lubricated diamond-hard ceramic running against a tungsten-carbide shaft journal.

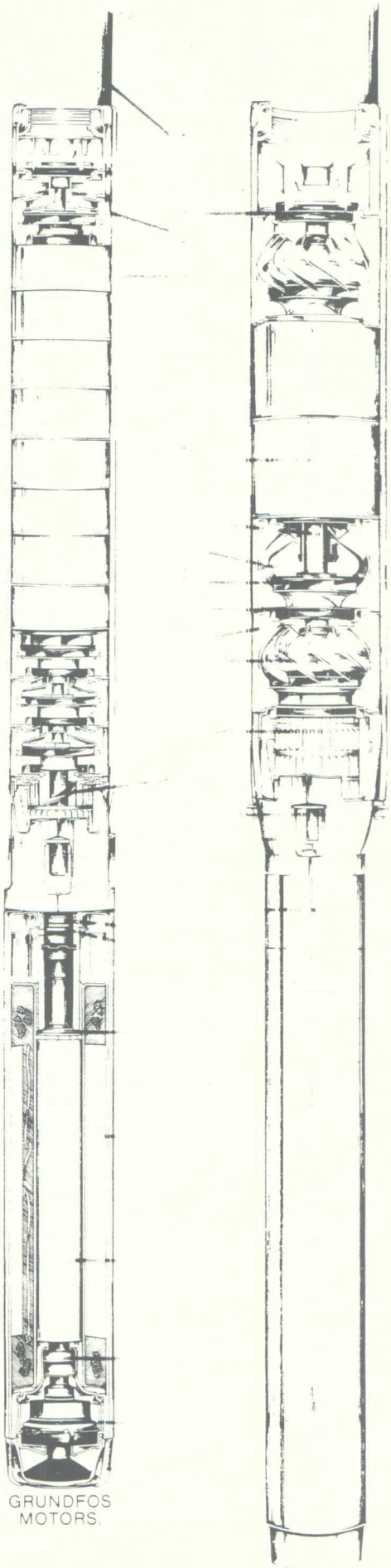
Exclusive Grundfos feature. This pump circulates the water in the rotor can chamber to ensure effective bearing lubrication and winding heat dissipation.

Hermetically sealed in and encapsulated in thermal plastic resin for maximum heat transfer and resistance to moisture penetration.

Clad in Water-lubricated diamond-hard ceramic running against a tungsten-carbide shaft journal.

Adjustable Mitchell design (improved "Kingsbury" type) constructed of ceramic running against self-aligning metal impregnated carbon pads.

Rubber diaphragm automatically compensates for internal motor liquid expansion due to temperature or pressure changes.



GRUNDFOS MOTORS.

Water well professionals ask us that question almost every day, and it's not easy to answer, because it wasn't easy to accomplish — we've been at it for years.

Through computerized production techniques, developed and patented by GRUNDFOS, we have been able to reduce expensive ***production man-hours,*** and consequently — the cost to you — without sacrificing one bit on the quality of our materials, or the performance of our pumps.

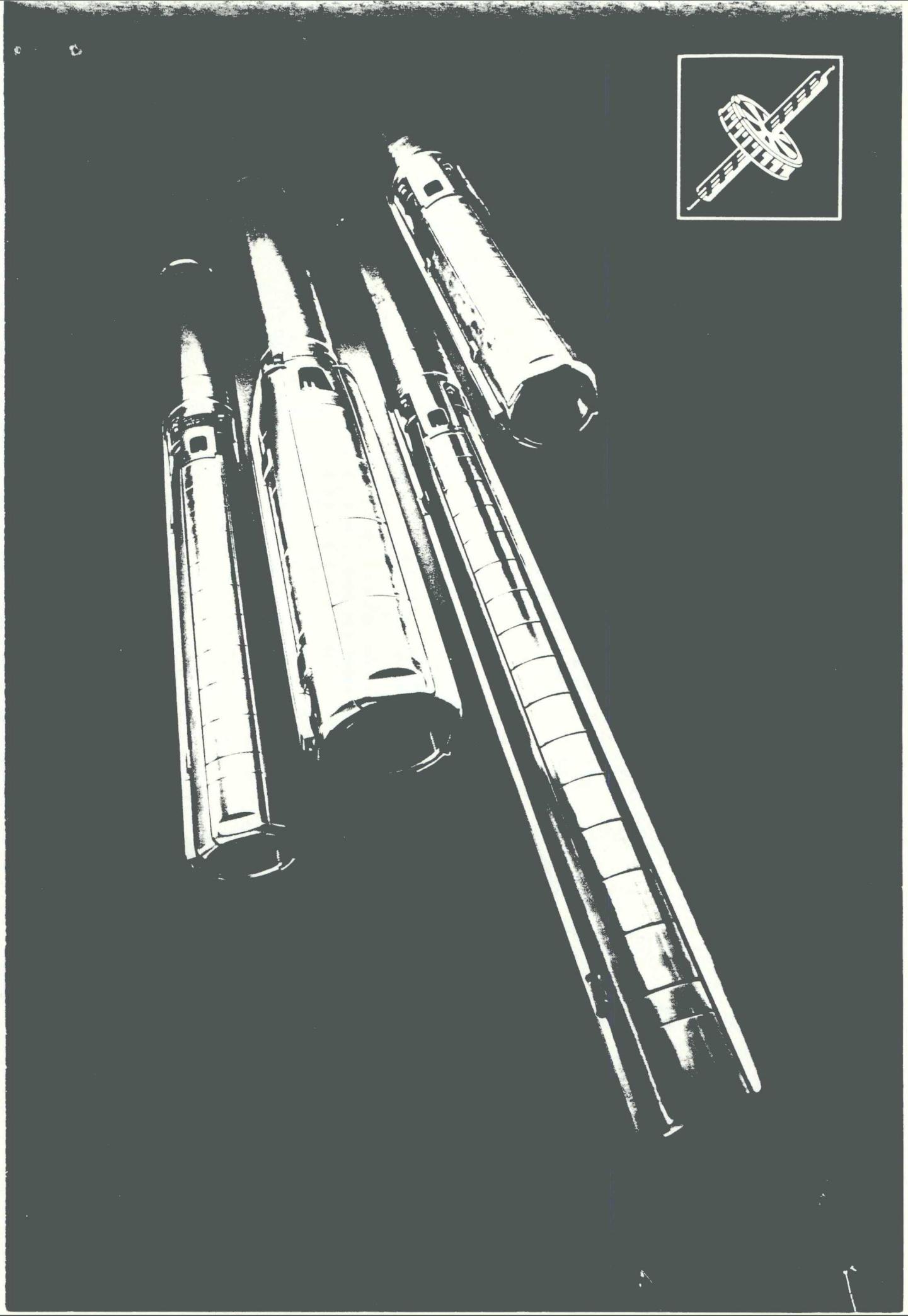
Take a close look at the design of the GRUNDFOS submersible. We know you'll find it to be the most sophisticated and advanced pump you've ever seen.

A unique, patented stainless-steel impeller, with advanced designed vanes makes the GRUNDFOS submersible extremely efficient. This means lower power bills.

A patented circulation system in the rotor chamber means that the GRUNDFOS motor runs cooler and lasts longer. Our all-stainless-steel components give you maximum corrosion and wear resistance; our diamond-hard ceramic and tungsten-carbide bearings simply ***don't wear out.***

You'll pay just a little more for GRUNDFOS quality, but you'll get a longer-lasting, trouble-free pump that will pay for itself very quickly through reduced operating costs.

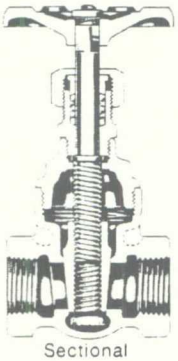
Grundfos Pumps Corporation • 2555 Clovis Avenue • Clovis, CA 93612 • Telex: 35-5353



head loss, $h_f = k \frac{v^2}{2g}$ where $k = 0.15$

BRONZE GATE VALVES

"U.S."



Sectional

Fig. 512

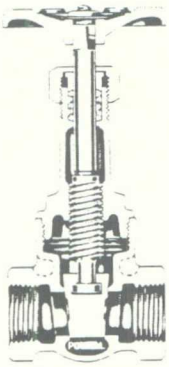
Threaded

Fig. 513

Flanged

Inside Screw Non-Rising Stem

Sizes, ¼" through 3" Sizes, 1", 1½" through 3"



Sectional

Fig. 514

Threaded

Fig. 515

Flanged

Inside Screw Rising Stem

Sizes, ¼" through 3" Sizes, 1", 1½" through 3"

ORDERING

- Valves (Fig. 512, 514 and 515) are normally carried in stock
- Fig. 513 valves are available on special order
- Double Wedges, in Rising Stem valves, are available on special order

150 Pound

Cameron

SCREWED-IN BONNET THREADED and FLANGED ENDS

PRESSURE/TEMPERATURE RATINGS

Threaded	Flanged	
150	150	psi Saturated Steam
300	225	psi Non-Shock Cold Water, Oil or Gas

MATERIALS

DESCRIPTION	MATERIAL	ASTM Spec.
Handwheel Nut	Brass	B-16
Identification Plate	Aluminum	Commercial
Handwheel	Aluminum	Commercial
Stem	Silicon Bronze	WPC Alloy #69
Packing Gland	Brass	B-16
Packing Nut*	Bronze	B-62
Packing	Graphite Asbestos	Commercial
Bonnet	Bronze	B-62
Stuffing Box**	Silicon Bronze	WPC Alloy #69
Body	Bronze	B-62
Wedge	Bronze	B-62

*Brass ASTM B-16 for ¼" through 1" valves

**Furnished on Figs. 512 and 513

SPECIFICATIONS

- Flanged End valves are in accordance with ANSI B16.24
- Threaded End valves meet Federal Specification WW-V-54, Class B

FEATURES

- Renewable Solid Wedges
- Integral Seats
- High-Tensile Bronze Alloy Stems
- Solid and Double Wedges, in Rising Stem valves, are interchangeable

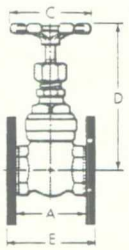


Fig. 512
Fig. 513

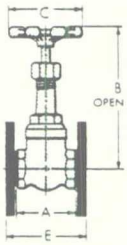


Fig. 514
Fig. 515

DIMENSIONS (Inches)

Size	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
A	1 3/4	2	2 3/16	2 7/16	2 3/4	3	3 3/8	4	4 1/2	5
B	4 1/4	4 1/4	4 7/8	6 1/8	7 3/8	8 5/8	9 5/8	11 11/16	14	16 1/2
C	2 1/8	2 1/8	2 1/2	2 3/4	3	3 1/4	3 5/8	4 1/16	4 3/4	5 11/16
D	3 1/2	3 1/2	3 15/16	4 9/16	5 7/16	6 1/4	6 3/4	7 13/16	9 1/4	10 5/8
E	—	—	—	—	3 1/2	—	4 3/4	5 3/8	6 1/8	6 7/8

WEIGHTS

Fig. 512	15 oz.	15 oz.	1#3	1#11	2#9	3#11	5#	8#2	13#	19#
Fig. 513	—	—	—	—	5#6	—	10#2	15#12	23#	34#1
Fig. 514	15 oz.	15 oz.	1#3	1#11	2#13	3#11	5#	8#7	13#	20#
Fig. 515	—	—	—	—	5#14	—	10#	17#3	26#11	38#

MVR Series Selection Guide

Use this selection guide to create the model number of the Hersey Turbine meter that best fits your application. When ordering, advise your local Hersey representative what liquid is to be measured, viscosity, expected minimum and maximum flow rates and expected temperature and pressure ranges.

