

LP-GAS EQUIPMENT



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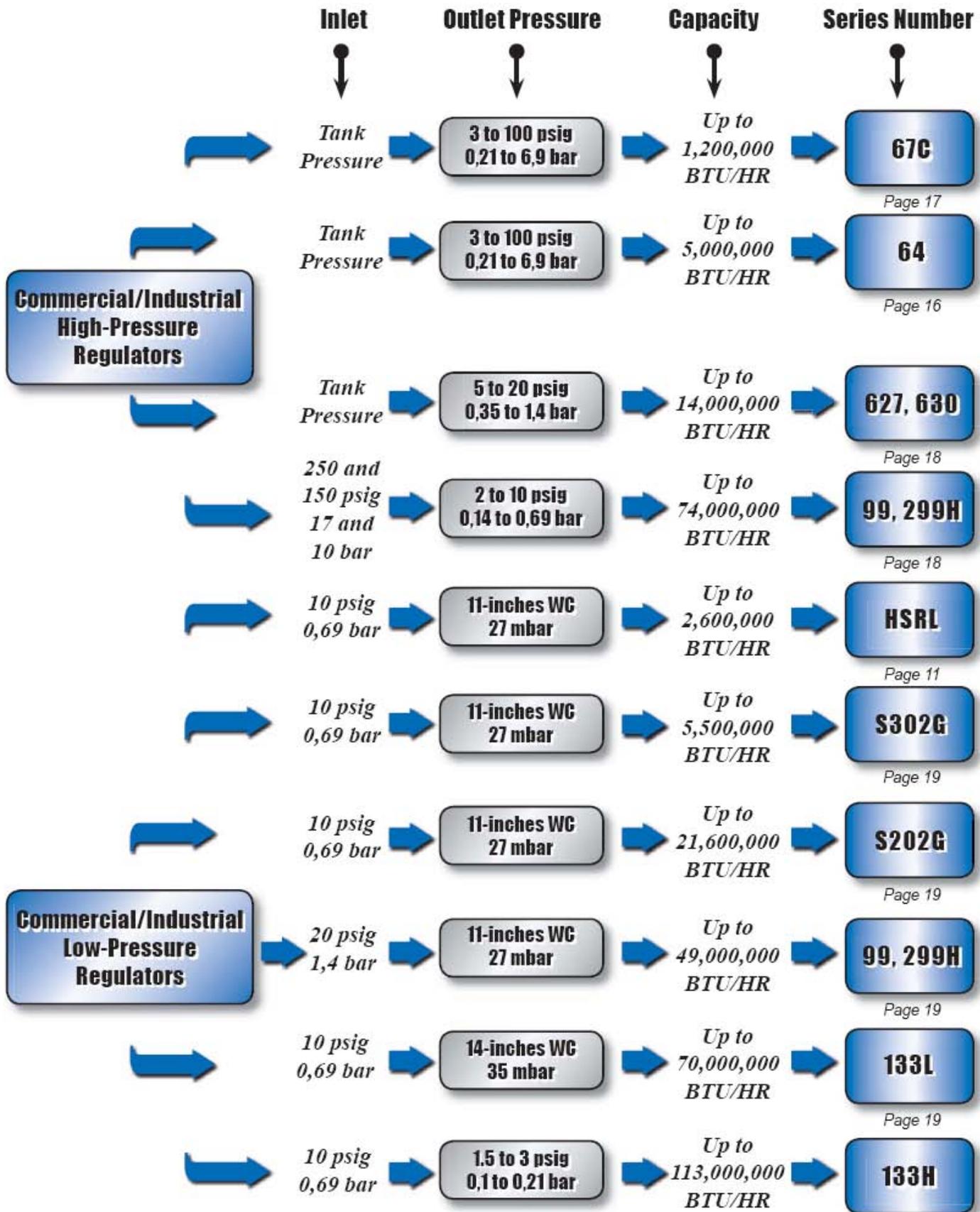
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	Inlet	Set Pressure	Capacity	Series Number
First-Stage Regulators	Tank Pressure	10 psig 0,69 bar	Up to 1,100,000 BTU/HR	R122H Page 10
	Tank Pressure	10 psig 0,69 bar	Up to 2,400,000 BTU/HR	R622H Page 10
	10 psig 0,69 bar	11-inches WC 27 mbar	Up to 450,000 BTU/HR	R222 Page 11
	10 psig 0,69 bar	11-inches WC 27 mbar	Up to 900,000 BTU/HR	R642 Page 11
Second-Stage Regulators	10 psig 0,69 bar	11-inches WC 27 mbar	Up to 1,000,000 BTU/HR	R652 Page 11
	10 psig 0,69 bar	11-inches WC 27 mbar	Up to 1,400,000 BTU/HR	R622 Page 11
	10 psig 0,69 bar	11-inches WC 27 mbar	Up to 2,600,000 BTU/HR	HSRL Page 11
Two-PSI Service Regulators	10 psig 0,69 bar	2 psig 0,14 bar	Up to 1,400,000 BTU/HR	R652E Page 12
	10 psig 0,69 bar	2 psig 0,14 bar	Up to 1,500,000 BTU/HR	R622E Page 12
Integral Two-Stage Regulators	Tank Pressure	11-inches WC 27 mbar	Up to 350,000 BTU/HR	R232 Page 13
	Tank Pressure	11-inches WC 27 mbar	Up to 750,000 BTU/HR	R632



R122H-AAJ



R622H

First stage regulators reduce tank pressure to a lower pressure (usually 10 psig) for a second stage regulator. Fisher first stage regulators are painted red for easy identification. Vents are screened with standard orientation over outlet.

Type R122H - Designed for use as the first stage portion of a two-stage regulation system on domestic applications, the R122H's size makes it perfect for tight installations. Stainless steel internal parts and corrosion resistant coatings provide a Recommended Replacement Life of 20 years. Inlet and outlet gauge taps allow easy system testing. Outlet pressure remains at the factory setting of 10 psig. Each unit contains a relief valve and a large vent. Fisher's exclusive fabric-reinforced diaphragm and cast orifice provide accurate regulation.

Type R622H - The latest design in regulator technology features a construction of corrosion-resistant and wear-resistant materials. This makes the unit less susceptible to corrosive environments. Built-in 1/8-inch FNPT gauge taps on both the inlet and outlet pressure sides allow for easy system checks. A large 3/4-inch FNPT drip-lip vent reduces the chance of blockage by freezing rain or sleet when properly installed with the vent pointing down.

Each R622H is equipped for over pressure protection with a corrosion resistant internal relief valve that provides high capacity relief and a travel stop on the closing cap. Its overall profile of 6.13-inches makes it ideal for under the dome installations.

Ordering Information

Type Number	Part Number	Capacity BTU/HR Propane*	Inlet Connection	Outlet Connection	Outlet Adjustment Range	Outlet Pressure Setting
R122H-AAJ	123033	1,100,000	1/4" FNPT	1/2" FNPT	Non-Adjustable	10 psig
R622H-BGK	124664	2,000,000	1/2" FNPT		3/4" FNPT	4 - 6 psig
R622H-HGK	124680		FPOL			
R622H-JGK	124695	2,250,000	1/2" FNPT	1/2" FNPT	8 - 12 psig	10 psig
R622H-BGJ	124662	2,100,000				
R622H-DGJ	124670	2,400,000	3/4" FNPT	3/4" FNPT		
R622H-HGJ	124675	2,100,000	FPOL	1/2" FNPT		
R622H-JGJ	124690	2,250,000		3/4" FNPT		

* Based on 30 psig inlet pressure and 20% droop.

Second-stage regulators reduce the outlet pressure from a first stage regulator, usually 10 psig, to 11-inches water column, in domestic installations. Vents are screened with standard orientation over inlet and other vent orientations available. Vent adaptors, P121/P213, are available for non-threaded vents. Fisher second-stage regulators are normally painted palm green for easy identification.

R222 - Designed for small domestic applications up to 450,000 BTU/HR. The unit provides the same features as the R622 in a smaller package.

R622 - Designed for Two-Stage LP-Gas systems and listed by UL. The R522 contains an oversized relief valve and a large 3/4" screened vent to limit downstream protection to less than 2 psig in an over pressure situation as required by NFPA 58.

For easy system checks, the R622 has 1/8" built in NPT gauge taps, orificed to a No. 54 drill size, on both the upstream and downstream sides. This regulator also features a large 3/4" drip-lip vent to reduce the chance of blockage by freezing rain or sleet when properly installed with the vent pointing down.

R642 and R652 - Designed for domestic applications up to 900,000 and 1,000,000 BTU/HR respectively. These units provide all the same features as the R622, including the 20 year Recommended Replacement Life and Double Failure Protection, in an angle body for the R642 and backmounted design for the R652.

HSRL - This regulator is designed for domestic and light commercial applications up to 2,100,000 BTU/HR. Available in angle body and a straight globe valve body. The design also includes the same high capacity internal relief valve as the R622.



Ordering Information

Type Number	Part Number	Capacity BTU/H Propane *	Inlet	Outlet	Outlet Pressure Range	Outlet Pressure Setting
R222-BAF	123075	450,000	1/2" FNPT	1/2" FNPT	9-1/2 - 13" wc	11" wc
R622-BCF	124616	875,000				
R622-CFF	124625	1,400,00	3/4" FNPT	3/4" FNPT	9" - 13" wc	
R622-DFE	124639					
R642-DFE	124775	900,000				
R652-CFF	124801	1,000,000	1/2" FNPT	3/4" FNPT	13" - 20" wc	18" wc
R652-DFE	124800		3/4" FNPT			
R622-CFGXA	124635		1/2" FNPT			
HSRL-BCF	123211	2,300,000	3/4" FNPT		9" - 13" wc	11" wc
HSRL-CFC	123212	2,600,000	1" FNPT	1" FNPT		

* Based on 10 psig inlet pressure and 2" droop.

Type R622E and R652E, 2-PSI Service Regulators, are installed downstream from a first-stage regulator and reduce an inlet pressure of 10 psig to a nominal 2 psig outlet pressure. 2-PSI service regulators are designed for domestic applications that supply 2 psig LP-Gas to a line regulator located inside the building. In most cases a manifold is used with corrugated stainless steel tubing as well as other acceptable piping materials for routing to the line pressure regulator supplying approximately 11" water column to appliance regulators.

Type R622E and R652E feature a combination relief valve and large vent that provide over pressure protection and exceed UL requirements. Both units have a stainless steel inlet screen to reduce the amount of debris from entering them. Fisher's 2-PSI Regulators are powder coat painted white for easy identification.

Type R622E - Fisher's fabric reinforced diaphragm and exclusive straight through flow orifice design provide accurate regulation at increased capacities. All components provide superior resistance to field conditions that may cause wear and corrosion. Built in 1/8" taps(orificed to a number 54-drill size) on the upstream and downstream sides allow for easy gas system checks.

Type R652E - Provides the same features as the Type R622E with a back mount design.

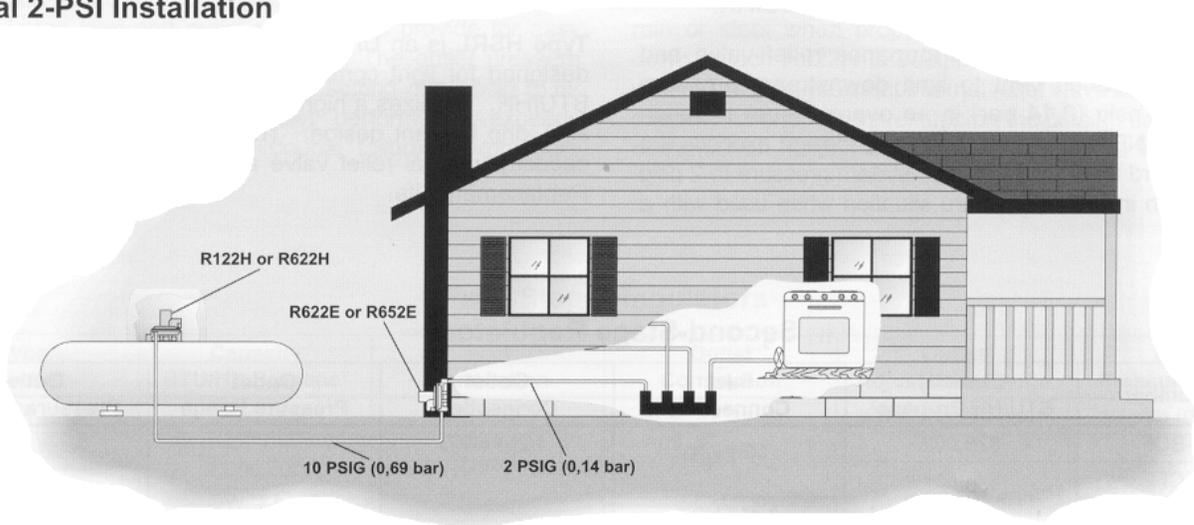


R622E



R652E

Typical 2-PSI Installation



Ordering Information

Type Number	Part Number	Capacity BTU/H Propane *	Inlet	Outlet	Outlet Pressure Range	Outlet Pressure Setting
R622E-BCH	124595	1,250,000	1/2" FNPT	1/2" FNPT	1 - 2.5 psig	2 psig
R622E-DCH	124596	1,500,000	3/4" FNPT	3/4" FNPT		
R652E-DFH	124802	1,400,000				

* Capacity based on 10 psig inlet pressure and 20% droop.



R632



R232

Integral two-stage units combine a first stage regulator and second stage regulator into one compact unit. Recommended for installations where piping distance is short, integral two-stage regulators provide all the advantages of two-stage regulation. Fisher integral two-stage regulators are color coded grey for easy identification. Vents are screened with standard second stage orientation over outlet.

Reduced Freezing Problems - Water in propane gas can freeze under certain conditions at the regulator’s inlet causing flow interruption. A two-stage regulator reduces this possibility in two ways: 1) a larger orifice can be used and 2) more heat can be transferred through the walls of two regulators.

Improved Regulation - The second-stage portion receives a relatively uniform inlet pressure from the first stage portion. This elimination of wide fluctuations in inlet pressure helps the regulator maintain appliance pressure at nearly a constant 11-inches water column.

R232 - Designed for installations with small capacity loads, this unit meets the NFPA 58 code. With an overall length of 6.5" or 7", the compact size makes it ideal for ASME tanks used on recreational vehicles and small residential loads. A fabric reinforced molded diaphragm insures constant performance. The large relief valve and 1/2-inch vent provide over pressure protection below 2 pig to the outlet.

Twin Cylinder Installations - The R232 can also be used on twin cylinder hook-ups found on travel trailers and stationary applications. These units offer a drip-lip vent style for installation without a vent protector. Proper installation requires the vent to be pointed down in a vertical position (additional protection may be required if road splatter is a problem).

Either a P414 or a P456A manifold can be factory installed in the regulator’s inlet. The P414 is a tee check style with a check disc that blocks the flow to the reserve cylinder. The disc moves to either one side of the manifold or the other depending upon which cylinder is to supply gas.

The P456A manifold changeover assembly allows both cylinders to be opened. The lever points to the “supply” cylinder. When gas is exhausted from this cylinder, turning the lever to the opposite direction permits the “reserve” cylinder to supply gas.

R632 - These units are used for on-site cylinder installations, mobile homes, and average residential service where separation of the first and second-stage regulators is not cost effective, This unit offers a POL connection as an easy drop-in replacement for single stage regulators

Ordering Information

Type Number	Part Number	Capacity BTU/H Propane *	Inlet Connection	Outlet Connection	Outlet Pressure Range	Outlet Pressure Setting
R232-BBF	123100	350,000	1/4" FNPT	1/2" FNPT	9.5" - 13" wc	11" wc
R232-BBFXA +	123101					
R232-HBF	123102		FPOL			
R232-HBFXA+	123103					
R632-BCF	124700	700,000	1/4" FNPT	1/2" FNPT	9" - 13" wc	
R632-BCFXA+	124703					
R632-CFF	124705	750,000	FPOL	3/4" FNPT		
R632-CFFXA+	124702					
R632-HCF	124709	700,000	FPOL	1/2" FNPT		
R632-JFF	124707					
R632-JFFXA+	124704	750,000		3/4" FNPT		

* Based on 30 psig inlet pressure and 2" wc droop. + First and second stage spring case vents opposite gauge taps.

Commercial Automatic Changeover Regulators

Designed for large capacity multi-cylinder or tank installations, these regulators are used on such applications as bakeries, motels, restaurants, and grain dryers. The manifold portion of the assembly consists of two Type 64 regulators and a direct mounted Type 803 indicator.

HSRL-749B - For low pressure service. The second-stage portion has the "drip lip" vent feature and built-in travel stop to open the internal relief valve.

64SR/122 - For high pressure (pounds to pounds) service with the outlet pressure supplied by a Type 64SR that has internal relief protection.



HSRL-749B



64SR/122

Ordering Information

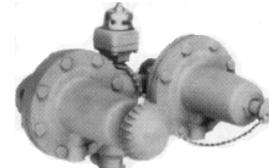
Type Number	Part Number	Capacity BTU/H Propane	Inlet Connection	Outlet Connection	Outlet Pressure Setting	Outlet Adjustment
HSRL-749B	124501	1,575,000	1/2" FNPT	3/4" FNPT	11" WC	9 - 13" wc
64SR/122	123547	1,210,000		1/2" FNPT	10 psig	5 - 20 psig



R110/21



R130/21



749B/21

Changeover Manifold Assemblies

R110/21 - This manifold connects to the inlet of a domestic second-stage regulator, providing a complete automatic changeover assembly. A built-in indicator gives indication of when the changeover has taken place. The unit supplies an outlet pressure of approximately 15 psig (supply cylinder) and 7 psig (reserve cylinder).

R130/21 - Composed of two 67 regulators and a special 0-60 psig pressure gauge, the R120 delivers a 45 psig outlet pressure on supply and 30 psig on reserve. The gauge, which serves as the changeover indicator, is painted red from 0-35 psig. When the dial reads in the 0-35 psig range, it indicates that the manifold has switched from the supply to the reserve cylinder.

749B/21 - Large capacity changeover manifold for commercial and industrial applications. It consists of two Type 64 series regulators and a Type 803 direct indicator.

The assembly is used primarily in conjunction with either an HSRL-749B or a 64SR regulator. The standard outlet setting is 15 psig (supply) and 5 psig (reserve).

Note: These units are intended for use with second stage regulators and/or separate relief devices which provide over pressure protection required by NAPA 58. Capacity of all these changeover manifolds is dependent on the size of the second-stage regulator with which they are used. If the manifolds are used as final-stage (pounds to pounds), a relief valve is required in the downstream system.

Ordering Information

Type Number	Part Number	Capacity BTU/H *	Inlet Connections	Outlet Connections	Supply Setting	Reserve Setting
R110/21	123002	500,000	1/4" Inv. Flare	1/4" FNPT	15 psig	7 psig
R130/21	123003	1,475,000	1/4" FNPT		45 psig	30 psig
749B/21	123859	1,500,000	1/2" FNPT	1/2" FNPT	15 psig	5 psig

* Based on 100 psig inlet, reserve setting.

These regulators change from the supply cylinder (when gas is exhausted) to the reserve cylinder automatically. The R961 and R962 series are widely used on motor homes, recreational vehicles and domestic installations because they maintain reliable, uninterrupted service.

R961 & R962 - Type R110 automatic changeover manifold serves as the first-stage portion of the assembly, connecting to a conventional second-stage regulator which reduces the pressure to 11 inches we for the appliances.

Type R962 eliminates gas outage problems by switching from the nearly empty cylinder to the reserve cylinder automatically. Gas is withdrawn from the supply cylinder until pressure reaches about 7 psig. The changeover manifold then switches to the full cylinder. A red warning flag appears in the built-in indicator to show the changeover has taken place. Additional protection for the vent may be required for Type R962 to prevent wheel spray from blocking the vent with mud on mobile installations. Does not comply with NFPA 58 or UL 144.



R961/21



R962-31

Ordering Information

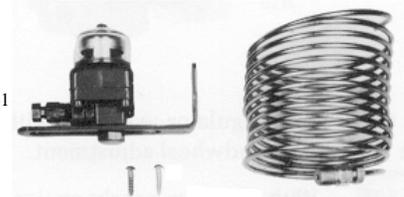
Type Number *	Part Number	Capacity BTU/H, Propane	Inlet Connection	Outlet Connection	Vent Style	Includes
R961/21	123135	320,000	1/4" Inv. Flare	3/8" FNPT	1/4" FNPT	R110 & 912
R962-31	123160	400,000		1/2" FNPT	3/4" FNPT	R110 & R622

* Outlet pressure setting 11" wc.

Remote Indicator

Type 803 gives remote visual indication that the supply cylinder is empty and that the R966 is withdrawing gas from the reserve cylinder.

803/61 - Indicator, bracket, screws, and 10' tubing



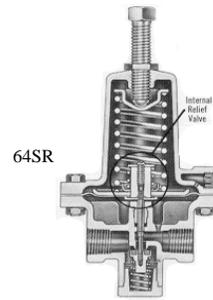
803/61

803/21 - Indicator only

803/5 - Mounting kit, includes bracket, screws, and 10' tubing



803/21



64 Series

High pressure (pounds to pounds) regulators usually reduce tank pressure to an intermediate pressure for use by another regulator. They may be used as high pressure regulators on distribution systems when used in conjunction with a first stage downstream regulator. The 64SR may be used as a first stage when set at 10 psig. They are also used for final stage service on high pressure burners in crop dryers and tobacco curers, as well as other medium sized commercial and industrial applications.

The 1/4-inch FNPT side outlet, which is normally plugged, provides an opening for an outlet pressure gauge. Standard 64's are capable of handling liquid or vapor at temperature under 150°F. A cover or auxiliary vent assembly should be used to protect the 1/4-inch FNPT regulator vent opening on outdoor installations.

Type 64 - Is an adjustable high pressure regulator with a wide range of available outlet pressure ranges. It does not contain a relief valve. It should always be used in conjunction with downstream regulator and/or separate relief devices in compliance with NFPA 58 over pressure protection requirements.

Type 64SR - Is a high pressure regulator which has an integral relief valve. As such it may be used as a final stage regulator on high pressure systems. It may also be used as a first stage regulator when set at 10 psig or less.

Type 64/KB - has special diaphragm protector that makes the unit suitable for NH3 service. The 1/4" FNPT tapped and plugged side outlet can be used to install a pressure gauge or a hydrostatic relief valve.

Note: If the installation location makes the ignition of vented gas a possibility, then a vent line should be installed from the 64SR vent to a safe location.

Ordering Information

Type Number	Part Number	Description	Capacity BTU/H Propane *	Outlet Pressure Setting	Outlet Adjustment Range	Inlet & Outlet Connections
64/33	123500	Basic Regulator	2,625,000	10 psig	3 - 15 psig	1/2" FNPT
64/35	123505		3,600,000	20 psig	5 - 35 psig	
64/36	123510		4,150,000	40 psig	30 - 60 psig	
64/222	123520		5,250,000	50 psig	35 - 100 psig	
64SR/21	123535	With Internal Relief Valve	2,625,000	10 psig	3 - 15 psig	
64SR/22	123540		3,000,000	15 psig	5 - 20 psig	
64SR/23	123545		3,600,000	20 psig	5 - 35 psig	

* Based on inlet pressure 20 psig greater than outlet with 20% droop; Liquid capacity = 160 gph.

Type Number	Part Number	Capacity, CFH - NH3 #	Outlet Adjustment Setting	Outlet Adjustment Range	Inlet & Outlet Connections
64KB/35	123525	2,250	20 psig	5 - 35 psig	1/2" FNPT
64KB/36	123526	2,600	40 psig	30 - 60 psig	

Liquid capacity is 145 GPH at 20 psig above set point and 20% droop. Vapor capacity based on 20 psig above set point and 20% droop.



67CW



67CH



67CD



67CN

67C Series

Suitable for liquid or vapor service, the Type 67C series of high pressure (pounds to pounds) regulators are used on a variety of applications - burning torches, heaters, flame cultivators, etc. All types within the series have a 1/4-inch FNPT side outlet in which a pressure gauge (J500 series) can be installed. The compact size of the Type 67C makes it particularly useful on installations where space is limited.

The body design isolates the diaphragm and pressure chamber from the main flow stream to provide close regulation and high performance stability

Note: Type 67C regulators do not have an integral relief valve. These units should not be installed in fixed piping serving 1/2 psig appliance systems.

Type 67CW - Standard regulator with wrench adjustment.

Type 67CH - Standard regulator with handwheel adjustment.

Type 67CD - With accuracy nearly equivalent to that of commercial pressure gauges, the 67CD eliminates the need for a pressure gauge on portable applications.

Outlet pressure is permanently calibrated on the spring case, allowing visual adjustment of the outlet pressure without having to use a gauge. The unit is ideal for service where gauge breakage is a problem.

Type 67CN - Extremely compact unit with a fixed (non-adjustable) outlet setting and a tamper resistant spring case. Three different set points are available, and other settings can be supplied on special order.

Ordering Information

Type Number	Part Number	Description	Capacity BTU/H Propane *	Outlet Pressure Setting	Outlet Adjustment Range	Inlet & Outlet Connections
67CW/684	123560	Basic Regulator (Wrench Adjustment)	750,000	20 psig	3 - 35 psig	1/4" FNPT
67CW/685	123565		1,200,000	40 psig	30 - 60 psig	
67CW/701	123585		1,000,000	50 psig	50 - 135 psig	
67CH/743	123600	Basic Regulator (Handwheel Adjustment)	750,000	20 psig	3 - 35 psig	
67CH/742	123595		1,200,000	40 psig	30 - 60 psig	
67CH/741	123590		1,000,000	50 psig	50 - 135 psig	
67CD/101	123625	Dial Cap Adjustment	750,000	20 psig	5 - 30 psig	
67CD/102	123630		1,200,000	40 psig	20 - 50 psig	
67CD/103	123635		1,000,000	50 psig	40 - 100 psig	
67CN/106	123665	Non-Adjustable	400,000	10 psig	Non-Adjustable	
67CN/104	123664		600,000	15 psig	Non-Adjustable	
67CN/105	123650		750,000	20 psig	Non-Adjustable	

* Based on inlet pressure 20 psig greater than outlet with 20% droop; Liquid capacity = 3 - 5 GPH.

For large loads like factories, office buildings, restaurants, etc., Fisher has a variety of commercial/industrial regulators. Only the most popular commercial and industrial regulators are shown here. Other orifice sizes and outlet pressure ranges are available. The higher capacities on commercial and industrial installations usually require a two-stage regulator system.

Note: Because of various spring ranges and orifice sizes, all commercial and industrial regulators should be individually sized for the particular installation. Consult specific product bulletins for maximum pressures. Contact your local Fisher distributor for assistance.

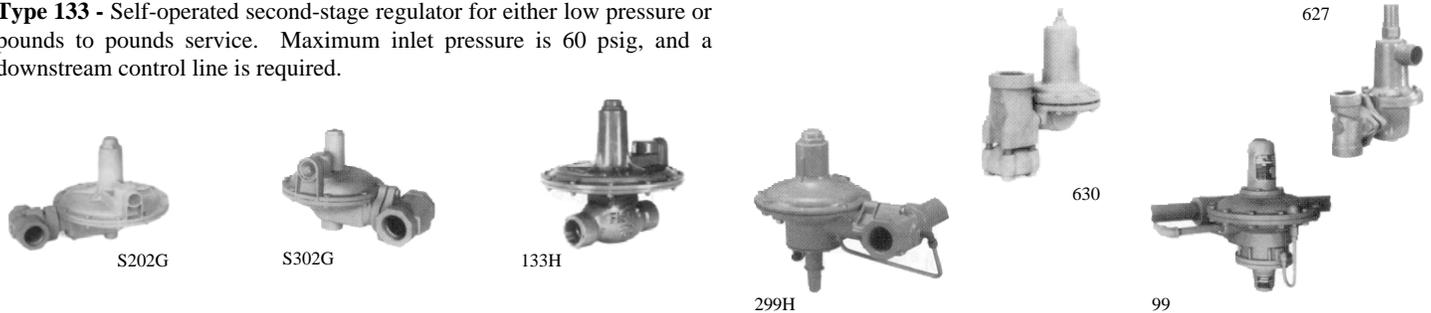
Type 99 - Pilot-operated unit keeps outlet pressure constant despite varying flow rates and inlet pressures. The 99 can be used for low or high pressure.

Type 133 - Self-operated second-stage regulator for either low pressure or pounds to pounds service. Maximum inlet pressure is 60 psig, and a downstream control line is required.

Type 627 & 630 - Large capacity high pressure regulators for use in conjunction with Type S302G or S202G units. They can also be used on final-stage (pounds to pounds) service. A type 1805 relief valve, is recommended to prevent excessive pressure build-up in the downstream line

Type S202G & S302G - Large low pressure regulators for installation at schools, bakeries, and many other commercial/industrial applications. Both contain a limited capacity internal relief valve; for high capacity relief a Type 289 relief valve, is required in the downstream system.

Type 299H - A high capacity pressure control regulator which uses the same opening principles as the Type 99. A lightweight yet dependable regulator.



Ordering Information

Type Number	Part Number	Capacity BTU/H Propane *	Inlet & Outlet Connection	Outlet Pressure Range	Outlet Pressure Setting	
627-5810	123705	6,080,000	3/4" FNPT	5 - 20 psig	10 psig	
627-6210	123708	10,755,000				
627-7710	123715	10,773,000	1" FNPT			
630-104/78	123720	14,000,000	2" FNPT	8 - 20 psig	1/2 psig	
99-510P **	123688	29,295,000		1/4 - 2 psig		
99-513P **	123694	36,225,000		2 - 10 psig		10 psig
HSRL-BFC	123211	2,300,000	3/4" FNPT	9 - 13" WC	11" WC	
HSRL-CFC	123212	2,600,000	1" FNPT			
S302G-FMC	123220	5,500,000	1 1/4" FNPT	6" - 14" wc		
S302G-KMC	123225		1 1/2" FNPT			
S302G-SMC	123230		2" FNPT			
S202G-BNC	123210	10,600,000	1 1/2" FNPT	9" - 18" wc		
S202G-CNC	123215	14,500,000	2" FNPT	8.5" - 18" wc		14" wc
133L-4	123699	70,875,000				
133H-1	123698	113,400,000				
299H-101	123709	13,100,000	1 1/2" FNPT	9 - 20" WC	11" WC	
299H-102	123710	19,700,000	2" FNPT			
299H-103	123711	23,300,000	1 1/2" FNPT	6 - 16 psig	10 psig	
299H-104	123712	38,000,000	2" FNPT			

* Capacities based on inlet pressure 20 psig greater than outlet pressure with 20% droop. ** Other spring ranges available.

Single Stage Low Pressure Regulators

These regulators are designed to reduce the gas pressure at the outlet from the cylinder directly to the utilization pressure of the appliance, generally 11" WC. Perfect for use with outdoor grills.

Part Number	Inlet x Outlet	Capacity BTU/H	Outlet Pressure
80-0007	QCC x 5/16" Barb	55,000	11" WC
80-0010	QCC x 3/8" FNPT		
80-0017	1/4" FNPT x 3/8" FNPT @ 90°		
75-0050	1/4" FNPT x 3/8" FNPT		



Single Stage High Pressure Regulator

This high pressure single stage regulator can be used in various industrial applications: burning torches, heaters, flame cultivators and any burner requiring high pressure gas.

Part Number	Inlet x Outlet	Capacity BTU/H	Outlet Pressure
912-0130	1/4" FNPT x 1/4" FNPT	1,200,000	30-60 psig



912-0130

Double Stage & Automatic Changeover Low Pressure Regulators

The 524 ideal for use on recreational vehicles the double stage regulator is a combination first stage high pressure regulator and a second stage low pressure regulator.

The 528 ideal for use on recreational vehicles the double stage regulator is a combination first stage high pressure regulator and a second stage low pressure regulator. The automatic changeover ensures continuous gas flow, automatically changing the gas withdrawal from the exhausted service cylinder to the full reserve cylinder.

The over pressure valve (2psi) is controlled by a safety devise consisting of a flow limiter working with a safety valve. This devise keeps the over pressure value lower than the value expected by the standard without releasing high quantities of propane to the atmosphere. The excess flow device assembled into the regulator operates at 140% of the guaranteed flow rate by limiting the gas flow to 50,000 BTU max in the event of a sudden increase in the desired flow, as in the case of a hose rupture or accidental disconnection from the outlet of the regulator while in use.

Part Number	Inlet x Outlet	Capacity BTU/H	Outlet Pressure
524-0007	1/4" FNPT x 3/8" FNPT	160,000	11" WC
528-0007	1/4" Inv Flare x 3/8" FNPT		



524-0007



528-0007

Sherwood First Stage Regulators

Used in conjunction with second stage low pressure regulators. These regulators come equipped with an integral standard relief valve. A pressure port, 1/8" FNPT, in the regulator body allows monitoring of the outlet pressure. Painted red for easy identification. The 740HP is a non-adjustable regulator. The 800HPS is an adjustable regulator.

Ordering Information

Part Number	Inlet FNPT	Outlet FNPT	Capacity BTU/H	Outlet Setting	Outlet Range
740HP	1/4"	1/2"	1,000,000	10 psig	NA
800HPS1	POL	1/2"	1,000,000	10 psig	5 - 15 psig
800HPS3	POL	3/4"	1,000,000	10 psig	5 - 15 psig



740HP



800HPS

Sherwood Second Stage Regulators

Used in two stage systems in conjunction with first stage high pressure regulators. Equipped with a high capacity relief valve, which prevents downstream pressure to the appliance from exceeding 2 psig with a maximum of 15 psig delivery pressure to the second stage regulator. A pressure port, 1/8" FNPT, in the regulator body allows monitoring of the outlet pressure. Available in two models for mounting flexibility: straight-thru design and right angle design. Painted green for easy identification.

SSR flow control feature operates in conjunction with the pressure relief valve to provide 2 psig protection required by NFPA 58 while restricting the discharge of propane gas into the atmosphere through the vent. The SSR feature will reduce the flow through the regulator to less than 50,000 BTU/H in the event of a gross gas leak or if the demand on the regulator exceeds its rated capacity. The SSR is intended to reset once the cause of the excess flow condition is corrected resulting in a no flow condition. The appliances can then be restarted

Ordering Information

Part Number	Inlet FNPT	Outlet FNPT	Capacity BTU/H	Outlet Setting	Outlet Range	Type Mtg
760LP *			500,000			Straight
800HC	1/2"	1/2"	800,000	11" WC	9-11" WC	Straight
800HBC						Angle
800NC	3/4"	3/4"				Straight
800NBC						Angle

* SSR Feature



760LP *



800 Straight



800 Angle

Sherwood 2 PSI Regulator

Used in two stage systems in conjunction with first stage high pressure regulators. Meets requirements of NFPA 58 preventing downstream pressure from exceeding 5 psig without high capacity venting to the atmosphere. This SSR regulator used in conjunction with the high pressure first stage regulator reduces line pressure to 2 psig.