Typical Meter Number: **MVR - B - I - 200 - P - G - F**

1. **MVR**
2. **Body**
   - A. Bronze: **B**
   - B. Cast Iron: **C**
     *Cast iron available on industrial construction only. Not available on 3" and 4" models.
3. **Construction**
   - A. Standard (up to 130°F): **S**
   - B. Industrial (up to 200°F): **I**
4. **Line Size**
   - A. 1 inch: **100**
   - B. 1¼ inch: **125**
   - C. 1½ inch: **150**
   - D. 2 inch: **200**
   - E. 3 inch: **300**
   - F. 4 inch: **400**
5. **Output**
   - A. Dura-Dri™ Totalizer: **T**
   - B. Pulse Output (R-38): **P**
   - C. Contact Closure: (R-39) **C**
6. **Units of Measure**
   - A. Gallons **G**
   - B. Cubic Feet **C**
7. **Adaptors**
   - A. Couplings: **C**
   - B. Flanges: **F**
   - C. None: **N**

R-38: Electronic Pulse Output

The R-38 is a blind **uncalibrated pulse output** for use with Hersey MVR Series Turbine meters.

The R-38 easily replaces existing registers. It uses a Hall Effect switch to sense magnetic south pole and produce a **pulse output.**

SPECIFICATIONS

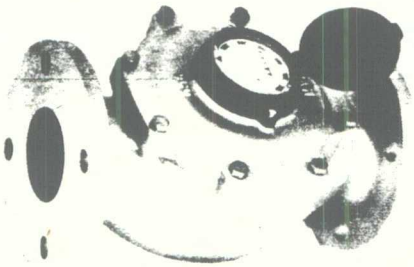
Supply Voltage ..... 12-15 VDC Regulated
Current Requirements ..... 47.5 ma. Max.
Output Signal ..... 12-15 VDC Square Wave
Wiring ..... 3 wire pigtail
Temp. Range ..... 32°F - 200°F
Max. Output Current ..... .10 ma.

Turbine Meter Type	Nominal Pulses/Gallon
MVR-30	140.0
MVR-50	69.2
MVR-100	52.2
MVR-160	15.8
MVR-350	7.9
MVR-650	4.9

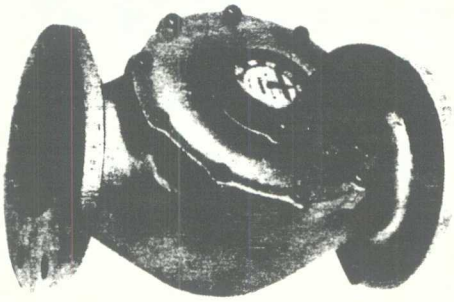
Model MVR turbine meters...

Hersey PRODUCTS INC.

NEW

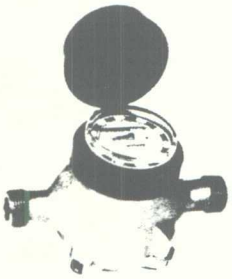


MVR-350 3″

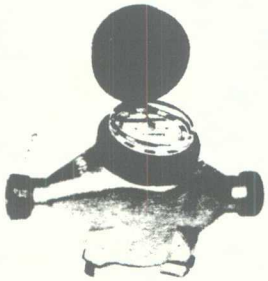


MVR-650 4″

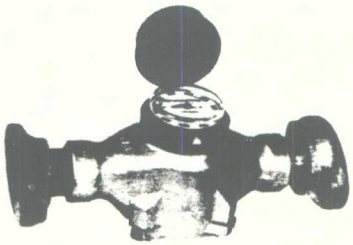
MVR-1300 6″



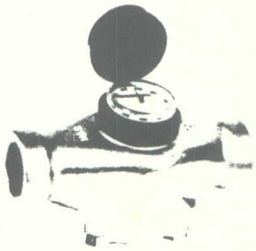
MVR-30 ¾″



MVR-50 1″



MVR-100 1½″



MVR-160 2″

DESCRIPTION

The Hersey Model MVR series Magnetic Drive Vertical Turbine Meters come equipped with an exclusive patented RETRO-THRUST® feature which provides for a longer life over a wider range of accuracies. At low flow rates the rotor's tungsten carbide thrust bearing floats against the sapphire bearing located in the meter casing. As flow rates increase the retro thrust feature allows the rotor to float away from the sapphire. At high flow rates the rotor's stainless steel shaft floats against the upstream sapphire bearing, thereby minimizing wear and thus assuring extended operating life.

The Dura-Dri™ register is permanently hermetically sealed between a glass dome and metal housing.

The register cover is constructed of cycolac plastic. The register is held in place by a polypropylene clamp band which allows for positioning the register in the most convenient reading position. The register box and lid on the MVR-1300 is bronze. The register is available with center sweep hand, straight reading indicating cubic feet, U.S. gallons, or cubic metres.

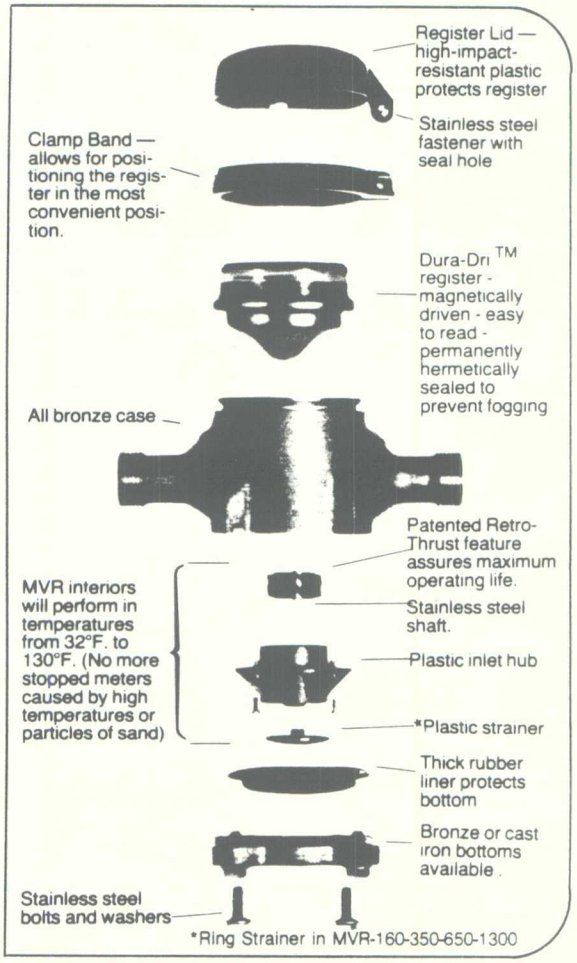
The measuring chamber is composed of a noryl plastic inlet hub, polypropylene rotor and strainer in the MVR-30-50 and 100. The measuring chambers in the MVR-160-350-650 are composed of a noryl plastic inlet hub, and polypropylene rotor and stainless steel ring strainer.

The MVR will operate at temperatures from 32° to 130°F. and will operate with particles of sand in the water. Outer cases are time-proven cast bronze.

Bottom plates are available in both bronze and enamel coated cast iron. Bronze plate only on the MVR-160 and bronze case only on the MVR-350-650 and 1300.

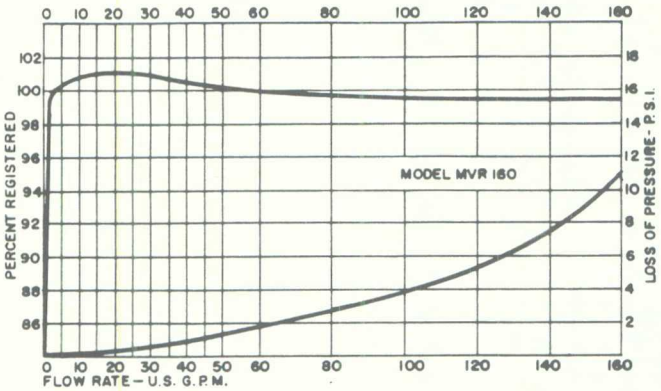
A full Buna-N rubber liner for the MVR 30-50 and 100 bottoms and an EPT liner for the MVR-160 are provided for corrosion protection.

The Hersey Magnetic Drive Turbine Meters are also available in compact models with varying spud sizes.



...with exclusive Retro-Thrust® feature

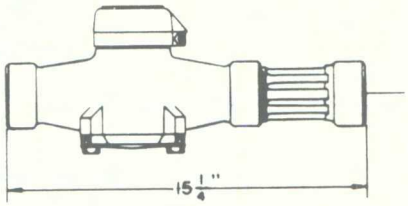
MVR-160



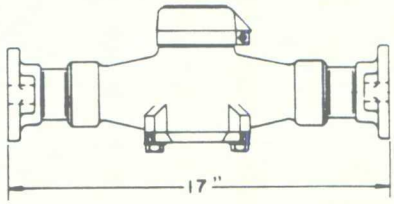
OPERATING RANGE: 3-160 GPM
LOW FLOW REGISTRATION: 95% @ 2 GPM

MVR-160 STANDARD

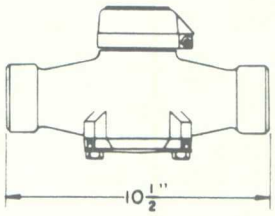
FEMALE



2 BOLT FLANGED



MVR-160 COMPACT



MVR-160 2"

Length - (female) - 15 1/4"
- (2-bolt flanged) - 17"
- (Compact) - 10 1/2"

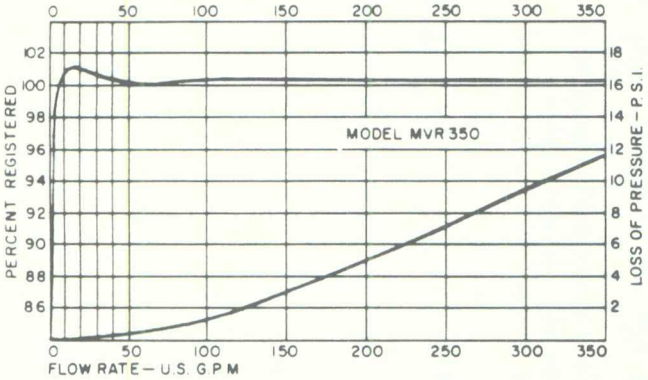
Width - (female) - 5 3/8"
- (2-bolt flanged) - 5 15/16"

Height - 6 1/4"
Net Weight - (female) - 15 lbs
- (2-bolt flanged) - 20 lbs
- (Compact) - 14 lbs

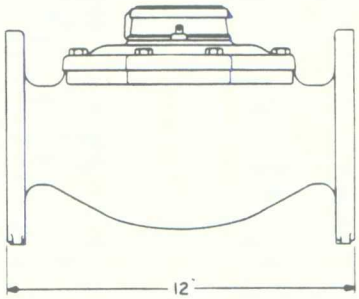
Centerline to base of meter - 3"
End detail screwed: internal (female) 2" NPT threads
End detail flanged: 2-bolt oval type (may be ordered with either bronze or cast iron flanges)

Pressure loss (Maximum)
MVR 160 11.0 psi @ 160 GPM

MVR-350



OPERATING RANGE: 4-350 GPM
LOW FLOW REGISTRATION: 95% @ 2.5 GPM



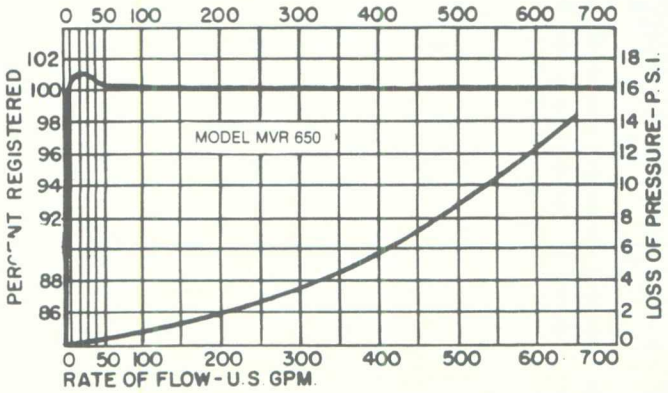
MVR-350

MVR-350 3"