Ordering Information

Part Number	Inlet FNPT	Outlet FNPT	Capacity BTU/H	Outlet Setting	Outlet Range
750MP *	1/2"	1/2"	400,000	2 psig	NA

* SSR Feature



750MP *

Sherwood Compact Integral Two Stage Regulators

Combines first stage and second stage regulation in one unit. Replaces standard single stage regulators in older installations. Equipped with a high capacity relief valve, which prevents downstream pressure to the appliance from exceeding 2 psig. Second stage portion contains a pressure port, 1/8" FNPT, to allow monitoring of the integral regulator's outlet pressure. This port can also be used for leak testing. Painted gray for easy identification.

SSR flow control feature operates in conjunction with the pressure relief valve to provide 2 psig protection required by NFPA 58 while restricting the discharge of propane gas into the atmosphere through the vent. The SSR feature will reduce the flow through the regulator to less than 50,000 BTU/H in the event of a gross gas leak or if the demand on the regulator exceeds its rated capacity. The SSR is intended to reset once the cause of the excess flow condition is corrected resulting in a no flow condition. The appliances can then be restarted

Ordering Information

Part Number	Inlet FNPT	Outlet FNPT	Capacity BTU/H	Outlet Range	Outlet Setting
720C *	1/4"	3/8"	160,000	NA	11" WC
720A *			250,000		
720B *		1/2"	500,000	9-13" WC	
920			550,000		
920A			3/4"		
920V		1/2"	-----	13-17"	
921	POL	1/2"	550,000	9-13" WC	11" WC
921A		3/4"	550,000		

* SSR Feature

Sherwood Automatic Changeover Regulators

Connects two cylinders to a single outlet. Provides automatic changeover from an empty cylinder to a full reserve cylinder without interruption of service. A guage, mounted either on the regulator or remotely at a convenient window, shows red when changeover occurs. Equipped with a high capacity relief valve, which prevents downstream pressure to the appliance from exceeding 2 psig with a maximum of 15 psig delivery pressure to the second stage regulator. A pressure port 1/8" FNPT, in the regulator body allows monitoring of the outlet pressure. Painted gray for easy identification.

Ordering Information

Part Number	Inlet SAE Flare	Outlet FNPT	Capacity BTU/H	Outlet Range	Outlet Setting
730C *	1/4"	3/8"	160,000	9-13"WC	11"WC
730A *			200,000		
730B *			400,000		
1776AFD-1		1/2"	500,000		

* SSR Feature



Fisher Single Stage Regulator

Type 912 - Fisher single stage regulators designed for use on small portable outdoor applications with capacity ratings of less than 320,000 BTU/H.

Type Number	Part Number	Capacity BTU/H	Inlet & Outlet FNPT	Outlet Pressure
912/101	123900	320,000	1/4" x 3/8"	11" WC
912/104	123905		1/4" x 1/4"	



912

Sherwood High Pressure Regulator

Ultra compact, handwheel adjustment for out pressures from 30 to 60 psig. 1/8" gauge port installed.

Part Number	Inlet & Outlet FNPT	Capacity BTU/H	Outlet Range	Outlet Setting
710A	1/4"	1,200,000	30 - 60 psi	40 psi



710A



230-00

Marshall Regulators

Single stage regulators designed for use on small portable outdoor applications with capacity ratings of less than 140,000 BTU/H.

Type Number	Part Number	Capacity BTU/H	Inlet & Outlet FNPT	Outlet Pressure
230-00	405008	140,000	1/4" x 3/8"	11"WC
224-00	405002		M POL x 3/8"	
218-00	405001		M POL x 3/8"	



224-00 (230 w/ POL)



218-00 (230-90 w/ Handwheel POL)

Type 254-00 automatic changeover regulator offers the convenience of instant, automatic changeover from empty to full bottle gas. The easy to read indicator tells you at a glance if your service cylinder is empty.

Type 290-00 two-stage regulator reduces cylinder pressure to 10 psig in the first stage section and sends it to the second stage section where it is reduced to 11" wc.

Type Number	Part Number	Capacity BTU/H	Inlet & Outlet FNPT	Outlet Pressure
254-00	405010	210,000	1/4" Inv Fl x 3/8"	11" WC
255-00	405015			
290-00	405034	160,000	1/4" x 3/8"	11" WC
299-00	405037			



254-00



255-00 (254 w/ Bracket)



290-00



299-00 (290 w/ 9:00 vent)

Marshall adjustable high pressure regulators

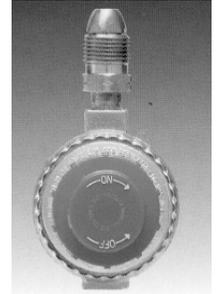
The Marshall adjustable high pressure single stage regulators are designed for use with appliances, such as torches, camp stoves, fish cookers, etc. that require pounds per square inch of pressure instead of WC inches.

Type Number	Part Number	Inlet & Outlet FNPT	Outlet Pressure
350-00	405028	1/4" x 1/4"	0 - 15 psig
351-00	405029	POL x 1/4"	0 - 15 psig
130-00 *	404999	1/4" x 1/4"	10 psig

* non-adjustable



350-00



351-00 (350-00 w/POL)



130-00

Selection of Pipe and Tubing Size

The proper selection of pipe and tubing sizes is essential for the efficient operation of the LP-Gas appliance. General consideration must be given to the maximum gas demand requirements of the system and the allowable pressure loss from the point of delivery to the inlet connection of the gas appliance. Four different areas of sizing requirements must be addressed.

Directions for Sizing Between First-Stage and Second-Stage Regulators

- 1) Measure the required length of pipe or tubing from the outlet of the first-stage regulator to the inlet of the second-stage regulator.
- 2) Determine the maximum gas demand requirements of the system by adding the BTU/H inputs from the nameplates of all the appliances or by referring to Table 1.
- 3) Select the pipe or tubing required from Tables 2, 3, or 4.

Directions for Sizing Between Second-Stage Regulators and Appliance

- 1) Measure the length of pipe or tubing from the outlet of the second-stage regulator to the most remote appliance. (Note: This is the only length needed to size the second-stage system.)
- 2) For each outlet and section of pipe, determine the specific gas demand requirements by adding the BTU/H inputs from the nameplates of each appliance or by referring to Table 1.
- 3) Select the pipe or tubing required for each section from Table 5.

Directions for Sizing Between 2 PSI Service Regulator and Line Pressure Regulator

- 1) Measure the length of CSST tubing from the outlet of the 2 PSI service regulator to the line pressure regulator.
- 2) Determine the maximum gas demand requirements of the system by adding the BTU/H inputs from the nameplates of all the appliances or by referring to Table 1.
- 3) Use the correct footage column, or next higher column in Table 6.

Directions for Sizing Piping Between Line Pressure Regulator and Appliance

- 1) Measure the length of CSST tubing from the outlet of the line pressure regulator to each of the appliances.
- 2) For each outlet and section of CSST tubing, determine the specific gas demand requirements by adding the BTU/H inputs from the nameplates of each appliance or by referring to Table 1.
- 3) Use the correct footage column, or next high column in Table 7. Select CSST tubing size when capacity in column exceeds demand.

Example:

A private home is to be supplied with a propane system serving a central furnace, range and water heater. The gas demand and piping lengths are shown on the sketch below.

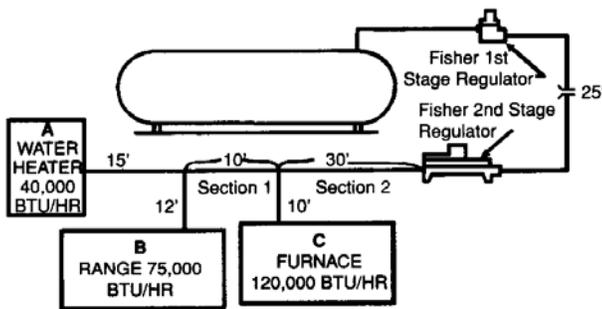
For First-Stage:

- 1) Length of first- stage piping = 25 feet (round up to 30 ft for use in Table 2, 3 or 4.
- 2) Total gas demand = 40,000 + 75,000 + 120,000 = 235,000 BTU/H
- 3) From Tables 2, 3, 4, use 1/2" iron pipe, 3/8" copper tubing or 1/2" plastic tubing. (Assume a 10 psig first-stage regulator setting and a 1 psig pressure drop).

For Second- Stage:

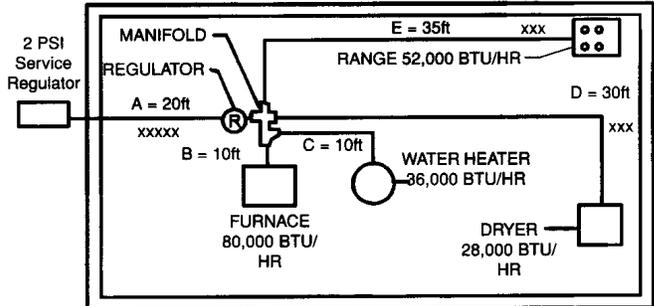
- 1) Total second-stage piping length = 30 + 10 + 15 = 55 ft (round up to 60 ft for use in Table 5.
 - 2) Gas demand requirements and pipe selection from Table 5 (assume a 11" wc setting and 1/2 psig pressure drop)
- For Outlet A, demand = 40,000 BTU/H, use 1/2" iron pipe
 For Outlet B, demand = 75,000 BTU/H, use 1/2" iron pipe
 For Outlet C, demand = 120,000 BTU/H, use 3/4" iron pipe

For Section 1, demand = 40,000 + 75,000 = 115,000 BTU/H, use 3/4" iron pipe.
 For Section 2, demand = 40,000 + 75,000 + 120,000 = 235,000 BTU/H, use 1" iron pipe.



Example:

Determine the sizes of pipe or tubing required for this in-house LP-Gas installation.



From 2 PSI Service Regulator to Line Regulator

- 1) Length of section A tubing = 20 ft
- 2) Total gas demand = 80,000 + 36,000 + 28,000 + 52,000 = 196,000 BTU/H
- 3) From Table 6, use 25 ft column. Select 3/8" CSST for run A, as it has capacity over 196,000 BTU/H (262,000). (Assume a 2 psig second-stage regulator setting and 1 psig pressure drop)

From Line Pressure Regulator to Each Appliance:

- 1) For line B, length = 10 ft ; gas demand=80,000 BTU
 For line C, length = 10 ft ; gas demand=36,000 BTU
 For line D, length = 30 ft ; gas demand=28,000 BTU
 For line E, length = 35 ft ; gas demand=52,000 BTU
- 2) CSST Tubing selection from Table 7 (Assume a 11" wc setting and a 0.5" wc pressure drop)

Line	Length FT	Load 1000 BTU/H	CSST Capacity 1000 BTU/H	Select CSST Size
B	10	80	129	1/2
C	10	36	50	3/8
D	30	28	28	3/8
E	35*	52	64	1/2

*Use 40' column in Table 6

Table 1 - Gas Required for Common Appliances

Appliance	Approximate Input BTU/H
Range, Free Standing, Domestic	65,000
Built-In Oven or Boiler Unit, Domestic	25,000
Built-In Top Unit, Domestic	40,000
Water Heater 30 to 40 Gallon Tank	45,000
Water Heater, 50 gallon Tank	55,000
Water Heater, Instantaneous	
2 GPH	142,800
4 GPH	285,000
6 GPH	428,000
Water Heater, Circulating or Side-Arm	35,000
Refrigerator	3,000
Clothes Dryer, Type 1, Domestic	35,000
Gas Light	2,500
Incinerator, Domestic	35,000

Table reprinted from NFPA 54

What you must know to select a regulator:

- 1) Appliance Load
- 2) Pipe Size
- 3) Inlet Pressure
- 4) Outlet Pressure
- 5) Gas Used (Propane / Butane)
- 6) Select from manufacturer catalog.

Table 2 - Pipe Sizing Between First-Stage (High Pressure Regulator) and Second-Stage (Low Pressure Regulator)

Maximum undiluted propane capacities based on 10 psig first stage setting and 1 psig pressure drop. Capacities in 1000 BTU/H

Schedule 40 Iron Pipe

Length of Pipe or Tubing, Feet	1/2" (.622)	3/4" (.824)	1" (1.049)	1 1/4" (1.38)	1 1/2" (1.61)	2" (2.067)	3" (3.068)
30	1,834	3,835	7,225	14,834	22,225	42,804	120,604
40	1,570	3,283	6,184	12,696	19,022	36,634	103,222
50	1,391	2,909	5,480	11,252	16,859	32,468	91,484
60	1,261	2,636	4,966	10,195	15,275	29,419	82,891
70	1,160	2,425	4,568	9,379	14,053	27,065	76,258
80	1,079	2,256	4,250	8,726	13,074	25,179	70,944
90	1,012	2,117	3,988	8,187	12,267	23,624	66,564
100	956	2,000	3,767	7,733	11,587	22,315	62,876
150	768	1,606	3,025	6,210	9,305	17,920	50,492
200	657	1,374	2,589	5,315	7,964	15,337	43,214
250	582	1,218	2,294	4,711	7,058	13,593	38,300
300	528	1,104	2,079	4,268	6,395	12,316	34,703
350	486	1,015	1,913	3,927	5,883	11,331	31,926
400	452	945	1,779	3,653	5,473	10,541	29,701
450	424	886	1,669	3,428	5,135	9,890	27,867
500	400	837	1,577	3,238	4,851	9,342	26,323
600	363	759	1,429	2,934	4,395	8,465	23,851
700	334	698	1,314	2,699	4,044	7,788	21,943
800	310	649	1,223	2,511	3,762	7,245	20,413
900	291	609	1,147	2,356	3,530	6,798	19,153
1,000	275	575	1,084	2,225	3,334	6,421	18,092
1,500	221	462	870	1,787	2,677	5,156	14,528
2,000	189	395	745	1,529	2,291	4,413	12,435

Table 3 - Piping Sizing Between Second-Stage Regulator and Appliance

Maximum undiluted propane capacities listed are based on 11" wc and a .5" wc pressure drop. Capacities in 1,000 BTU/H

Run of Pipe or Tubing, Feet	Schedule 40 Iron Pipe									Copper Tubing - Type L				
	1/2" (.622)	3/4" (.824)	1" (1.049)	1 1/4" (1.38)	1 1/2" (1.61)	2" (2.067)	3" (3.068)	3 1/2" (3.548)	4" (4.026)	1/4" (.375)	3/8" (.500)	1/2" (.625)	5/8" (.750)	3/4" (.875)
10	291	608	1,145	2,352	3,523	6,786	19,119	27,993	39,018	49	110	206	348	536
20	200	418	787	1,616	2,422	4,664	13,141	19,240	26,802	34	76	141	239	368
30	160	336	632	1,298	1,945	3,745	10,552	15,450	21,523	27	61	114	192	296
40	137	287	541	1,111	1,664	3,205	9,031	13,223	18,421	23	52	97	164	253
50	122	255	480	984	1,475	2,841	8,004	11,720	16,326	20	46	86	146	224
60	110	231	434	892	1,337	2,574	7,253	10,619	14,793	19	42	78	132	203
80	94	197	372	763	1,144	2,203	6,207	9,088	12,661	16	36	67	113	174
100	84	175	330	677	1,014	1,952	5,501	8,055	11,221	14	32	59	100	154
125	74	155	292	600	899	1,730	4,876	7,139	9,945	12	28	52	89	137
150	67	140	265	543	814	1,568	4,418	6,468	9,011	11	26	48	80	124
200	58	120	227	465	697	1,342	3,781	5,536	7,712	10	22	41	69	106
250	51	107	201	412	618	1,189	3,351	4,906	6,835	9	19	36	61	94
300	46	97	182	373	560	1,078	3,036	4,446	6,193	8	18	33	55	85
350	42	89	167	344	515	991	2,793	4,090	5,698	7	16	30	51	78
400	40	83	156	320	479	922	2,599	3,805	5,301	7	15	28	47	73

Reprinted Tables 12.24, 10.26 & 10.28 in NFPA 54

Table 4 - Pipe Sizing Between First-Stage and Second-Stage Regulators

Maximum undiluted propane capacities based on 10 psig first stage setting and 1 psig pressure drop. Capacities in 1000 BTU/H

Tubing Length, Feet	Refrigeration Tubing					Copper Tubing Type L				
	3/8" (.375)	1/2" (.500)	5/8" (.265)	3/4" (.750)	7/8" (.875)	1/4" (.375)	3/8" (.500)	1/2" (.625)	5/8" (.750)	3/4" (.875)
30	299	726	1367	2329	3394	309	700	1303	2205	3394
40	256	621	1170	1993	2904	265	599	1115	1887	2904
50	227	551	1037	1766	2574	235	531	988	1672	2574
60	206	499	939	1600	2332	213	481	896	1515	2332
70	189	459	864	1472	2146	196	443	824	1394	2146
80	176	427	804	1370	1996	182	412	767	1297	1996
90	165	401	754	1285	1873	171	386	719	1217	1873
100	156	378	713	1214	1769	161	365	679	1149	1769
150	125	304	572	975	1421	130	293	546	923	1421
200	107	260	490	834	1216	111	251	467	790	1216
250	95	230	434	739	1078	90	222	414	700	1078
300	86	209	393	670	976	89	201	375	634	976
350	79	192	362	616	898	82	185	345	584	898
400	74	179	337	573	836	76	172	321	543	836
450	69	168	316	538	784	71	162	301	509	784
500	65	158	298	508	741	68	153	284	481	741
600	59	144	270	460	671	61	138	258	436	671
700	54	132	249	424	617	56	127	237	401	617
800	51	123	231	394	574	52	118	221	373	574
900	48	115	217	370	539	49	111	207	350	539
1000	45	109	205	349	509	46	105	195	331	509
1500	36	87	165	281	409	37	84	157	266	409
2000	31	75	141	240	350	32	72	134	227	350

To convert to capacities at 5 psig with 10 percent (5 psig) pressure, multiply values by .606.
 To convert to capacities at 15 psig with 10 percent (5 psig) pressure, multiply values by 1.38.
 Reprinted from NFPA 54

Table 5 - Polyethylene Plastic Tube Sizing Between First-Stage and Second-Stage Regulators

Maximum undiluted propane capacities based on 10 psig first stage setting and 1 psig pressure drop. Capacities in 1000 BTU/H

Plastic Tubing Length, Feet	Plastic Tubing Size (CTS) (Dimensions in Parenthesis are Inside Diameter)				
	1/2" CTS - SDR 7.0 (.445)	1" CTS - SDR 11.0 (.927)	1/2" IPS - SDR 9.33 (.66)	3/4" IPS - SDR 11.0 (.86)	1" IPS - SDR 11.0 (1.077)
30	762	5225	2143	4292	7744
40	653	4472	1835	3673	6628
50	578	3964	1626	3256	5874
60	524	3591	1473	2950	5322
70	482	3304	1355	2714	4896
80	448	3074	1261	2525	4555
90	421	2884	1183	2365	4274
100	397	2724	1117	2238	4037
125	352	2414	990	1983	3578
150	319	2188	897	1797	3242
175	294	2013	826	1653	2983
200	273	1872	678	1539	2775
225	256	1757	721	1443	2603
250	242	1659	681	1363	2459
275	230	1576	646	1294	2336
300	219	1503	617	1235	2228
350	202	1383	567	1136	2050
400	188	1287	528	1057	1907
450	176	1207	495	992	1789
500	166	1140	468	937	1690
600	151	1033	424	849	1531
700	139	951	390	781	1409
800	129	884	363	726	1311
900	121	830	340	682	1230
1000	114	784	322	644	1162
1500	92	629	258	517	933
2000	79	539	221	443	798

Reprinted from Tables 10-32 & 10-33 NFPA 54

Table 6 - Maximum Capacity of CSST*

In thousands of BTU per hour of undiluted LP-Gases at a pressure of 2 psig and a pressure drop of 1 psig. (Based on a 1.52 specific gravity gas)

CSST Tube Size	EHD ** Flow Designation	Tubing Length - Feet													
		10	25	30	40	50	70	80	100	150	200	250	300	400	500
3/8"	13	426	262	238	203	181	146	140	124	101	86	77	69	60	53
---	15	558	347	316	271	243	196	189	169	137	118	105	96	82	72
1/2"	18	927	591	540	469	420	344	333	298	245	213	191	173	151	135
---	19	1106	701	640	554	496	406	393	350	287	248	222	203	175	158
3/4"	23	1735	1120	1027	896	806	665	643	578	477	415	373	343	298	268
---	25	2168	1384	1266	1100	986	809	768	703	575	501	448	411	355	319
---	30	4097	2560	2331	2012	1794	1457	1410	1256	1021	880	785	716	616	550
1"	31	4720	2954	2692	2323	2072	1685	1629	1454	1182	1019	910	829	716	638

Table does not include effect of pressure drop across the line regulator. If regulator loss exceeds 1/2 psig (based on 13" outlet pressure). DO NOT USE THIS TABLE. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate. Caution: Capacities shown in table may exceed maximum capacity for a selected regulator. Consult with regulator or tubing manufacturer for guidance.

* Table includes losses for four 90-degree bends and two end fittings. Tubing runs with larger numbers of bends and/or fittings shall be increased by an equivalent length of tubing to the following equation: $L = 1.3n$ where L is the additional length (feet) of tubing and n is the number of additional fittings and/or bends.

** EHD - Equivalent Hydraulic Diameter - A measure of the relative hydraulic efficiency between different tubing sizes. The greater the value of EHD, the greater the gas capacity of the tubing. Reprinted from table 10-30 NFPA 54

Table 7 - Maximum Capacity of CSST *

In thousands of BTU per hour of undiluted LP-Gases at a pressure of 2 psig and a pressure drop of 1 psig. (Based on a 1.52 specific gravity gas)

CSST Tube Size	EHD ** Flow Designation	Tubing Length - Feet																
		5	10	15	20	25	30	40	50	60	70	80	90	100	150	200	250	300
3/8"	13	72	50	39	34	30	28	23	20	19	17	15	15	14	11	9	8	8
---	14	99	69	55	49	42	39	33	30	26	25	23	22	20	15	14	12	11
1/2"	18	181	129	104	91	82	74	64	58	53	49	45	44	41	31	28	25	23
---	19	211	150	121	106	94	87	74	66	60	57	52	50	47	36	33	30	26
3/4"	23	355	254	208	183	164	151	131	118	107	99	94	90	85	66	60	53	50
---	25	426	303	248	216	192	177	153	137	126	117	109	102	98	75	69	61	57
---	30	744	521	422	365	325	297	256	227	207	191	178	169	159	123	112	99	90
1"	31	863	605	490	425	379	344	297	265	241	222	208	197	186	143	129	117	107

* Table includes losses for four 90-degree bends and two end fittings. Tubing runs with larger numbers of bends and/or fittings shall be increased by an equivalent length of tubing to the following equation: $L = 1.3n$ where L is the additional length (feet) of tubing and n is the number of additional fittings and/or bends.

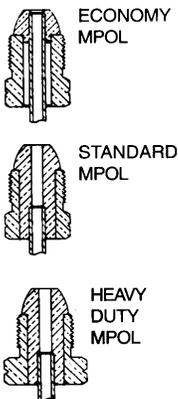
** EHD - Equivalent Hydraulic Diameter - A measure of the relative hydraulic efficiency between different tubing sizes. The greater the value of EHD, the greater the gas capacity of the tubing. Reprinted from table 10-30 NFPA 54

Copper Pigtails - Provide flexible connection between the container valve and the regulator.

Economy POL - Short nipple for use where cylinders are changed infrequently.

Standard POL - Full length nipple suitable for most LP-gas installations.

Heavy Duty POL - Full length nipple with large hex flats.



Pigtail Connections		Tube Size	Tubing Length							
			5"	6"	12"	18"	20"	30"	36"	48"
Economy Male POL 7/8" Hex	Economy Male POL (Super)	1/4"		K809	K845	K840		K841	K846	
		3/8"	K866	K865	K862		K860	K861	K864	K868
	Male POL 90 Bend	3/8"			K504					
	Male POL 180 Bend	3/8"		K505						
	1/4" Inverted Flare	1/4"					K880	K881	K885	
	1/4" MNPT	1/4"		K807	K806	K804	K805		K802	
		3/8"	K869		K460			K462	K463	
	1/4" MNPT 90 Bend	1/4"		K808						
1/2" MNPT	3/8"			K832						
Standard Male POL 7/8" Hex	Standard Male POL	1/4"					K160	K161	K162	K166
		3/8"					K200	K201		
	1/4" Inverted Flare	1/4"					K240	K241	K249	K231
	1/4" MNPT	1/4"					K280		K282	
	1/2" MNPT	3/8"			K520					
Heavy Duty Male POL 1 1/8" Hex	Heavy Duty MPOL	1/4"					K100	K101	K103	K104
	1/4" Inverted Flare	1/4"					K220	K230		

Vent Assemblies

Attached directly to the regulator vent connection to a regulator vent line, vent assemblies should be pointed downward on outdoor installations to avoid moisture build-up in the regulator spring case. Units with a stabilizer assembly are intended for regulators with stability problems. The stabilizer gives a restricted breathing rate under normal conditions, opening for rapid discharge when necessary.



Umbrella Type



Angle Type

Size	Stabilizer	Umbrella Type	Angle Type
1/4" FNPT	No	---	Y602-13
	Yes	---	Y602-14
1/4" MNPT	No	Y602-1	---
	Yes	Y602-2	---
3/8" OD Flare Tubing	No	Y602-3	---
	Yes	Y602-4	---
3/8" FNPT	No	---	Y602-5
	Yes	---	Y602-6
1/2" FNPT	No	---	Y602-7
	Yes	---	Y602-8
3/4" FNPT	No	---	Y602-9
3/4" MNPT	No	---	Y602-23
1" FNPT	No	---	Y602-25



40409



40403

Thermoplastic & Rubber Pigtails - Flexible thermoplastic or hose pigtails rated at 350 psig working pressure with a 1750 burst rating.

Connections	Material	Pigtail Length										
		5"	12"	15"	18"	20"	24"	30"	36"	42"	48"	60"
9/16"-18 LH Female	Hose	3121										
	Hose	3122*	3123*									
3/8" FNPT x 3/8" MNPT	Hose	3124	3125									
1/4" Inv. Flare x Soft POL	Hose		3112		3113		3114	3115	3116			
1/4" Inv. Flare x Excess Flow POL	Plastic **		40401	40401	40401	40401	40401	40401	40401		40401	40401
1/4" Inv. Flair x POL	Plastic **			40403		40403	40403	40403	40403	40403	40403	40403
1/4" MNPT x Excess Flow POL	Plastic **						40405	40405				
1"-20 M Swivel x Handwheel POL	Plastic **								40407		40407	40407
1/4" Inv. Flare x QCC	Plastic **		40408	40408	40408	40408	40408	40408	40408		40408	40408
1/4" MNPT x QCC	Plastic **			40409		40409						

* Includes parts to connect high pressure appliance to bulk tank. ** Last two digits of part number denote length - i.e. 40403-15



Vent Tube Extension for R312 and R332

Type P212/P213 - Designed for R312 and R332 regulators. P212 adapts to 1/2" PVC for vent away piping on underground installations. P213 is a 90° adaptor, with a screen, designed to point the vent down on horizontally installed regulators.



Vent Protector

Type P331 - For 912 regulators that are installed horizontally. The protector should not be used if the regulator is installed vertically or beneath a hood.

Adaptor With Screen

Type P499 - Used to convert a 1/4" NPT inlet on regulators such as 912 and 67C to an inverted flare.



Plug

Type P500 - Keeps dirt and foreign material from entering changeover assemblies. 1/4" inverted flare.



Filter Assembly

Type P501 - Intended for the inlet of 67C regulators, prevents dirt from reaching the regulator's valve disc.



Welding Hose Adaptor

Type M104 - Allows connection of a standard welding hose to the outlet of a 67C regulator. 1/4" MNPT x Male 9/16"-LH



High Pressure Test Kits



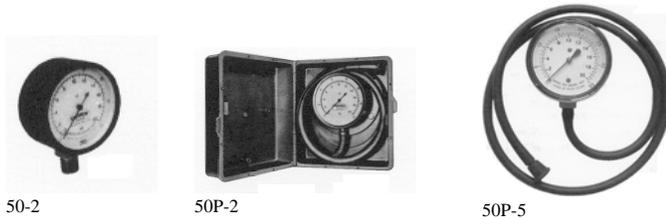
Part	Description
SJ595	1/2" MNPT x 1/2" FNPT Adaptor
SJ600	Male POL x Female POL Test Block, 0-300 psig
SJ601	Male POL x Female POL Test Block with vent, 0-300 psig

Low Pressure Test Adaptors



Part	Description
1328	3/8" Female Flare x 3/8" Male Flare x 1/2" Hose Barb
1331	1/2" Female Flare x 1/2" Male Flare x 1/2" Hose Barb
1332	5/8" Female Flare x 5/8" Male Flare x 1/2" Hose Barb

Low Pressure Test Kits



Part	Description
50-2	Test Gauge 0 - 35" WC
50P-2	Test Gauge & Hose in Plastic Case
50P-5	Test Gauge & Hose

Dwyer Manometers



Part	Description
1212	Slack Tube Manometer with Case
2030	Magnehelic Pressure Gauge, 4" Dial, 0 - 30" WC
A-432	Case for 2030 Gauge

Pressure Gauges

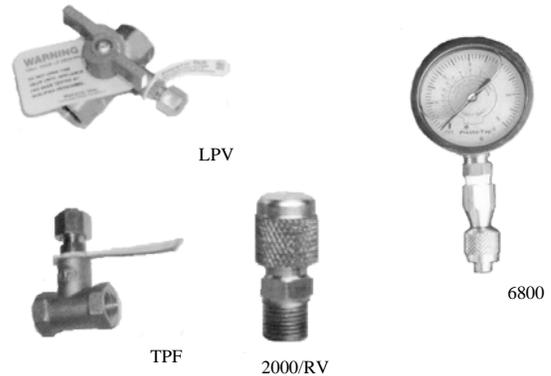
Gauges with a bottom or back 1/4" MNPT connection.



Mounting	Pressure Gauge Range, PSIG				
	0 - 15	0 - 30	0 - 60	0 - 160	0 - 300
Bottom	J500	J501	J502	J504	J506
Bottom-Liquid Filled					290652
Back-Liquid Filled					290651
Back	J510	J511	J512	J514	J516

Presto-Tap Leak Detection System

Install Presto-Tap LDS systems on all new tank installations, on tanks of habitual "out of gas" customers, and wherever you replace a regulator or break open the LP-Gas system. Easy to install and use, the LDS system tests for system leaks and out-of-gas situations.



Part	Item	Description
1401	400300	1/4" MPOL x MPOL - 12" pigtail w/ test block
1402	400305	1/4" MPOL x MNPT - 12" pigtail w/ test block
3801	400310	3/8" MPOL x MPOL - 12" pigtail w/ test block
6800	400315	0-300 psig pressure gauge with cloth holster
2000/TG	400319	LDS MPOL 3-port block test gauge unit
2000/RV	400320	Pressure test valve for permanent installation into regulator pressure taps.
LPV	400318	1/2" low pressure valve with pressure tap and warning tag
TPF	400317	1/4" tank pressure fitting with pressure tap

Regulator Test Rack

Used for testing and adjusting regulators with less than 1 psig outlet. The unit is capable of testing all domestic single stage and second stage regulators. All necessary parts except the manometer are included.