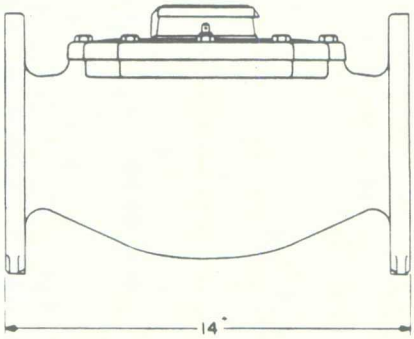
Length - 12"
Width - 7 7/8"
Height - 8 7/16"
Net Weight - 39 lbs
Centerline to base of meter 3 7/8"
End Detail - 150 lb ANSI Round Flange

Pressure loss (Maximum)
MVR 350 11.8 psi @ 350 GPM

MVR-650



OPERATING RANGE: 5-650 GPM
LOW FLOW REGISTRATION: 95% @ 3.5 GPM



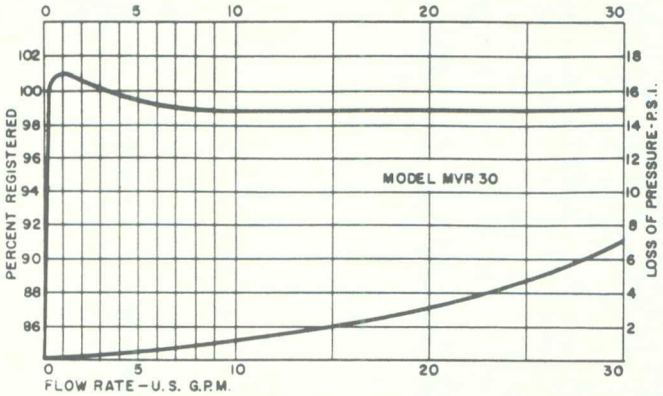
MVR-650

MVR-650 4"

Length - 14"
Width - 9 3/4"
Height - 9 3/8"
Net Weight - 65 lbs
Centerline to base of meter 4 5/8"
End Detail - 150 lb ANSI Round Flange

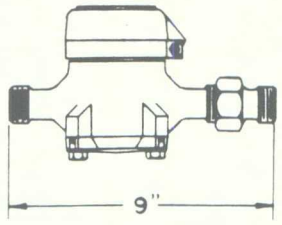
Pressure loss (Maximum)
MVR 650 14.3 psi @ 650 GPM

MVR-30

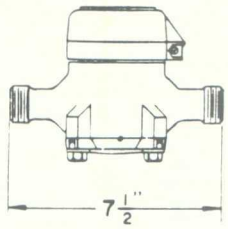


OPERATING RANGE: 1-30 GPM
LOW FLOW REGISTRATION: 95% @ .5 GPM

MVR-30 STANDARD

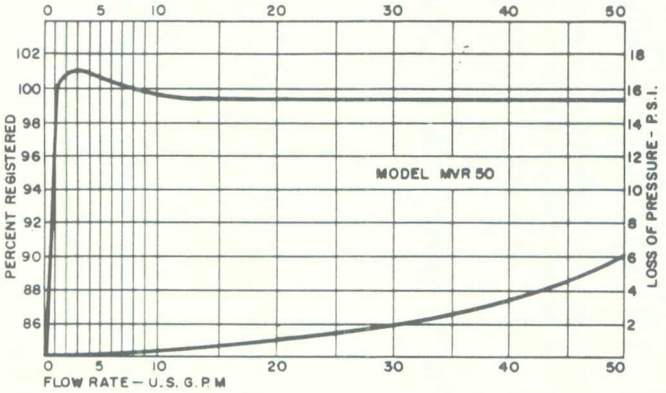


MVR-30 COMPACT



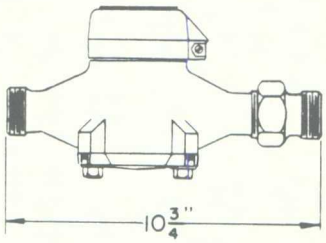
MVR-30 3/4"
Length -9" Std, 7 1/2" compact
Width -33/4" Height - 5"
Net Weight - 5 lbs 9 oz Std, 5 lbs, Compact
Centerline to base of meter - 1 13/16"
Available spud size - 1/2", 3/4" and 1" Compact
Available spud size - 3/4", 1" Std.
Pressure loss (Maximum)
MVR 30 7.0 psi @ 30 GPM

MVR-50

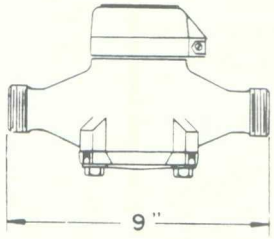


OPERATING RANGE: 1.5-50 GPM
LOW FLOW REGISTRATION: 95% @ 3/4 GPM

MVR-50 STANDARD

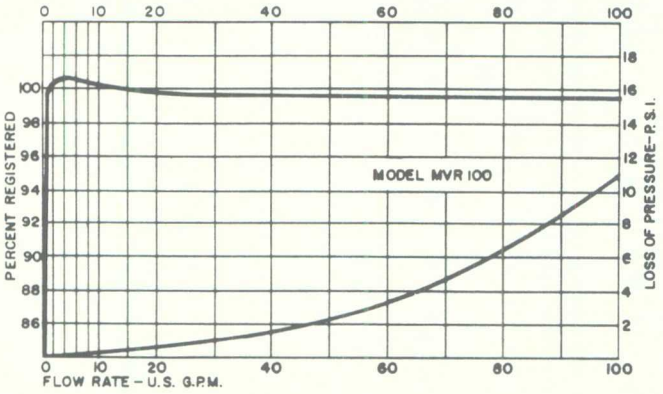


MVR-50 COMPACT



MVR-50 1"
Length -10 3/4" Std, 9" Compact
Width -4 1/4"
Height -5 1/2"
Net Weight - 8 lbs 2 oz, Std -
7 lbs, 5 oz, Compact
Centerline to base of meter - 2 3/8"
Available spud sizes - 1" and 1 1/4"
Pressure loss (Maximum)
MVR 50 6.0 psi @ 50 GPM

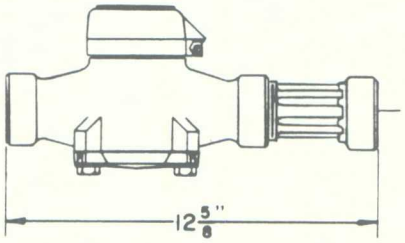
MVR-100



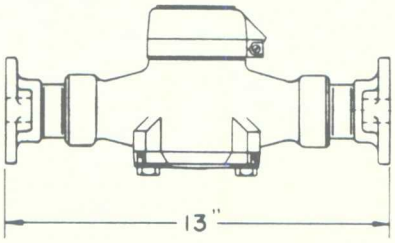
OPERATING RANGE: 2-100 GPM
LOW FLOW REGISTRATION: 95% @ 1.5 GPM

MVR-100 STANDARD

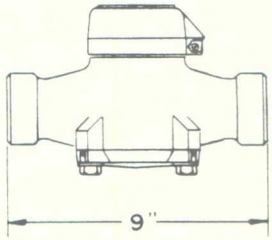
FEMALE



2 BOLT FLANGED



MVR-100 COMPACT

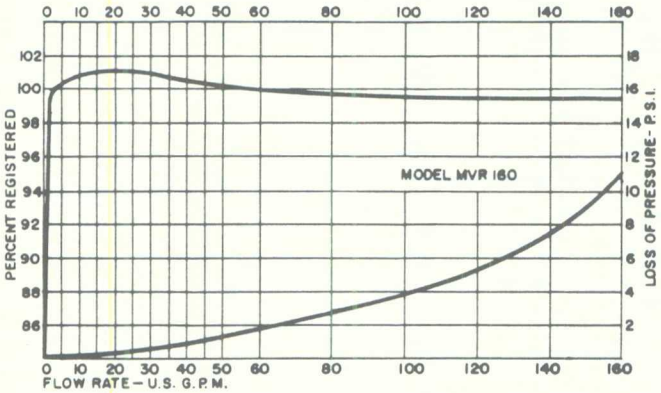


MVR-100 1½"
Length - (female) - 12 5/8"
- (2-bolt flanged) - 13"
- (Compact) - 9"
Width - (female) 4 3/8"
- (2-bolt flanged) - 5 3/8"
Height - 5 3/4"
Net Weight - (female) - 10 lbs 1
- (2-bolt flanged) 14 lbs 11 oz
- Compact 9 lbs
- Centerline to base of meter - 2 3/8"
- End detail screwed: internal (female) 1-1/2" NPT threads
- End detail flanged: 2-bolt oval type (optional bronze or cast iron flange)

Pressure loss (Maximum)
MVR 100 10.5 psi @ 100 GPM

...with exclusive Retro-Thrust® feature

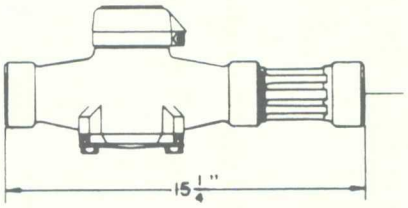
MVR-160



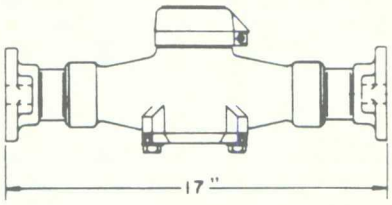
OPERATING RANGE: 3-160 GPM
LOW FLOW REGISTRATION: 95% @ 2 GPM

MVR-160 STANDARD

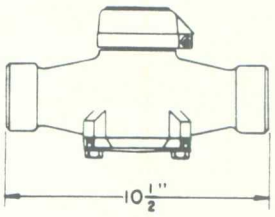
FEMALE



2 BOLT FLANGED



MVR-160 COMPACT



MVR-160 2"

Length - (female) - 15 1/4"
- (2-bolt flanged) - 17"
- (Compact) - 10 1/2"

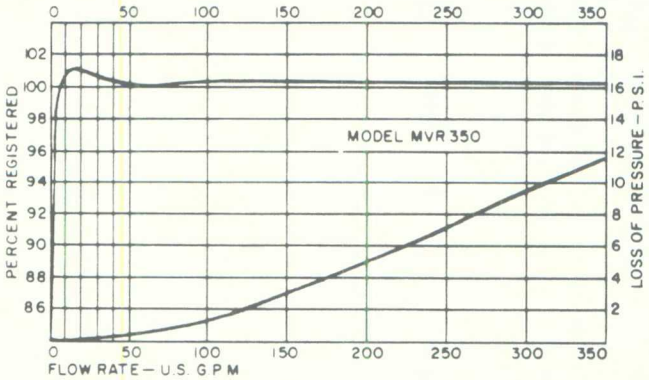
Width - (female) - 5 3/8"
- (2-bolt flanged) - 5 15/16"

Height - 6 1/4"
Net Weight - (female) - 15 lbs
- (2-bolt flanged) - 20 lbs
- (Compact) - 14 lbs

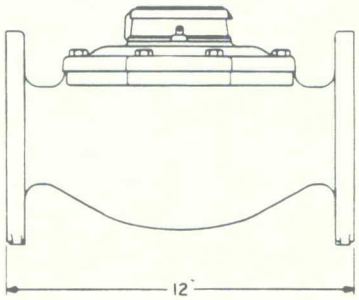
Centerline to base of meter - 3"
End detail screwed: internal (female) 2" NPT threads
End detail flanged: 2-bolt oval type (may be ordered with either bronze or cast iron flanges)