Y499-2 - Test rack assembly

J606 - 30" Manometer



Fisher & Sherwood Regulator Brackets



P100A



P102A

Regulator Type	Wall Mount (Triangular)	Post Mount (Strap)
912	P100A	P102A
R622 & R622H	P100A	---
R632	P100A	---
R Series	P100B Universal Mounting Bracket	
720 & 730	700-1	
740, 750 & 760	700-4	

Manifolds



P413



P403



P410

Pigtail or Piping Connection	Regulator Connection	Type of Manifold	
		Tee Block No Check	Tee Check
Female POL	Female POL	SP403	
	Male POL	SP400	SP410
	1/4" MNPT		SP413
1/4" Inv. Flare	1/4" MNPT		SP414

POL Adaptors



Part Number	Handwheel	Soft Nose	Excess Flow	Outlet Connection
ST-318	No	No	No	1/4" MNPT
M319 *	No	No	No	
M318A	No	Yes	No	
M318AW	Yes	Yes	No	
M388	Yes	Yes	No	
G1654	Yes	Yes	No	
G1653	Yes	Yes	Yes	
G1653A #	Yes	Yes	Yes	
F173	No	No	Yes	
G1690	No	No	Yes	
F173A	Yes	No	Yes	9/16-18 UNF LH
F110	No	No	Yes	
F110A	Yes	No	Yes	
M320	No	No	No	
G1650	No	No	No	
F110AW	Yes	Yes	Yes	
M345	No	No	No	1/4" MNPT Angle
G1656	Yes	Yes	No	1/4" Hose Barb
ME393	Yes	Yes	No	1 5/16" M Acme

* 1 1/8" Hex # Brass Handwheel Replacement O-Ring T12945

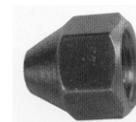
POL Plugs



Material	Part Number	Chain or Strap
Brass	M412	No
	M412-1	Yes
	G1691	No
Plastic	860-10	Yes

POL Cap

Part Number: M420





Short Flare Nuts N1 (41FS)

Flare Size	Part Number
5/16"	220005
3/8"	220010
1/2"	220014
5/8"	220018
3/4"	220019
9/16" x 24 *	220350



Forged Flare Nuts NS4 (41FFS)

Flare Size	Part Number
1/4"	221047
3/8"	221049
1/2"	221051
5/8"	221052



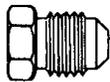
Flare Caps N5 (41FC)

Flare Size	Part Number
3/8"	220028
1/2"	220032
5/8"	220036
9/16" x 24 *	220354



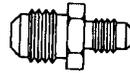
Flare Unions U2 (42F)

Flare Size	Part Number
3/8" x 3/8"	220088
1/2" x 1/2"	220092
5/8" x 5/8"	220096
9/16" x 24 *	220358



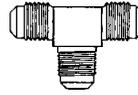
Flare Plugs P2 (PF)

Flare Size	Part Number
3/8"	220283
1/2"	220284
5/8"	220285



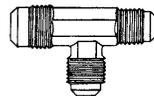
Reducing Flare Unions UR2 (42FR)

Flare Size	Part Number
3/8" x 1/4"	221085
1/2" x 3/8"	221088
5/8" x 3/8"	221089
5/8" x 1/2"	221090



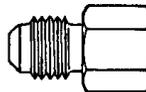
Flare Tees T2 (44F)

Flare Size	Part Number
3/8"	221106
1/2"	221107
5/8"	221108
9/16" x 24 *	220351



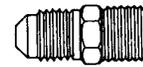
Reducing Flare Tees TR2 (44FR)

Flare Size	Part Number
3/8" x 3/8" x 1/2"	221114
1/2" x 1/2" x 1/2"	221117
1/2" x 1/2" x 5/8"	221118
5/8" x 5/8" x 1/2"	221120



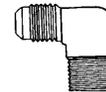
Female Connectors U3 (46F)

Flare Size	FNPT	Part Number
3/8"	1/4"	220106
	3/8"	220110
	1/2"	220114
	3/4"	220118
1/2"	3/8"	220122
	1/2"	220126
	3/4"	220130
5/8"	1/2"	220134
	3/4"	220138
9/16" x 24 *	3/8"	220370
	1/2"	220374
	3/4"	220372



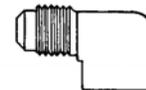
Male Connectors U1 (48F)

Flare Size	MNPT	Part Number
3/8"	1/8"	220045
	1/4"	220046
	3/8"	220048
	1/2"	220054
1/2"	3/4"	220058
	3/8"	220062
	1/2"	220066
5/8"	3/4"	220070
	1/2"	220074
9/16" x 24 *	3/4"	220078
	1/2"	220362
		220366



Male Elbows E1 (49F)

Flare Size	MNPT	Part Number
3/8"	1/4"	220142
	3/8"	220146
	1/2"	220150
	3/4"	220154
1/2"	3/8"	220158
	1/2"	220162
	3/4"	220140
5/8"	1/2"	220164
	3/4"	220170
9/16" x 24 *	3/8"	220367
	1/2"	220368



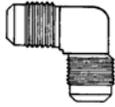
Female Elbows E3 (50F)

Flare Size	FNPT	Part Number
3/8"	1/4"	220198
	3/8"	220202
	1/2"	220206
	3/4"	220210
1/2"	3/8"	220214
	1/2"	220218
	3/4"	220222
5/8"	1/2"	220226
	3/4"	220230
9/16" x 24 *	3/8"	220352
	1/2"	220353

* No. 29 peanut or fine thread

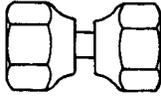
LP-Gas Equipment

Flare Fittings and Brass Valves



Flare Elbows E2 (55F)

Flare Size	Part Number
3/8" x 3/8"	220180
1/2" x 1/2"	220184
5/8" x 5/8"	220188



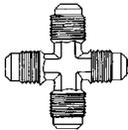
Swivel Connectors (US4)

Flare Size	Part Number
3/8" x 3/8"	221078
1/2" x 1/2"	221079
5/8" x 5/8"	221080



Flare Bonnets B1 (FB)

Flare Size	Part Number
1/4"	221161
3/8"	221163
1/2"	221164
5/8"	221165



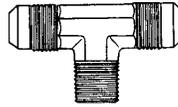
Flare Cross C1 (52F)

Flare Size	Part Number
1/4"	221138
3/8"	221140
1/2"	221141
5/8"	221142



Stop Cock Grease

3 ounce tube of VA126 graphite grease. Butane and propane gases require the use of stop cock grease that is insoluble in these gases. For use up to 185 deg F. Order part number 222233.



Flare x MNPT Tee T1 (45F)

Flare Size	Pipe Size	Part Number
3/8"	1/4" MNPT	220240
	1/2" MNPT	220248
	3/8" MNPT	220244
1/2"	3/8" MNPT	220252
	1/2" MNPT	220256
5/8"	1/2" MNPT	220260
	3/4" MNPT	220264



Space Heater Valves

Catalog Number	Pipe Size, MNPT	Part Number
92NL	1/8" x 1/8"	220478
	1/8" x 1/4"	220477
7570	3/8" x 1/4"	220452



Angle Space Heater Valves

Catalog Number	Pipe Size, MNPT	Part Number
7205	3/8" x 1/4"	220445
7521	3/8" x 3/8"	220450



Forged Brass Ball Valves-5 lbs or less

Pipe Size, FNPT	Capacity BTU/HR	Part Number
3/8" x 3/8"	182,700	223000
1/2" x 1/2"	182,700	223002
3/4" x 3/4"	457,400	223004



NPT x Flare Ball Valves-5 lbs or less

Pipe Size, FNPT	Flare Size	Capacity BTU/HR	Part Number
1/2"	3/8"	57,510	223014
	1/2"	163,800	223016



Flare Ball Valve-5 lbs or less

Flare Size	Capacity BTU/HR	Part Number
3/8" x 3/8"	64,800	223024
1/2" x 1/2"	69,000	223026
5/8" x 5/8"	302,200	223028



Brass Ball Valve with Side Tap-5 lbs or less

Size, FNPT	Capacity BTU/HR	Part Number
1/2" x 1/2"	163,000	223052
3/4" x 3/4"	439,700	223054



Brass Ball Valve with Side Tap-5 lbs or less

Flare, Size	Capacity BTU/HR	Part Number
3/8" x 3/8"	64,800	223060
1/2" x 1/2"	69,000	223052

Brass Valves

SQUIBB-TAYLOR

Cavagna Brass Valves

600 psig light duty brass valves



Brass Ball Valves

Pipe Size FNPT	Type Number	Part Number
3/8" x 3/8"	BVCA-800	150450
1/2" x 1/2"	BVCA-810	150451
3/4" X 3/4"	BVCA-820	150452

Brass Ball Valves with Tear Drop Handle

Pipe Size FNPT	Type Number	Part Number
3/8" x 3/8"	101-412	223703
1/2" x 1/2"	101-413	223704
3/4" X 3/4"	101-414	223705

Brass Ball Valve with Side Tap

Pipe Size FNPT	Type Number	Part Number
3/4" x 3/4"	BVCA-820T	150453



Brass Ball Valves FNPT x Flare

Pipe Size FNPT	Flare Size	Part Number
1/2"	3/8"	150454
1/2"	1/2"	150455

Brass Ball Valves FNPT x Flare

Pipe Size FNPT	Flare Size	Part Number
1/2"	3/8"	223706
1/2"	1/2"	223707
3/4"	5/8"	223713

Jomar Brass Ball Valves

600 psig light duty brass valves



Male Flare x Male Flare Ball Valve

Male Flair	Type Number	Part Number
1/2" x 3/8"	101-601	223708
3/8" x 3/8"	101-602	223710
5/8" x 5/8"	101-604	223709



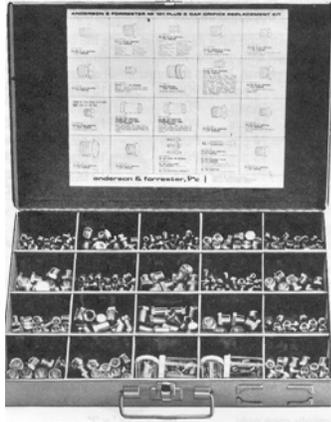
Brass Ball Valves with T-Handle

Pipe Size FNPT	Type Number	Part Number
3/8" x 3/8"	101-402	223717
1/2" x 1/2"	101-403	223715
3/4" X 3/4"	101-404	223716

Brass Ball Valves MNPT x Flare

Pipe Size MNPT	Flare Size	Part Number
1/2"	3/8"	223711

Gas Serviceman's Kits



MI-131 Serviceman's Orifice Assortment Kit

Kit Contains:

15 - PO-529	10 - PO-511	20 - PO-508
12 - PO-523	12 - PO-530	10 - PO-557
12 - PO-515	10 - PO-520	12 - PO-501
8 - PO-554	15 - PO-519	8 - PO-559
10 - PO-533	10 - PO-558	15 - PO-516
10 - PO-543	15 - PO-539	10 - PO-538
10 - MI-108	10 - MI-109	10 - MI-110
30 - MI-100	25 - CO-400	

MI-132 Pilot Orifice Assortment Kit

Kit Contains:

6 - GR-804	5 - GR-803	3 - GR-805
4 - GR-806	4 - GR-807	5 - GR-820
6 - GR-818	7 - GR-801	5 - GR-813
3 - MH-851	4 - MH-854	6 - MH-857
4 - MH-856	9 - GE-757	1 - GE-751
2 - GE-752	3 - GE-753	3 - WR-900
1 - WR-901	2 - WR-902	2 - WR-903
1 - WR-904	2 - WR-905	6 - BA-718
3 - BA-719	4 - BA-720	3 - BA-701
2 - BA-702	3 - BA-703	

MI-135 Special LP Plug and Cap Orifice Kit

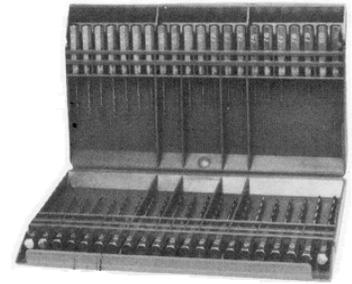
Kit Contains:

25 - CO-400	10 - MI-110	10 - MI-108
10 - CO-401	10 - PO-501	10 - MI-109
10 - CO-402	20 - PO-508	15 - PO-519
10 - CO-403	10 - PO-531	10 - PO-520
30 - MI-100	10 - PO-538	10 - PO-527
15 - PO-529	5 - CO-405	15 - PO-533
10 - PO-536	10 - PO-511	15 - PO-539
10 - PO-543	10 - PO-518	

MI-134 Case Only for Orifice Assortment

Same sturdy case as used for MI-131, MI-132, and MI-135. Can be used to make up your own assortment of orifices. Dimensions 9 1/4" x 13 1/2" x 2".

Gauging Drill Sets



At last, your choice of either our slim, trim, durable heavy gauge plastic case or our new exclusive metal case.

G-4080 Gauging Drill Set

Durable heavy gauge plastic case with clasp, contains set of 41 gauging drills, sizes 40 through 80, and 1 each G-3020 taper broach. Snug fit, cannot fall out. Easy drill removal and replacement.

G-4080M Gauging Drill Set

Same as above, except with metal case.

G-1939 Gauging Drill Set

Same as above with plastic case, contains 21 drill sizes, 19 through 39.

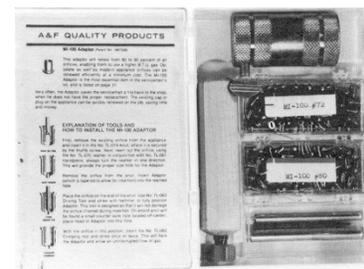
EXCLUSIVE! PRESSURE-BONDED HIGH-SPEED GAUGING DRILLS

A & F's exclusive pressure-bonding eliminates obsolete 2-piece construction. Drill and drill handle are permanently bonded to give you one-piece, trouble free operation and longer drill life. Sizes 19 through 80, smaller sizes available.

G-0019 thru G-0080

MI-100-K Adaptor Kit

Kit includes all tools needed to assemble MI-100 adaptors. Kit includes 100 each Mi-100. 1 each of the following: TL-061, TL-062, TL-063, TL-064, TL-070 and TL-074 in a plastic box.



Adjustable Orifice Reamer

The "H" series adjustable size jet cleaners can clean, scrape, size, and measure LP-gas or natural gas orifices. Positive oversize protection with absolute control of orifice size, leaving a burr-free, smooth passageway. Drill size numbers printed on each tool shank.

Model HR - Drill sizes from 50 to 80. - part number 220698

Model HC - Drill sizes from 31 to 52. - part number 220699

- PO-501 Plug Orifice - 16 x 36 Thread
- PO-515 Plug Orifice - 1/4" x 32 Thread
- PO-536 Plug Orifice - 3/8" x 27 Thread
- PO-542 Plug Orifice - 3/8" x 24 Thread
- PO-553 Plug Orifice - 1/2" x 20 Thread
- PO-532 Plug Orifice - 5/8" x 18 Thread
- PO-534 Plug Orifice - 3/4" x 16 Thread



PO-502 Plug Orifice for Radiantfire Heaters
-.267 x 36 Thread For: Ray-Glow, Quad, Vitray



- PO-504 Plug Orifice - 1/4" x 40 Thread
- PO-508 Plug Orifice - 1/4" x 28 Thread
- PO-538 Plug Orifice - 3/8" x 32 Thread
- PO-530 Plug Orifice - 5/16" x 24 Thread



- PO-507 Plug Orifice - 1/4" x 28 Thread
- PO-533 Plug Orifice - 5/16" x 32 Thread
- PO-529 Plug Orifice - 5/16" x 27 Thread



- PO-519 Plug Orifice - 1/8" Pipe Thread
- PO-520 Plug Orifice - 1/4" Pipe Thread
- PO-521 Plug Orifice - 3/8" Pipe Thread
- PO-522 Plug Orifice - 1/2" Pipe Thread
- PO-524 Plug Orifice - 3/4" Pipe Thread



- PO-511 Plug Orifice - 7/16" x 27 Thread
- PO-511 Also known as Large Dearborn
- PO-535 Plug Orifice - 3/4" x 24 Thread
- PO-543 Plug Orifice - 7/16" x 24 Thread
- PO-556 Plug Orifice - 1/2" x 27 Thread
- PO-557 Plug Orifice - 9/16" x 18 Thread
- PO-559 Plug Orifice - 5/8" x 27 Thread



- PO-518 Plug Orifice - 11/16" x 32 Thread
- PO-518 Also known as Small Dearborn
- PO-523 Manifold Plug - 1/8" Taper Pipe Thread
- PO-525 Plug Orifice - 1/4" Taper Pipe Thread
- PO-558 Plug Orifice - 9/16" x 27 Thread
- PO-554 Plug Orifice - 1/2" x 24 Thread



PO-512 Plug Orifice - 5/16" x 32 Thread
For: Humphrey, Radiantfire and others.
Drill sizes* LP-75 Natural- 73



PO-505- Plug Orifice with Flat End, 1/8" Pipe Thread . Used to lower Urn Burners.



- CO-400 Cap Orifice - Std. Flat End - 3/8" x 27 Thread - Approx. Length 23/32"
- CO-401 Cap Orifice - Std. Flat End - 1/8" Taper Pipe Thread - Approx. Length 11/16"
- CO-406 Cap Orifice - Std. Flat End - 3/8" x 27 Thread - Approx. Length 13/16"
- CO-402 Cap Orifice - Std. Flat End - 3/8" x 40 Thread - Approx. Length 11/16"
- CO-409 Cap Orifice - Std. Flat End - 3/8" x 40 Thread - Approx. Length 13/16"
- CO-404 Cap Orifice - Std. Flat End - 1/2" x 27 Thread - Approx. Length 15/16"
- CO-405 Cap Orifice - Std. Flat End - 1/2" x 20 Thread - Approx. Length 15/16"
- CO-410 Cap Orifice - Std. Flat End - 9/16" x 24 Thread - Approx. Length 1 5/32"
- CO-411 Cap Orifice - Std. Flat End - 3/8" x 27 Thread - Approx. Length 15/16"



- CO-403 Cap Orifice - Standard Counter Bored End 3/8" x 27 Thread. Approx. Length 3/4"
- CO-407 Cap Orifice - Standard Counter Bored End 3/8" x 27 Thread. Approx. Length 15/16"
- CO-408 Cap Orifice - Standard Counter Bored End 3/8" x 27 Thread. Approx. Length 13/16"



CO-414 Cap Orifice - 3/8" x 27 Thread. Approx. Length 13/16" Cap Itself. Total Length 1".



CO-415 Cap Orifice - Standard Flat End - 7/16" x 27 Thread, Approx. Length 57/64" For: Many old style ranges including Detroit Jewel Range.
Drill Sizes* LP-72 Natural-56



MI-100 Adaptor - This adaptor will renew from 80 to 90 percent of all orifices, enabling them to use a higher BTU gas.



MI-109 Shoulder Type Needle. Press in fit. Not drilled



BA-701 Pilot Orifice - 1/8" Male Pipe, 7/16" x 27 Thread . Drill Size* LP-.010" Natural- 80



BA-702 Pilot Orifice - 1/4" Compression Connection to 7/16" x 27 Thread . For: LP Gas only. Used for Baso series 19119 (22FLP)
Drill Size* LP-.010"



BA-703 Pilot Orifice - 1/8" Female Pipe Thread to 7/16" x 27 Thread
Drill Size* LP-.010" Natural-80



BA-715 Pilot Orifice - 1/4" Compression Connection to 7/16" x 27 Thread .CF-641 included. Double Orifice. Replaces Baso Y90HA. For: LP gas, use "L" .012 area. For natural gas, use "R" .021 area.



BA-718 Pilot Orifice - 1/4" Compression Connection to 7/16" x 27 Thread .CF-641 included. Double Orifice. Replaces Baso Y90AA. Fits Baso B,C,D,F,andR. For: LP gas, use "L" .012 area. For natural gas, use "R" .021 area.



BA-719 Pilot Orifice - 1/8" Female Pipe Thread to 7/16" x 27 Thread . Double Orifice. Replaces Baso Y90CB. Fits Baso B,C,D,F,andR. For: LP gas, use "L" .012 area. For natural gas, use "R" .021 area.



BA-720 Pilot Orifice - 1/8" Female Pipe Thread to 7/16" x 27 Thread . Double Orifice. Replaces Baso Y90BB. Fits Baso B,C,D,F, and R. For: LP gas, use "L" .012 area. For natural gas, use "R" .021 area.

* Recommended orifice sizes listed above will be furnished unless ordered otherwise.



GE-752 Pilot Orifice - 1/4" Compression Connection. Replacement for General Controls old 260, PG-9 and PG-1, L Model. Aluminum insert. Drill sizes* LP-.011" Natural-76



GE-753 Pilot Orifice - 1/4" Compression Connection to 5/16" x 32 Thread. Replacement for General Controls 1260, 26T, PC, PG-9, and current PG-1, T Model. Aluminum insert. Drill sizes* LP-.010" Natural-78



GE-754 Pilot Orifice - 1/4" Compression Connection to 5/16" x 32 Thread. Replacement for General Controls 26T and PG-9. Aluminum insert. Drill sizes* LP-.010" Natural-77



GE-755 Pilot Orifice Elbow - 1/4" Compression Connection. Aluminum Insert. Replacement for General Controls 26T, PG-9, 10109HK and HD. Drill sizes* LP-.010" Natural-77



RS-801 Pilot Orifice - Short Type - Length 21/64" Fits Robertshaw pilots. Drill sizes* LP-.009" Natural-.0135"

RS-803 Pilot Orifice - Aluminum - For 1/4" Compression Connection. Replacement pilot orifice for Robertshaw A1810 pilot (9B Target) 1/2" long. Drill Sizes* LP-.009" Natural-.016"



RS-804 Pilot Orifice - Aluminum - For 1/4" Compression Connection. Replacement pilot orifice for Robertshaw A1810 pilot. (2B Target) 57/64" long. Also used in the GR-814. Drill sizes* LP-.008" Natural-.016"



RS-805 Pilot Orifice - Aluminum - For 1/4" Compression Connection. Replacement pilot orifice for Robertshaw A1840 pilot. (2B Target) 1 15/32" long. Drill sizes* LP-.008" Natural-.016"



RS-806 Pilot Orifice - Aluminum - For 3/16" Compression Connection. Replacement pilot orifice for Robertshaw A1800 pilot. (9B Target) 9/16" long. Drill sizes* LP-.008" Natural-.0135"



RS-807 Pilot Orifice - Aluminum - For 3/16" Compression Connection. Replacement pilot orifice for Robertshaw A1810 pilot. (2B Target) 13/16" long. Also used in the GR-815. Drill sizes* LP-.008" Natural-.016"



RS-813 Pilot Orifice - Aluminum - For 1/4" Compression Connection. Replacement pilot orifice for Robertshaw A1820 pilot. (2C Target) and A1830 (2CH) Drill sizes* LP-.010" Natural-.018"



RS-816 Pilot Orifice - 3/16" Compression Connection to 5/16" x 24 Thread. Replacement for Robertshaw part 10-026. For A1860 pilot thermocouple 200 series pilot, .011" drill. Designed for use with all types of gas. Aluminum Insert.

RS-817 Pilot Orifice - 1/4" Compression Connection to 5/16" x 32 Thread. Replacement for Robertshaw part 10-035. For A1850 pilot thermocouple 100 series pilot 54, .010" drill. Designed for use with all types of gas. Aluminum Insert.

RS-819 Pilot Orifice - 1/4" Compression Connection to 3/8" x 24 Thread. Replacement for Robertshaw part 10-024. For A1870 pilot thermocouple 400 series pilot, .016" drill. Designed for use with all types of gas. Aluminum Insert.



RS-821 Pilot Orifice - Aluminum - 1/4" tube size. Replacement orifice for A1820 (2C) & A1830 (2CH) pilots. Drill Sizes* LP-.010" Natural-.018"



MH-850 Pilot Orifice - 1/2" hex / 1/4" Compression Connection to 7/16" x 27 male thread. Aluminum insert. Replacement for Honeywell pilot orifice Q-305, Q-324, CS-893, and CS-894. Drill Sizes* LP-.010" Natural-.0135"



MH-851 Pilot Orifice - 1/2" hex / 1/4" Compression Connection to 7/16" x 27 male thread. WCF-641 Aluminum insert. Replacement for Honeywell pilot orifice Q-327, 388146AF, KR, AC, and A-11. Drill Sizes* LP-.011" Natural-.018"

MH-852 Pilot Orifice - 1/8" Female pipe to 7/16" x 27 male thread. Aluminum insert. Replacement for Honeywell orifice fitting 388146. Used on pilot burner Q-320. Drill Sizes* LP-.010" Natural-.0135"



MH-854 Pilot Orifice - 1/4" Compression Connection to 7/16" x 27 male thread. WCF-641 Aluminum insert. Replacement for Honeywell type no. 1 pilot Q-305, 388468H for natural gas and pilot CS-893, 388468D for LP gas. Drill sizes* LP-.010" Natural-.018"



MH-856 Pilot Orifice - Replacement for Honeywell power pile pilot. Aluminum. Drill sizes* LP-.010" Natural-.0135"

MH-857 Pilot Orifice - Replacement for Honeywell power pile pilot, 388256G. Aluminum. Drill sizes* LP-.010" Natural-.0135"



MH-858 Pilot Orifice - Insert orifice for Honeywell Q-308, Q-314, 390686-4 natural gas & 390686-1 LP. Aluminum. Drill sizes* LP-.010" Natural-.018"



WR-900 Pilot Orifice - 1/4" Compression Connection to 1/2" x 20 thread. Replacement for White-Roger style X orifice. Fits A & B pilot orifice. Drill sizes* LP-.012" Natural-.020"

WR-901 Pilot Orifice - 1/8" Female pipe 1/2" x 20 thread. Replacement for White-Roger style Y orifice. Fits A & B pilot orifice. Drill sizes* LP-.012" Natural-.020"



WR-902 Pilot Orifice - 1/4" Compression Connection to 1/2" x 20 thread. Elbow with swivel for adjusting through 360 deg arc Replacement for White-Roger style Z orifice. Fits A & B pilot orifice. Drill sizes* LP-.012" Natural-.020"

WR-905 Pilot Orifice - 1/4" Compression Connection to 7/16" x 20 thread. For non-aerated pilots. Elbow with swivel for adjusting through 180 deg arc. Replacement for White-Roger style W orifice. Drill sizes* LP-.010" Natural-.018"



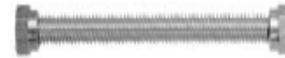
WR-903 Pilot Orifice - 1/4" Compression Connection to 7/16" x 20 thread. WCF-641. For non-aerated pilots. Replacement for White-Roger style U orifice. Drill sizes* LP-.010" Natural-.018"

WR-904 Pilot Orifice - 1/8" Female pipe to 7/16" x 20 thread. For non-aerated pilots. Replacement for White-Roger style V orifice. Drill sizes* LP-.010" Natural-.018"



3/8" OD Tubing - 3/8" Female Nut x Nut

Item Number	Pipe Size	Length	Part Number
10-9999-10	3/8" x 3/8"	10"	221678
10-9999-16		16"	221679
10-9999-22		22"	221680
10-9999-28		28"	221681
10-9999-34		34"	221676
10-9999-46		46"	221683
10-9999-58		58"	221684
10-9999-70		70"	221685



1/2" OD Tubing - 1/2" Female Nut x Nut

Item Number	Pipe Size	Length	Part Number
20-9999-10	1/2" x 1/2"	10"	221828
20-9999-16		16"	221830
20-9999-22		22"	221834
20-9999-28		28"	221814
20-9999-34		34"	240004
20-9999-46		46"	221816
20-9999-58		58"	221470



3/8" OD Tubing - 3/8" Male x 3/8" Male

Item Number	Pipe Size	Length	Part Number
10-2121-24	3/8" x 3/8"	24"	221705
10-2121-36		36"	221707
10-2121-48		48"	221713
10-2121-60		60"	221714
10-2121-72		72"	221717



1/2" OD Tubing - 1/2" Male x 1/2" Male

Item Number	Pipe Size	Length	Part Number
20-3131-36	1/2" x 1/2"	36"	221840



3/8" OD Tubing - 3/8" Male x 3/8" Female

Item Number	Pipe Size	Length	Part Number
10-2122-12	3/8" x 3/8"	12"	221831
10-2122-18		18"	221836
10-2122-24		24"	221702
10-2122-30		30"	221832
10-2122-36		36"	221703
10-2122-48		48"	221708



1/2" OD Tubing - 1/2" Male x 1/2" Female

Item Number	Pipe Size	Length	Part Number
20-3132-12	1/2" x 1/2"	12"	221902
20-3132-18		18"	221823
20-3132-24		24"	221824
20-3132-30		30"	221829
20-3132-36		36"	221820
20-3132-48		48"	221825
20-3132-72		72"	201823



3/8" OD Tubing - 1/2" Male x 1/2" Female

Item Number	Pipe Size	Length	Part Number
10-3132-12	1/2" x 1/2"	12"	221903
10-3132-30		30"	221719
10-3132-36		36"	221718



5/8" OD Tubing - 1/2" Male x 1/2" Female

Item Number	Pipe Size	Length	Part Number
30-3132-24	1/2" x 1/2"	24"	221833
30-3132-36		36"	221835
30-3132-48		48"	221837



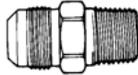
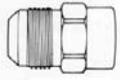
5/8" OD Tubing - 3/4" Male x 3/4" Male

Item Number	Pipe Size	Length	Part Number
30-4141-12	3/4" x 3/4"	12"	221838



5/8" OD Tubing - 3/4" Male x 3/4" Female Angle

Item Number	Pipe Size	Length	Part Number
30-4244-18	3/4" x 3/4"	18"	221461
30-4244-24		24"	221462
30-4244-36		36"	221464
30-4244-48		48"	221466
30-4244-60		60"	221468



Range Connector Fittings

Cat. No.	Tube Size, O.D.	Pipe Size	Part No.
BCM	15/16"	1/2" MNPT	220448
		3/4" MNPT	220449
BCF	15/16"	1/2" FNPT	220446
		3/4" FNPT	220447



Papco Minicutter

508 - Cutter for small tubes of copper, brass, and thin wall steel tubing. Small radius for difficult access areas. Incorporates dual supporting rollers with groove for flare cutoff. 1 5/8" radius, 1/8" to 5/8" O.D. tube capacity. Part number **221453**



Imperial Flaring Tool

195-FC - Handles 3/16" to 5/8" O.D. tubing. Part number **221443**



Copper Refrigeration Tubing , 50 Ft. Coils

O.D. Size	Wall Thickness	Part Number
1/4"	.030"	220426
3/8"	.032"	220430
1/2"	.032"	220434
5/8"	.035"	220438



Flaring Tool

420 - Has swing release and plastic handle grips. Flares tubing sizes of 3/8" to 5/8" O.D. Part number **221451**

Papco Spring Tube Bender

Bends soft thin wall tubing. Spring prevents tube collapse at the bending point.

Tube O.D.	Part Number
3/8"	221436
1/2"	221437
5/8"	221438

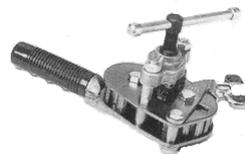
Type K Tubing, 60 Ft. Coils

O.D. Size	Wall Thickness	Part Number
1/4"	.032"	220442
3/8"	.032"	220443
1/2"	.035"	220444



Tube Cutter

512 - Includes fold-away reamer and spare cutter wheel. Flares tubing sizes of 3/16" to 5/8" O.D. Part number **221450**



Rotary Flaring Tool

945TH - Flares copper and aluminum alloy with 45 deg flare. Depth gauge automatically positions tube for correct flare on 1/8" to 3/4" O.D. soft metal tube. Part number **220807**

Papco Tube Bender

Bends soft copper, brass, and aluminum tubing and thin wall steel tubing. Permits bends on all planes of 0 deg to 180 deg without deformation of tubing. NOTE: Tubing must be in annealed state; handdrawn material cannot be bent.

Tube O.D.	Radius	Part Number
3/8"	1 5/16"	221433
1/2"	1 7/8"	221434
5/8"	2 1/8"	221435

Gastite flexible gas piping replaces black iron pipe for propane in residential, commercial and industrial applications. Constructed of corrugated stainless steel with a polyethylene jacket, Gastite is flexible enough to bend around corners and obstacles with ease and installs 50 percent to 75 percent faster than black iron pipe. Gastite XR fittings incorporates a metal-to-metal seal with no gaskets or split rings. This exclusive, patented Jacket-Lock fitting captures the polyethylene jacket, providing the best corrosive-resistant, fitting-to-pipe assembly on the market.

From the meter to the appliance, Gastite offers a comprehensive selection of high quality components - a total system solution. This total system of piping, components and expert technical support allows you to provide a safe, efficient gas delivery system for any application, with complete peace of mind and ease of installation.

Corrugated Stainless Steel Tubing



Part Number	Description
S93-8A4	1/2" CSST - 250 Feet
S93-11B4	3/4" CSST - 250 Feet
S93-16AB	1" CSST - 150 Feet

XR Fittings

XR - Straight Fitting			
Part Number	CSST Size	MNPT	
XRFTG-8	1/2"	1/2"	
XRFTG-11	3/4"	3/4"	
XRFTG-16	1"	1"	
XR - Straight Female Fitting			
Part Number	CSST Size	FNPT	
XRFTGM-8	1/2"	1/2"	
XRFTGM-11-8	3/4"	1/2"	
XRFTGM-11	3/4"	3/4"	
XR - Tee Fitting			
Part Number	CSST Size	CSST Size	CSST Size
XRT-8	1/2"	1/2"	1/2"
XRT-11	3/4"	3/4"	3/4"
XR - Coupling Fitting			
Part Number	CSST Size	CSST Size	
XRCPL-8	1/2"	1/2"	
XRCPL-11	3/4"	3/4"	



XR - Termination Bracket Fitting

Part Number	Description
XRTRMBKT-8	1/2" Term. Racket Fitting x 1/2" MNPT
XRTRMBKT-11	3/4" Term. Racket Fitting x 3/4" MNPT



XR - Appliance Stub-Out

Part Number	Description
XRAPSTUB-8	1/2" MNPT x 1/2" F CSST
XRAPSTUB-11	3/4" MNPT x 3/4" F CSST



Multiport Manifolds

Part Number	Description
4-PORTMAN	Cast 4 Port 3/4" x 1/2" Ports
5-PORTMAN	Cast 5 Port 3/4" x 1/2" Ports



Modular Stub System

Part Number	Description
1/2X6STUB	1/2" M x 6" Straight Stub
1/2X12STUB	1/2" M x 12" Straight Stub
3/4X6STUB	3/4" M x 6" Straight Stub
3/4X12STUB	3/4" M x 12" Straight Stub
STUB-BRACE	Stub Bracket - Fits All



Manifold Bracket

Part Number	Description
MBRACE-1	Manifold Mounting Kit



Outlet Box

Part Number	Description
XROUTLETBOX-8	1/2" XR Fitting



Striker Plates

Part Number	Description
TFM201	Half Striker 3 x 7
TFM203	Three Quarter Striker 3 x 8
TFM204	Quarter Striker 3 x 2
TFM205	Full Striker 3 x 12



Quick Connect Kits

Part Number	Description
QCOUTLET	1/2" Quick Connect Kit
QCCOVER	1/2" Quick Connect Cover



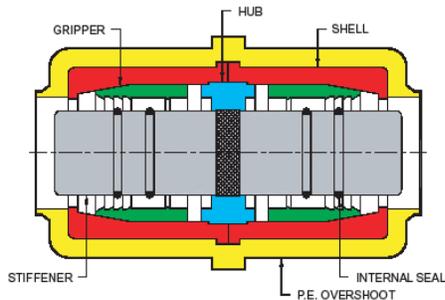
Burnaby Outlet Boxes

Item Number	Description
160186	SS Surface Mount 1/2"
160188	SS Recessed Mount 1/2"



Continental Poly Pipe Fittings

The internal seal enables each fitting to seal on scratched pipe. A seal is maintained on the smooth inside service of the polyethylene pipe, regardless of the exterior surface of the piping. This improved seal protection creates the ultimate design for mechanical joints.