Pressure loss (Maximum)
MVR 160 11.0 psi @ 160 GPM

MVR-350



OPERATING RANGE: 4-350 GPM
LOW FLOW REGISTRATION: 95% @ 2.5 GPM



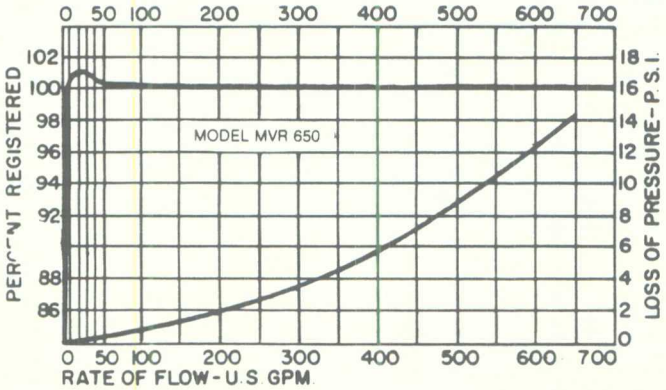
MVR-350

MVR-350 3"

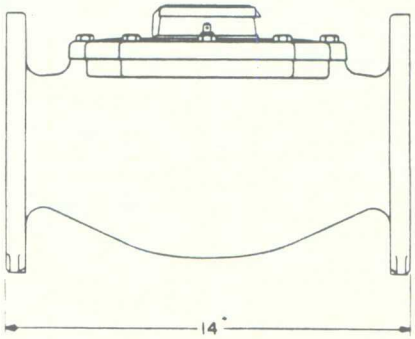
Length - 12"
Width - 7 7/8"
Height - 8 7/16"
Net Weight - 39 lbs
Centerline to base of meter 3 7/8"
End Detail - 150 lb ANSI Round Flange

Pressure loss (Maximum)
MVR 350 11.8 psi @ 350 GPM

MVR-650



OPERATING RANGE: 5-650 GPM
LOW FLOW REGISTRATION: 95% @ 3.5 GPM



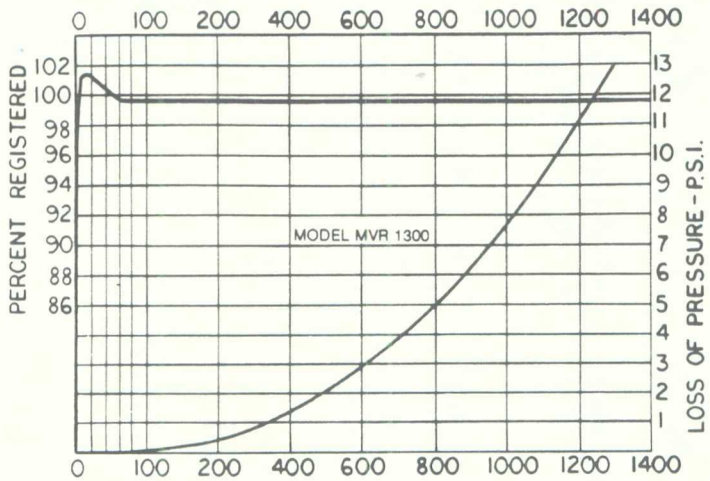
MVR-650

MVR-650 4"

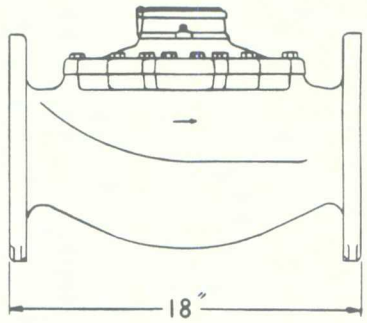
Length - 14"
Width - 9 3/4"
Height - 9 3/8"
Net Weight - 65 lbs
Centerline to base of meter 4 5/8"
End Detail - 150 lb ANSI Round Flange

Pressure loss (Maximum)
MVR 650 14.3 psi @ 650 GPM

MVR-1300



OPERATING RANGE: 15-300 GPM
LOW FLOW REGISTRATION: 95% @ 9 GPM



MVR-1300 6"
Length - 18"
Width - 12⅞"
Height - 12⁹⁄₁₆"
Net Weight - 135 lbs
Centerline to base of meter 6"
End detail - 150 lb ANSI Round Flange
Pressure loss (Maximum)
MVR1300 13 psi @ 1300 GPM

Totalizing Register
MVR 30 and 50

10,000,000 gallon capacity
10 gallons/sweep hand revolution
1,000,000 cubic feet capacity
1 cubic foot/sweep hand revolution

MVR 100, 160, 350 and 650

100,000,000 gallon capacity
100 gallons/sweep hand revolution
10,000,000 cubic feet capacity
10 cubic feet/sweep hand revolution

MVR1300

1,000,000,000 gallon capacity
1,000 gallons/sweep hand revolution
100,000,000 cubic feet capacity
100 cubic feet/sweep hand revolution
(Available in cubic metres
litres or imperial gallons)

Maximum operating pressure: MVR 30, 50, 100, 160-175 psi; MVR 350, 650, 1300, 150 psi
Temperature range 32°F. to 130°F.
Accuracy 100% ± 1.5%
MVR meters comply with or exceed all AWWA Class I Turbine meter performance and material standards

SAVE MONEY THE NEXT TIME YOU ORDER METERS FOR:

- New installations
- Where space is tight
- Where more flexibility is needed to size meters to meet required flow ranges
- Where water temperatures are elevated to betwen 80°F and 130°.
- Where sand particles are a problem

SPECIFICATIONS

Magnetic Drive Turbine Meters, sizes 30-50-100-160-350-650 and 1300 shall have bronze outer cases. The register lid and clamp band shall be made of high-impact-resistant plastic to protect the register. The clamp band shall hold the register and lid in place by means of one stainless steel fastener and nut on the MVR 30-50-100-160; with two brass screws on the MVR 350 and 650. The register box and lid on the MVR 1300 is made of bronze. The registers may be positioned for the most convenient reading.

The register shall be completely separated from the water-way and shall be available with center sweep hand, straight reading indicating cubic feet, U.S. gallons or cubic metres. The register shall be permanently hermetically sealed between a glass dome and metal housing. The register shall be driven by a ceramic magnet.

The measuring chamber in MVR 30-50-100 shall be composed of a plastic inlet hub, rotor and strainer whereas the measuring chamber in the MVR 160-350-650 and 1300 shall be composed of a plastic inlet hub and rotor and a stainless steel ring strainer. The chamber shall be held in place with stainless steel screws. It shall not be adversely affected by temperatures from 32°F. to 130°F. or by particles of sand. The meter shall incorporate a patented Retro-Thrust® design to assure maximum operating life. The rotor thrust bearings shall be sapphires and the bushings, graphitar.

The bottom plate shall be either bronze or enamel coated cast iron on the MVR 30-50-100, bronze only on the MVR 160. The MVR 30-50-100 and 160 bottoms shall be protected with a thick rubber liner.

SALE
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Hersey PRODUCTS INC.
Water Meter & Controls Group
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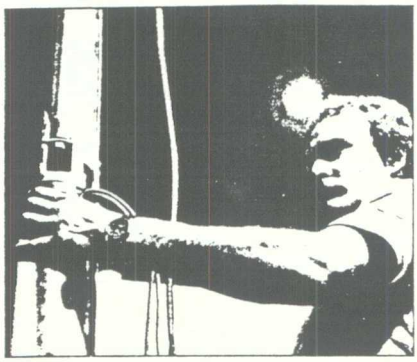


Stainless Steel Construction

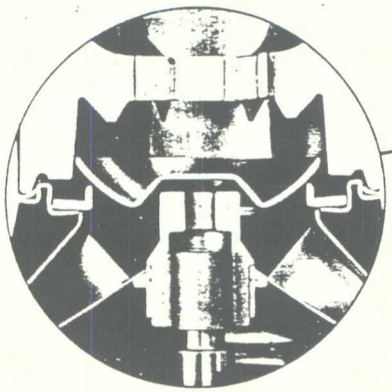
Grundfos uses high grade stainless steel (primarily 304 and 316) for nearly every component in their submersibles. Stainless steel insures Grundfos quality with its strong, but lightweight properties, its resistance to corrosion and abrasion, and its ability to be precisely shaped and fabricated.

Alternate construction pumps are also available for brackish, seawater and other harsh and corrosive environments. For oil field applications, the Grundfos "SPO" units are especially designed to handle the rigors of shallow well oil field pumping.

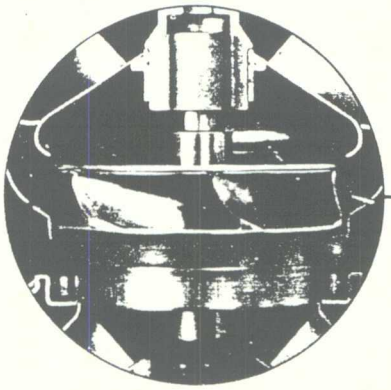
Pump Selection Guide

MODEL	MIN. WELL SIZE	FLOW RANGE (GPM)	MAX. HEAD (FEET)	MAX. HEAD (PSI)
4 Inch & Larger Wells				
SP 1	4"	1.2-7	1055	457
SP 2	4"	5-14	930	403
SP 4	4"	11-28	900	390
SP 8	4" & 6"	22-56	765	331
6, 8, 10 Inch & Larger Wells				
SP 16	6"	48-110	845	366
SP 27	6"	75-200	835	361
SP 45	6"	150-290	680	294
SP 75	8"	230-500	310	134
SP 120	10"	350-800	420	182
Deep Set				
SP 1-DS	4" & 5"	1.2-7	1695	734
SP 2-DS	4" & 5"	5-14	1620	701
SP 4-DS	6"	11-28	1720	745
SP 8-DS	6"	22-56	1450	628
SP 16-DS	6" & 8"	48-110	1745	777
SP 27-DS	8"	75-200	1910	827
SP 45-DS	8"	150-290	1220	528
SP 75-DS	8"	230-500	1080	467
SP 120-DS	10"	350-800	590	255

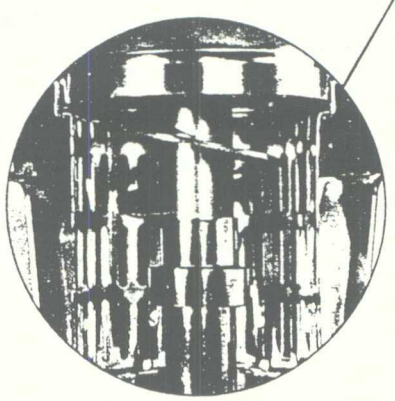
Exclusive Grundfos Designs



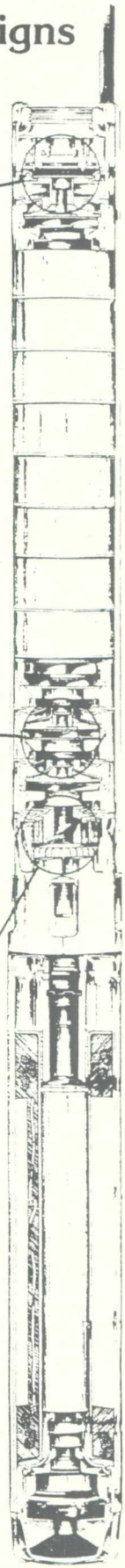
PATENTED, FAIL-SAFE CHECK VALVE DESIGN: Grundfos stainless steel check valves are built into the top pump chamber to prevent loss of head and backflow. These positive, non-clogging, non-slamming valves are sized to meet the maximum pressures for each model.



STAINLESS STEEL FABRICATION YIELDS MAXIMUM HYDRAULIC PERFORMANCE: Grundfos fabrication techniques for stainless steel permit ideal shaping of impeller and diffuser vanes to maximize hydraulic design. Combined with the inherent smoothness of stainless steel, the Grundfos design provides optimum performance and high operating efficiencies.