Tee

Item Number	Part Number	Size
205526	3259-50-1004-00	1/2" CTS
205528	3259-50-1013-00	3/4" IPS
205530	3259-50-1014-00	1" IPS
205532	3259-50-1015-00	1 1/4" IPS
250534	3259-50-1017-00	2" IPS



Reducing Tee

Item Number	Part Number	Size
205536	3259-49-1304-00	3/4" IPS x 1/2" CTS
205538	3259-49-1413-00	1" IPS x 3/4" IPS

Full Coupling

Item Number	Part Number	Size
205500	3259-52-1004-00	1/2" CTS
205502	3259-52-1013-00	3/4" IPS
205504	3259-52-1014-00	1" IPS
205506	3259-52-1015-00	1 1/4" IPS
205508	3259-52-1017-00	2" IPS



Elbow

Item Number	Part Number	Size
205516	3259-51-1004-00	1/2" CTS
205518	3259-51-1013-00	3/4" IPS
205520	3259-51-1014-00	1" IPS
205522	3259-51-1015-00	1 1/4" IPS
205524	3259-51-1017-00	2" IPS

PE x MNPT Transition Coupling

Item Number	Part Number	Size
205514	1332-00-0913-00	3/4" IPS x 3/4" MNPT

PE x Copper Transition Coupling

Item Number	Part Number	Size
205510	9943-99-0064-00	1/2" CTS x 1/2" Copper
205512	9943-99-0065-00	1/2" CTS x 5/8" Copper

Flex Riser

Item Number	Part Number	Size
205554	1253-92-1004-36	1/2" MNPT x 1/2" CTS x 36"
205556	1253-92-1004-84	1/2" MNPT x 1/2" CTS x 84"
205558	1353-92-3004-36	3/4" MNPT x 1/2" CTS x 36"
205560	1353-92-3004-84	3/4" MNPT x 1/2" CTS x 84"
205562	1353-92-3013-36	3/4" MNPT x 3/4" IPS x 36"
205564	1353-92-3013-84	3/4" MNPT x 3/4" IPS x 84"

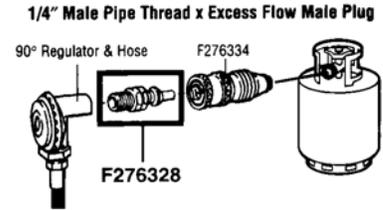
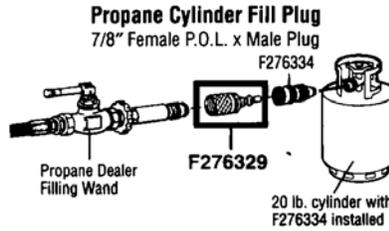
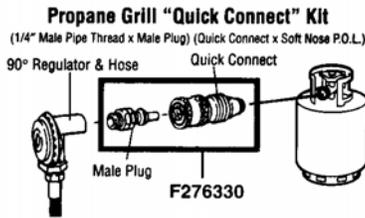


Anodeless Riser With Con-Stab Outlets

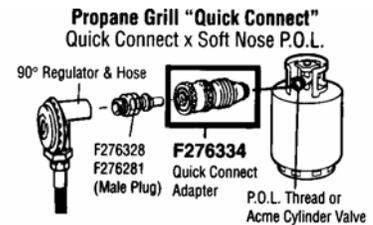
Item Number	Part Number	Size
205540	1355-91-4604-00	3/4" MNPT x 1/2" CTS x 18"
205542	1353-91-4604-00	3/4" MNPT x 1/2" CTS x 30"
205544	1353-91-4613-00	3/4" MNPT x 3/4" IPS x 18"
205546	1353-91-4608-11	3/4" MNPT x 1" IPS x 30"
205548	1353-91-4614-11	1" MNPT x 1" IPS x 30"
205550	1553-91-4615-11	1 1/4" MNPT x 1 1/4" IPS x 30"
205552	1752-91-4617-11	2" MNPT X 2" IPS X 36"



GAS MATE II Quick Connect Adaptors



Item Number	Part Number	Description
404100	F276330	Soft nose Male POL x quick connect kit for gas grill applications. Converts conventional POL outlet of cylinder valves to quick-connect style. Includes a male plug regulator inlet connection.
404105	F275329	Use LP Gas fill plug for filling the cylinder with the Gas Mate II installed.
404110	F276328	Male excess flow connector used between appliance regulator and Gas Mate II cylinder valve. For appliances up to 80,000BTU's.
404115	F276334	Quick connect adaptor changes POL valve into a Gas Mate II Valve.



Type I Appliance Connectors

As the appliance side of the Type I connection, it makes a positive connection by threading on to the acme threads of the valve with a user friendly right hand turn motion. The fitting is thermally sensitive and shuts the flow of gas if the temperature reaches a range of 240°F - 300°F. This feature protects against uncontrolled fires and causes the cylinder valve's back check to close, shutting off the flow of propane.



G-1855-A02

Part Number	Mfg	Description	Flow	Color
G-1855-A02	Marshall Brass	1 5/16" Female Acme x 1/4" MNPT	70,000 BTU	Black
G-1855-A03			200,000 BTU	Green
ME517	Marshall Excelsior		50,000 SCFH (air)	Black
ME518			100,000 SCFH (air)	Green
ME519			200,000 SCFH (air)	Red

Type I Evacuation Fitting

The evacuation fitting threads on to Type I valves just like the appliance connector. The difference is that the evacuation fitting does not have a flow limiting device inside to restrict the flow of air. When the evacuation fitting is threaded on and the valve's handle is turned to the open position, the cylinder can be evacuated of its pressurized shipping air.



G-1850

Part Number	Mfg	Description	Flow	Color
G-1850	Marshall Brass	1 5/16" Female Acme x Pipe	Full Flow	Black
ME517EV	Marshall Excelsior		Full Flow	Black

Retro Q Adaptor

Converts a 510 POL cylinder valve so it can be used with a Type I appliance side swivel nut fitting.



G-1899

Item Number	Part Number	Package	Manufacturer
405093	G-1899	Bulk	Marshall Brass
405089	G-1899P	Single	
150142	66-0249	Single	Cavagna



66-0249

Sherwood Multi-Purpose Valves

PV2033CL - Incorporates a vapor service outlet, a vapor equalizing connection, and a fixed maximum liquid level gauge. A separate filler valve must be used. Side boss is tapped 1/4" FNPT and plugged.



2033CL

PV2033CLDB - Same as the PV2033CL, but incorporates a Dual Bonnet, one-piece bonnet and stem assembly for easy repair while the valve is fully open, so gas service is not interrupted.



2033CLDB

Part Number	Item Number	Tank Connection
2033CL	330355	3/4" MNPT
2033CLDB	330360	

Sherwood Filler Valve

PV623B - Machined one piece body, this double back check filler valve is used primarily for bulk tank applications.



Part Number	Item Number	Tank Connection
623B	330195	1 1/4" MNPT

Sherwood Relief Valves



433



443



453

433A, 443A and 453A internal spring relief valves for ASME containers and domestic tanks up to 1,000 gallon water capacity.

Part Number	Item Number	Tank Connection	Setting
433AM	330080	3/4" MNPT	250 psig
433AC	330079		275 psig
443AM	330155	1" MNPT	250 psig
443AC	330154		275 psig
453AM	330185	1 1/4" MNPT	250 psig
453AC	330184		275 psig

Rain Caps: 433-45A 443-45A 453-45A

Cavagna Multi-Purpose Valve

67-0720 (ST-L680)- This multiple head unit includes a service valve, a vapor return valve, a fixed liquid level gauge, and a pressure gauge connection. They are intended for vapor service on ASME domestic tanks that have a separate filler valve, relief valve, and liquid withdrawal valve.



Part Number	Item Number	Tank Connection
67-0720 (ST-L680)	150245	3/4" MNPT

Cavagna Filler Valve

66-1134 (ST-D200) - This double back check filler valve is used primarily for bulk tank applications



Part Number	Item Number	Tank Connection
66-1134 (ST-D200)	150145	1 1/4" MNPT

Cavagna Relief Valves



66-1030



66-1029



66-1031

66-1030 Series valves are designed specifically for use as a primary relief device on ASME containers up to 2,000 gallon water capacity.

Part Number	Item Number	Tank Connection	Setting
66-1030 (ST-H225-250)	150170	3/4" MNPT	250 psig
66-1032 (ST-H225-275)	150175		275 psig
66-1029 (ST-H250-250)	150180	1" MNPT	250 psig
66-1033 (ST-H250-275)	150185		275 psig
66-1031 (ST-H275-250)	150190	1 1/4" MNPT	250 psig

Sherwood Liquid Withdrawal Excess Flow Valves



5133S



5135S



5136



5137

5133S, 5135S, 5136 or 5137 Checkmate activated liquid withdrawal excess flow valves used with 2341 series valves and an adapter to evacuate liquid LPG from stationary bulk tanks. Uses an excess flow valve with a soft rubber seat to minimize leakage when cap is removed.

Part Number	Item Number	Inlet MNPT	Outlet FNPT	Closing Flow gpm
5133S	330755	3/4"	3/4"	19.5
5135S	330760	1 1/4"	3/4"	19.5
5136	330757	3/4"	1 5/8" UNF	22
5137	330762	1 1/4"	1 5/8" UNF	30

Sherwood Checkmate Adaptors



5133



5133M



5138

5133, 5133M or 5138 adaptors are used to evacuate liquid from stationary bulk tanks.

Part Number	Item Number	Inlet MNPT	Outlet
5133	330745	3/4" Special	3/4" FNPT
5133M	330750	3/4" Special	3/4" MNPT
5138	330646	1 5/8" UNF	3/4" FNPT

Liquid Withdrawal Valves

Withdraws liquid LPG from a stationary tank during an emergency or when relocation of tank is necessary. Always use a withdrawal adaptor between these valves and the liquid withdrawal excess flow valves in the bulk tank.

Part Number	Item Number	Inlet MNPT	Outlet FNPT	Excess Flow
2341	330425	3/4"	3/4"	No
ME449	330426	3/4"	3/4"	No
2341A	330430	3/4"	1/2"	No
2341X	330440	3/4"	3/4"	Yes
2341AX	330435	3/4"	1/2"	Yes

Cavagna Liquid Withdrawal Excess Flow Valves



66.1025



66.0017



69.0010

69.0010, 66.0017 or 66.1025 withdrawal valves are designed to provide withdrawing liquid from a stationary tank.

Part Number	Item Number	Inlet MNPT	Outlet FNPT	Closing Flow gpm
66.1025	150160 (ST-F171)	3/4"	3/4"	18.5 gpm
66.0017	120750 (ST-F210)	1 1/4"	3/4"	n/a
69.0010	150161	1 5/8" UNF	5/8"	20 gpm

Cavagna Withdrawal Adaptor



66.1109

66.1109 adaptor is designed to be used with liquid withdrawal valves to evacuate liquid from stationary bulk tanks.

Part Number	Item Number	Inlet MNPT	Outlet FNPT
66.1109	150397	1 5/8" UNF	3/4"

Marshall Withdrawal Adaptors



ME453



ME455



ME458

ME453, ME455 or ME458 adaptors are used to evacuate liquid from stationary bulk tanks.

Part Number	Item Number	Inlet MNPT	Outlet
ME453		3/4" Special	3/4" FNPT
ME455		3/4" Special	3/4" MNPT
ME458		1 5/8" UNF	3/4" FNPT



2341



ME449



67.0807



2098A

Multi-Service Valves

Multi-service valves for use on domestic ASME underground tanks which requires a 2 1/2" opening except for a separate opening for liquid withdrawal.

Manufacturer	Part Number	Item Number	Tank Connection
Sherwood	2098A	330420	2 1/2" FNPT
Cavagna	67.0807	150246	



Anode



Union

Magnesium Anode

H-1 anodes are recommended for use in low resistivity soils (typically below 2,000 ohm-cm). Because the anodes have a lower driving voltage than high-potential anodes, they are ideally suited for structures where over-protection is of concern. Their lower current output allows these anodes to operate longer than high potential anodes in more conductive environments.

Dielectric Unions

Use dielectric unions wherever there is a need to prevent electrolysis or galvanic corrosive action, i.e., when joining dissimilar metals in your piping and plumbing systems.

Item Number	Description
200100	9 lb H-1 Magnesium Anode
200105	17 lb H-1 Magnesium Anode
200110	1/2" Dielectric Union
200115	3/4" Dielectric Union



Domestic Tank Float Gauges

These float gauges are intended primarily for domestic bulk tanks. The Senior gauge has the larger head size 2 1/2" vs 2 1/32" for the Junior.

Junior Gauges

Application	Tank Diameter	Part Number		
		Top	45 Angle	Side or End
Domestic Storage Tanks	24"	JA124I	JC124B	JD080A
	30"	JA154I	JC154B	JD100F
	37"	JA192J	JC190B	JD120D
	41"	JA206I	JC210B	JD140D

Senior Gauges

Domestic Storage Tanks	24"	SA130A	SC130B	SD080D
	30"	SA160A	SC160A	SD100C
	37"	SA194A	SC194D	SD120G
	41"	SA214A	SC214C	SD140A

Brass Threaded Gauges

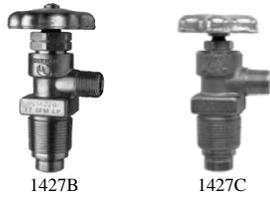
Mounting	Tank Diameter	Part Number	
		1" MNPT	1 1/4" MNPT
Top	24"	HA130A	TA130A
	30"	HA160A	TA160A
	37"	HA194A	TA194A
	41"	HA210A	TA210A

Anode Use Chart

Quantity	For
1	9 lb Anode for 250 gallon tank
1	17 lb Anode for 500 gallon tank
2	17 lb Anode for 1000 gallon tank

Sherwood Forklift Service Valves

These valves are designed for vapor or vapor withdrawal service on DOT forklift containers. These valves are equipped with excess flow valves. **1427B** is a standard full size valve , while the **1427C** has a smaller body and bonnet.



Part Number	Item Number	Tank Connection	Outlet	Flow Rate
1427B	330235	3/4" MNPT	3/8" MNPT	1.7 GPM
1427C	330240			

Sherwood Forklift Filler Valve

The **1855SD** one piece, double back check filler valve is designed for use in forklift cylinders.



Part Number	Item Number	Tank Connection	Outlet
1855SD	330290	3/4" MNPT	1 3/4 M Acme

Sherwood Forklift Relief Valves

The **435A** and **435L** relief valves are used on forklifts and other power units with removable DOT cylinders with up to 100 lbs. LPG capacity. The 435L is intended as a replacement relief valve on cylinders which previously incorporated a relief valve with an external spring.



Part Number	Item Number	Tank Connection	Relief Setting
435A	330090	3/4" MNPT	375 PSIG
435L	330100		

Sherwood pipeway adaptors and raincaps for pipeway adaptors.



Cavagna Forklift Service Valve

These valves are designed for vapor or vapor withdrawal service on DOT forklift containers. These valves are equipped with excess flow valves.



Part Number	Item Number	Tank Connection	Outlet MNPT	Flow Rate
66-2064 (ST-D215)	150140	3/4" MNPT	3/8"	2.6 GPM

Cavagna Forklift Filler Valve

This one piece, double back check filler valve is designed for use with with forklift cylinders.



Part Number	Item Number	Tank Connection	Outlet M Acme
1855SD (ST-D215)	150150	3/4" MNPT	1 3/4

Cavagna Forklift Relief Valve

These relief valves are used on forklifts. The 66.1027 has a 45° deflector adaptor is already included in the body of the valve.



66.0248

Part Number	Item Number	Tank Connection	Relief Setting
66.0248 (ST-H349)	150205	3/4" MNPT	375 PSIG

Forklift Connectors

For installation on LPG forklift engine fuel lines. Both connectors automatically close when disconnected.

Sherwood:



Cavagna:



Marshall:



Fixed Liquid Level Gauges



Part Number	Item Number	Stop Fill Dial	12" Diptube
ST-J400	121141	No	No
ST-J401	121142	Yes	No
10A	330000	No	No
10B	330039	No	Yes
66.1072	150420	No	Yes
10BD	330040	Yes	Yes

* MEJ401 - Replacement bleeder screw with seat

10DRF and **10ARF** manually operated shutoff valves which mount directly into the tank, used with a remote liquid level gauge.



Part Number	Item Number	Inlet	Outlet	54 Drill
10DRF	330065	1/4" MNPT	1/4" SAE	No
10ARF	330005			Yes

Forklift Float Gauges

Junior Gauges

Mounting Position	Part Numbers		
	Forklift Cylinder Size - 12" I.D.		
	20 Lbs.	33 Lbs.	43 Lbs.
Universal	JU086B	JU160B	JU212A
Horizontal	JD060A	JD060A	JD060A
Vertical	JA086A	JA166A	JA216A

1 1/4" MNPT Threaded Brass Gauges

Universal	TU086B	TU160B	TU212A
Horizontal	TD060A	TD060A	TD060A

3/4" MNPT Threaded Brass Gauges

Universal	UU086B	UU160B	UU212A
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Sherwood Motor Fuel Service Valves



The **1447B**, **1447BMF** and **1447C** (Low Profile) valves have an excess flow check at inlet. Designed for withdrawals of liquid from engine fuel containers that contain a separate relief valve. The **1447D** has an excess flow check at inlet, plus an internal hydrostatic relief, which vents trapped liquid with excessive line pressure back to the tank. **3329D7X** is a vapor service valve with excess flow check.

Part Number	Item Number	Inlet	Outlet
1447B	330255	3/4" MNPT	3/8" SAE
1447BMF	330260		
1447C	330265		
1447D	330275		
3329D7X	330540		POL

Cavagna Motor Fuel Service Valves



80.2062 and **80.2063** valves are designed for liquid withdrawal service on motor fuel tanks. These valves have an excess flow back check. The **80.2146** is a vapor service valve with excess flow check..

Part Number	Item Number	Inlet	Outlet
80.2062	150130	3/4" MNPT	3/8" SAE
80.2063	150135		
80.2146	150125		

Cavagna Motor Fuel Filler Valve

66-1104 (ST-D215) - This double back check filler valve is used primarily for motor fuel tank applications



66.1104

Part Number	Item Number	Tank Connection
66-1104 (ST-D215)	150150	3/4" MNPT

Sherwood Motor Fuel Filler Valves



These double back check filler valve is used primarily for motor fuel tank applications

Part Number	Item Number	Tank Connection	Outlet
1855SD	330290	3/4" MNPT	1 3/4 M Acme
1855SD-30	330295		1/2" SAE
1855SD-90	330300		3/4" FNPT
1855SPD	330305		1 3/4 M Acme
1855BRCN	330296	1/2" SAE	1 3/4 M Acme

Sherwood Motor Fuel Vapor Valve

1876 vapor return valve has upper positive back check and a lower excess flow valve.



Part Number	Item Number	Tank Connection	Outlet
1876	330320	3/4" MNPT	1 1/4 M Acme

Sherwood Motor Fuel Relief Valves



These valves are used as relief devices on ASME motor fuel and recreational vehicle containers.

Part Number	Item Number	Tank Connection	Setting
445AM	330165	1" MNPT	250 psig
445AR	330170		312 psig
436AM	330171	3/4" MNPT	250 psig
436AR	330172		312 psig
3865	330725	1/4" MNPT	400 PSIG

Pipeway Adaptors

436-21 - 5/8" SAE outlet

445-21 - 1" MNPT outlet

Cavagna Motor Fuel Relief Valves



66.1057

These valves are used as relief devices on ASME motor fuel and recreational vehicle containers.

Part Number	Item Number	Tank Connection	Setting
66.1057 (ST-H365-250)	150210	1" MNPT	250 psig
66.1058 (ST-H365-312)	150215		312 psig

Sherwood Dual Check T-Connector

Bulkhead-mounted unit used on two-tank installations. Check valves stop flow of LPG between two tanks, helping prevent overfills. Should the two tank pressures become unequal, this connector will draw LPG from the tank with the higher pressure until both pressures equalize.



3866

Standard Motor Fuel Float Gauges

Tank Diameter	Top Mount	Upper 45°	Lower 45°	Side, End
	Gauge Part Number			
8"	8TC	8AC	8ABC	8CC
10"	10TC	10AC	10ABC	10CC
12"	12TC	12AC	12ABC	12CC
13"	13TC	13AC	13ABC	13CC
14"	14TC	14AC	14ABC	14CC
16"	16TC	16AC	16ABC	16CC
18"	18TC	18AC	-----	18CC
20"	20TC	20AC	-----	20CC
22"	22TC	22AC	22ABC	22CC
24"	24TC	24AC	-----	24CC
26"	26TC	26AC	-----	26CC

Sherwood Multi-Purpose Valves

2030BC -Multi-purpose valve with double back check filler valve. Ideal for on-site filling of DOT cylinders up to 200 lbs. capacity without interrupting service. Includes a service valve, pressure relief valve, back check filler valve with secondary back check and a fixed maximum liquid level gauge.



2030BC

2035A - Combines a service line valve, a back check filler valve with a secondary back check, a relief valve, and a fixed maximum liquid level gauge. Ideal for on-site filling of DOT cylinders up to 420 lbs. capacity without interrupting service. Pressure relief setting of 375 psig.



2035A

Part Number	Item Number	Relief Setting
2030BC	330335	375 psig
2035A	330390	375 psig
2035A-250	330415	250 psig

Sherwood Liquid Withdrawal Valve

3250ALM - Liquid withdrawal valve used in 100 lb. Capacity cylinders where liquid withdrawal is needed. Pressure relief device is set to relieve at 375 psig. Fixed liquid level gauge with 11.6" dip tube for 100 lb cylinder. Specify length for other cylinder sizes. Integral excess flow check valve, closing at 1 GPM



3250ALM

Part Number	Item Number	Relief Setting
3250ALM	330505	375 psig

Sherwood Plumbers Pot Valve

3359 Series Plumbers Pot Valve - Functions as a shutoff, control, pressure relief valve and adaptor to attach a standard plumber's cylinder-mounted furnace. Compact size for easy fit within cylinder collars. Provided with an integral excess flow valve, closing flow is approximately 200 CFH LP-Gas.

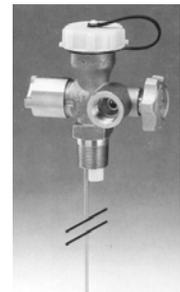


3359PDLG-407

Part Number	Item Number	Relief Setting
3359PDLG-402	330710	375 psig

Cavagna Multi-Service Valve

67.0805 - Multi-purpose valve with double back check filler valve. Ideal for on-site filling of DOT cylinders up to 200 lbs. capacity without interrupting service. Includes a service valve, pressure relief valve, back check filler valve with secondary back check and a fixed maximum liquid level gauge.



Part Number	Item Number	Relief Setting
67.805	150246	375 psig

Sherwood DOT Cylinder Valves



3329LGS



3329



3329BDB



3329D7X

3329 Series Vapor Withdrawal Valves - Valves of this series provided with a safety relief are for use on DOT cylinders up to 40 lbs. Compact size for easy fit within cylinder collars. The integral pressure relief valve start-to-discharge setting is 375 psig. Available with or without the fixed level gauge. Specify liquid level tube length when ordering. The **3329D7X** valve is used in recreational vehicle applications has no integral relief valve. A separate relief valve must be provided elsewhere in the tank. An integral excess flow device is provided with this valve.

Part Number	Item Number	Relief Setting	Excess Flow
3329LGS	330555	375 psig	No
3329	330535	375 psig	No
3329BDB	330536	None	No
3329D7X	330540	None	Yes

Cavagna DOT Cylinder Valves

Designed especially for vapor withdrawal service on ASME and DOT containers. Since this valve has no integral pressure relief valve, it may only be used as an accessory valve on containers that have an independent pressure relief valve.



80.1002

Part Number	Item Number	Fixed Level Gauge
ST-C600	150125	No
80.3135	150126	Yes

Sherwood DOT Cylinder Valves



3250A



3250ALG



3250AD-7



3250BC

3250 -Valves of this series provided with a safety relief are for use on DOT cylinders up to 100 lbs. Compact size for easy fit within cylinder collars. The integral pressure relief valve start-to-discharge setting is 375 psig or 405psig. Available with or without the fixed level gauge. Specify liquid level tube length when ordering. The **3250AD7** valve has no integral relief valve. A separate relief valve must be provided elsewhere in the tank. The **3250BC** is a replacement valve for small motor fuel tanks with 20 sq. ft. or less in surface area.

Part Number	Item Number	Relief Setting	Liquid Level
3250A-375	330445	375 psig	No
3250A-405	330450	405 psig	No
3250ALG-11.6	330485	375 psig	Yes
3250ALG-405	330480	405 psig	Yes
3250AD-7	330460	375 psig	No
3250ALG7	330490	405 psig	Yes
3250BC-312	330530	312 psig	No

Cavagna DOT Cylinder Valves



80.5024



80.6033

80.5000 series provided with a safety relief are for use on DOT cylinders up to 100 lbs. **80.6000** series provided with a safety relief are for use on DOT cylinders up to 200 lbs. Both series are available with or without a liquid level gauge.

Part Number	Item Number	Relief Setting	Liquid Level
80.5024	150103	375 psig	No
80.5016	150104	375 psig	Yes
80.6033	150100	375 psig	No
80.6032	150105	375 psig	Yes



Sherwood



Cavagna

OPD - Overfill Prevention Device DOT Cylinder Valves

Size (Pounds)	Material	Dip Tube Length	Manufacturer	Part Number	Item Number
5	Steel	3.3	Sherwood	3349PDLG-408	330706
10		3.6	Sherwood	3349PDLG-407	330690
20		4.0	Sherwood	3349PDLG-402	330695
20		4.0	Cavagna	80.8107	150340
30		4.8	Sherwood	3349PDLG-404	330700
30		4.8	Cavagna	80.8109	150345
40		6.5	Sherwood	3349PDLG-406	330705
40		6.5	Cavagna	80.8110	150350
30	Aluminum	6.0	Sherwood	3349PDLG-434AD	330707
40		7.0	Sherwood	3349PDLG-435AD	330708
20	Steel-Type II	4.0	Sherwood	3329PDQLG-422-10	330580
20		4.0	Stop-Fill	S374313	150325
30		4.8	Stop-Fill	S359001	150330
40		6.5	Stop-Fill	S359002	150335

Fisher Threaded Internal Valves

Fisher offers the widest variety of threaded internal in the industry. While their most frequent use is in the liquid and vapor openings of bobtail and transport trucks, the valves can also be used in stationary storage tanks, complying with NFPA 58 requirements. Designed as primary shutoff valves, the units are designed with several features that help control product discharge.

Steel and stainless steel construction are standard throughout with total stainless steel construction available. The valves have spring-loaded TFE packing for an effective seal against leakage. Standard disc material is Nitrile, but Kalrez, TFE and Viton are also available.

All Fisher internal valves are suitable for LP-Gas or NH3 service. Special construction is available for other compressed gases. All of Fisher's threaded internal valves have a compact, one piece body design. They can be actuated manually, by cable control, or with an air cylinder.



C407



C427



C421



C402

Ordering Information

Inlet MNPT X Outlet FNPT	Type Number			Closing Flow GPM Propane		Vapor Capacity SCFH Propane	
	Straight Body	Tee Body	Strainer Body	Half Coupling	Full Coupling	25 psig Inlet	100 psig Inlet
1 1/4"	C407-10-30	-----	-----	30	-----	5,600	9,300
	C407-10-50	-----	-----	50	35	7,800	13,200
	C407-10-80	-----	-----	80	65	11,200	19,200
2"	C427-16-100	C421-16-100	C402-16-100	100	60	22,000	37,600
	C427-16-150	C421-16-150	C402-16-150	150	90	32,000	54,500
	C427-16-250	C421-16-250	C402-16-250	250	130	-----	-----
3"	C427-24-150	C421-24-150	C402-24-150	150	100	29,200	49,700
	C427-24-200	C421-24-200	C402-24-200	200	125	44,400	75,400
	C427-24-250	C421-24-250	C402-24-250	250	165	52,600	89,400
	C427-24-400	C421-24-400	C402-24-400	400	235	81,800	139,000
	C427-24-500	C421-24-500	C402-24-500	500	325	-----	-----

1. Standard unit with manual operating lever and type P134 fusible link.
2. For factory installed manual latch/remote release mechanism add M to part number (C407M-10-50 or C427M-16-250)

Fisher Flanged Internal Valves

Flanged valves provide sturdy and compact means of directly mounting a pump or piping connections. Special stud bolts, weakened with a groove on the outside diameter, are furnished with the valves to permit the pump or piping to shear off in the event of an accident, leaving the valve intact. A built-in excess flow valve reduces the chance of uncontrolled product discharge when flow exceeds the rated flow capacity.

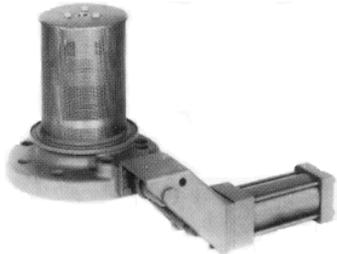
All flanged valves have an internal screen for pump protection that can be easily removed if the valve is used primarily for filling the tank. They also contain TFE packing to resist stub shaft leakage. These valves can be activated manually, by cable control or by air cylinder.



C403-24



C404-24



C404A-32



C404-32



C404M-32

Ordering Information

3" Flanged Internal Valves

Type Number		Flange Connection Size		Closing Flow GPM Propane	Vapor Capacity SCFH Propane	
Single Flange	Double Flange	Inlet	Outlet		25 psi Inlet	100 psig Inlet
C404-24-150	C403-24-150	3" 300 lb. ANSI RF Modified (4 5/8" dia. Bore)	3" 300 lb. ANSI RF	150	25,700	43,600
C404-24-200	C403-24-200			200	37,700	64,100
C404-24-250	C403-24-250			250	43,100	73,300
C404-24-400	C403-24-400			400	60,600	103,000
C404-24-500	C403-24-500			500	-----	-----

4" Flanged Internal Valve

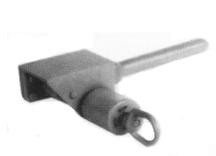
Type Numbers			Inlet	Outlet	Closing Flow GPM Propane	Vapor Capacity SCFH Propane	
Cable	Air	Manual				25 psi Inlet	100 psig Inlet
C404-32-340	C404A-32-340	C404M-32-340	4" 300 lb. ANSI RF Modified (5 7/8" dia. Bore)	4" 300 lb. ANSI RF	340	61,600	104,800
C404-32-400	C404A-32-400	C404M-32-400			400	63,900	108,600
C404-32-600	C404A-32-600	C404M-32-600			600	83,200	141,500
C404-32-800	C404A-32-800	C404M-32-800			800	259,600	356,200



P650



P341



P313



P340



P315

Fisher Cable Controls

Fisher cable controls and accessories can be furnished to remotely open and close all internal valves except the 4" flanged size. This equipment can be used to comply with NFPA 58 and DOT requirements for MC331 cargo tanks.

Type P650 or P651 Primary Cable Control

Capable of actuating all Fisher internal valves except the 4" C404-32, the P650 or P651 opens and closes the valve from a remote point. Pulling the handle of the primary control opens the internal valve; pushing the handle closes the valve. There are three notches on the primary control that give a travel of 4, 5 or 6" depending upon the travel required by the valve's operating lever.

P650 includes a 20' cable, P134 fusible link, a return spring and mounting hardware. P651 is the primary control only.

Type P163A or P164A Auxiliary Remote Release

These units allow the internal valve to be closed from a location other than the primary control point. Pulling the auxiliary release handle trips the release mechanism on the primary control to close the internal valve. P163A includes 25" of cable. P164a includes 50" of cable.

Type 314 Cable Assembly

This cable assembly is used as an attachment from the C404-32 operating lever to the primary cable control. The assembly includes 40' of cable, a special bushing with a fusible element and a clamp.

Type P315

On manually actuated 4" valves the P315 remote handle release can be used to close the internal valve from a remote location. Cable linkage, 30', and mounting hardware included.

Fisher Latch/Remote Release Mechanisms

With the exception of 3" flanged sizes, all Fisher internal valves can be fitted with a manual latch/remote release mechanism. When the internal valve's operating lever is manually moved to the open position, the lever can be latched to the open position. The lever can be released from a remote location by pulling on the cable attached to a pull ring, thus closing the internal valve. A built-in fusible element in the latch/release melts if exposed to fire allowing operating lever to return to the closed position.

Type P340 - Fits all 2" and 3" threaded internal valves

Type P341 - Fits all 1 1/4" internal valves.

Type P342 - Bi-directional latch/remote release for the 1 1/4" internal valves allows operation from two directions.

Type P313 - Fits 4" internal valves. The P315 remote release should be used with this release

Internal Valve Accessories

Internal Valve Size	Primary Control Cable	Auxiliary Remote Release	Cable Assembly	Latch/Release Mechanism
1 1/4", 2" & 3" Threaded	P650 or P651*	P163A or P164A	Included in P650	P341, P342 (1 1/4" valves) P340 (2 & 3" valves)
4" Flanged	Use Allegheny or Wheaton Control	P315	P314	P313+

* P651 is a primary control, no accessories. + Use with P315 remote release mechanism.

Fisher Air Cylinders

All Fisher internal valves can be ordered with an air cylinder that permits the valve to be opened and closed from a remote location. When air pressure is applied to the cylinder, it moves the cylinder's rod and the internal valve operating lever to the open position. Upon loss of air pressure, the valve's operating lever returns to the closed position. Besides air pressure, nitrogen or carbon dioxide can be used to pressure the cylinder.

Use of an air cylinder type of actuator permits the opening and closing of the internal valve to be tied into the air brake of the transport or bobtail.

Type P389 - This cylinder can only be used with the C407-10 1 1/4" internal valve.

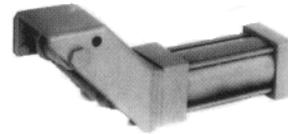
Type P326 - This cylinder features spring return design, eliminating the need for an air return. The unique "rolled" cylinder diaphragm has a special seal that prevents air leakage and minimizes leakage. Operating pressure is from 20 to 125 psig. Temperature range is from -60° to 250° F .

Type P312 - This cylinder attaches directly to the valve after removal of the cable operating lever. A minimum operating pressure of 60 psig is required: maximum pressure rating of the cylinder is 250 psig.

Fuse Plugs - When installed in the actuator piping at the valve, will allow the pneumatic pressure to vent, closing the valve. Operating temperature 208° - 220° F. Available in two sizes, 1/8" mnpt (T11403-99982) & 1/4" mnpt (T10336-99982)

Marshall Stroke Actuators

Specifically designed to fit Fisher internal valve. Stainless steel all weather bracket design. Repairable with common automotive parts, without complete disconnection of the internal valve. Airstroke® actuator by Firestone. All actuators comes ready to install with minimal assembly required. Actuators come with 212° F eutectic fire protection.



P312



P326



P389



ME205



ME206



ME207

Air Actuator Information

Internal Valve	Fisher Air Actuator	Marshall Air Actuator
C402, C421, C427	P326-6	ME206
C403-24	P326-5	ME207
C404-24	P326-7	ME207SF
C404-32	P312	ME208
C407-10	P389	ME205



H722 & H732



MBF 2" & 3"

Fisher Flush Mounted Internal Relief Valves

Type H722 & H732 - Primarily for trucks transporting LP-Gas, NH₃ or other compressed gases. Stainless steel bodies resist rust and corrosion, making it easy to remove the valve from the tank for periodic testing. Field repairable valve seat replacement without affecting relief set point.

Tight fitting protective caps are standard on the valve to ensure no debris blocks the valve discharge.

UL & ASME set points: 125, 156, 250, 265, 275 & 312 psig.

ASME special set points: 100 to 400 psig

Flow Area: H722- 1.36 sq. inch; H732- 3.2 sq. inch

BPS Fully Internal Relief Valve

Type MBF - 2" and 3" fully internal relief valves ,constructed from stainless steel for maximum resistance to rust and corrosion. Unique double o-ring system provides reliable seating that is easily serviced. Protective cap to prevent dirt, moisture and foreign materials from entering the seal area of the relief valve.

ASME UV Certified, National Board VR Certified, UL Listed, DOT Registered and CRN Canadian Registered.

Internal Relief Valves

Manufacturer	Type Number	Size	Set Point (psig)	Cap	Wrench
Fisher	H722-250	2"	250	P297	P304
BPS	02-0122-250			02-2022-99	02-2020-99
Fisher	H722-265		265	P297	P304
BPS	02-0122-265			02-2022-99	02-2020-99
Fisher	H722-275		275	P297	P304
BPS	02-0122-275			02-2022-99	02-2020-99
Fisher	H732-250	3"	250	P298	P305
BPS	03-0122-250			03-3031-99	03-3030-99
Fisher	H732-265		265	P298	P305
BPS	03-0122-265			03-3031-99	03-3030-99
Fisher	H732-275		275	P298	P305
BPS	03-0122-275			03-3031-99	03-3030-99

Squibb-Taylor

Squibb-Taylor globe and angle valves are used in bulk plant piping systems, on bobtails and transports and for filling and vapor return service.

Squibb Taylor globe and angle valves are available in both threaded and flanged connections. Threaded connections are available in 1/2" FNPT to 3" FNPT sizes. Flanged 300# ANSI connections are available in 2" and 3" sizes.

Valves are designed for working pressures up to 400 psig WOG and for opening temperatures from -40° to 160° F.

Fisher

Fisher globe and angle valves are widely used at bulk plants, at storage tanks and on bobtails and transports. Their body configuration permits installation in a straight section of pipe (globe body) or where it is desired to make a change in piping direction (angle body).

Fisher valves range in size from 1/2" to 3" threaded and 300# flanged in the 3" size.

Valves are rated for 400 WOG and a maximum temperature of 150° F.



AL413P



N310-24



N350-04



AL317P

Globe and Angle Valves

Service	Inlet & Outlet Connections	Squibb-Taylor		Fisher	
		Globe	Angle	Globe	Angle
LP Gas & NH3	1/2"	AL306P	AL307P	N301-04	N401-04
	3/4"	AL308P	AL309P	N301-06	N401-06
	1"	AL310P	AL311P	N301-08	N401-08
	1 1/4"	AL312P	AL313P	N310-10	N410-10
	1 1/2"	AL314P	AL315P	N310-12	N410-12
	2"	AL316P	AL317P	N310-16	N410-16
	2" ANSI Flange	AL316FP	AL317FP	-----	-----
	3"	AL320P	AL321P	N310-24	N410-24
3" ANSI Flange	AL320FP	AL321FP	N310F-24	N410F-24	
Economy Version					
LP Gas & NH3	1/2"	AL410P	AL411P		
	3/4"	AL412P	AL413P		
LP Gas	1/2"			N350-04	N450-04
	3/4"			N350-06	N450-06

Quick Acting Valves

Intended for LP-Gas hose end service, these quick acting shutoff valves are available in globe or angle body styles. Body sizes from 1/2" to 1 1/4".

A special locking clip or a spring actuated locking handle minimizes the chance of accidental opening.

The AL343, AL362, L422, L423 and L424 minimize LP-Gas release when disconnecting by locating the seat disc in the bottom of the filler coupling, saving you money while protecting the environment.

Model	Inlet Size	Outlet Connection	Valve Release
L422	3/4"	POL	1.4 cc
L423	3/4"	QCC	.4 cc
L424	3/4"	1 3/4" F ACME	.2 cc
AL343	1"	1 3/4" F ACME	.6 cc
AL362	1 1/4"	1 3/4" F ACME	.6 cc

Ball bearings in the seat disc assembly allow the entire assembly to rotate when the disc contacts the seat. This helps prevent wear and cutting of the disc, giving longer service life. The operating handle can also be moved to any position without cutting the seat.

Polypak (nitrile) forms the stem seal for an effective seal against leakage with minimal need for maintenance.

Hardened teflon coated stainless steel stem provides longer service life.



AL417P



L423



L422



L424



AL343



AL361

Ordering Information

Inlet Connection	Outlet Connection	Body Style	Item Number	Part Number
1/2" FNPT	1/2" FNPT	Globe	AL416P	110570
3/4" FNPT	3/4" FNPT	Globe	AL417P	110573
	POL	Angle	L422	110581
	QCC	Angle	L423	110582
	1 3/4" F ACME	Angle	L424	110583
1" FNPT	1" FNPT	Globe	AL344P	110505
	1" FNPT	Angle	AL345P	110515
	1 3/4" F ACME	Angle	AL343	110525
1 1/4" FNPT	1 1/4" FNPT	Angle	AL361P	110516
	1 3/4" F ACME	Angle	AL362	110517

Liquid Fill

The A1590 consists of a service valve, a filling connection, and an excess flow.

The A1599 consists of a service valve, a filling connection, and a soft seated back check.

Filling Rate

Service	Differential Pressure, psig					
	5	10	20	30	40	50
LP-Gas	39 gpm	56 gpm	76 gpm	90 gpm	104 gpm	114 gpm

Liquid Withdrawal

The A1596, A1597, and A1598 valves consist of a service valve and excess flow.

Built in Tri-Gard internal relief, A1596 and A1597, bleeds product back to the tank when hose or piping pressure exceeds tank pressure by 50 psig.

The A1598 has a 1/4" port for installation of a hydrostatic relief valve.

Liquid Withdrawal Rates

Valve	Withdrawal Rate	Differential Closing Pressure
A1596	35 gpm	13 psig
A1597	55 gpm	
A1598	55 gpm	

Vapor or Liquid Service

The AL407 and AL409 are service valves and can be supplied with or without an excess flow valve.

Ordering Information

Application	Container Connection	Outlet Connection	Filling Connection	Item Number	Part Number
Fill	1 1/4" MNPT	1 3/4" M Acme	1 3/4" M Acme	A1590P *	111135
				A1599P	111187
Liquid Withdrawal	1 1/4" MNPT	1" FNPT	-----	A1596R *	111185
				A1597R *	111190
				A1598P *	111180
Vapor or Liquid Service	3/4" MNPT	1/2" FNPT	-----	AL407P	110430
		3/4" FNPT		AL407EP *	110435
				AL409P	110480
				AL409EP *	110485

* Valves have an excess flow



A1590P



A1598P



A1597R



AL409P

RotaSeal Hose Swivel

The RotaSeal increases freedom of movement to make attaching or disconnecting hose end valves easier. It also prevents twisting of the hose.

Sealed radial ball bearings make rotation torque of the swivel unaffected by pressure in the hose.

Unique TFE Pressure Core seals are **field serviceable**.

Full bore opening of the RotaSeal offers no flow restrictions.

Lightweight yet sturdy enough to withstand rough handling.

400 psi maximum working pressure.

Inlet	Outlet	Item Number	Part Number
3/4" MNPT	3/4" FNPT	AL107	112051
1" MNPT	1" FNPT	AL109	112056
1 1/4" MNPT	1 1/4" FNPT	AL111	112061



111

RotaSeal Reel Swivel

Easy **on the vehicle** seal inspection or replacement.

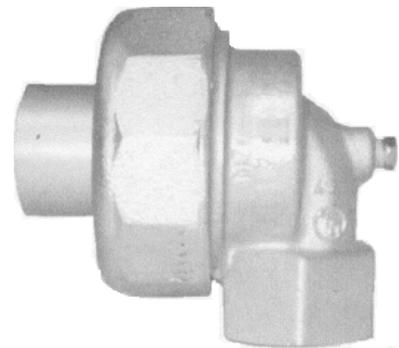
Seals will not rust in the off season.

Seals that do not require lubrication - ever !

Standard industry dimensions.

Hardened corrosion proof seal face for long trouble-free service

Inlet	Outlet	Item Number	Part Number
1 1/2" FNPT	1 1/2" FNPT	113	112063



113

Hose Buddy

The Hose Buddy protects 2" delivery hose from abrasions, which occur during the unloading process.

Attach 2 or 3 Hose Buddies to your delivery hose, thus preventing holes being worn in the cover caused by contact with concrete, gravel or any abrasive surface.

Easily transferable from hose to hose.

Made from a polyurethane plastic which carries a lifetime warranty.



**Without
Hose Buddy**



**With
Hose Buddy**

The ROADMASTER

Uniquely designed to withstand the tough-shock and vibration associated with mobile service of LP-Gas and NH3. Designed to measure the liquid level of bobtails and transports.

Specifically designed to operate within the standard working pressures of LP-Gas and NH3.

Incorporates a special spring designed to substantially reduce stress on conventional float type gauges for mobile applications. Standard and easily replaceable 4" easy viewing dial. Applicable to end or side mounting.

Ideal for new or replacement applications.



Stock Gauges

Tank Diameter	Item Number
72"	RM1833
74"	RM1834
79"	RM1836
84"	RM2438

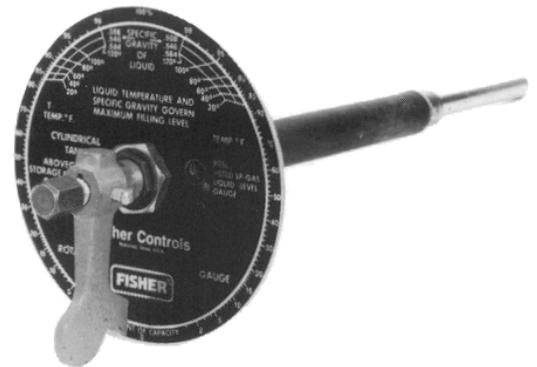


Rotary Gauges

Rotary gauges can be used on mobile tanks to visually indicate the level of LP-Gas or NH3 in the container.

The gauge is operated by opening the small bleed orifice when the tube is in the vapor space of the tank. Moving the pointer on the dial causes the end of the tube to move until it contacts liquid in the container. At that point, discharge from the bleed orifice turns from vapor to liquid and the rotary gauge dial gives the volume percentage of liquid in the tank.

Length	LPG Dial > 1200 Gallon	LPG Dial ≤ 1200 Gallon	NH3 Dial
68"	J31L-1	J31S-1	J31A-1
69" - 92"	J31L-2	J31S-2	J31A-2
93" - 108"	J31L-3	J31S-3	J31A-3
109" - 140"	J31L-3L	J31S-3L	J31A-3L
Dial Only	P323	P322	P324



Thermometers

Stainless Steel construction suitable for LP-Gas or NH3 service. Available in 1/2" MNPT and a range of -40°F to 120°(-40 to 50°C).

Part Number	Dial Diameter	Probe Length
ST-J700	2"	4"
ST-J701	2"	6"



Thermometer

RSD Remote Shutdown and Control for Bobtail Trucks

Flexible High End Modular Design - Minimal Installation Time

Squibb-Taylor is now offering a highly reliable modular shutdown system for bobtail delivery trucks. The six function RSD-6 offers PTO, throttle, hose reel unwind, and an auxiliary channel, in addition to the emergency shutdown and query features of the RSD-2.

Transmitter Features:

- Powerful FM modulated and easily capable of 300 foot range
- Weatherproof, extremely rugged
- Active battery test indication with every transmission
- Operates on two AAA standard alkaline batteries
- Weighs only 5.6 oz and easily adapts to pouch/belt carriers
- Individual security codes assure reliable interference free operation of only intended receiver(s)

Receiver Features:

- "Latching" emergency shut-down requiring system reset after activation
- Can learn up to 15 different transmitters
- User enable/disable "Query" feature available to insure driver possession of transmitter at all times {Patent Pending}
- Remote bracket-mounted antenna
- External system status indicator

**RSD Dual-Function or Multi-Function Safety Systems
Non-Modular Economical Design**

RSD systems provide high-end design, feature, reliability at low-end prices.

Every system is equipped with the Hands On query feature, whether you use it or not. It enables you to turn on the Hands On timer based on any mechanical, electrical or pneumatic event on the vehicle. Typically it is turned on only when product transfer operations to guarantee that the shutdown transmitter is carried by the driver and that it is in working order.

RSD-BV1 Manual Tank Valve Remote Shut-down Actuator

- Mounts in line with your manual tank valve emergency shut-off system
- Generates over 55 pounds of cable force for extremely reliable operation.
- Designed and built rugged to last in the harshest of environments
- Unique bracket design allows attachment on top, side or bottom of mounting surface.

RSD-2 Kit



2 Function Transmitter



6 Function Transmitter



RSD-BV1

PR-4 Passive Shutdown System

The passive PR-4 device is intended for installation on a standard 2" transfer hose so that the hose will then comply with DOT 49CFR173.315 standard for passive shutdown devices required on certain MC 330 and MC331 transports.

The entire system is contained in the transport hose.

Simple installation can be done by people in your shop.

Buy it once, move to any hose in the future at little or no additional cost.

Made entirely of corrosion resistant materials for super long life.

Compact and light-weight, weighs just 6 pounds and adds 8" to the hose.

Fail safe design, cannot be operated incorrectly.

Operating range: -50°F to +250°F, 0 psi to 400 psi.

Flows 409 gpm LPG at 70 psi differential pressure.

System does not place any harmful internal loads on the hose.

Unlike other mechanical systems, you can actually test this system for proper operation and have confidence that it will work when needed.

Operating principal is totally mechanical which eliminates the problems associated with pressure based systems.

Ordering Information

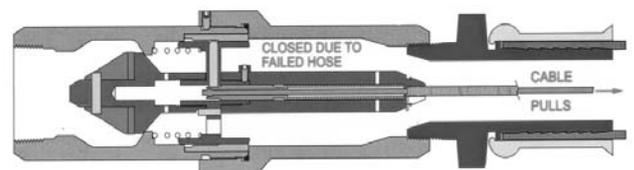
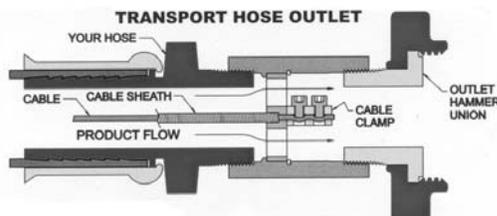
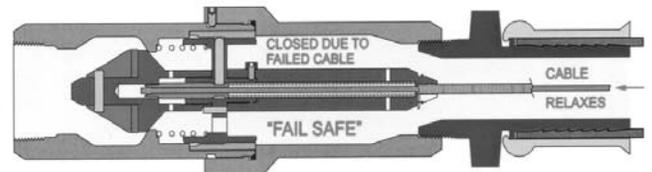
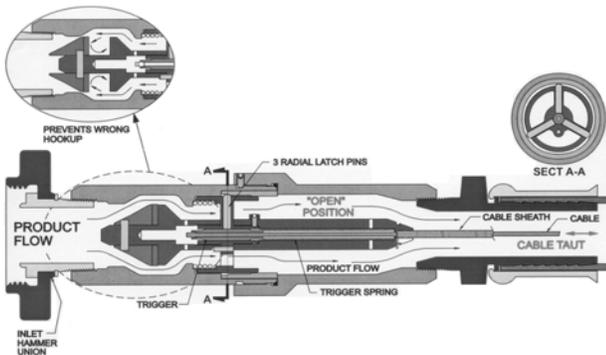
Part Number	Item Number
PR4-1000	113500



Transport Hose Inlet Side



Transport Hose Outlet Side



Male Acme x MNPT

Male Acme	Male NPT	Fisher Brass	Marshall Brass	Brass w/Strainer Screen	Steel
1 1/4"	1/2"	M498-4/2	ME498-4/2	----	----
	3/4"	M498-6/3	ME498-6/3	----	----
	1"	----	----	----	ME520S-8
1 3/4"	1/2"	----	----	----	A2000
	3/4"	M215	ME215	----	A2001
	1"	M216	ME216	----	A2002
	1 1/4"	M217	ME217	----	A2003
2 1/4"	1"	----	----	----	A2059
	1 1/4"	M233	ME233	ME233A	A2060S
	1 1/2"	M502-12/8	ME502-12/8	----	M522-16/10
	2"	M502-16/10	ME502-16/10	----	----
3 1/4"	2"	M503-16	ME503-16 *	ME503-16A *	A2063S
	2 1/2"	----	ME503-20	----	----
	3"	M262	ME262	ME262A	A2065S
4 1/4"	3"	M504-24	----	----	M524-24



Male Acme x MNPT



Male Acme x FNPT

Male Acme x FNPT

Male Acme	Female NPT	Fisher Brass	Marshall Brass	Brass w/Strainer Screen	Steel
1 1/4"	1/4"	M498-4/2	ME498-4/2		
	3/8"	M498-6/3	ME498-6/3		
	1/2"	M192	ME192	----	----
	3/4"	M193	ME193	----	----
1 3/4"	1/4"	M210	ME210	----	----
	3/8"	M211	ME211	----	----
	1/2"	M212	ME212	----	----
	3/4"	M213	ME213	----	ME213S
	1"	M214	ME214	----	A2013
2 1/4"	1"	M502-12/8	ME502-12/8	----	----
	1 1/4"	M502-16/10	ME502-16/10	----	----
	1 1/2"	M502-16/12	ME502-16/12	----	----
3 1/4"	1 1/4"	M250	ME250	ME250A	----
	2"	M252	ME252-16 *	ME252A-16 *	A2074S
	3"	M508-24	ME508-24	ME508A-24	A2075S
4 1/4"	3"	M509-24	----	----	----



* Adaptor with vent valve option



Adaptor with Strainer Screen

Male Acme x Male Acme



A2007S

Male Acme	Male Acme	Fisher Brass	Marshall Brass	Steel
1 1/4"	1 1/4"	M270	ME270	-----
1 3/4"	1 3/4"	M273	ME273	A2005S
2 1/4"	2 1/4"	-----	ME275	A2007S
3 1/4"	3 1/4"	-----	ME277	M536-26
4 1/4"	4 1/4"	-----	-----	M536-34

Adaptor Caps



ST-M611

Female Acme	Male Acme	Fisher Brass	Marshall Brass	Steel
2 1/4"	1 3/4"	M611	ST-M611	-----
3 1/4"	1 3/4"	M612	ST-M612	ST-M622
4 1/4"	3 1/4"	M613	-----	M623

Female Acme Filler Couplings

Female Acme	Other Connection	Length	Type	Fisher Brass	Marshall Brass	Steel
1 1/4"	3/8" MNPT	3"	1	M100	ST-M100	-----
	1/2" MNPT	2 1/2"	1	M101	ST-M101	-----
1 3/4"	1/2" MNPT	3"	1	M110	ST-M110	A1149F
		3"	1	M111	ST-M111	A1150F
	3/4" MNPT	6 1/8"	2	-----	-----	A1130F
		3"	1	M112	ST-M112	A1151F
2 1/4"	1 1/4" MNPT	6 1/8"	2	-----	-----	A1131F
		3 1/4"	3	M120	ST-M120	A1156FS
3 1/4"	2" MNPT	6 1/8"	2	-----	-----	A1132F
		1 1/4" FNPT	1 1/2"	4	M442	ST-M442
4 1/4"	3" MNPT	3 3/4"	3	M130 *	ST-M130	A1157FS
4 1/4"	3" MNPT	4 1/2"	3	M664-24	-----	M634-24

* Steel Nipple



Type 1



Type 2



Type 3



Type 4

Female Acme Caps

Female Acme	Plastic #	Fisher Brass	Marshall Brass	Steel
1 1/4"	M108 *			
1 3/4"	ST-M109	M229-1 *	ST-M229-1 *	A1152C *
2 1/4"		M431	ST-M431F	A1175CS *
3 1/4"	ME106	M441	ST-M441F	A1176CS *
4 1/4"		M605-34		M625-34

For LP-Gas service only. * Includes strap or chain



M108



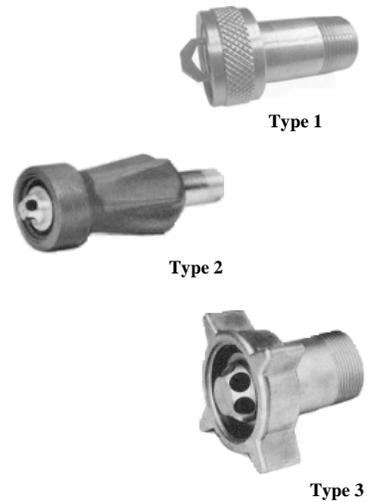
A1152C



M441

Female Acme Vapor Couplings

Female Acme	MNPT	Length	Type	Fisher Brass	Marshall Brass	Steel
1 1/4"	3/8"	2 1/2"	1	M140	ST-M140	ME140S
		6 1/4"	2	M394	-----	-----
	1/2"	2 1/2"	1	M141	ST-M141	ME141S
1 3/4"	3/4"	3 3/8"	1	M150	ST-M150	ME150S
		7"	2	-----	-----	ME646-6
	1"	3 1/4"	1	M151	ST-M151	ME151S
		7 3/8"	2	-----	-----	ME646-8
2 1/4"	1 1/4"	3 3/8"	3	M160	ST-M160	ME160S



Acme Dust Plugs

Acme Size	Plastic		Steel
	Fisher	Marshall	Fisher
1 1/4"	M178	ME178	-----
1 3/4"	M179	ME179	M239*
2 1/4"	M180	ME180	-----
3 1/4"	M181	ME181	-----
4 1/4"	-----	-----	M535-34



ME179

M535-34

* Aluminum

POL Filler Couplings



ME390

Item Number	Description
M390	1/4" MNPT x Soft Nose POL
ME390	1/4" MNPT x Soft Nose POL
ME390S	1/4" MNPT x Soft Nose POL with SS nipple

Lift Truck Filler Coupling



ME790

Item Number	Description
ME790	1/4" MNPT x 1 1/4" Female Acme

Brass Single Piece Adaptors



Type 1



Type 2



Type 3



Type 4

QCC Filler Couplings & Adaptors



G-820



ME516



ME392



ME393

POL Connection	Other Connection	Type	Part Number
Female POL	1/4" FNPT	1	SM301
	1/2" FNPT	1	SM303
	1/4" MNPT	2	SM284
	3/8" MNPT	2	SM285
	1/2" MNPT	2	SM286
	3/4" MNPT	2	SM287
Male POL	1/2" FNPT	3	SM357
	3/8" SAE Flare	4	SM353
	1/2" SAE Flare	4	SM355

Item Number	Description
G820	1/4" MNPT x QCC (1 5/16" Acme)
ME516	1/4" MNPT x QCC (1 5/16" Acme)
ME392	Female POL x QCC (1 5/16" Acme)
ME393	Male POL x Male 1 5/16" Acme

Fill Valve Adaptor

Inlet	Outlet	Item Number
1/2" FNPT	1 3/4" Female Acme	902B
3/4" FNPT	1 3/4" Female Acme	902A
3/4" FNPT	1 3/4" Female Acme	M450A



902B

LG-1 GASGUARD Nozzle



The user friendly dispensing nozzle cannot discharge LP-Gas to the atmosphere and must be connected to a filler valve to allow product to flow. The valve cannot be disconnected from the filler valve while the lever is held in the open position - product flowing - thereby avoiding accidental gas discharge.

Quick Acting Valves



440



440L

Inlet	Outlet	Item Number	Locking Handle
1/4" FNPT	1/4" FNPT	440	No
1/4" FNPT	1/4" FNPT	440L	Yes
1/2" FNPT	1/4" FNPT	440B	No
1/2" FNPT	1/4" FNPT	440BL	Yes
1/2" FNPT	1/2" FNPT	440C	No
1/2" FNPT	1/2" FNPT	440CL	Yes

Ring and Chain Assemblies



P167



P147

For Cap or Dust Seal Size	Item Number	Cap	Dust Seal
1 1/4" Acme	P147	M108	M178
1 3/4" Acme	P147	M109, M219, M229	-----
	P148	M109	M179
2 1/4" Acme	P148	-----	M180
	P167	M431, A1175CS	-----
3 1/4" Acme	P183	-----	M181
	P167	M441, A1176CS	-----
4 1/4" Acme	P167	M605-34, M625-34, M535-34	-----

P147 fits 3/4" pipe size. P148 fits 1 1/4" pipe size.

Swivel Hose End Adaptors



M570



901B



901BTM



ME568

Inlet	Outlet	Item Number
1 3/4" Male Acme	1 3/4" Female Acme	M570 *
		ST-M570 *
		901B
		ME572
		901BTM **
Female POL		901H
		ME568
1 3/4" Male Acme		ME574 ***

* Non Swivel Configuration

** Plastic Handgrip

*** Built in Vent

Spanner Wrenches



Type ST-P120B is made of aluminum and used to tighten and loosen large female acme caps and couplings in the 2 1/4", 3 1/4" and 4 1/4" acme sizes.



Type J-Wrench is constructed of structural non-sparking aluminum bar stock, the J-Wrench fits all makes of 3 1/4" acme nuts. It ends mutilation of acme nuts from unnecessary hammering.

Bulkhead Pullaway Tripods and Tripin Assembly

The Bulkhead Tripod is designed to provide pullaway protection for the bulk plant and transport unloading bulkhead. Double back check permits closure in both sections of the coupler, minimizing NH3 release at the bulk plant and the transport.

Release mechanism unaffected by a pullaway, easily reconnected for years of continued service.

Stainless steel construction throughout and TFE back check seats for long, dependable operation.

Inlet	Outlet	Capacity	Item No	Part No
1" MNPT	1" MNPT	55 GPM	TP5-1001	113053
1" MNPT	1" MNPT	77 GPM	TP6-1001	113054
1 1/4" MNPT	1 1/4" MNPT	126 GPM	TP7-1001	113061
3" MNPT X 2" FNPT	3" MNPT X 2" FNPT	350 GPM	TP4-1001	113065

Tripin Loading Arm Assembly with Tripods	113011
--	--------

LP-Gas Dispenser Tripods

The TP-0 Tripod is designed to provide protection against gas escape at motor fuel dispensers, should a vehicle pull away with the hose connected. Back checks in both halves are designed to close when tripod separates protecting both the dispenser and the vehicle.

Dispenser Tripods are designed to provide protection between the dispenser and the storage tank. Back checks in both halves are designed to close when the tripod separates protecting both the dispenser and the storage tank.

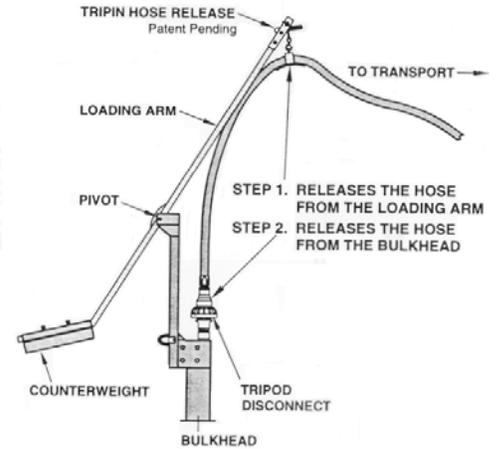
Dispenser tripods protect both liquid and vapor lines.

Ordering Information

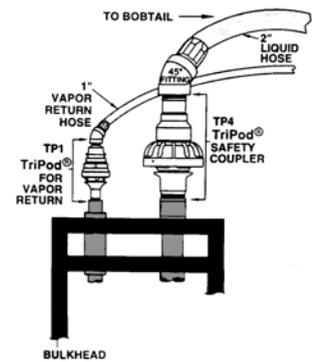
Inlet Connection	Outlet Connection	Capacity Propane	Item Number	Part Number
3/4" FNPT	3/4" FNPT	25 gpm	TP-0	113045

Description	Part Number
TP-0 Single Hose Dispenser Kit	113067
TP-0 Dual Hose Dispenser Kit	113070

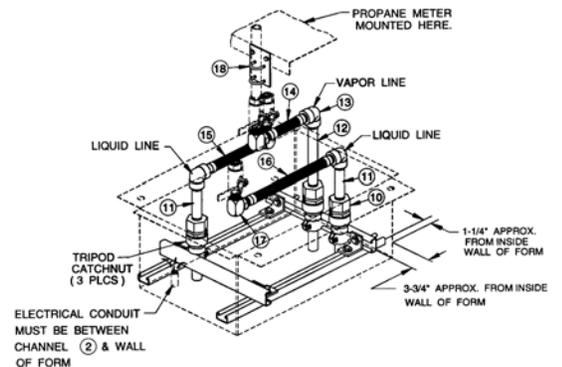
STYLE 1: TRIPIN™ LOADING ARM



STYLE 2: BASIC CONFIGURATION



DUAL DISPENSER





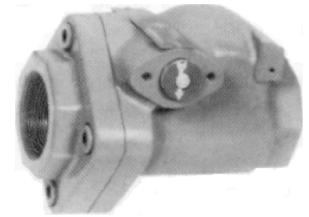
G100 & A1700 Series



G109



G105



G201

Back check valves allow flow in only one direction and are normally closed. They are installed in liquid filling connections on stationary storage tanks and bobtail delivery trucks and liquid transfer lines.

G100 and A1700 Series

Used mainly in tank inlet connections, these units are offered in two styles of seat construction: metal-to-metal or soft seat. The soft seated construction is for the filling connection on bobtail delivery trucks. Because the valve gives tight shutoff, piping on the bobtail can be depressurized for maintenance or repair without leakage.

G200 Series

The G200 series back check valves are specifically intended for heavy-duty in-line service at the bulk plant's transfer area.

Flow moves the spring loaded poppet to the open position as soon as pressure differential is created. When flow stops, the poppet closes. A soft seat construction gives tight shutoff so that piping can be blown down for maintenance.

With a body designed to reduce flow resistance, flow capacity is high. The 2" body size gives 250 g.p.m. propane at 10 pig differential pressure.

The G200 Series is built to stay on the job with all internal parts of plated steel or stainless steel.

Flow Indicator - **Type G201** has a built-in flow indicator mechanism, see illustration, which can be used to replace sight flow indicators.

Seat Construction	Container or Inlet Connection	Outlet Connection	Propane Flow Capacity at 10 PIG Differential	Type Number			
				Brass	Steel	Ductile Iron	
						Standard	Flow Indicator
Metal to Metal Seat	3/4" MNPT	3/4" FNPT	21 GPM	G100	-----	-----	-----
	1 1/4" MNPT	1 1/4" FNPT	55 GPM	G101	-----	-----	-----
	2" MNPT	2" FNPT	150 GPM	G102	G112	-----	-----
	2" FNPT	2" FNPT	150 GPM	G109	-----	-----	-----
	2" MNPT	2" MNPT	150 GPM	-----	A1733	-----	-----
	3" MNPT	3" FNPT	250 GPM	-----	G104	-----	-----
Soft Seat	3/4" MNPT	3/4" FNPT	21 GPM	-----	A1725	-----	-----
	1 1/4" MNPT	1 1/4" FNPT	55 GPM	-----	A1727	-----	-----
	1 1/4" FNPT	1 1/4" FNPT	125 GPM	-----	-----	G200-10	G201-10
	2" MNPT	2" FNPT	150 GPM	-----	A1728	-----	-----
	2" FNPT	2" FNPT	200 GPM	-----	-----	G200-16	G201-16
	2" MNPT	2" MNPT x 1 1/4" FNPT	137.5 GPM	-----	G105	-----	-----
	3" MNPT	3" FNPT	250 GPM	-----	A1729	-----	-----
	3" FNPT	3" FNPT	300 GPM	-----	-----	G200-24	G201-24
	3" FNPT	2" MNPT	254 GPM	-----	G106	-----	-----
	3" MNPT	3" MNPT x 2" MNPT	254 GPM	-----	G107	-----	-----

Excess flow check valves are intended to close upon excessive discharge of vapor or liquid resulting from a break in the hose or piping system. They are used to protect cylinder, tank, and piping systems, and the valves are available in a large variety of sizes and body configurations.

When flow exceeds the valve's setting, the valve closes and remains closed until the system equalizes. A built-in equalizing passage automatically opens the valve once pressure on both sides of the poppet are equal. Valves larger than 1/2" NPT have a drill size No. 60. Valves 1/2" and larger have a limited bypass to comply with NFPA 58.

Note: A break or leak downstream of an excess flow valve that does not allow a flow equal to the valve flow rating will not actuate the valve and could cause a hazardous condition. For this reason, system operators should be familiar with the shutoff valves in the system so that necessary precautions can be taken in an emergency. Care must be taken to be sure the valve's closing flow rating is less than the capacity of the LP-Gas system in which the valve is installed.



Ordering Information - Brass Bodies

Type Number	Part Number	Application	Inlet Connection	Outlet Connection	U.L. Closing Flow, LP (Horizontal)			PSID
					Liquid, GPM	Vapor SCFH		
						25 Psig Inlet	100 Psig Inlet	
F110	120640	Portable Applications	Male POL	9/16" - 18UNF LH	.07	120	204	7.4
F183	120715				1.5	335	570	9.7
F173	120695			1/4" MNPT	.07	120	204	7.4
F181	120710				1.5	335	570	9.7
F110A	120645		Soft Nose Male POL	9/16" - 18UNF LH	.07	120	204	7.4
F173A	120700							
F138	120680	In-Line	1/4" MNPT	1/4" MNPT	1.8	377	641	1.4
F202	120747		Male POL	1/2" SAE Flare	1.9	634	1,100	2.6
F170	120685	Tanks (Full or Half Coupling)	3/4" MNPT	3/4" FNPT	6.6	1,184	2,012	1.2
F100	120610				8.4	2,010	3,417	2.4
F101	120615				20	3,459	5,880	8.5
F102	120620		1 1/4" MNPT	1 1/4" FNPT	33	6,300	10,630	10.7
F105	120625				55	9,982	19,967	10.7
F106	120630		2" MNPT	2" FNPT	85	18,513	31,467	2.6
F107	120635				100	20,796	35,349	3.6
F130	120650		In-Line	1" FNPT	1" FNPT	25	5,287	8,986
F131	120655	1 1/2" FNPT		1 1/2" FNPT	60	11,694	19,877	4.7
F132	120660	2" FNPT		2" FNPT	95	19,874	33,877	2.1
F133	120665				155	29,202	49,718	4.2
F134	120670	Tanks (Full or Half Coupling)	1 1/2" MNPT x 1" FNPT	1" FNPT	28	5,181	8,806	2.7
F135	120675		2 1/2" MNPT x 1 1/2" FNPT	1 1/2" FNPT	60	12,000	20,290	5.2



F134 Series



F190 Series



AL1717



AL1710



AL1715

Or **deicing**

Information - Steel Bodies

Type Number	Part Number	Application	Inlet Connection	Outlet Connection	U. L. Closing Flow, LP (Horizontal)			PSID
					Liquid, GPM	Vapor SCFH		
						25 Psig Inlet	100 Psig Inlet	
AL1706	111340	Tanks (Full or Half Couplings)	1 1/4" MNPT	2" MNPT	53	2,650	4,500	6.0
AL1710	111356		2" MNPT	2" FNPT	101	18,350	31,200	6.5
AL1717	111381				110	19,985	33,980	605
F190	120720		2" MNPT	2" MNPT x 1 1/4" FNPT	80	15,400	26,250	3.7
AL1711	111361				101	18,350	31,200	6.5
F191	120725				105	18,800	32,000	8.9
F194	120730		3" MNPT	2" MNPT	165	32,800	55,950	3.1
AL1715	111382				239	47,800	83,000	7.0
F195	120735				260	50,650	86,350	6.9
F198	120740				165	33,000	56,250	3.1
AL1713	111365		3" MNPT	3" MNPT x 2" FNPT	239	47,800	83,000	6.0
F199	120745				260	49,500	84,350	7.1

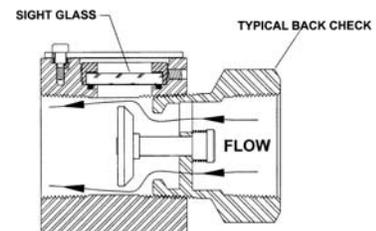
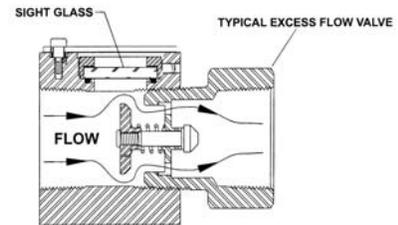
Sight Glass Safety Fitting - Always “Inspect What You Except”

Inspect in line back checks and excess flow valves while product is flowing

- Same flow rate as a standard coupling.
- Field replaceable sight glass.
- Tempered lime glass for maximum strength.
- Spring return sight glass cover, always covers the sight glass when released.
- UL tested to 2000 psi.