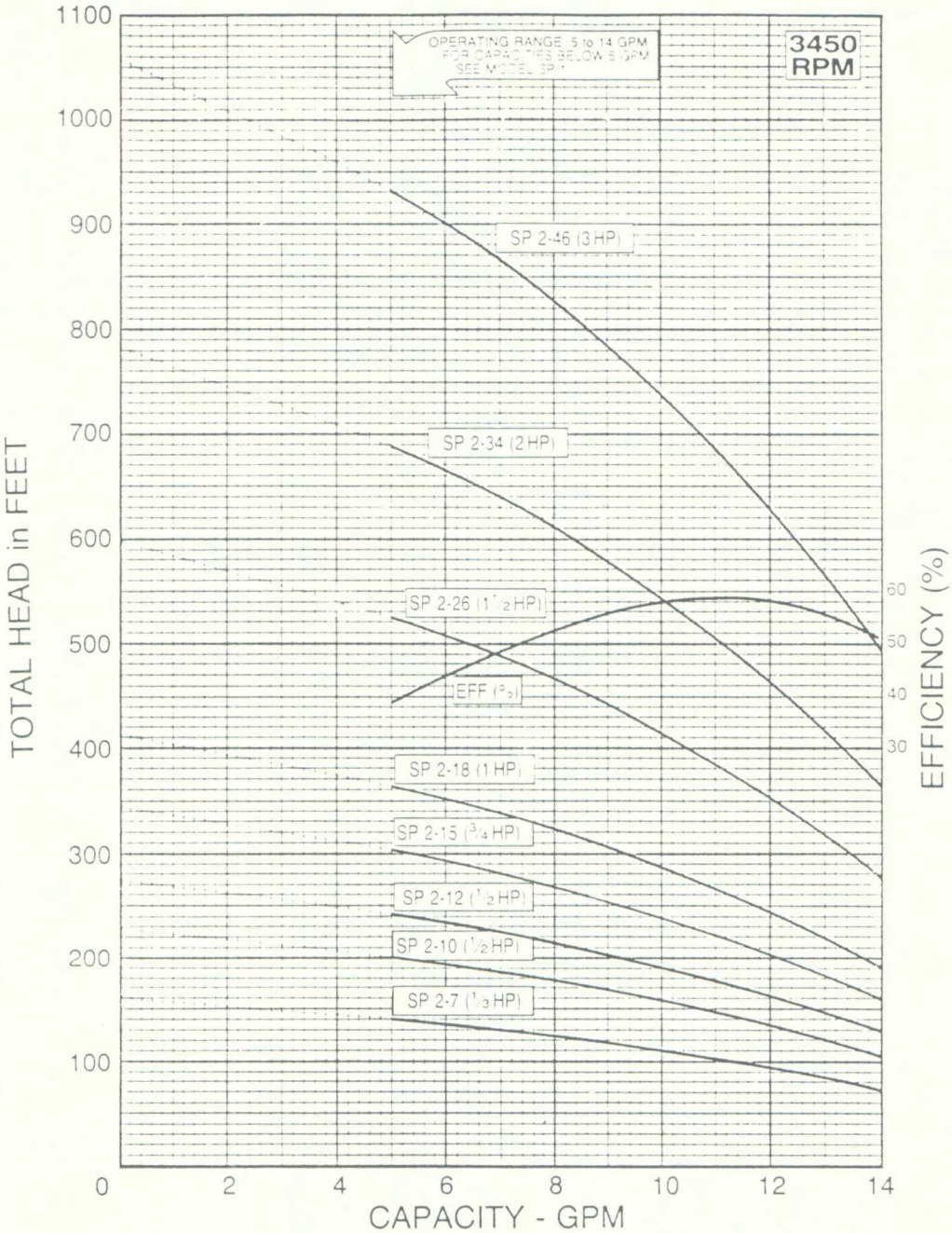
EXCLUSIVE PRIMING INDUCER PROTECTS AGAINST DRY RUNNING: The exclusive Grundfos priming inducer protects against damage due to dry running should water levels drop unexpectedly in the well. Located inside the suction interconnector at pump intake, this small, axial flow screw provides enough water to lubricate the pump until the well has time to recover.

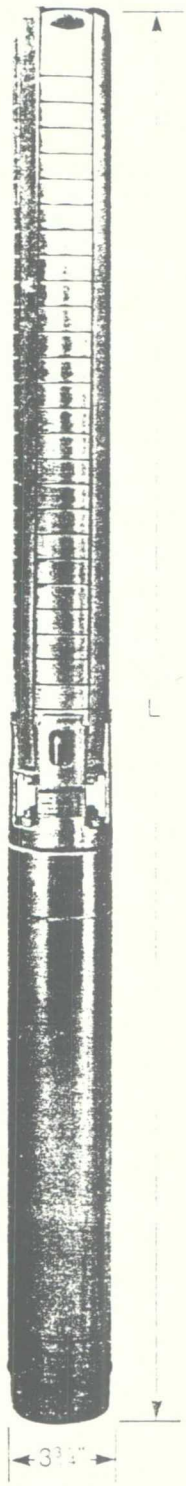


Performance Curves

MODEL SP 2

NOM. FLOW RATE
10 GPM
FLOW RANGE
5 to 14 GPM
PUMP OUTLET
1" NPT





DIMENSIONS AND WEIGHTS

MODEL NO.	HP	LENGTH (L)	APPROX. UNIT SHIPPING WT. (LBS.)
SP 2-7	1/3	22 7/8"	27
SP 2-10	1/2	26 1/8"	31
SP 2-12	1/2	27 3/4"	32
SP 2-15	3/4	31 1/2"	38
SP 2-18	1	32 3/4"	43
SP 2-26	1 1/2	44 1/2"	55
SP 2-34	2	55 7/8"	70
SP 2-46	3	68 3/8"	92

Specifications are subject to change without notice.

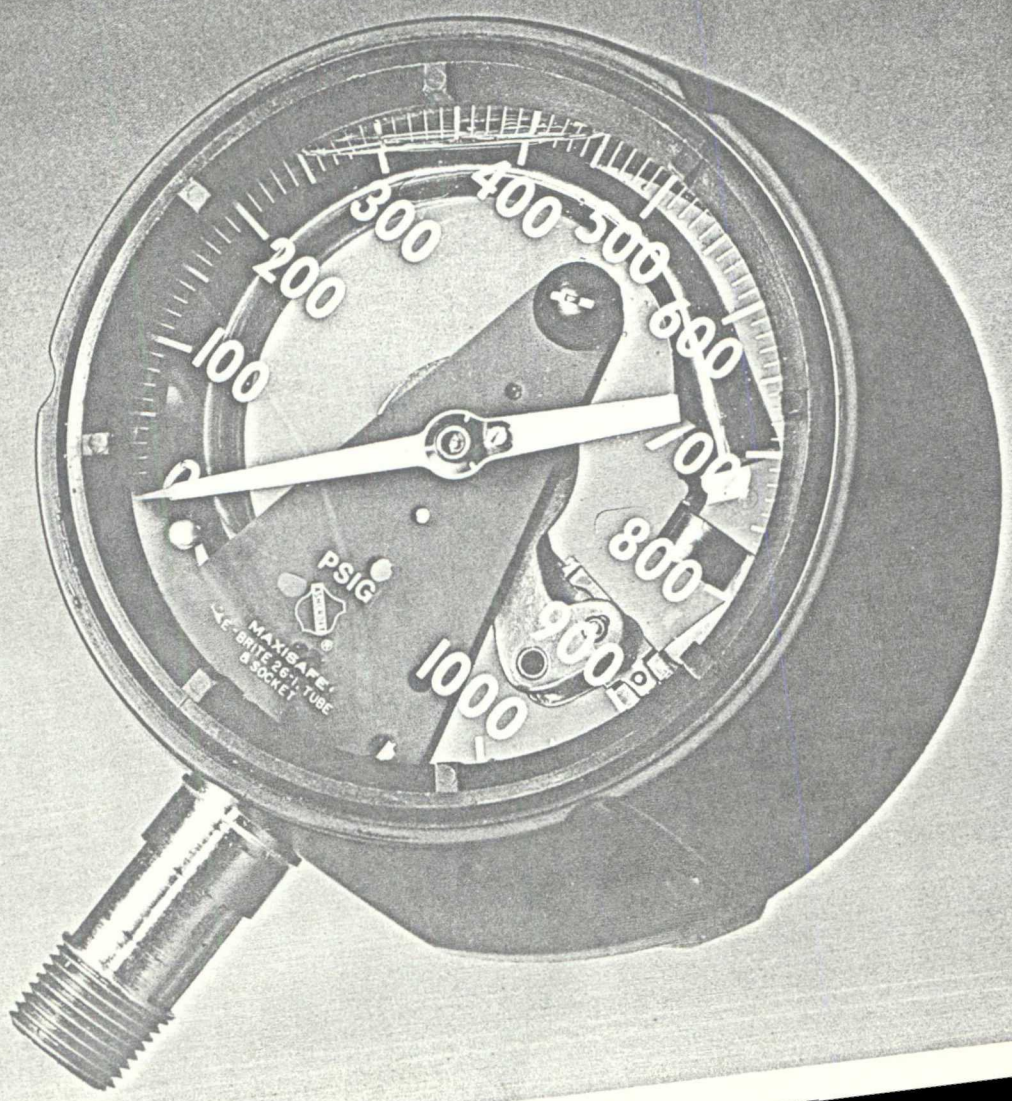
DRESSER INDUSTRIES

DRESSER

INDUSTRIAL VALVE & INSTRUMENT DIVISION

ASHCROFT

Liquid Filled Pressure Gauges



Bulletin

Liquid Filled Gauges:
Type 1279 2
Type 1320 3
Type 1009 4
Type 2000 5
Product Selection Information 6
Bourdon Tube Selection 7
Specifications: 1279 and 1320 8
Specifications: 1009 and 2000 9
To Order Liquid Filled Gauges 10
Standard and Metric Ranges 11
Dimensions: 1279 12
Dimensions: 1320 13
Dimensions: 1009 14,15
Dimensions: 2000 16

Introduction

Under adverse environmental conditions, corrosive elements can attack gauge internals and shorten gauge service life. Severely vibrating and pulsating machinery and other equipment on which gauges are installed may cause rapid wear in the gear teeth or bearings of a gauge movement.

Liquid filling a gauge prevents corrosive effects caused by adverse environments. Constant lubrication is provided by complete immersion of the gauge movement in the filling liquid, protecting the movement from vapors, dust, and corrosive elements. Liquid filling also minimizes wear on all moving gauge parts. The liquid, usually glycerine or silicone, acts as a dampening agent for the sensing element and movement, and pointer flutter is reduced to a level which allows easy reading. Gauge service life, therefore, is extended even under severe atmospheric, pulsating or vibrating service conditions.

Liquid filled gauges are especially suited to applications on pumps, compressors, and hydraulic equipment, whether in offshore installations, chemical plants, pulverized fuel plants, pulp and paper mills, or utilities. Ashcroft liquid filled gauges are available in ranges from vacuum to 20,000 psi; in dial sizes up to 4 1/2″; in stainless steel and phenolic cases; with lower or back connections.

The 4 1/2″ type 1279 phenolic case gauge is available in a solid front construction, lower connection only. It has a rear elastomeric diaphragm, which acts as a blowout back, compensating for internal case pressure changes caused by changes in ambient temperature. Open front case Types 1009, 1320 and 2000 have a filler plug at the top of the gauge case which acts as a safety device, relieving internal case pressure when necessary. All sizes are offered for stem, surface, or flush mounting.

The advantages of liquid filling complement those of the sensing element and movement, proven in years of Ashcroft gauge service. Bourdon tubes are designed, manufactured, and tested for extreme cycle life, calibration stability, and corrosion resistance. Movements are cleaned ultrasonically for abrasion and corrosion resistance, and minimal friction.