Ordering Information

Part Number	Item Number	Description
A1742	111401	2" Sight Glass Safety Fitting
A1743	111402	3" Sight Glass Safety Fitting



Large Relief Valves

Types H280 and H5110 internal spring relief valves can be used in the Combo Joe relief valve manifold or as separate units on stationary ASME tanks.

Type P104-24 pipeway adaptor (3" FNPT) is available for use with either valve.

Container Connection	Service	Material	Start-to-Discharge Setting	Type Number	Flow Capacity SCFM Air	
					U.L.	ASME
2" MNPT	LP-gas	Brass	250 psig	H282-250	11,336	10,203
			275 psig	H282-275	12,392	11,153
	LP-gas or NH3	Steel	250 psig	H5112-250	11,403	-----
			275 psig	H5112-265	12,406	-----

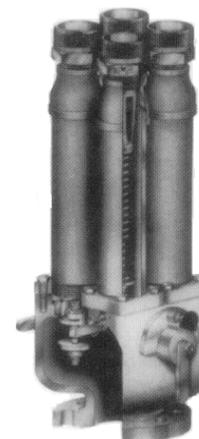


Relief Valve Manifolds

Type H500 series Combo Joe relief valve manifolds contain four standard style relief valves (H280 or H5110) and are suitable for stationary tanks up to 30,000 gallons. The Combo Joe manifold allows the tank to remain in service without the necessity of evacuation in order to make a relief valve inspection.

Flanged Container Connection	Type Number	Relief Valve Type	Start-to-Discharge Setting	Service	Flow Capacity SCFM Air 4 - Ports, 3 - Relief Valves	
					U.L.	ASME
4" 300 lb. ANSI RF	H540-250 +	H282	250 psig	LP-Gas *	27,018	24,485
	H541-265	H5112	265 psig	NH3 #	28,832	-----
3" 300 lb. ANSI RF	H530-250 +	H282	250 psig	LP-Gas *	27,018	24,485
	H531-265	H5112	265 psig	NH3 #	28,832	-----

* Brass trim # Steel trim + Factory Mutual System approved



H500

Relief Valves for Liquid Service

The Type 98H is a self-operating relief valve for use on relief and back pressure applications involving large liquid pumping systems and vaporizers. Internal pressure registration eliminates the need for a control line.

Body Size FNPT	Relief Pressure Range	Pressure Relief Setting	Type Number	Propane Relief Capacity ,GPM, at Following Pressure Buildup Over Relief Setting				
				5 psig	10 psig	20 psig	30 psig	50 psig
1/2"	27-75 psig	50 psig	98H-17*	5.2	8.0	12.6	16.8	23.1
	70-140 psig	100 psig	98H-18*	4.2	7.3	13.6	19.2	27.3
3/4"	70-140 psig	100 psig	98H-22#	30.8	49.0	67.9	79.8	93.1
1"	70-140 psig	100 psig	98H-30#	30.8	49.0	67.9	79.8	93.1

* Metal diaphragm and seat. # Composition diaphragm and seat.



98H

Fisher Diaphragm Type Relief Valves

Both the Type 1805 and 289H are diaphragm relief valves that protect piping downstream of a regulator from excessive pressure. The 1805 is usually installed between a first and second stage regulator or in the downstream line from a high pressure regulator used for final stage service. The Type 289H is installed between large capacity second stage regulators and the burner to provide high capacity relief.



1805-13

Body Size	Relief Pressure Setting	Relief Adjustment Range	Type Number	Propane Relief Capacity at Following Pressure Buildup Over Relief Setting	
				1 psig	15 psig
1" FNPT	30 psig	10 - 60 psig	1805-13	-----	2,840 scfh
2" FNPT	1.5 psig	.5 - 2.25 psig	289H/2	11,000 scfh	-----



289H

External Relief Valves

Container Type	Start-to-Discharge Setting	Container Connection MNPT	Type Number	Flow Capacity		Accessories	
				U.L.	ASME	Pipeaway	Cap
ASME	250 psig	1/4"	H110-250	310	-----	-----	P206
		1/2"	H135-250	594	535	P174	
		3/4"	H160-250	605	-----		
	275 psig	3/4"	H185-250	2,223	2,001	-----	P145
		3/4"	H185-275	2,456	2,201	-----	P143
	312 psig	1/4"	H110-312	390	-----	-----	P174
1/2"		H135-312	765	-----			
3/4"		H160-312	765	-----			
DOT	375 psig	1/2"	H148	903#	-----	P174	P206
		3/4"	H173				
Hydrostatic Relief	60 psig	1/4"	H120-60 *	-----	-----	-----	P206
	120 psig	1/4"	H120-120*				
	375 psig	1/4"	H123				
	400 psig	1/4"	3865				
	440 psig	1/4"	MEH225				
	450 psig	1/4"	H124				
		1/2"	H144				
	3/4"	H174					



P206



H135 & P174

H185

* Use with Type 64 regulators, side outlet. # DOT cylinder water capacity 500 lbs.

Relief Valve Raincaps - Type 85 - poly vinyl raincap with elastic band for use with relief valves.



Fisher Snappy Joe ESV

The main poppet moves completely out of the flow stream for extremely low restriction to flow.

Moving the operating lever to the vertical position opens the valve, making it simple to tell if the unit is open or closed. A pilot valve in the poppet opens as the lever is moved upward to pressurize the hose. Once equalized, the poppet moves quickly to the open position.

The valve is closed by simply pushing the lever down without first having to trip the latch. The operating lever is easily reached from across the bulkhead. All sizes look similar and operate exactly the same, an important point in an emergency situation.

Standard valves are fitted with a release mechanism for cable attachment. A cable connected to the wire loop allows closure from a safe remote location, such as the bulk plant entrance.

The fusible element is located at the hub of the operating lever and the stub shaft. When exposed to fire, the element melts allowing the stub shaft to turn. The poppet then moves to the closed position, even if the operating lever has been wired open.

Serviceable without removal from pipeline. Parts that wear are external and can be changed out in a manner of minutes. The packing can be changed with the valve in line.

N550 Accessories

Cable Release - Type P164B (122692) cable release is available utilizing a cable housing (50 feet in length) which does not require elaborate guiding like uncovered cable.

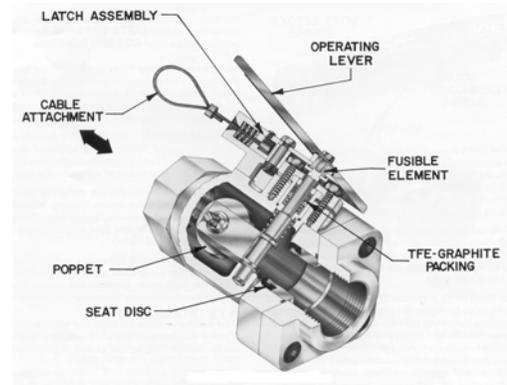
Pneumatic Operation - Remote pneumatic closure is available with **Type P327D** (122927) release. Pressure on the P327D allows the valve to be latched in the open position with manual closure possible at the valve. Loss of pressure (30 to 70 psig air, nitrogen, or CO2) permits the ESV to close. Opening and closing of the ESV from a remote location can be done by using **Type P327C** (122929) air cylinder. The cylinder opens the valve when around 30 to 70 psig pressure (air or nitrogen) is applied.

Type ME551 (150602) Marshall air cylinder opens and closes the valve.

P551 (122978) helper spring and **T13090** (129079) packing assembly kit.

Body Size	LPG Flow in GPM*	Item Number	Part Number
1 1/4" FNPT	75	N550-10	122585
2" FNPT	115	N550-16	122590
3" FNPT	275	N550-24	122595

* At 2 PSI Differential



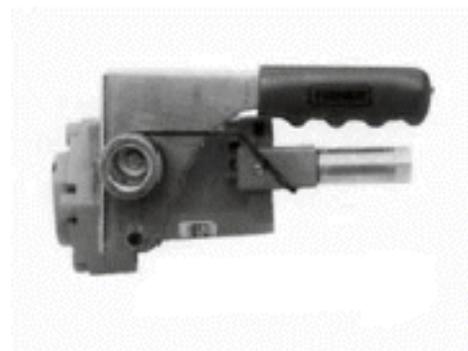
N550

Ordering



N550 w/ P327C

Information



N550 w/ P327D

Railcar Emergency Shutoff Valves

Type N562 ESVs are designed for attachment to the shutoff valves on railroad tank cars.

Pneumatic operation at the valve is by means of a standard quick-disconnect coupling (furnished). Approximately 20 to 60 psig is needed to open the valve, depending upon tank car pressure.

Remote closure from one or more points, such as the unloading riser, is accomplished by exhausting pressure from the valve's piston chamber with a pneumatic control valve.

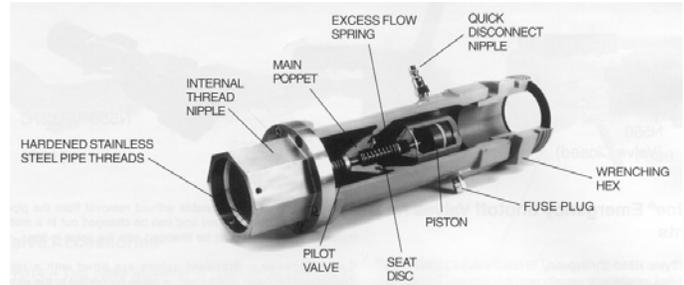
With a poppet design similar to Fisher's internal valve, an excess flow spring is available. The spring has a closing flow of 200 gpm.

Ordering Information

Inlet Connection	Outlet Connection	Type Number
2" FNPT	2" FNPT	N562-16
	2 1/4" Male Acme	N562-18
	3 1/4" Male Acme	N562-26

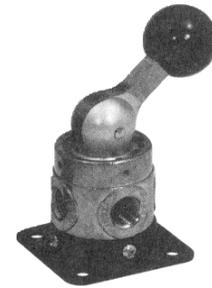


N562



Humphrey Pneumatic Accessories

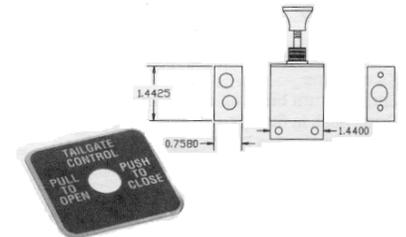
Part Number	Description
146749	Push Actuating Air Valve - BAV-010
404200	Pull Lever Actuating Air Valve - 250V-3-10-21
404206	1/4" Poly Tubing - NB-4-035
404203	1/4" Tube x 1/8" MNPT Connector - 68P-4-2
404204	1/4" Tube x 1/4" MNPT Connector - 68P-4-4
404208	1/4" Tube Tee - 164P-4
404188	1/4" Tube Tee x 1/8" MNPT Branch - 172P-4-2
404207	1/4" Tube x 1/8" MNPT Elbow - 169P-4-2
404199	1/4" Tube x 1/4" MNPT Elbow - 169P-4-4
404198	1/4" Tube Needle Valve - NV311P-4-4



250V



BAV-010



Relief Valve Weather Cap

Weather cap opens with the first slight pressure inside the stack and closes instantly when exhaust pressure stops.

Minimum O D	Maximum O D	Type Number
1 1/2"	1 11/16"	651000
1 3/4"	1 15/16"	651020
2"	2 3/16"	651030
2 1/4"	2 7/8"	651040
2 1/2"	2 11/16"	651050
2 3/4"	2 15/16"	651060
3"	3 3/16"	651070
3 1/2"	3 11/16"	651080



651050

Large Fisher Filler Valves

Fisher offers large filler valves with heavy-duty construction throughout for safe, rapid filling of ASME tanks or trucks. Thick walled bodies, formed seat retainers and generous wrenching flats prevent damage to internal parts. The flow channel design offers low resistance-to-flow for increased pump and hose service.

Type D138 & D139 offer single back check valves for use with either a supplementary G Series back check valve or a manual shutoff valve.

Type D140 & D141 provide a two-piece design with both an upper and lower back check. The bubble tight upper back check has a resilient seat for maximum service life. A metal-to-metal lower back check protects against loss of product in case of an accident and permits removal of the upper body with the tank under pressure.



D138 or D139



D140 or D141

Type Number	Connections Container MNPT x Acme	Back Check Style	Filling * Capacity
D138	2" x 2 1/4"	Single	105
D140		Double	100
D139	3" x 3 1/4"	Single	275
D141		Double	225

* GPM propane at 10 psig differential

Ball Valves

Squibb-Taylor offers a complete line of general purpose ball valves capable of being operated manually or with an actuator. Ball valves are designed for minimum space requirements and feature straight through body construction along with large port sizes for low pressure drop capability. The valves are particularly suited for tank, transport, and bulk plant applications where high volume flow rates are needed. Available in sizes from 1/4" on up to 3", these compact valves can be furnished in a variety of end configurations - standard threaded, union end threaded, flanges, or socket weld.



80-100 Series



70-600 Series



82-100 Series



73-100 Series

Apollo Bronze Ball Valves

Body & Port Style	Body Size								
	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"
Threaded Bronze - Standard port	80-101	80-102	80-103	80-104	80-105	80-106	80-107	80-108	80-100
Threaded Bronze - Full Port	82-101	82-102	82-103	82-104	82-105	82-106	82-107	82-108	82-140
Threaded Bronze - Standard Port- 3 Way	-----	70-602	70-603	70-604	70-605	70-606	70-607	70-608	-----
Threaded Steel - Standard Port	73-101	73-102	73-103	73-104	73-105	73-106	73-107	73-108	-----

Marpac Ball Valves

Body & Port Style	Body Size		
	1 1/4"	1 1/2"	2"
Threaded Steel - Union End - Standard Port	CS-790-TTU	CS-790-TTU	CS-790-TTU
Socket Weld Steel - Union End - Standard Port	CS-790-TTUP	CS-790-TTUP	CS-790-TTUP



CS-790-TTU

Jomar Ball Valves



100-700 Series



500-300 Series

Body & Port Style	Body Size								
	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"
Threaded Brass - Full Port	100-701	100-702	100-703	100-704	100-705	100-706	100-706	100-708	100-710
Threaded Stainless - Full Port	-----	-----	-----	500-304	500-305	500-306	500-307	500-308	500-310

Smith Ball Valves



125R Sseries



125RF Series



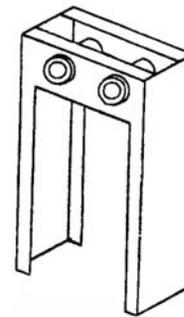
5125T Series

Body & Port Style	Body Size								
	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	
Threaded Brass - Standard Port	125R	125R	125R	125R	125R	125R	125R	125R	125R
Threaded Brass - Full Port	-----	-----	-----	-----	5125T	5125T	5125T	5125T	
Threaded Stainless - Full Port	-----	-----	125RF	125RF	125RF	125RF	125RF	125RF	

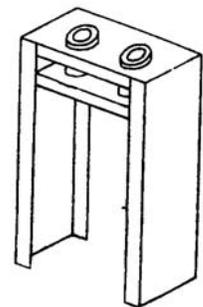
Bulkheads

The S-TrongWall bulkhead provides solid protection against truck pullaways for valves and piping at the plant transfer area. Available with 2 sleeve openings, the bulkhead can be supplied with either horizontal or vertical sleeves for valve and piping installations.

Sleeve Style	Opening Sizes	Model Number	Part Number
Horizontal	2" & 1 1/4"	1000	790000
	3" & 2"	1001	790005
Vertical	2" & 1 1/4"	1002	790010
	3" & 2"	1003	790015



Horizontal



Vertical

Cylinder Filling Valve

Type N201 fills DOT cylinders by weight and stops the gas supply when specified fill weight is reached. Operated by air pressure, it is designed for beam type scales and requires no electrical or mechanical power.

The assembly comes completely piped up and includes special parts that allow the slide weight on the scale to move to zero. A red button appears in the indicator on the top of the N201 each time a cylinder is filled to the desired weight.



N201

Bypass Valves for Large Pumps

Designed for bypass on 2-4 inch size pumps, the N100 series is widely used on both LP-gas and NH3 applications. The throttling action of the N100s allows only surplus pump discharge to be returned to the tank.

A venturi flow passage gives a boost effect, permitting a greater valve opening for increased flow at the lower pressure buildups when bypassing full pump output. These features help to give rapid, stable liquid transfer and reduce dangerous pressure pulsations. The valves contain only one moving part - the piston style inner valve.

An external sensing line is not required because tank pressure registers through a hole in the inner valve. Complete field servicing can be made without removing the valve from the piping.

All N100 bodies have a 1/4-inch FNPT tapped and plugged boss on the side inlet for either a pressure gauge or a hydrostatic relief valve.



N100 Series

Pump	Type	Body	PSID	PSID Range
2"	N100A-08-1	1" FNPT	50 psig	25-75 psig
	N100A-08-2		115 psig	50-150 psig
2" - 3"	N100A-10-1	1 1/4" FNPT	50 psig	25-75 psig
	N100A-10-2		115 psig	50-150 psig
	N100A-12-1	1 1/2" FNPT	50 psig	25-75 psig
	N100A-12-2		115 psig	50-150 psig
4"	N100-16-1	2" FNPT	50 psig	25-75 psig
	N100-16-2		115 psig	50-150 psig
	N100-20-2	2 1/2" FNPT	50 psig	25-75 psig

Bypass Valves for Small Pumps

The Type N110 is intended for bypass service on the smaller pumps (5-40 gpm) used on stationary tanks or delivery trucks.

Suitable for LP-gas or NH3 installations, the valve has an internal sensing orifice and does not require an external sensing line. A vent opening off the sensing orifice channel allows trapped vapor to escape, eliminating any vapor in the system when the pump is started. The compact size of the N110 (less than 6 1/2" overall) permits installation in limited space. A 1/4" FNPT tapped and plugged boss on the inlet side of the body can be used to install a hydrostatic relief valve or a pressure gauge. The valve does not have to be removed from the line for servicing; all internal parts can be reached by unscrewing the union nut.

Pumping	Type	Body	PSID	PSID
5-20 gpm	N110-06-1	3/4" FNPT	50 psig	25-75 psig
20-40 gpm	N110-08-1	1" FNPT		



**Back
valves**

Pressure

Val

These valves are soft seated, holding a differential back pressure on liquid meters. Type N120 is installed after the meter, and it holds a back pressure on the meter until vapor is forced back to the tank through the vapor eliminator. In this way vapor cannot form within the meter during liquid delivery.

Intended for smaller pumps, N120s are ideal on such applications as cylinder filling installations. All units have a 1/4" FNPT tapped and plugged boss on the inlet side of body and can be used for both LP-gas and NH3 service. The N120 has a 1/4" FNPT connection in the closing cap for attachment of an external sensing line from the tank vapor space or vapor eliminator

Liquid	Type	Body	PSID	PSID
3/4" or 1"	N120-06-3	3/4" FNPT	12 psig	10-20 psig
	N120-08-3	1" FNPT		

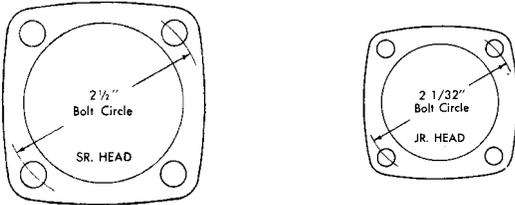
Magnetic Float Gauges

Taylor magnetic liquid level float gauges provide visual indication of the amount of liquid in a tank. The gauges consist of a float that contacts the liquid and a gear and linkage mechanism attached to a magnet in the dial assembly.



Visible "4" Gauges

These units have a 4" dial calibrated in increments of one degree to give an exact reading of the amount of LP-gas liquid in the tank. The float assembly and gears are of the same quality construction as the "Senior" gauge. When ordering Visible "4" gauges, specify tank diameter, mounting position, and 4" dial.



Junior & Senior Gauges

These float gauges are intended primarily for domestic storage tanks. The Senior gauge has the larger head size 2 1/2" vs 2 1/32" for the Junior.



Junior Gauges

Application	Tank Diameter	Part Number		
		Top	45 Angle	Side or End
Domestic Tanks	24"	JA124I	JC124B	JD080A
	30"	JA154I	JC154B	JD100F
	37"	JA192J	JC190B	JD120D
	41"	JA206I	JC210B	JD140D

Master Model A & B Gauges

Both the Model A and Model B float gauges feature a large 10" hermetically sealed dial face with a chrome retainer.

Model A - Standard construction gauge especially recommended for tanks up to 84" in diameter. Mounts directly to a 5305 (2" MNPT) adaptor.

Model B - Extremely heavy duty gauge for any size storage tank. Mounts with 5331 (2 1/2" MNPT) adaptor. Includes a Spirotallic gasket and eight mounting bolts.

When ordering, specify model number and adaptor if required.

Senior Gauges

Domestic Tanks	24"	SA130A	SC130B	SD080D
	30"	SA160A	SC160A	SD100C
	37"	SA194A	SC194D	SD120G
	41"	SA214A	SC214C	SD140A

Application	Tank Diameter	Model Number	Tank Opening	Part * Number
Storage Tanks	72"	A	2"	ME2434A
		B	2 1/2"	ME2434B
	82"	A	2"	ME2738A
		B	2 1/2"	ME2738B
	84"	A	2"	ME2839A
		B	2 1/2"	ME2839B
	96"	A	2"	ME3245A
		B	2 1/2"	ME3245B
	104" to 108"	A	2"	ME3650A
		B	2 1/2"	ME3650B
	130"	A	2"	ME3862A
		B	2 1/2"	ME3862B

* Other size gauges available on request.

Brass Threaded Gauges

Mounting	Tank Diameter	Part Number	
		1" MNPT	1 1/4" MNPT
Domestic Tanks	24"	HA130A	TA130A
	30"	HA160A	TA160A
Top	37"	HA194A	TA194A
	41"	HA210A	TA210A

Junior Lift Truck Gauges

Mounting Position	Part Numbers		
	Lift Truck Cylinder Size - 12" I.D.		
	20 Lbs.	33 Lbs.	43 Lbs
Universal	JU086B	JU160B	JU212A
Horizontal	JD060A	JD060A	JD060A
Vertical	JA086A	JA166A	JA216A



Jr. KE
130005



Sr. KE
130010

1 1/4" MNPT Threaded Brass Lift Truck Gauges

Universal	TU086B	TU160B	TU212A
Horizontal	TD060A	TD060A	TD060A



2701 5TR Style - R indicates partially red face dial. Red area indicates low fuel.

130012, 130009, 130011 & 130026

3/4" MNPT Threaded Brass Lift Truck Gauges

Universal	UU086B	UU160B	UU212A
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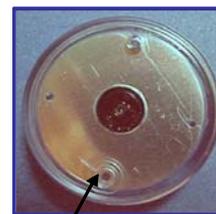
R3D- Jr Hall Compatible

130022, 130023,
130024 & 130028



Jr- 1 1/4" Brass

130021



Style A
Large dia. Locator
pin hole on back of
dial in this location



Style B
Large dia. Locator
pin hole on back of
dial in this location

Taylor Gauge Replacement Dials

Part Number	Used On	Notes
130005 (2201)	Glue-on replacement for any Taylor Jr crimped-in dial.	Will work on any Jr gauge
130010 (2201)	Glue-on replacement for any Taylor Sr crimped-in dial.	Will work on any Sr gauge
130012 (2701)	Used in all standard above ground system tank gauges: Jr, 1" or 1 1/4" (pre-2002) Used in any Jr or Sr end, side or angle gauges which are not crimped-in type.	Guide hole in back of dial at 95% - Style A
130009 (2701)	Used in any Jr or Sr top mount gauges which are not the crimped-in type or standard above ground system tanks.	Guide hole in back of dial at 5% - Style B
130011 (2700)	Used in underground tanks: Trinity , American Welding & Thompson	Guide hole in back of dial at 95% - Style A
130026 (2700)	Used on underground tanks: Quality & Chemi-Trol	Guide hole in back of dial at 5% - Style B
130022 (5-2767)	Remote ready dial used in all standard above ground system tank gauges: Jr, 1" or 1 1/4" (pre-2002). Used in any Jr or Sr end, side or angle gauges which are not crimped-in type.	Guide hole in back of dial at E - Style A
130023 (5-2768)	Remote ready dial used on any Jr or Sr top mount gauge which is not the crimped-in type or standard above ground system tanks.	Guide hole in back of dial at 30% - Style B
130024 (5-2876)	Remote ready dial used in underground tanks: Trinity , American Welding & Thompson	Guide hole in back of dial at E - Style A
130028 (5-2824)	Remote ready dial used on underground tanks: Quality & Chemi-Trol	Guide hole in back of dial at 30% - Style B
130021 (2701)	Used on any 1 1/4" (post 2002) gauge.	Same as Rochester Jr dial

Direct Read Replacement Dial

Type 136610 direct read replacement dial fits all Taylor and Rochester junior float gauges, as well as any 1" or 1 1/4" threaded float gauge. An ideal way to reduce replacement dial inventory, the 136610 eliminates many of the field problems associated with conventional replacement dials.

Gauge Adaptors

These steel adaptors allow Taylor float gauges to be mounted on a tank.

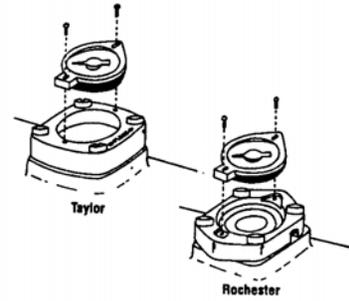


5305



5331

Tank Connection	Number of Bolts	Style of Gauge	Part Number
2" MNPT	4	Senior, Visible "4" or Master Model A	5305
2 1/2" MNPT	8	Master Model B	5331



Gaskets & Screws for Float Gauges

Gauge Type	Description	Part Number
Junior	Buna-N-Gasket	130121
Senior	Buna-N Gasket	130122
Master Model A & Senior	Teflon Gasket	130130
Master Model B	Spirotallic Gasket	130040
Junior	Mounting Screw	130118
Senior & Master Model A	Mounting Screw	130119
Master Model B	Mounting Bolts	130219



The ROADMASTER - Unique for mobile applications.

Uniquely designed to withstand the tough-shock and vibration associated with mobile-service of LP-Gas and Anhydrous Ammonia.

Specifically designed to operate within the standard working pressures of LP-Gas and Anhydrous Ammonia applications.

Incorporates a special spring designed to substantially reduce stress on conventional float-type gauges on mobile applications.

Standard and easily replaceable 4" easy viewing dial. Applicable to end or side mounting.

Ideal for new or replacement installations.

Stock Gauges

Tank Diameter	Part Number	Type Number
72"	RM1833	131833
74"	RM1834	131834
79"	RM1836	131836
84"	RM2438	131838

Senders and Receivers for Motor fuel Service

Squibb-Taylor's sender gives both direct and remote indication of LP-gas liquid level on all makes of cars and trucks when used with either a receiver, furnished by Squibb-Taylor, or the original equipment fuel gauge on the vehicle. The sender also works on all recreational vehicles .

Squibb-Taylor's 0-90 ohm receivers are available with either an analog or digital display. Receivers can be mounted at the dash or other remote locations.

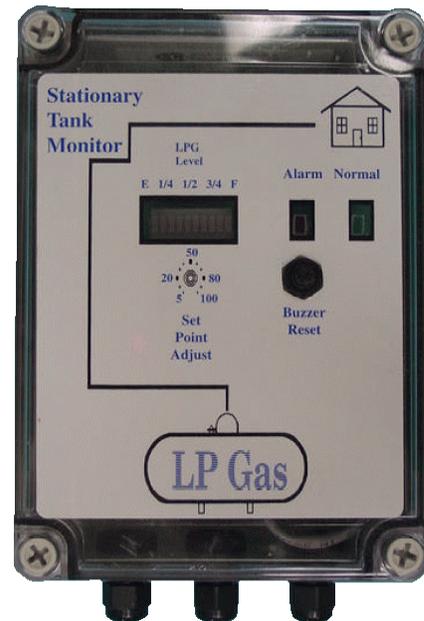


136521 Digital Receiver

Part Number	Ohms	Application	Description
136600	0 - 90	GM & RV's	Sender
136601	70 - 10	Old Ford & Chrysler	Sender
136602	15 - 160	New Ford	Sender
136607	110 - 10	New Chrysler	Sender
136609	95 - 5	New Dodge	Sender
136536	40 - 250	New GM	Sender
136613	220 - 20	Dodge 2000	Sender
136650	0 - 90	GM & RV's	Sender & 18' Cable
136651	70 - 10	Old Ford & Chrysler	Sender & 18' Cable
136652	15 - 160	New Ford	Sender & 18' Cable
136657	110 - 10	New Chrysler	Sender & 18' Cable
136659	95 - 5	New Dodge	Sender & 18' Cable
136520	0 - 90	Receiver	Analog Display
136521	0 - 90	Receiver	Digital Display
136605	0 - 90	Sender, Analog Receiver & 20' Cable	
136606	0 - 90	Sender, Digital Receiver & 20' Cable	



Sensor



136619 Monitor

Stationary Tank Monitor

The Monitor remotely indicates the liquid level of LP-gas in a stationary storage tank. It consists of two parts - a sensor installed at the tank and a monitor placed at a remote location. Liquid level indication on the monitor is given by a multicolor bar graph. The sensor fits directly on Taylor or Rochester Jr. float gauges and connects to the monitor with outside grade two conductor 22/24 gauge cable.

Low/normal level alarm indication is given by red and green LEDs.

Resettable alarm buzzer triggers when low level is sensed.

Adjustable alarm level can be preset anywhere between 0% and 99%.

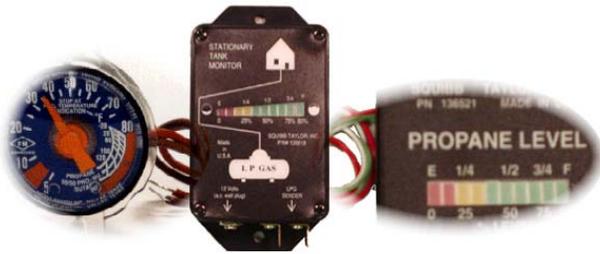
Two DPDT dry alarm contacts available for other uses.

AC/DC operation with a 120 VAC wall plug-in adaptor included.

Interfaces with RTUs or programmable controllers.

Description	Part Number	Includes*
Monitor & Sensor for remote readout at one stationary tank.	136619	Digital bar graph, low level indicator light, pre-settable alarm level, low level audio buzzer with reset button

* Optional: Relay dry contact output. NO/NC, 1 amp.



136618 Monitor

Tank Monitors for Residential and Small Commercial Applications

The system consists of two components - a sensor installed at the propane tank and a monitor placed at a remote location. Propane level in the tank is displayed by the monitor on the bar graph.

Intended for residences using either aboveground or underground storage tanks. Also can be installed at restaurants, Laundromats, car washes, and other small commercial/industrial applications.

Gives visual indication (multi-colored bar graph) of propane level in the tank.

Two versions available - 120VAC operation (transformer included) for continuous liquid level indication or 9 VDC battery operation with "on demand" (push-button) liquid level indication.

Extremely compact, easy to install.

Sensor fits all Taylor and other competitive float gauges, tank modifications are unnecessary to make installation.

Part Number	Description
136617	Sensor and 9V Battery Monitor
136618	Sensor and 120 VAC Monitor

Flow Indicators

Taylor-Flo Indicators are installed in liquid pipelines to give visual indication of flow direction or the absence of flow. Capable of showing flow in both directions, the indicator mounts in a standard tee fitting, using the adaptors supplied, with the flapper assembly in the center of the pipe. The hermetically sealed dial has a large 4" dial face with an easy to read flow direction pointer.

Pipe Size	Part Number	Includes
2"	5520-2	5305 Adaptor (2" MNPT)
2 1/2"	5520-2 1/2	5305 Adaptor (2" MNPT)*
3"	5520-3	5305 Adaptor (2" MNPT)+

* Also requires a 2 1/2 x 2 hex bushing. +Also requires a 3 x 2 hex bushing.



Robertshaw RS-228 - Wireless LP-Gas Tank Level Meter

Get accurate, up-to-the-minute LP-Gas level readings in your home. Place the base station in a convenient location. Then place the wireless transmitter on your tank.

Remote Transmitter

- Weather Tight - suitable for continuous outdoor exposure
- Intrinsically Safe - Suitable for mounting anywhere on your tank
- Wireless Operation - can be placed up to 150 feet from base station

Monitor

- Numerical & Graphic LCD Display
- Wireless Remote Operation - Monitor LP-Gas tank up to 150 feet
- Low battery indicator for Base Station
- Low battery indicator for Remote Transmitter



5520-3

Rotary Gauges

Rotary gauges give visual indication of the amount of LP-gas or NH3 in the container. They are also used in filling the tank to the proper liquid level.

All J31s have stem and dip tubes with an extra large inside diameter. This assures that the correct liquid level can be obtained quickly. It also allows the stem and dip tube to be easily cleaned when needed.

Type J3L Series - Heavy duty gauge that minimizes vibration effects (swaying, bouncing) by a long (68-inches) stem tube extension which also helps prevent sagging.

Tank Connection	Length Inches	Type Number	
		>1200 Gal	<1200 Gal
1" MNPT	68	J31L-1	J31S-1
	69 - 92	J31L-2	J31S-2
	93 - 108	J31L-3	J31S-3
	109 - 140	J31L-3L	J31S-3L
Dial Only	-----	P322	P323



J31L

Liquid Level Vent Valves

Type AL404 with steel construction for use on either LPG or NH3 service. Installed on large bulk storage tanks at the maximum filling level. Standard valve comes with a 3/4-inch MNPT container connection and two 1/4-inch FNPT side outlets.

Type AL404 -1 for NH3 service features the addition of a A1911 liquid level vent valve and 290625 (0-400 psig) pressure gauge installed.

Type AL404-2 for LP-gas service contains a ST-J400 liquid level vent valve and ST-J506 (0-300) psig pressure gauge installed.



AL404-1

Marshall Breakaway Valves

For use with vapor or liquid lines to protect against separation during transfer operations including transports, delivery trucks, motor fuel containers and other miscellaneous cylinder filling operations.

Buna-N soft seat for positive shutoff both upstream and downstream
 100 - 300 lbs of force to disconnect
 100 lbs of force to reconnect
 Durable all steel construction

Part Number	Item Number	Size	Style
ME860S-6	150620	3/4" x 3/4" FNPT	Bracket
ME861S-6	150621	3/4" x 3/4" FNPT	Lanyard



ME860S-6



ME861S-6

It is recommended that breakaway valves be safety tested monthly to confirm that proper separation occurs in the event of a pull-away.



High Pressure LP-Gas Hose

Flexible, heavy duty, high pressure hose for transfer of liquid or vapor butane or propane. Specially compounded smooth lining, closely braided synthetic cord and **smooth black neoprene cover**. Continuous labeling on hose includes UL listing, dating, manufacturer and 350 psi.

Inside Diameter	Reel Length	Part Number
1/4"	500'	182846
3/8"	500'	182849
1/2"	500'	182123
3/4"	500'	182124
1"	250'	182847
1 1/4"	250'	182848
1 1/2"	60'	182750
2"	60'	182850
3"	60'	182900

Pre-cut Lengths for Bobtail Delivery Trucks & Transports- Crimped Ends

Inside Diameter	Cut Length	Part Number
1"	100'	182125
	125'	182128
	150'	182130
	200'	182132
2"	18'	182152

Will custom build any size or length

High Pressure Hose Assemblies

Hose assemblies consists of 1/4" and 3/8" high pressure hose with 3/8" female swivels on each end.

Hose Length	Part Number		Hose Length	Part Number	
	1/4 Hose	3/8 Hose		1/4 Hose	3/8 Hose
12"	183200	183230	96"	183213	----
24"	183202	183232	120"	183214	183244
36"	183204	183234	144"	183216	183246
48"	183206	183236	180"	183218	183248
60"	183208	183238	300"	182219	182231
72"	183210	183240	600"	183220	183250
84"	183212	183242	1200"	183222	183252



Low Pressure Hose (Red Heater Hose)

LP-Gas vapor service to gas heaters. 200 psig rated working pressure. Specify part number and cut length.

Hose Diameter	Reel Length in Feet	Part Number			
		Domestic		Import	
		Reel	Cut	Reel	Cut
3/8"	500	183115	183111	183116	183118



Vapor Hose Assemblies (Heater Hose)

Hose assemblies consist of 3/8" vapor hose with 3/8" female swivels on each end.

Hose Length	Part Number		Hose Length	Part Number	
	Domestic	Import		Domestic	Import
12"	183140	183139	60"	183181	183180
18"	183146	183145	72"	183182	183190
24"	183147	183152	84"	183183	183191
30"	183156	183155	96"	183184	183192
36"	183161	183160	120"	183185	183193
48"	183171	183170	144"	183186	183195



Stainless Steel Flexible Connectors

Connection Size	Length	Part number
1 1/4" MNPT	18"	200820
	24"	200825
2" MNPT	18"	200830
	24"	200835
3" MNPT	18"	200840
	24"	200845

Special order lengths available

Typical Wet Line Hose

Specify adapter 5133 or 5138

- 330425 2341 Transfer Valve
- 150615 ST-MEH225 Hydrostat
- 182803 3/4" x 12' Hose Assembly
- 110583 L424 Minimum Bleed Valve

Options:

1. 150620 ME860S-6 (Specify short hose length)
2. 110573 AL417P Quick Acting Valve
150506 ST-M111 Filler Coupling



Reusable Hose Couplings

Capable of being installed without special tools, these couplings are intended for two fabric braid hose. All units have steel construction and are suitable for LP-gas service.

Coupling Style	Size	Hose I.D.	Item Number	Part Number
Standard (Style A)	1/2" MNPT	1/2"	100-1/2	117284
	3/4" MNPT	3/4"	100-3/4	117290
	1" MNPT	1"	100-1	117296
Swivel Type (Style B)	1 3/4" Female Acme	1/2"	101	117308
		3/4"	102	117310
		1"	103	117316



Style A



Style B

Clamp Hose Coupling

These hose clamps are designed to be compact yet rugged for long, dependable service. A small boss on the clamp portion of the coupling keeps the bolt from turning when installing, making installation much easier.

Coupling Style	Size	Hose I.D.	Type Number
Clamp Type Standard Outlet	1/2" MNPT	1/2"	ST-M3162-08
	3/4" MNPT	3/4"	ST-M3162-12
	1" MNPT	1"	ST-M3162-16
	1" MNPT	1 1/4"	A221S
	1 1/4" MNPT	1 1/4"	ST-M3162-20
	1 1/2" MNPT	1 1/2"	ST-M3162-24
	2" MNPT	2"	ST-M3162-32
Clamp Type Swivel Nut Outlet	3/4" F. Acme	3/4"	ST-M3162-12S
	3 1/4" F. Acme	2"	ST-M3162-32B*
			ST-M3162-32S
	4 1/4" F. Acme	3"	M3162-48S



Standard



Swivel Nut

* Brass swivel nut



HC-4232



E010

Brass Hose Nipples

Hose Barb	MNPT	Type Number	Part Number
1/4"	1/4"	HC-4232	405097
	3/8"	HC-4233	405098
1/4"	1/4" INV FLR	HC-5133	405120
3/8"	1/4"	HC-4252	405099
	3/8"	HC-4253	405101
1/2"	3/8"	HC-4273	405102

Steel Hose Nipples

Hose Barb	MNPT	Type Number	Part Number
1/4"	1/4"	E006	230134
3/8"	1/4"	E010	230135
	3/8"	E012	230136
1/2"	1/2"	E022	230137
3/4"	3/4"	E034	230138
1"	1"	E040	230139
1 1/4"	1 1/4"	E044	230140
1 1/2"	1 1/2"	E046	230141



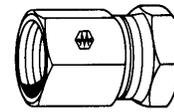
M364



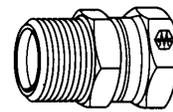
HC-5133

Brass Hose Inserts

Hose Barb	Other Connection	Type Number	Part Number
1/4"	M. POL	M364	121910
	3/8" F.Flare Swivel	4119	220530
	9/16"-18 NF LH	G201-G622	405040
3/8"	3/8" F.Flare Swivel	4115	220526
	3/8" F.Flare Swivel	4739-6B	220534
	9/16"-18 NF LH	G201-G624	405045



2046



2045

Steel Swivel Hose Adaptors Unions

Pipe Swivel	Pipe Thread	Type Number	Part Number
1/2"	1/2" MNPT	2045-08-08S	230151
	1/2" FNPT	2046-08-08S	230154
3/4"	3/4" MNPT	2045-12-12S	230152
	3/4" FNPT	2046-12-12S	230155
1"	1" MNPT	2045-16-16S	230153
	1" FNPT	2046-16-16S	230161
1 1/4"	1 1/4" MNPT	2045-20-20S	230157
	1 1/4" FNPT	2046-20-20S	230156
1 1/2"	1 1/2" MNPT	2045-24-24S	230263
	1 1/2" FNPT	2046-24-24S	230261
2"	2" MNPT	2045-32-32S	230158
	2" FNPT	2046-32-32S	230199



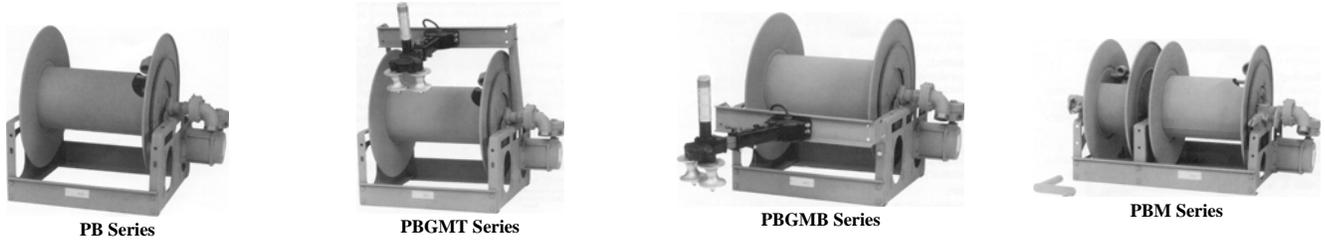
C001 Tool - 230120

Bandit Hose Clamps

Clamp I.D.	Carbon Steel		Stainless Steel	
	Type No.	Part No.	Type No.	Part No.
13/16"	J301	230123	J201	230234
1 3/8"	J302	230124	J202	230236
1"	J303	230125	J203	230238
1 1/4"	J304	230126	J204	230240
1 1/2"	J305	230127	J205	230242
1 3/4"	J306	230128	J206	230244
2"	J307	230129	J207	230246
2 1/4"	J308	230130	J208	230247
2 1/2"	J309	230131	J209	230248
3"	J311	230133	J211	230252

J240 - 230258 3/4" SS Clamp

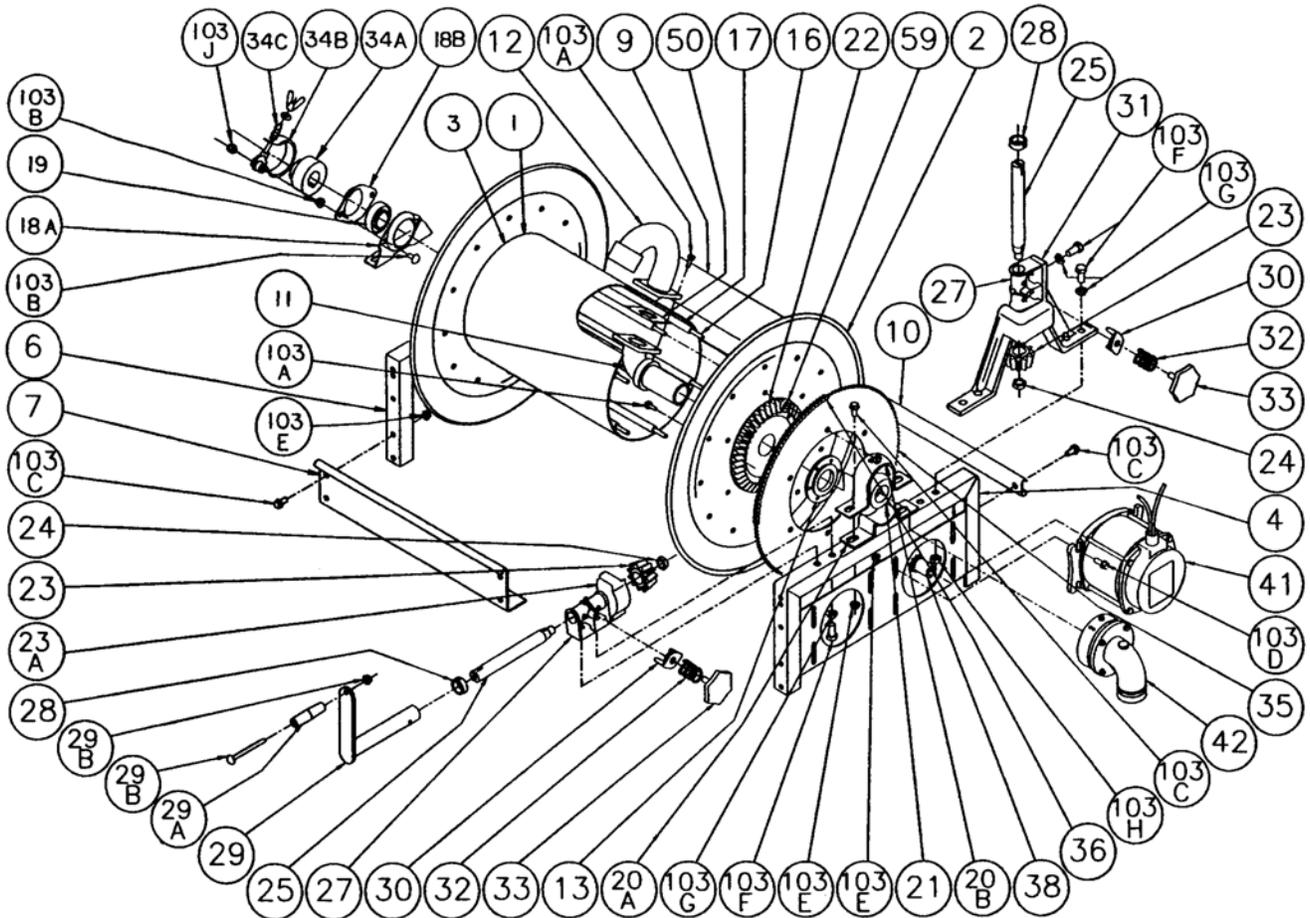
Hannay Hose Reels



Notes: When ordering power rewind models, prefix model number with: A = Air Rewind - supplied with control valve and hose. E=Explosion Proof Electric Rewind (1/2 HP)-supplied with explosion proof switch, solenoid, and junction box. HD=Hydraulic Rewind-not supplied with control valve

Model Number	Reel Capacity		Model Number	Reel Capacity		Model Number	Liquid Reel Capacity		Vapor Reel Capacity		
	1"	1.5"		1"	1.5"		1"	1.5"	1/2"	3/4"	1"
PB 24-23-24	150	50	PBGMT 24-23-24	150	50	PBM 24-16-23-24	150	50	175	80	75
PB 30-23-24	225	75	PBGMT 30-23-24	150	75	PBM 30-16-23-24	150	75	175	80	75
PB 24-25-26	150	75	PBGMT 28-25-26	200	110	PBM 22-16-25-26	200	110	225	100	75
PB 28-25-26	200	110	PBGMB 24-23-24	150	50						
PB 22-30-31	250	100	PBGMB 30-23-24	150	75						
PB 18-33-34	200	75	PBGMB 28-25-26	200	110						

Hannay Reel Parts



Item	Description	Part No	Qty
1	Drum, 10.5" Diameter (Specify Model)	9905.3131	1
2	Front Disc, 19-20 Series Front Disc, 23-24 Series Front Disc, 25-26 Series Front Disc, 28-29 Series Front Disc, 30-31 Series Front Disc, 33-34 Series	9903.0821 9903.1121 9903.1321 9903.1521 9903.1621 9903.1831	1
3	Back Disc, 19-20 Series Back Disc, 23-24 Series Back Disc, 25-26 Series Back Disc, 28-29 Series Back Disc, 30-31 Series Back Disc, 33-34 Series	9903.0821 9903.1121 9903.1321 9903.1521 9903.1621 9903.1831	1
4	Front Frame, 19-20 Series Front Frame, 23-24 Series Front Frame, 25-26 Series Front Frame, 28-29 Series Front Frame, 30-31 Series Front Frame, 33-34 Series	9906.1081 9906.1111 9906.1121 9906.1141 9906.1151 9906.1161	1
6	Back Frame, 19-20 Series Back Frame, 23-24 Series Back Frame, 25-26 Series Back Frame, 28-29 Series Back Frame, 30-31 Series Back Frame, 33-34 Series	9906.1081 9906.1111 9906.1121 9906.1141 9906.1151 9906.1161	1
7	Front Foot (Specify Model)	9907.3000	1
9	Back Foot (Specify Model)	9907.3000	1
10	"C" Channel Brace (Specify Model)	9907.700	2
11	1 1/2" Flange Hub Only (Specify Model)	9901.3640	1
12	1 1/2" FNPT Iron Pipe Riser Only	9901.3760	1
13	EH-936 Washer	9965.0015	2
16	3/8"-16 Carriage Bolt w/Nut	Specify Model	6
17	3/8" Spacer Pipes (Specify Model)	9904.3200	6
18	Back Bearing Complete	9902.1400	1
18A	Self-Aligning Pillow Block, Back	9902.2900	1
18B	Self-Aligning Bearing Holder, Back	9902.2800	1
19	Back Bearing Insert Only	9902.1500	1
20	Front Bearing Complete	9902.1610	1
20A	Bearing Holder (Bottom Strap), Front	9902.2950	1
20B	Bearing Holder (Top Strap), Front	9902.2955	1
21	Front Bearing Insert Only (W/ Grease Fitting)	9902.1700	1
22	Ring Gear, H-26 (Up to 25-26) Ring Gear, H-28	9914.0372 9914.0393	1
23	Pinion Gear, H-27 (Up to 25-26) Pinion Gear, H-29	9914.0393 9914.0403	1
23A	Gear Guard	9914.0618	1
24	5/8"-18 SAE Hex Nut (ESNA)	9904.5600	1
25	Pinion Shaft (Specify Model)	9914.0250	1

Item	Description	Part No	Qty
27	Side Pinion Bearing	9914.0243	1
28	Collar & Set Screw	9914.0351	1
29	Crank Handle, H-18 Complete	9914.0011	1
29A	Hand Crank Handle	9914.0506	1
29B	Hand Crank Handle Bolt w/Nut	9914.0511	1
30	Brake Pad, H-3	9914.0433	1
31	Vertical Rewind Bracket	9914.0233	1
32	Brake Spring, H-31	9914.0451	1
33	Brake Wheel	9914.0413	1
34A	Comet Brake Hub	9947.0038	1
34B	Comet Brake Strap Only	9947.0091	1
34C	Comet Brake Tension Adjuster	9947.0092	1
35	112T35 Disc Sprocket 138T35 Disc Sprocket 180T35 Disc Sprocket	9910.1321 9910.1423 9910.1526	1
36	Chain, #35	Specify Model	1
38	Motor Sprocket, 11T35 x 1-5/16	9910.1118	1
41	Motor, 12 Volt Explosion-Proof 1/2 HP Motor, 12 Volt Explosion-Proof 3/4 HP	9915.0003 9915.0009	1
42	1-1/2" 90 Deg. FxF Swivel Joint 1-1/2" 90 Deg. FxF Swivel Joint (Squibb113)	9930.4210 112063	1
50	Gasket	9965.0021	1
59	Sprocket Spacer	9954.0017	6
103A	5/16"-18 x 1/2" Hex Head Bolt	9904.1101	9
103B	3/8"-16 x 3/4" Carriage Bolt w/Nut-no brake	9904.0201	2
103B	3/8"-16 x 2" Carriage Bolt w/Nut-w/ brake	9947.0093	1
103C	3/8"-16 x 3/4" Spinlock Bolt	9904.2201	18
103D	3/8"-16 x 1" Spinlock Bolt	9904.2202	4
103E	3/8"-16 Spinlock Nut	9904.6200	20
103F	1/2"-13 Hex Head Bolt	9904.1402	6
103G	1/2" .Lock Washer.	9954.0030	6
103H	1/2"-13 Hex Nut	9904.5400	4
103J	3/8"-16 ESNA Nut	9904.5201	1

When ordering hose reel parts it is important to try and find the model number on the tag ie 26-24-26 LT

When ordering drum parts measure diameter of drum and width of spool.



9917.0001



9917.0004



9917.0200

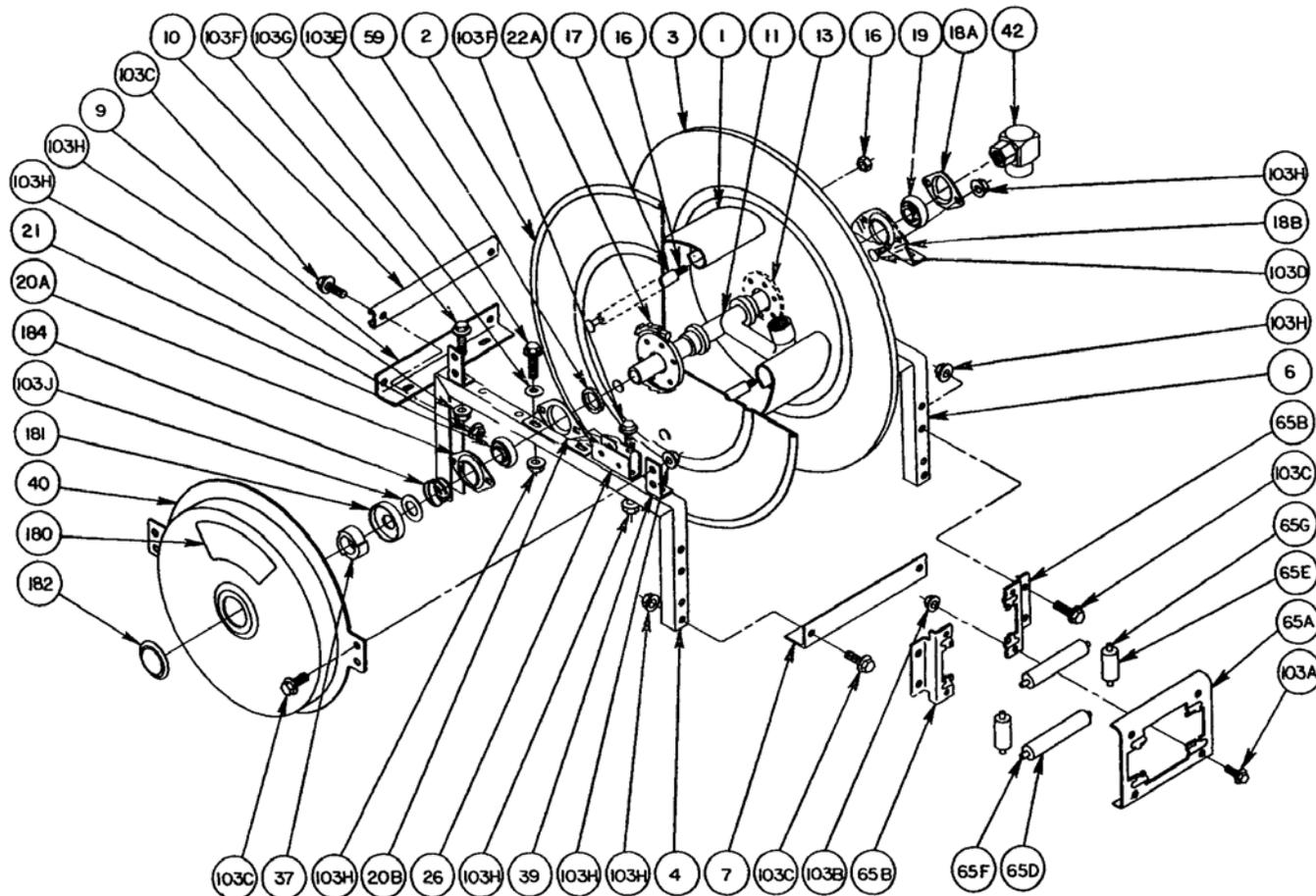


9917.0008



9917.0014 Internal Switch

Hannay Hose Reel Parts-Liquid



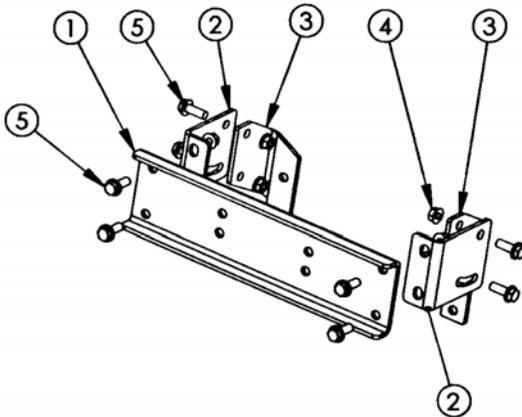
Item	Description	Part No	Qty
1	Drum, 10-1/2" Dia.-Wrap Around-Specify Model Drum, 15-1/2" Dia.-Wrap Around-Specify Model	9905.0138 9905.0178	1
2	Front Disc, 19-20, 18-3/4" Dia. (Specify Model) Front Disc, 23-24, 21-3/4" Dia. (Specify Model) Front Disc, 25-26, 24-3/4" Dia. (Specify Model) Front Disc, 28-29, 26-3/4" Dia. (Specify Model) Front Disc, 30-31, 28-3/4" Dia. (Specify Model)	9903.0821 9903.1121 9903.1321 9903.1521 9903.1621	1
3	Back Disc, 19-20, 18-3/4" Dia. (Specify Model) Back Disc, 23-24, 21-3/4" Dia. (Specify Model) Back Disc, 25-26, 24-3/4" Dia. (Specify Model) Back Disc, 28-29, 26-3/4" Dia. (Specify Model) Back Disc, 30-31, 28-3/4" Dia. (Specify Model)	9903.0821 9903.1121 9903.1321 9903.1521 9903.1621	1
4	Front Frame, 19-20, 1-1/2" Rollform Channel Front Frame, 23-24, 1-1/2" Rollform Channel Front Frame, 25-26, 1-1/2" Rollform Channel Front Frame, 28-29, 1-1/2" Rollform Channel Front Frame, 30-31, 1-1/2" Rollform Channel	9906.0081 9906.0111 9906.0121 9906.0141 9906.0151	1
6	Back Frame, 19-20, 1-1/2" Rollform Channel Back Frame, 23-24, 1-1/2" Rollform Channel Back Frame, 25-26, 1-1/2" Rollform Channel Back Frame, 28-29, 1-1/2" Rollform Channel Back Frame, 30-31, 1-1/2" Rollform Channel	9906.0081 9906.0111 9906.0121 9906.0141 9906.0151	1
Item	Description	Part No	Qty

7	Front Foot	Specify	1
9	Back Foot	Specify	1
10	Back Brace-C Channel	Specify	1
11	1" Hub Assy, Welded Iron Pipe w/ " FNPT Riser	9901.1600	1
13	Disc Washer w/Rivots, EH-936	9965.0015	1
16	3/8"-16 Carriage Bolt w/Nut (10.5" Drum) 3/8"-16 Carriage Bolt w/Nut (15.5" Drum)	Specify Specify	6 10
17	Spacer Pipe (10.5" Drum) Spacer Pipe (15.5" Drum)	Specify Specify	6 10
18A	Self Aligning Bearing Holder (Back)	9902.2800	1
18B	Self Aligning Bearing Pillow Block (Back)	9902.2900	1
19	Self Aligning Bearing Insert(Back)	9902.1500	1
20A	Self Aligning Bearing Holder (Front)	9902.2800	1
20B	Self Aligning Bearing Pillow Block (Front)	9902.2900	1
21	Self Aligning Bearing Insert (Front)	9902.1500	1
22A	Ratchet Wheel	9922.0015	1

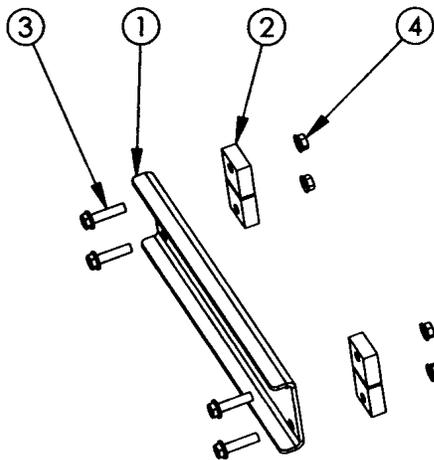
Hannay Hose Reel Parts-Vapor & Guidemaster Brackets

Item	Description	Part No	Qty
26	Ratchet Locking Assy, GH-784	9922.0005	1
37	Spring Arbor For A & D Spring Spring Arbor For B,G & J Spring	9922.0001 9922.0002	1 1
39	Spring Mounting Bracket	9922.0009	2
40	Spring Motor, A Spring Motor, B Spring Motor, D Spring Motor, G Spring Motor, J	9921.0010 9921.0015 9921.0020 9921.0021 9921.0030	1
42	1" 90°FxF B.P. Swivel Joint	9929.8538	1
59	Hub Spacer	9954.0021	2
65A	Roller Bracket Frame, GH-895	Specify	1
65B	Roller Mounting Bracket, GH-896	9940.0170	1
65D	1" Dia Roller for Stamped Housing, GH-1012	Specify	2
65E	1" Dia Roller for Stamped Housing, GH-1012A	9940.0180	2
65F	1/4" Dia Stainless Steel Rod	Specify	2
65G	1/4" Dia Stainless Steel Rod, 2-3/4" Long	9940.0190	2

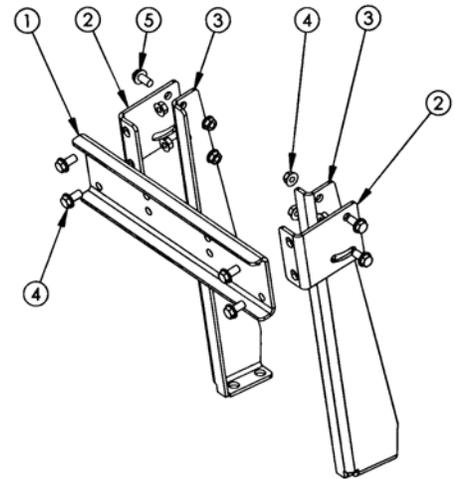
Item	Description	Part No	Qty
66	EH-678D Roller Assembly (Not Shown)	9939.0009	1
103A	5/16"-18 x 3/4" Spinlock Bolt	9904.2101	4
103B	5/15"-18 Spinlock Nut	9904.6100	4
103C	3/8"-16 x 3/4" Spinlock Bolt	9904.2201	14
103D	3/8"-16 x 3/4" Carriage Bolt	9904.0201	4
103E	3/8"-16 x 1-1/4" Spinlock Bolt	9904.2203	4
103F	3/8"-16 x 1-1/2" Spinlock Bolt	9904.2204	4
103G	3/8" Flat Washer	9954.0007	4
103H	3/8"-16 Spinlock Nut	9904.6200	22
103J	1-7/8" O.D. x 1-5/16" I.D. x .049 Washer	9954.0019	1
180	Caution Decal, "Spring Under Tension"	9922.0010	1
181	Cap-Plug for Spring (Inner Side)	9922.0036	1
182	Cap-Plug for Spring (Outer Side)	9922.0037	1
184	Dust Cap Spring	9922.0038	1



Standard Bottom Wind Brackets



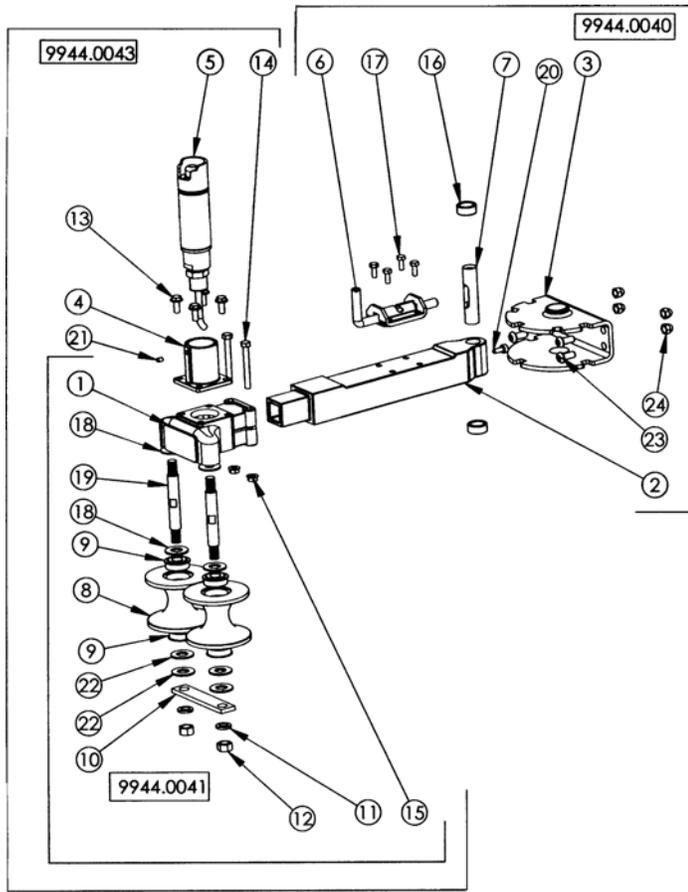
Bottom Wind 25-25 Brackets



Top Wind Brackets

Item	Description	Part No	Qty
Bottom-Wind 25-26 Brackets			
1	Cross Member, Channel (P82A-00041)	9945.0048	1
2	Spacer Block (P28A-00650)	9945.0025	4
3	3/8"-16 x 1 1/2" S pinlock Bolt	9904.2204	4
4	3/8"-16 x 1" Hex Spinlock Bolt	9904.6200	4
Standard Bottom-Wind Brackets			
1	Cross Member, Channel (P82A-00041)	9945.0048	1
2	Guidemaster Angle Bkt LH & RH (P23A-00070)	9945.0060	2
3	Btm Wind Guidemaster Bkt LH&RH(P23A-00010)	9945.0036	2
4	3/8"-16 Spinlock Nut	9904.6200	8
5	3/8"-16 Hex Spinlock Bolt	9904.2202	8
Top-Wind Brackets			
1	Cross Member, Channel (P82A-00041)	9945.0048	1
2	Guidemaster Angle Bkt LH & RH (P23A-00070)	9945.0060	2
3	Btm Wind Guidemaster Bkt LH&RH(P23A-00320)	9945.0037	2
4	3/8"-16 Spinlock Nut	9904.6200	8
5	3/8"-16 Hex Spinlock Bolt	9904.2201	8

Hannay Hose Reel Parts-Guidemaster (Model GM-700)



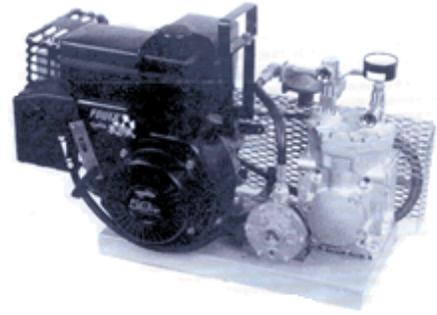
GM-700 Guidemaster

Item	Description	Part No	Qty
1	Roller Body Casting w/Mounting Bolts	9945.1001	1
2	Guide Arm Casting	9945.1002	1
3	Mounting Yoke with Bronze Bushings	9945.0009	1
4	Switch Mounting Bracket	9917.0207	1
5	EPS-1 Explosion-Proof Switch	9917.0200	1
6	Guidemaster Pinlock Assembly, SS	9945.1003	1
7	SST Pivot Pin (w/ 1/4" cap screw & washer)	9945.0024	1
8	GM-609 Roller (w/2 pressed-in ball bearings)	9945.0019	2
9	GM-608 Ball Bearing	9945.0026	4
10	Guidemaster Bottom Roller Plate	9945.1004	1
11	1/2" Lock Washer	9954.0030	2
12	1/2"-13 Hex Nut	9954.0036	2
13	1/4"-20 x 3/4" Socket Head Cap Screw	9945.0015	4
14	5/16"-24 x 2-1/2" Plated Bolt with Nut	9945.0013	2
15	5/16"-24 Hex Nut	9945.0027	2
16	Oil-impregnated Bronze Bushing for Yoke	9945.0011	2
17	1/4"-20 x 3/4" SST Socket Head Cap Screw	9945.0015	4
18	1/2" Flat Washer	9954.0008	2
19	Roller Mounting Bolt (Threaded)	9945.1005	2
20	1/4"-20 x 5/8" SST Socket Hd Cap Screw & Washer	9945.0055	2
21	1/4"-20 x 5/16" Set Screw	9958.0010	1
22	5/8" Flat Washer	9954.0004	6
23	3/8"-16 x 3/4" Button Socket Head	9904.9201	4
24	3/8"-16 Hex Acorn Nut	9904.5290	4

Krug Vapor Compressors

The Krug Vapor Compressor saves the bobtail's pump from damage when evacuating LP-gas tanks in the field. The compressor transfers liquid by increasing vapor pressure on the tank being emptied and decreasing pressure on the tank being filled. An automatic clutch permits easy starting and helps maintain even compression of varying flow rates.