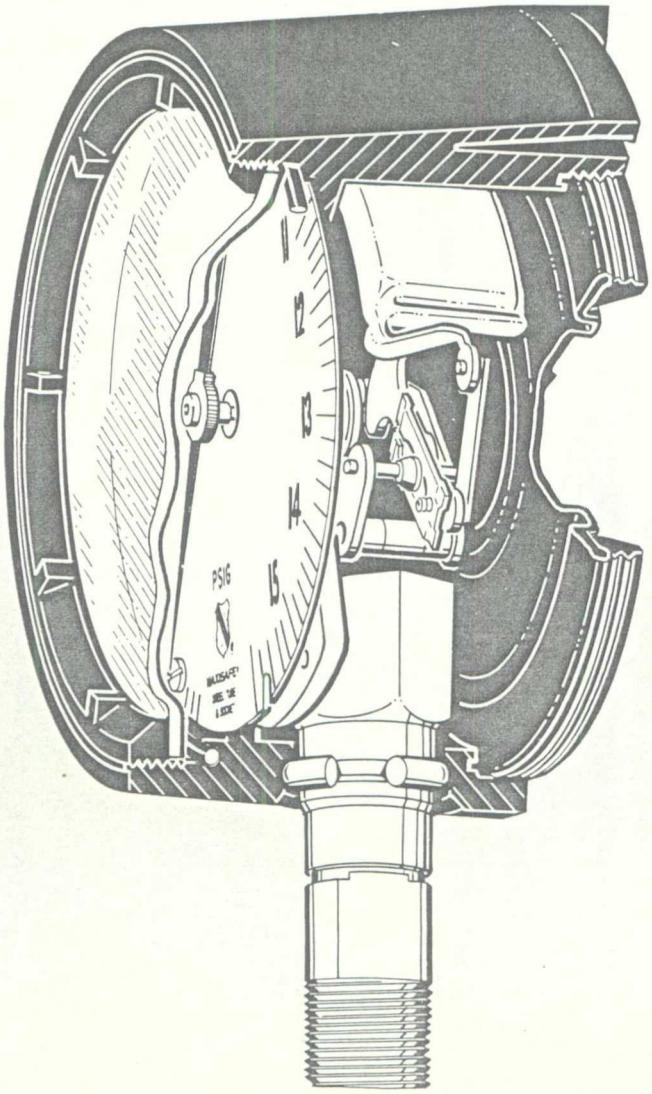
These features — plus a selection of Bourdon tube system materials — assure an Ashcroft liquid filled gauge line specifically suited to provide outstanding gauge value and service in filled gauge applications.

ASHCROFT® Liquid Filled Gauges 1279

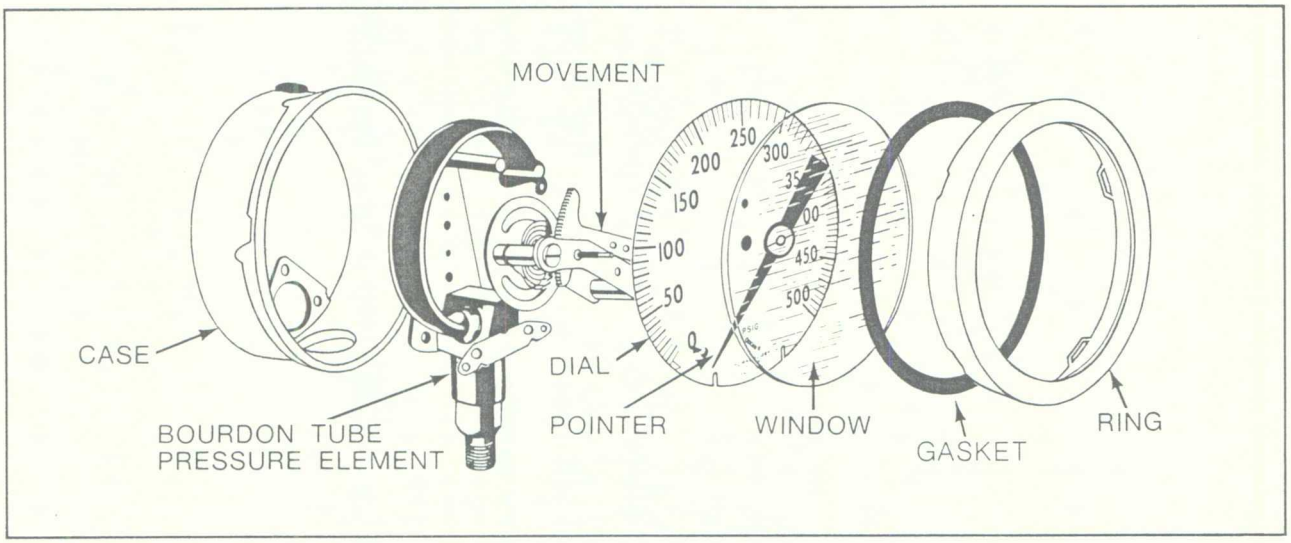
Three-way convertible, Type 1279 is a 4 1/2″ solid front phenolic case gauge which may be ordered in any one of these versions: liquid filled; hermetically sealed; or weatherproof. Should the gauge be ordered in the weatherproof version, for example, and service conditions warrant either hermetically sealing for ambient corrosion protection or liquid filling for applications where severe vibration or pulsation are encountered, a kit is available for field conversion.

A unique feature of this Ashcroft gauge is the absence of a case vent or fill hole normally required on a conventional liquid filled gauge. A specially designed rear elastomeric diaphragm seal compensates for internal case pressure changes due to changes in ambient temperatures. Protection for the diaphragm is provided by a stainless steel rear cover. If a Bourdon tube leak occurs, the resultant case pressure will push the diaphragm out of its seal and release the rear cover, allowing the pressure to be dissipated towards the rear.

All case holes and threads are molded into this rugged phenolic, solid front case. No further machining is required, thus eliminating the possibility of cracking or leaking caused by machining the phenolic material. The integrally molded threads at the front and rear of the case provide axial seals, with the use of threaded rings. Identical rings are used in both locations. Only three seals are required . . . front, rear, and socket. Available with bronze, steel, stainless steel, monel, and E-Brite Bourdon tubes for stem, surface, or flush mounting. Ranges: Vacuum to 20,000 psi.



Product Selection Information



Warning: All gauge components should be selected considering media, and ambient operating conditions, to prevent mis-application. Improper application can be detrimental to the gauge, cause failure and possibly personal injury or property damage.

The information contained in this catalog is offered as a guide to assist in making the proper selection of a pressure gauge.

Additional information is available from Dresser Industrial Valve and Instrument Division.

Pressure Ranges — Select a gauge with a full scale pressure range of approximately twice the normal operating pressure. The maximum operating pressure should not exceed 75% of the full scale range. Failure to select a gauge range within these criteria may ultimately result in fatigue of the Bourdon tube.

Operating Conditions — The operating conditions to which a gauge will be subjected must be considered. If the gauge will be subjected to severe vibrations or pressure pulsations, liquid filling the gauge is recommended to obtain normal product life. Liquid filled gauges should not be subjected to ambient temperatures in excess of 150°F, which could cause discoloration of the dial, hardening of the gasketing, and eventual leakage of the fill. Liquid filled gauges, except the temperature compensated Type 1279, will have a temperature effect of approximately 0.8 psi per 10°F change. Gauges with welded joints will withstand 750°F, with silver brazed joints 450°F, and with soft soldered joints 150°F, for short times without rupture, although other parts of the gauge will be destroyed and calibration lost.

Cases — Two types are offered, open and solid front. The open front case is constructed with the dial between the Bourdon tube and the window. Open front cases, Types 1009, 1320, and 2000 are supplied with a one inch diameter synthetic rubber blowout disc, which relieves approximately at 3-5 psi, thus releasing excessive case pressure buildup in the event a slow leak develops in the pressure element. The solid front case, Type 1279, provides maximum safety with a solid wall between the Bourdon tube and the window (as described on page 2).

Pressure Elements — Available for a wide variety of media, materials include: brass, bronze, steel, stainless steel, monel, and E-Brite. Proper selection of the Bourdon system material is dependent on the process fluid to which the system will be subjected. If the correct material is not available, the use of a diaphragm seal may be necessary to protect the system from the process fluid. (Request a Diaphragm Seal Bulletin).

Movements — Moving parts are designed and protected to reduce friction and extend wear life. Each movement is cleaned ultrasonically and lubricated to resist wear associated with vibration and/or pulsation. Stainless steel movements are standard in Types 1009, 1279, and 1320; Type 2000 has a brass movement.

Dials — Dial scales are uniformly graduated and have highly legible black markings.

Pointers — Readily accessible from the front of the gauge, the pointer for gauge Type 2000 must be removed from the shaft for repositioning. Type 1009, has a friction adjustable pointer and Types 1279 and 1320 have micrometer adjustable pointers. The Type 2000 can be supplied with an optional friction adjustable pointer.

Windows — Acrylic windows, which are more resistant to breakage than glass windows, are standard for liquid filled gauges. Shatterproof glass is available as an option.

Rings — The ring, which encloses the window, is threaded or bayonet depending upon case type.

Bourdon Tube Selection Media Application Basis

A pressure gauge is selected on a media application basis, accuracy requirement, or a combination of both. To use the application index, locate media being used, and select from pressure element materials available.

These recommendations are only a guide, as service life of material is dependent on temperature, concentrations, catalysts that may be added, or other conditions beyond our control. Consult factory for specific applications and for any services not listed.

application	Bourdon tube material: brass or bronze	steel	AISI 316 stain. steel	monel	** diaphragm seals
Acetone			●	●	
Acetic Acid<40%			●		
Acetic Anhydride					●
Acetylene		●	●		
Acrolein					●
Air	●	●	●	●	
Alcohols	●		●	●	
Alkali Cleaners			●	●	
Alum. Chloride					●
Alum. Hydroxide					●
Alum. Sulfate<60%			●		
Ammonia Gas			●		
Ammonium Chloride					●
Ammonium Nitrate			●		
Ammonium Sulfate					●
Aniline			●		
Argon	●	●	●	●	
Beer					●
Bauxite & Water			●		
Benzidine					●
Benzene				●	
Benzoic Acid					●
Black Liquor					●
Boric Acid					●
Brine ❷				●	
Bromine					●
Butane	●	●	●	●	
Butyric Acid					●
Calcium Chloride					●
Calcium Hydroxide					●
Carbolic Acid			●		
Carbon Dioxide		●	●	●	
Carbon Monoxide		●	●	●	
Carbon Tet.				●	
Carbonated Water			●		
Caustic Soda					●
Caustic Potash					●
Cement Slurry					●
Chlorine Dioxide					●
Chlorine Dry					●
Chlorine, Moist					●
Chloroform, Dry				●	

application	Bourdon tube material: brass or bronze	steel	AISI 316 stain. steel	monel	** diaphragm seals
Chromic Acid					●
Cider			●		
Citric Acid			●		
Coffee			●		
Corn Oil			●		
Crude Oil (Sour) ❹					
Crude Oil (Sweet)			●	●	
Ethyl Acetate					●
Ethylene Oxide					●
Fatty Acids			●		
Ferric Chloride					●
Ferric Sulfate					●
Ferrous Chloride					●
Ferrous Sulfate					●
Fluorine Gas			●	●	
Formaldehyde			●		
Formic Acid					●
Freons	●	●	●	●	
Furfural					●
Gasoline	●		●		
Glycerine			●	●	
Hydrobromic Acid					●
Hydrochloric Acid					●
Hydrofluoric Acid					●
Hydrofluosilic Acid					●
Hydrogen ❸	●		●	●	
Hydrogen Peroxide					●
Hydrogen Sulphide (under 200°F)			●		
Hydroxy Acetic Acid			●		
Kerosene	●	●	●	●	
Lacquers	●		●	●	
Lactic Acid					●
Linseed Oil		●	●		
Lime Water					●
Magnesium Chloride					●
Mercuric Chloride					●
Mercury		●	●		
Methylene Chloride					●
Milk			●		
Naphtha	●	●	●	●	
Naphthalene			●		
Nickel Chloride					●

application	Bourdon tube material: brass or bronze	steel	AISI 316 stain. steel	monel	** diaphragm seals
Nitric Acid (75°F)			●		
Nitrogen	●	●	●	●	
Oleic Acid	●				
Oleum					●
Oxalic Acid					●
Oxygen ❶	●		●		
Palmitic Acid			●		
Perchloric Acid					●
Phosphoric Acid					●
Photographic Bleach			●		
Picric Acid					●
Propane	●	●	●	●	
Quinine					●
Rochelle Salt					●
Sea Water ❷				●	
Silicate Solution			●	●	
Silver Nitrate					●
Soap			●		
Sodium Bicarbonate			●	●	
Sodium Bisulfate					●
Sodium Carbonate				●	
Sodium Chromate					●
Sodium Cyanide		●			
Sodium Phosphate			●		
Sodium Sulfide					●
Steam	●	●	●		
Stearic Acid			●		
Sulfur Chloride					●
Sulfur Dioxide					●
Sulfur Trioxide					●
Sulfuric Acid					●
Sulfurous Acid					●
Tall Oil					●
Tannic Acid		●	●	●	
Tartaric Acid			●		
Tin Chloride					●
Toluene	●	●	●	●	
Turpentine			●	●	
Varnish		●	●	●	
Water	●		●	●	
Whisky			●		
Zinc Chloride					●
Zinc Sulphate<30%			●		

❶ Bronze and AISI 316 stainless steel are acceptable for oxygen service, provided the gauge has been cleaned for oxygen service and is free from oil.

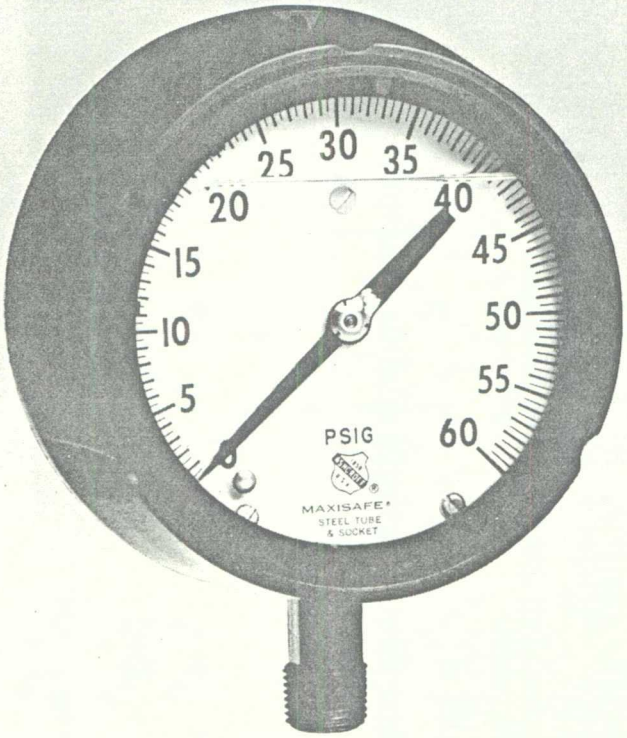
❷ E-Brite 26-1 Bourdon tube is also recommended. (only available in Type 1279 gauge).

❸ Over 1000 PSI — entire system must be AISI 316 stainless steel.

❹ E-Brite 26-1 Bourdon tube is recommended for sour crudes containing sulphides and chlorides.

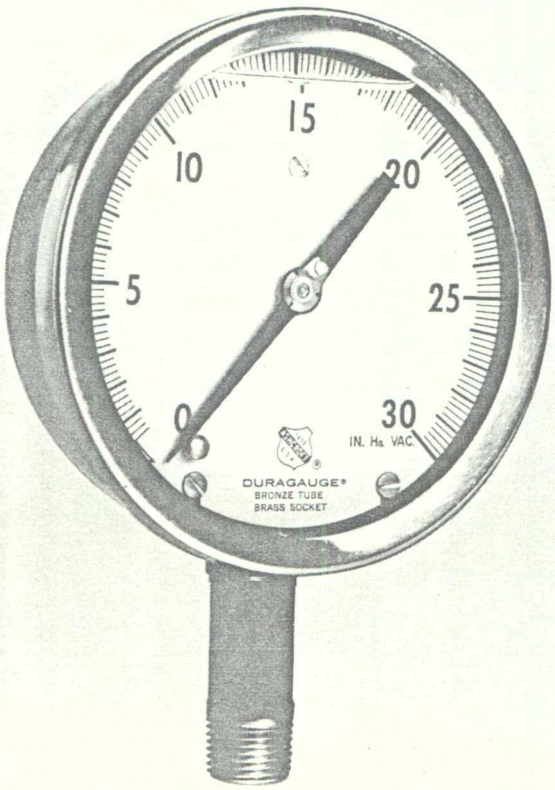
** Any standard Bourdon tube material may be used in conjunction with a diaphragm seal but the tube selection should take into consideration the corrosive environment in which it is to operate. For Selection of Diaphragm Seals See Bulletin SEAL-75W.

Specifications 1279 and 1320



Type 1279

Dial Size . . . . . 4 1/2"
Case . . . . . Phenol Turret, Black, Solid Front
Ring . . . . . Glass Filled Polypropylene, Threaded
Connection . . . . . 1/2" NPT Lower
Mounting . . . . . Stem, Surface, or Flush
Window . . . . . Acrylic Plastic
Dial . . . . . Acrylic Coated, White Aluminum
Pointer . . Micrometer Adjustable, Black Aluminum
Bourdon Tube . . . . . Bronze, Steel, Stainless Steel, Monel, E-Brite
Movement . . . . . Stainless Steel
Accuracy . . . . . ±1/2% of Full Scale
"O" Ring (Window and Socket) . . . . . Buna -N
Rear Elastomeric Diaphragm . . . . . EPDM
Ranges . . . . . Vacuum to 20,000 psi



Type 1320

Dial Size . . . . . 4 1/2"
Case . . . . . Stainless Steel
Ring . . . . . Stainless Steel, Bayonet Type
Connection . . . . . 1/2" NPT Lower or Back
Mounting . . . . . Stem, Surface, or Flush
Window . . . . . Acrylic Plastic
Dial . . . . . Acrylic Coated, White Aluminum
Pointer . . Micrometer Adjustable, Black Aluminum
Bourdon Tube . . . . . Bronze, Steel, Stainless Steel, Monel
Movement . . . . . Stainless Steel
Accuracy . . . . . ±1% of Full Scale
"O" Ring (Window) . . . . . Buna-N
Filler Plug & "O" Ring . . . . . Buna-N
Sealant . . . . . RTV
Ranges . . . . . Vacuum to 20,000 psi

To Order Liquid Filled Gauges

Maximum pressure at which a gauge is continually operated should not exceed 75% of full scale range.

Select:

1. Case Type: include suffix L: 1009(*)L, 1279(*)SL, 1320 (*)L, 2009(*)L — Table A
2. Dial Size — Table A
3. Bourdon Tube System — Table B
4. Liquid Fill — Table C
5. Pressure Range — Table D on page 11
6. Mounting Accessory or Variation (if required) — Table A
7. Connection:
   Location — Table A
   Size — Table B

Table A — Case Selection

Case Type Number	Dial Size (Inches)	Case Style	Case: Material Finish	Style Ring: Material Finish	Mounting and Connection †
1279(*)SL	4½	Solid Front	Phenol Black	Threaded (Reinforced) polypropylene Black	Stem — Lower Surface — Lower Flush — Order 1278 M Ring.
1320(*)L	4½	Open Front	Stainless Steel Polished	Bayonet Lock Stainless Steel Polished	Stem — Lower or Back Surface — Lower XBF or Back XBQ Flush — Back XUC
1009(*)L	2½, 3½	Open Front	Stainless Steel Polished	Bayonet Lock Stainless Steel Polished	Stem — Lower or Back Surface — Lower or Back 2½" — XBF (lower) XFW (back) 3½" — VFW (lower), VFW (back) Flush — Back — Specify XUC
2000(*)L	2½, 3½	Open Front	Stainless Steel Black	Bayonet Lock Stainless Steel Polished	Stem — Lower or Back Surface — Lower 2½"— Specify XBF 3½" — Specify XBF Flush — Specify "U"

*Bourdon tube code designation from Table B.

Table B — Bourdon System Selection

Ordering Code	Bourdon Tube and Tip Material (all joints TIG welded except "A")	Socket Material	Tube Type: Drawn or Bored	Pressure Range — Connection (NPT) (3)			
				1320 1279	2½" 1009	3½" 1009	2000
A	Grade A Phosphor Bronze Tube — Brass Tip, Silver brazed	Brass	Drawn	12/1000 ½	12/1000 ¼	10/1000 ¼	—
B	AISI 4130 alloy steel	AISI 1019 Steel	Drawn	12/1000 ½	1200/5000 ¼	5000/15000 ¼	—
D	AISI 4130 alloy steel	AISI 1019 steel	Bored	1000/20,000 ½	—	—	—
H	Brass	Brass	Drawn	—	—	—	15/600 ¼
R	AISI 316 stainless steel	AISI 1019 steel	Drawn	12/1000 ½	—	30/3000 ¼	—
RT	AISI 316 st. st. tube AISI 1019 steel tip	AISI 1019 steel	Bored	1000/20,000 ½	—	—	—
S	AISI 316 stainless steel	AISI 316 stainless steel	Drawn	12/1000 ½	15/3000 ¼	15/3000 ¼	—
TA	AISI 316 stainless steel	AISI 316 stainless steel	Bored	1000/20,000 ½	—	—	—
P	K Monel	R Monel	Drawn	12/1000 ½	—	—	—
Q	K Monel	R Monel	Bored	1000/20,000 ½	—	—	—
F	E-Brite 26-1 (1)	E-Brite 26-1	Drawn	100/1000 (2) ½	—	—	—
FT	E-Brite 26-1 (1)	E-Brite 26-1	Bored	2000(2) ½	—	—	—

(1) Available with 4½" solid front cases only
(2) Other ranges on application
(3) Optional connections available:
½" NPT where ¼" NPT is standard
¼" NPT where ½" NPT is standard

Table C — Recommended Ambient Temperature Operating Range Limits

	°F	°C
Glycerine filled	0/150	30/65
Silicone oil filled	-50/150	-45/65
Fluorlube filled	-50/150	-45/65

Glycerine or Silicone should not be used in application involving strong oxidizing agents such as Chlorine, Nitric Acid, or Hydrogen Peroxide, because of danger of spontaneous chemical reaction, ignition, or explosion: — Fluorlube should be specified.

†Connection — ½ NPT (¼ NPT optional)

In applications of stem mounted liquid gauges where vibration is extremely severe (over 5 g's), ½ NPT connections should be used to prevent possibility of failure of socket or associated piping caused by vibrating weight of a liquid filled gauge.

*Only ¼ NPT for 2½" and 3½" in Types 1009 and 2000.

Table D
Standard Psi Ranges

pressure (psi)

range	figure interval	minor graduation
0/15	1	0.2
0/30	5	0.5
0/60	5	1
0/100	10	1
0/160	20	2
0/200	20	2
0/300	30	5
0/400	50	5
0/600	50	10
0/800	100	10
0/1000	100	10
0/1200(1)	200	20
0/1500	200	20
0/2000	200	20
0/3000	300	50
0/5000	500	50
0/10,000(2)	1000	100
0/20,000(3)	2000	200

compound and combination

range			figure interval			minor graduation		
psi	inches mercury	feet water	psi	inches mercury	feet water	psi	inches mercury	feet water
15	30	—	3	5	—	0.5	1	—
30	30	—	5	10	—	0.5	1	—
60	30	—	10	10	—	1	1	—
100	30	—	10	10	—	1	1	—
150	30	—	20	10	—	2	2	—
300	30	—	25	30	—	5	5	—
15	—	34	3	—	5	0.5	—	1
30	—	70	5	—	10	1	—	1
60	—	140	5	—	20	1	—	2
100	—	230	10	—	20	1	—	5
160	—	370	20	—	50	2	—	5
200	—	460	20	—	50	5	—	5
300	—	690	25	—	50	5	—	10

retard

dial size (inches)	range	
2½, 3½	0/10 psi retard to 30 psi 0/30 psi retard to 60 psi 0/30 psi retard to 100 psi	0/30 psi retard to 120 psi 10" Hg Vac/5 psi retard to 30" Hg and to 15 psi
4½	0/10 psi retard to 30 psi 0/20 psi retard to 60 psi 0/40 psi retard to 100 psi	30" Hg Vac/75 psi retard to 150 psi 10" Hg Vac/5 psi retard to 30" Hg Vac and to 30 psi

2½" and 3½" stainless steel tube gauge dial graduated 30"/0 Hg (counterclockwise)

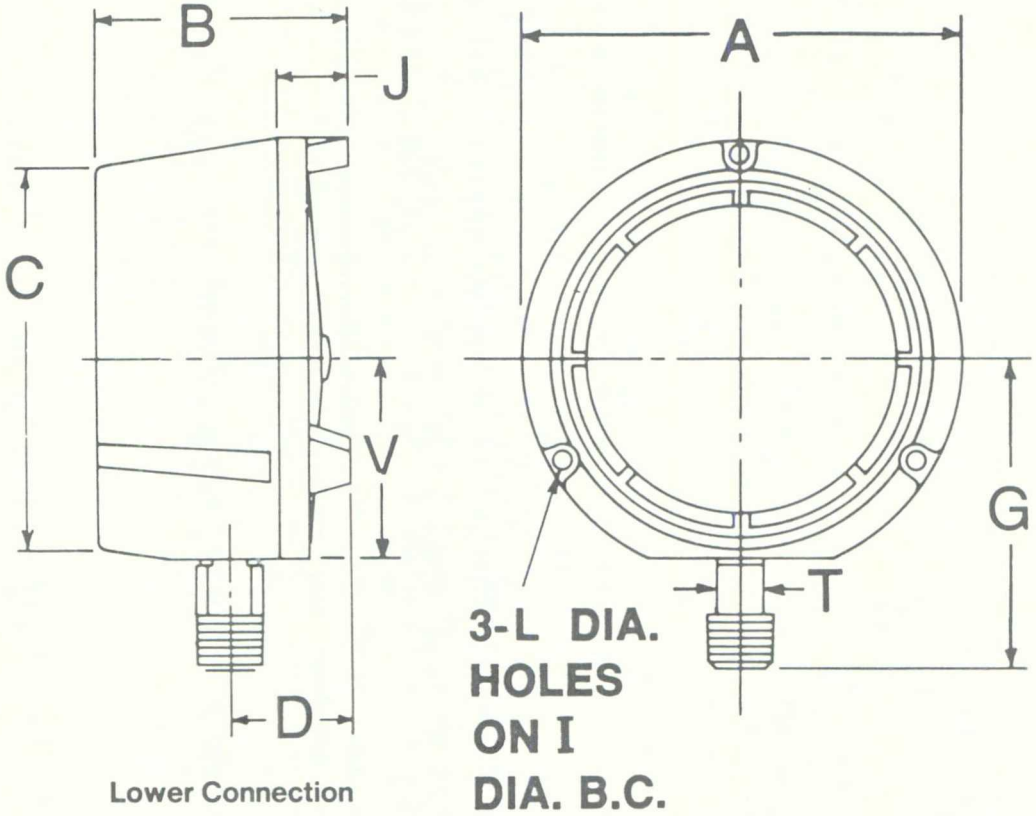
vacuum range	figure interval	minor graduation
0-30 inches Mercury	5 inches	0.5

Standard Metric Ranges

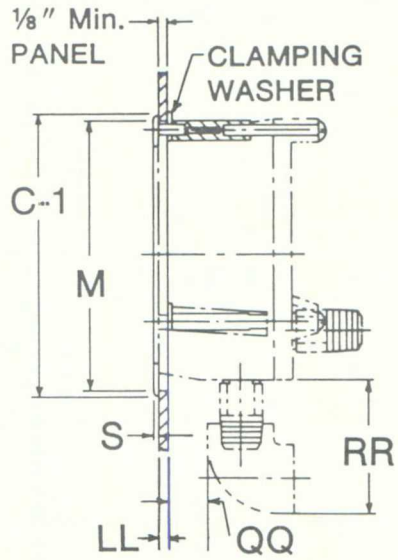
RANGE		DIAL GRADUATIONS		RANGE	DIAL GRADUATIONS		Outer scale
kg/cm² (Kilograms per sq. cm.)	bar	figure interval	minor graduation	kPa (kilopascal)	figure interval	minor graduation	when dual range specified psi
pressure							
0/1	0/1	0.1	0.01	0/100	10	1	0/14
0/1.6	0/1.6	0.2	0.02	0/160	20	2	0/22
0/2.5	0/2.5	0.5	0.05	0/250	50	5	0/35
0/4	0/4	0.5	0.05	0/400	50	5	0/55
0/6	0/6	0.5	0.1	0/600	50	10	0/85
0/10	0/10	1	0.1	0/1000	100	10	0/140
0/16	0/16	2	0.2	0/1600	200	20	0/220
0/25	0/25	5	0.5	0/2500	500	50	0/350
0/40	0/40	5	0.5	0/4000	500	50	0/550
0/60	0/60	5	1	0/6000	500	100	0/850
0/100	0/100	10	1	0/10 MPa	1	0.1	0/1400
0/160	0/160	20	2	0/16 MPa	2	0.2	0/2200
0/250	0/250	50	5	0/25 MPa	5	0.5	0/3500
0/400	0/400	50	5	0/40 MPa	5	0.5	0/5500
0/600	0/600	50	10	0/60 MPa	5	1	0/8500
0/1000	0/1000	100	10	0/100 MPa	10	1	0/14,000
vacuum							
-1/0	-1/0	0.1	0.01	-100/0 kPa	10	1	30" Hg
compound							
-1/0/1.5	-1/0/1.5	0.5	0.05	-100/0/150 kPa	50	5	30" Hg/0/20
-1/0/3	-1/0/3	0.5	0.05	-100/0/300 kPa	50	5	30" Hg/0/40
-1/0/5	-1/0/5	0.5	0.1	-100/0/500 kPa	50	10	30" Hg/0/70
-1/0/9	-1/0/9	1	0.1	-100/0/900 kPa	100	10	30" Hg/0/125
				-100/0/1500 kPa	200	20	30" Hg/0/215
				-100/0/2400 kPa	500	20	30" Hg/0/340

(1) 2½" sizes/steel tube only, (2) not available in 2½" size, (3) not available in 2½" and 3½" sizes
Note: Receiver gauge ranges available — consult factory.

Dimensions 1279



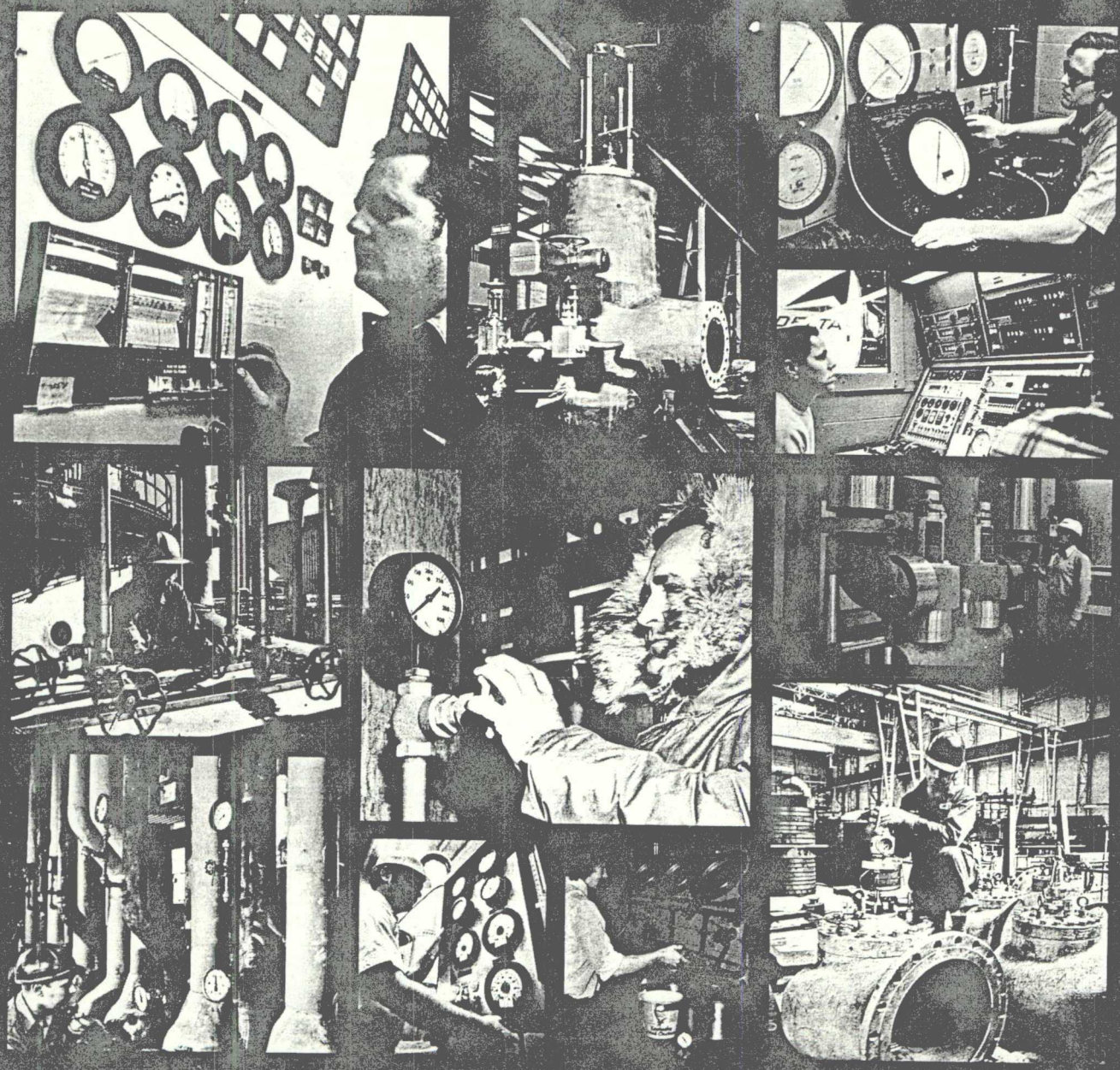
Lower Connection



Flush Mounting Ring

Dial Size Inches	A	B	C	D	I	F	G		J	L	T	V	Wgt. (lbs.)	C-1	LL		M	S	QQ	RR
							Bronze 1/4 NPT	1/2 NPT							Min.	Max.				
4 1/2	5 13/16	3 3/8	5 1/16	1 5/8	5 3/8	1 5/8	3 13/16	4 5/8	1	7/32	5/8	2 5/8	3 1/2	6	1/8	5/16	5 9/16	3/16	13/16	2 13/16
	(148)	(86)	(129)	(41)	(137)	(41)	(97)	(153)	(27)	(5,5)	(16)	(41)		(152)	(3)	(8)	(141)	(5)	(21)	(71)

Note: Dimensions in Brackets ( ) are Millimeters



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