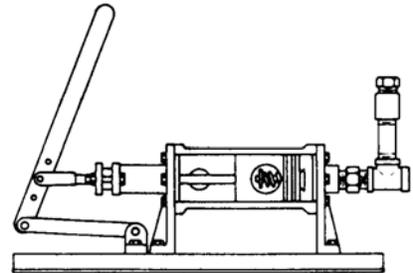
Part Number	Model	Description
141101	H50-G	18 - 50 gpm gasoline compressor
141099	H50-LP	18 - 50 gpm LP-Gas compressor



Krug Hand Pump

The Krug Hand Pump operates on an automotive piston principle to provide filling of portable and motor fuel cylinders. Easy to operate and maintain, the hand pump is engineered to high precision standards.

Part Number	Model Number	Inlet FNPT	Outlet FNPT	Capacity
141098	GH-P	1"	3/4"	6 gal. at 40 strokes/min.



Strainers

Protects valves, pumps, and other equipment against damage from dirt and foreign material. The strainers can be installed either horizontally or vertically. Body is ductile iron with a stainless steel screen.



Inlet and Outlet	Part Number	Mesh Size	Inlet and Outlet	Part Number	Mesh Size
1/4 FNPT	200710	20	1 1/2 FNPT	200722	20
1/2 FNPT	200714	20		200728	40
3/4 FNPT	200716	20	2 FNPT	200723	20
	200703	40		200725	40
	200715	80	2 1/2 FNPT	200724	20
1 FNPT	200718	20		200729	40
	200712	40	3 FNPT	200726	20
	200713	80	3 300# Flange	200730	40
1 1/4 FNPT	200720	20			
	200707	40			
	200706	80			

**Corken CORO-FLO Pumps
For Motor Fuel & Cylinder Filling**

Strong, Ductile Iron Case can't crack or break. Removing front cover permits easy change of impeller or mechanical seal without disturbing piping.

Exclusive turbine construction provides smooth continuous flow through pump case resulting in higher efficiency, greater capacity and pressures for the same size motor.

Powerful, continuous duty, fan cooled motors featuring a CORKEN exclusive on the 3/4 and 1 Hp. sizes: a choice of starter arrangements. The starters have built-in manual resettable overload relays. The 1 Hp. motor is a special heavy duty motor with a 1.5 service factor that will operate at 1½ Hp. continuously. All motors have permanently lubricated ball bearings and automatic drain plugs to remove water condensation.

The mechanical seal is of the balanced type for long trouble-free service and it can be replaced without disturbing the piping. Exclusive replaceable shaft sleeve.

Free-floating bronze impeller with no metal-to-metal contact which means no wear, no expensive repairs and QUIET OPERATION. No vanes, no gears to wear or break.



C Series

Part Number	Description	Inlet	Outlet	Weight Lbs	Motor Specs	GPM Thru Meter	Service Fill Time	
							20# Cylinder	100# Cylinder
C10	Pump & Motor	1 1/4" NPT	1" NPT	76	3/4 HP Single Phase 115/208/230 Volt 60 Hertz	7	30 Seconds to 1 Minute	2 ½ to 3 ½ Minutes
C10-S	Pump & Motor - Starter							
C12	Pump & Motor	1 1/2" NPT	1" NPT	86	1 HP Single Phase 115/208/230 Volt 60 Hertz	15	15 to 30 Seconds	2 to 3 Minutes
C12-S	Pump & Motor - Starter							
C13	Pump & Motor	1 1/2" NPT	1" NPT	126	2 HP Single Phase 115/208/230 Volt 50/60 Hertz	23	10 to 20 Seconds	1 ½ Minutes
C13-S	Pump & Motor - Starter							
C14	Pump & Motor	1 1/2" NPT	1" NPT	150	3 HP Single Phase 230/460 Volt 50/60 Hertz	30	-----	Less Than 1 Minute
C14-S	Pump & Motor - Starter							

* Flow rates will vary due to operating conditions, electrical services and differential pressures

**Corken Coro-Vane Pumps
For Motor Fuel & Cylinder Filling**

The small Coro-Vane, a miniaturized version of the reliable Corken positive displacement line, is designed for many applications of bottle filling. Pump direct mounted to a 1/2 HP fan cooled, capacitor type motor. Motor includes built-in switch and automatic thermal overload.



C51

Part Number	Description	Inlet	Outlet	Weight Lbs	Motor Specs	GPM Thru Meter
C51	Pump & Motor	1" NPT	3/4" NPT	50	1/2 HP - Single Phase - 115/230 Volt - 50/60 Hertz	1 - 6 gpm

Corken CORO-Vane Stationary Pumps For Bulk Plant Applications

All liquefied gas pumps should be installed with a separate back-to-tank bypass valve.

Only Corken Coro-Vane pumps have heavy-duty roller bearings for longer bearing life. These bearings are interchangeable in all sizes of Coro-Vane pumps.

All parts, including the hydraulically actuated self adjusting blades are easily accessible for inspection or replacement without disturbing the piping.

Ductile iron threaded flanges save money by eliminating pipe unions and make installation easier Steel slip on welding flanges are available at slight extra cost.



Belt Drive 103 Series



Z4500

Part Number	Description	Inlet	Outlet	Weight Lbs	GPM
521	Pump	2-1/2" NPT	2" NPT	132	30 - 85
521-103	Pump with Base for V-Belt Drive			422	
1021	Pump	3" NPT	3" NPT	200	65 - 195
1021-103	Pump with Base for V-Belt Drive			550	
F1021	Pump	3" 300 # ANSI	2-1/2" 300# ANSI	200	65 - 195
F1021-103	Pump with Base for V-Belt Drive			550	
F1521	Pump	4" 300# ANSI	3" 300# ANSI	235	155 - 325
F1521-103	Pump with Base for V-Belt Drive			625	
Z4500	Pump	4" 300# ANSI	3" 300# ANSI	261	190 - 382
Z4500-103	Pump with Base for V-Belt Drive			630	

Corken CORO-Vane Pumps For Bobtails & Transports

The Coro-Vane 522 and 1022 are a sliding-vane design commonly found in the LPG and NH3 industries.

These pumps contain the same features found in the Corken stationary pumps including replaceable cam, reversible sideplates and new longer lasting vane materials

Thrust absorbers protect the pump from abnormal thrust loads by the drive assembly.

Large diameter shaft and heavy duty roller bearings give greater strength and stability. These bearings are interchangeable on all Corken Coro-Vane pumps.



1022

Part Number	Description	Inlet	Outlet	Weight Lbs	GPM
522	Pump	2" NPT	2" NPT	130	30 - 85
1022	Pump	3" NPT	3" NPT	182	65 - 195

Corken Z-Series Truck Pumps

The Z-Series Coro-Vane truck pumps are a new generation of truck pumps specifically designed to comply with the pumping requirements demanded by the LPG industry. Bulk delivery of LPG requires the use of heavy duty, reliable equipment and it is an important part of every LPG marketer. The equipment used in modern bulk trucks must be designed and constructed to preform in a broad spectrum of operating conditions.

The Z-Series truck pumps are specifically designed to preform in such severe operating conditions as high differential pressure, pump over speeding, poor suction conditions, and heavy thrust loads associated with a power take-off (PTO) drive system.



Part Number	Description	Inlet	Outlet	Weight Lbs	GPM
Z2000	Pump	2" NPT	2" NPT	100	41 - 85
Z3200	Pump	3" 300# ANSI	2" NPT Elbow	140	63 - 121
Z4200	Pump	4" 300# ANSI	2" Dual NPT	275	200 - 400

Corken Autogas Pumps

Corken autogas pump achieves new levels of performance with higher flows at high differential pressures, non-pulsating and quiet transfer, longer pump life and a design that is easy to repair. The pump is also versatile enough to be used in like applications such as cylinder filling, vaporizer feeding, or bulk transfer.



Part Number	Description	Inlet	Outlet	Weight Lbs	GPM
DLF150	Pump	1 1/2" 300# ANSI	1" 300# ANSI	75	12 - 58
FF150	Pump			63	

Corken Side Channel Pumps

Six different sizes, each ranging from one to eight stages, provide solutions for a wide range of pressures, capacities, and liquid transfer requirements. Multiple material and sealing options, enabling it to handle many different liquids, enhance the versatility of the SC-Series.

Typical installations where this pump might be found are LPG cylinder filling, vaporizer feeding, pumping from underground storage and bulk filling operations.



Specifications	Model					
	10	20	30	40	50	60
Number of Stages	1 to 8					
Inlet (300# ANSI)	1 1/2"	2 1/2"	2 1/2"	3"	4"	4"
Outlet (300# ANSI)	3/4"	1 1/4"	1 1/4"	1 1/2"	2"	2 1/2"
Differential Pressure Range	10 - 150 psig	15 - 230 psig	10 - 180 psig	10 - 175 psig	10 - 210 psig	10 - 250 psig

Corken Bypass Valves

B 166 (3/4" , 1") Automatic Dual-Purpose, By-Pass Valve

Typical Application: On all cylinder filling pumps as well as aerosol propellant feed pumps.

A combination by-pass and priming valve specifically designed for small cylinder-filling type pumps, especially of the regenerative turbine type, such as the Corken Coro-Flo pump series. The patented vapor elimination system keeps liquefied gas pumps primed to increase system reliability and decrease pump and seal wear. The B166 is a smooth operating by-pass with moderate pressure build-up.



B166



T166

T166 (1 1/4", 1 1/2") Pump Flow Control Valve

Typical Application: Large-capacity pumps filling variable size tanks and bottles such as those used with delivery trucks or multi-spot cylinder-filling plants.

A high-pressure build-up valve for smooth acting flow control. Specifically designed for by-pass protection for pumps in the 30-100 gpm (6.8-22.7 M3/hr) range, such as those used on delivery trucks. In contrast to the B 177, the T 1 66 valve opens gradually as pressure builds up to modulate the flow, by-passing the excess capacity smoothly and silently back to the supply tank. A continuous internal bleed in this valve assists in eliminating vapors.



B177



ZV200

B177 (1 1/4", 1 1/2", 2", 2 1/2") Differential By-Pass Valve

Typical Application: In liquefied-gas bulk-plant installations for the loading and unloading pumps.

A low-pressure build-up by-pass valve specifically designed for applications requiring protection for positive displacement pumps in the 40-350 gpm (9.1-79.5 M3/hr) range. It can also be used as a differential back-pressure valve to assure adequate pressure on meters, etc. To properly function, this valve requires a pressure sensing line from the storage tank

ZV200 (1 1/4", 1 1/2", 2", 2 1/2")

Typical Application: Used for both truck and stationary applications for the loading and unloading.

The 2" ZV200 is a low pressure build-up bypass valve designed for applications requiring protection for positive displacement pumps with capacities up to 250 gpm. The continuous internal bleed will assist in the operation of systems with "air"r "electric" operated internal valves.



FC200

Flo-Check valve

The Flo-Check enables you to detect flow in the gas or liquid lines and prevents release of product from storage tank in the event of a hose failure. Flow-indicating and back-check valves feature all ductile iron construction and are available in 1 1/4" through 4", NPT or welded flanges with a 400 psig (27.6 bar) rating. Standard o-rings are Buna N. Teflon , Viton , and Neoprene are optional.

4-way non-lubricated valve

A convenient and simple means of reversing flow direction to a compressor. Made of ductile iron body, complete with handle and flow direction indicator (1" or 1 1/4" NPT and 2" - 300# ANSI flange, 500 psig rating [34.5 bar g]).



3990-X

Strainer

The right-angle design will minimize pressure drop and comes complete with ductile iron body with monel screen and steel plug. Available for liquid or vapor service (1 1/4" NPT 250 psig [17.2 bar] rating).



1836-X



290636

Pressure gougues

Stainless steel case-glycerine filled pressure gauges will mount on the compressor head or in the piping system and come with the following features: 0-400 psi (0-28 bars) range , 5 psi (.34 bar) increment -2-1/2" dial with 1/4" NPT center back connection

Corken Coro-Vac Purging System for all tank and cylinder applications.

Cylinder and tank air purging prior to LP gas filling is a time consuming, inefficient operation. Even with the newer OPD valves, the Coro-Vac is just as fast, and in most cases, faster than labor-intensive, multiple gas purging. The Coro-Vac system eliminates multiple gas purging. There is no vented gas, therefore no waste and no exposure to employees or the environment. Available in portable and explosion proof models the Coro-Vac is your purging solution.

- Simplifies purging process
- Does not waste product
- Can be used on all types of cylinders and tanks, with or without OPDs
- Purge one to ten or more cylinders and tanks
- Fewer steps involved for a quicker turnaround
- No need to vent LP gas to the atmosphere
- Prevents initial lean mixture problems
- Reduces over pressure problems due to improper purging

Purge Time Estimates

Number of Cylinders	Coro-Vac Model	Estimated Purge Time *
1 - 3 (20lb)	CPS1V/X	2 - 6 minutes
1 - 15 (20lb)	CPS4V/X	1 - 15 minutes
500 Gal-Tank	CPS6R	20 minutes

* Purge time may vary depending upon cylinder valve manufacturer and other restrictive fittings.



CPS1V Single Cylinder, Portable Model



CPS4v Twin Cylinder, Portable Model

Model CP1V / CPS1X

Used on 1 to 3 cylinder applications
 Vacuum to 27.5 in/hg maximum
 CPS1V: 115V, 60HZ, single phase open drip proof motor
 CPS1X: 115/230V, 60HZ, single phase explosion proof motor

Model CPS4V / CPS4X

Used on single or multiple cylinder applications
 Vacuum to 27.5 in/hg maximum
 CPS4V: 115/230V, 60HZ, single phase open drip proof motor
 CPS4X: 115/230V, 60Hz, single phase explosion proof motor

Model CPS6R

Used on single cylinder, multiple cylinder, or 500 to 1000 gallon tank applications.
 Vacuum to 27.5 in/hg maximum
 Frame mounting accommodates NEMA 56 C-face motors (1800/1500 rpm)

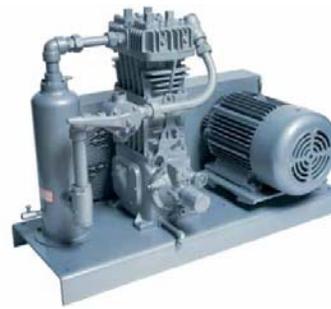


CPS6R Rotary Explosion Proof Model

Corken Transfer Compressors

Compressor Selection Chart

Approx. Capacity GPM (Lit/Min) +		Compressor Model Size	Motor Size, Horsepower *
Butane	Propane		
22 (83)	----	91	3/4
30 (114)	----		1
34 (129)	22 (83)		1 ½
----	28 (106)		2
----	44 (166)		3
34 (129)	----	291	1 ½
50 (189)	----		2
67 (254)	44 (166)		3
----	77 (291)		5
----	88 (333)		7 ½
72 (273)	----	491	3
121 (458)	77 (291)		5
153 (579)	110 (416)		7 ½
----	148 (560)		10
----	198 (749)		15
----	----	691	5
180 (681)	----		7 ½
259 (980)	132 (500)		10
----	198 (749)		15
----	265 (1003)		20
----	330 (1249)		25



291-107



291

Compressors recover valuable residual vapors in tanks that pumps are unable to capture. Exclusive Corken features include a non-lubricated cylinder and piston design which permits the compressor to operate with no lubrication of any kind in compression cylinders. Since no oil is consumed in the compression process, the oil stays in the crankcase where it belongs with no contamination of the product. The crankshafts have integral, balanced counterweights for smoother operation. Bearing surfaces are extra large, and the crankshaft is precision ground to size.

+ The actual capacity will vary depending upon piping factors. The capacities shown are conservative and may be increased as much as 10% in well designed plants.

* The driver horsepower shown is based upon recovering residual vapors in moderate climates.

Specification	Model Size			
	91	291	491	691
Number of Stages	1	1	1	1
Number of Cylinders	1	2	2	2
Bore of Cylinders, inches (cm)	3 (7.62)	3 (7.62)	4 (10.16)	4 ½ (11.43)
Stroke, inches (cm)	2 ½ (6.35)	2 ½ (6.35)	3 (7.62)	4 (10.16)
Piston Displacement, CFM (m3/hr.)				
Minimum at 400 RPM	4 (6.8)	8 (13.6)	17 (28.9)	29 (49.3)
Maximum at 825 RPM	8 (13.6)	16 (27.2)	36 (61.2)	60 (102)
Max. Discharge Pressure., psig (bar - g)*	335 (23.1)	250 (17.2)+	250 (17.2)+	250 (17.2)+
Max. Compression Ratio, Continuous Duty	5	5	5	5
Intermittent Duty	7	7	7	7
Maximum Allowable Driver Size, Hp.	7 ½	15	15	30

* Compression Ratio is defined as Discharge Pressure Absolute (psig or bars absolute) divided by Inlet Pressure Absolute (psig or bars absolute).

+ Optional ductile iron units are rated for 335 psig (23.1 bars)

Part Number	91	91-107	291	291-107	491	491-107	691	691-107
Inlet (FNPT)	3/4"	3/4"	3/4"	3/4"	1 1/4"	1 1/4"	2"	2"
Outlet (FNPT)	3/4"	3/4"	3/4"	3/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"
Weight (Pounds)	145	350	190	400	300	570	670	975

LPG/NH3 Coro-Vane Pump Repair Kits (Note: Quantities larger than 1 are shown in parenthesis)

Part Number	2904-X2	3109-X1	2905-X5	2906-X2	2907-X3	3193-X1	3195-X1	3197-X1
Model Numbers	521E 522E T522E TR522E	T522G TR522G	T722G TR722G	1021E 1022E F1021E F1022E	F1521F F1522F T1522F TR1522F	Z2000	Z3200	Z4200 Z4500
Seal Assembly *	1769-XRA(2)*	1769-XRA(2)*	1769-XRA(2)*	1769-XRA(2)*	1769-XRA(2)*	4431-XA2*	4431-XA2*	4464-XA2*
Bearings	2754-X (2)	2754-X (2)	2754-X (2)	2754-X (2)	2754 (2)	2754-X (2)	2754-X (2)	4460-X (2)
Bearing	----	3209	3209	----	3209	4432 (2)	4432 (2)	4453 (2)
Grease Seals	1358 (2)	1358 (2)	1358 (2)	1358 (2)	1358 (2)	4441 (2)	4441 (2)	4463 (2)
Grease Seal	2014	2014	2014	2014	2014	----	----	----
Blades	1168-7 (10)	4000 (6)	3981 (6)	1308-9 (10)	3477 (6)	4428 (6)	4232 (6)	4448 (6)
Sideplates+	1163-2 (2) +	3932 (2) +	3932 (2) +	1209-1 (2) +	3476 L/R (1/1)+	4427 (2) +	4231 (2) +	4446 (2) +
Flange Gasket	2010 (3)	2010 (2)	2010 (2)	----	----	----	----	----
Case O-ring*	2-261A (2)*	2-261A (2)*	2-261A (2)*	2-268A (2)*	2-268A (2)*	2-261A (2)*	2-261A (2) +	2-270A (2) +
Flange O-ring*	2-234A (2)*	2-234A *	2-234A *	2-245A (2) *	2-245A *	2-231A (2) *	2-234A (2) *	2-231A *
Flange O-ring*	----	----	----	2-249A (2) *	2-234A (3) *	----	----	2-234A *
Flange O-ring*	----	----	----	----	2-249A *	----	----	----
R.V. O-ring*	2-224A *	----	----	2-228A *	----	2-224A *	2-224A*	2-234A *
R.V. O-ring*	2-112A *	----	----	2-112A *	----	----	----	----
R.V. O-ring*	2-227A (2) *	2-227A (2) *	2-227A (2) *	----	2-238A*	----	----	----
Rotor & Shaft+	1166-1X1R +	----	----	1208-1X1R +	3350-X1R +	4430-X2R +	4495-X2R +	4444-X2R +
Rotor & Shaft+#	1166-1X2R + #	1166-1X8R + #	3983-X2R + #	1208-1X2R + #	3350-X2R + #	----	----	----
Cam+	1162-2 +	1162-2 +	1849-1 +	1201-2 +	1792-1 +	4414 +	4242 +	4443 +
Mounting Ring	----	----	----	----	----	4432 (2)	4432 (2)	4453 (2)
Pin Drivers	----	----	----	----	----	4262-X (3)	4262-X (3)	4449-X (3)
Shim (0.002)	----	----	----	----	----	4439 (8)	4439 (8)	4458 (8)
Shim (0.010)	----	----	----	----	----	4439-1 (2)	4439-1 (2)	4458-1 (2)
Shim (0.020)	----	----	----	----	----	4439-2 (2)	4439-2 (2)	4458-2 (2)

* All repair kits are furnished with Buna-n O-rings which are suitable for LPG and NH3 applications

+ These items are not in the repair kits

For use on 522, 722, 1022 and 1522 pumps only

LPG/NH3 Coro-Vac Cylinder Purging System Repair Kits

Part Number	5217-X1	5227-X1	5218-X1	5233-X1
Model Numbers	CPS1V	CPS1X	CPS4V / CPSX4	CPS6R

For applications other than LP-Gas or Anhydrous Ammonia call for material specifications.

LPG / NH3 Coro-Flo Pump Repair Seal Assemblies

Part Number	113-CX_ *	5264-X_3 *
Model Numbers	All C, F, DS & DL Series	All 150 Series
Seal Sleeve	1007-X	5243
Seal Clamp Ring	1008	----
Retainer Ring	----	2760-88
Seal Drive Pin	1009	----
Case Clearance Shim (0.002)	1014	5248
Case Clearance Shim (0.002)	1014-1	----
Seal Follower	1080	----
O-Ring	2-018_ *	2-018_ *
O-Ring	2-224_ *	2-113_ *
O-Ring	2-246_ *	2-260_ *
Seal	2296-X_2 *	5242-X_3 *
Shaft Key	2497	4244
Pan Head Screw 6-32x1/4	7021-006NC025B (3) +	----
Roll Pin	----	4984

O-Ring Code Chart	
A	Buna-N
B	Neoprene *
D	Viton *
E	Teflon *
G	Ethylene-Propylene
K	Kalrez *

* Registered trademark of the Dupont company

* _ Denotes O-ring code. See chart at right for details.

+ Quantities larger than 1 are shown in parenthesis

LPG / NH3 Compressor Repair Kits

Part Number	3549-X1	3550-X1	3551-X1	3552-X1	3552-X2
Model Number	90 / 91	290 / 291	490 / 491	690K3 / 691P3 1 5/8" Crankshaft	690M3 / 691M3 2 1/8" Crankshaft
Suction Valve Assy	3483-1X	3483-1X (2) +	2532-1X	3948-X (2) +	3948-X (2) +
Discharge Valve Assy	3485-X	3485-X (2) +	2439-X (2) +	3857-X (2) +	3857-X (2) +
Valve Cage	----	----	2448 (4) +	2797 (4) +	2797 (4) +
Connecting Rod bearing (pair)	1367	1367 (2) +	1491 (2) +	1719 (2) +	3542 (2) +
Packing Set	1452-1X1	1452-1X1 (2) +	1452-1X1 (2) +	1725-2X (2) +	1725-2X (2) +
Piston Rings	1772 (3) +	1772 (6) +	1773 (6) +	1739 (6) +	1739 (6) +
Ring Expanders	1775 (3) +	1775 (6) +	1776 (6) +	1740 (6) +	1740 (6) +
Gasket Set *	2526-XA *	1281-XA *	1481-X6A *	1744-X1A *	1744-X1A *
O-ring *	----	----	----	----	2 261A (2) * +
O-ring *	----	----	2-242A (2) * +	----	----
O-ring *	----	----	2-253A (2) * +	----	----
Oil Seal	3259	1278	1507 (490 only)	----	3526
Oil Seal	----	----	4438 (491 only)	----	----
Adapter plate Gasket	----	----	1486	----	----

* All repair kits are furnished with Buna-N O-rings.

+ Quantities larger than 1 are shown in parenthesis.

LG1 Series

Durable pumps for fast and quiet operation. Sliding-vane design provides sustained performance and trouble free operation.

The latest 6-vane design contributes to reduced noise levels in the pumps. All models have 1" NPT tapped parts and use an exclusive "combination" valve that acts as both a back-to-tank bypass valve and an internal safety valve (no separate bypass needed). The LGF1 pumps accept standard C-face mounted motors.

Applications : Cylinder filling, motor fueling, small vaporizers and dispensers.



LGB1 / LGBIP



LGF1 / LGFIP

Part Number	Description	Inlet	Outlet	Weight (Lbs.)	Motor Speed (RPM)	GPM *	Motor Size (HP)
LGF1	1" C-Face Mounted	1" NPT	1" NPT	39	1750	8	1
LGFIP						13	1 1/2
LGB1	1" Bracket Mounted			19		8	1
LGBIP						13	1 1/2

* At 50 psi differential pressure

LGRL1.25, LGL1.25 & LGL1.5 Series

The LGL models are designed for foot mounting to a common base-plate. The LGLF models are fitted with an integral bracket and coupling for direct flange mounting to a NEMA C-face motor. This bracket also allows pump body to be rotated to simplify hookup into piping systems.

Available with 1.25 or 1.5 inch NPT tapped ports, all models are equipped with an internal safety relief valve, and a replaceable casing liner and end discs for easy rebuilding of the pumping chamber if ever necessary. The LGRLF1.25-inch model features a special liner which offers lower flow rates than the LGL1.25-inch pump.

Applications: Motor fueling, multiple-station cylinder filling and a variety of small transfer jobs.



LGF Drive Style



DM Drive Style

Part Number	Description	Inlet	Outlet	Weight (Lbs.)	Motor Speed (RPM)	GPM *	Motor Size (HP)
LGRLF1.25	Flange Mounted	1 1/4" NPT	1 1/4" NPT	39	1750	16	1 1/2
LGLF1.25						21	2
LGL1.25-DM	Foot Mounted			54		21	2
LGL1.5-DM						1 1/2" NPT	1 1/2" NPT

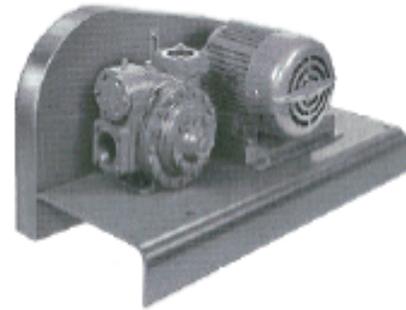
* At 50 psi differential pressure

LGLD2, LGLD3 & LGL4 Series

Single or double-ended drive shaft models have long been popular for bobtail service because of their double shaft arrangement, which allows the pump to be easily positioned for clockwise or counterclockwise shaft rotation.

All models have an internal safety relief valve, and a replaceable casing liner and end discs for easy rebuilding of the pumping chamber if ever necessary.

Applications: Bulk plant service, multiple cylinder filling applications, vaporizers, bobtails and transports.



V-Belt Drive Style

Part Number	Description	Inlet	Outlet	Weight (Lbs.)	GPM *
LGLD2	Pump	2" NPT	2" NPT	85	30 - 67
LGLD2-VB	Pump with Base for V-Belt Drive			180	
LGLD3	Pump	3" NPT	3" NPT	160	59 - 133
LGLD3-VB	Pump with Base for V-Belt Drive			265	
LGLD4	Pump	4" 300# ANSI	3" 300# ANSI	250	130 - 270
LGLD4-VB	Pump with Base for V-Belt Drive			430	

* At 50 psi differential pressure

TLGLF3 & TLGLF4 Series

The TLGLF3 and TLGLF4 pumps are designed to flange mount directly to a commercial internal control valve, in combination with the tank of a bobtail or transport. Direct mounting eliminates the need for inlet pipes, shut-off valve and external strainer which can restrict flow and cause vaporization problems. The result is smoother operation and longer pump life.

Both models are equipped with a double-ended drive shaft for clockwise or counterclockwise rotation by simply changing the position of the pump. Each model also has an auxiliary intake port which can be used for emergency unloading of another tank or transport. In addition, these pumps have an internal safety relief valve, and a replaceable casing liner and end discs for easy rebuilding of the pumping chamber if ever necessary.



TLGLF4 Cutaway



TLGLF3 Cutaway

Part Number	Description	Inlet	Auxillary Inlet	Outlet	Weight (Lbs.)	GPM *
TLGLF3	Pump	3" 300# ANSI	2" NPT Flange	2" NPT Flanged Elbow	140	52 - 93
TLGLF4	Pump	4" 300# ANSI	Blanking Flange	Twin 2" NPT Flanges	220	160 - 280

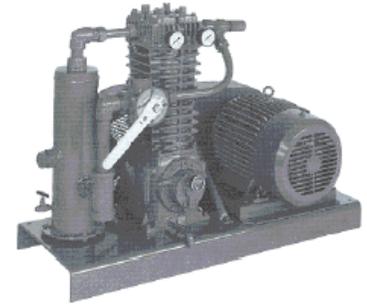
* At 50 psi differential pressure

LB161, LB361, LB601 & LB942 Series

Blackmer oil-free gas compressors deliver high efficiency in handling butane, propane and other liquefied gases. They are ideal for rail car unloading and vapor recovery applications. These single-stage, reciprocating compressors are designed to give maximum performance and reliability under the most severe service conditions. All pressure parts are of ductile iron construction for greater resistance to both thermal and mechanical shock. They are designed for ease of maintenance, with all components readily available.



LB601



LB361LU

Compressor Selection Data

Model	Speed	Approximate Liquid Transfer Delivery ^		Driver Size +	Pipe Diameter #			
					Vapor		Liquid	
	RPM	GPM	LPM	HP	Inches	MM	Inches	MM
LB161 LB161LU	425 *	49	186	3	1	25	2	50
	560	65	246	5				
	715 *	83	314	5	1 1/4	32		
	780	90	341	7.5				
	825 *	95	360	7.5				
LB361 LB361LU	495 *	123	466	7.5	1 1/2 - 2	38 - 50	2 1/2	65
	540	134	507	10				
	650 *	161	609	10	1 1/2 - 2	38 - 50	3	80
	780	194	734	15				
	825 *	205	776	15				
LB601 LB601LU	550	245	927	15	2 - 2 1/2	50 - 65	4	100
	640	285	1079	20				
	735 *	327	1238	20				
	790 *	351	1329	25				
LB942 LB942LW	470	400	1514	25	3 - 4	76 - 102	6	152
	565	480	1817	30				
	750	640	2422	40				
	825	700	2650	50				

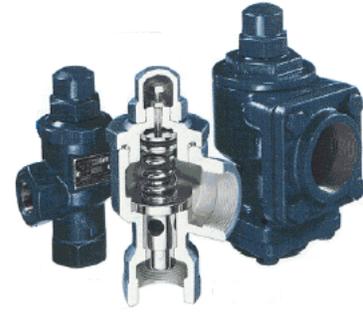
* Maximum rpm for each respective motor horsepower.
 + Delivery will depend on proper system design, pipe sizing and valve capacity.
 # Horsepower is for liquid transfer and vapor recovery in moderate climates.
 ^ Use next larger pipe size if piping exceeds 100 feet (30 meters).

Part Number	LB161	LB161LU	LB361	LB361LU	LB601	LB601LU	LB942	LB942LW
Inlet (FNPT)	3/4"	3/4"	1 1/4"	1 1/4"	2"	2"	2" 300# ANSI	2" 300# ANSI
Outlet (FNPT)	3/4"	3/4"	1 1/4"	1 1/4"	1 1/2"	1 1/2"	2" 300# ANSI	2" 300# ANSI
Weight (pounds)	240	505	360	660	660	1030	850	1795

Blackmer Bypass Valves

Blackmer differential bypass valves are designed to protect pumps and system components from excessive pressure damage, and no LP-gas pump installation is complete without one.

In operation, Blackmer valves provide exceptionally close pressure control, even under widely varying bypass flow conditions.



BV3/4, BV1, BV 1 1/2, BV2 Cutaway

Selection Guide

Model	Port Size	Applications	Pump Size Used with	Maximum Rated Flow* - GPM (Liters)			
				20 PSI	50 PSI	80 PSI	120 PSI
BV 3/4	3/4" NPT	Cylinder Filling Systems	1 1/4" or 1 1/2"	25 (95)	40 (151)	50 (189)	60 (227)
BV 1	1" NPT						
BV 1 1/4	1 1/4" NPT	Bobtails & Small Bulk Plant Systems	2" or 3"	60 (227)	80 (303)	100 (379)	125 (473)
BV 1 1/2	1 1/2" NPT						
BV 2	2" NPT	Transports & Larger Bulk Plant Systems	3" or 4"	150 (568)	180 (681)	220 (883)	250 (946)

* Normal maximum bypass flow rates without significantly exceeding the set pressure limit.

Pump Parts

Pump Models	Discontinued Models	Maintenance Kit	Mechanical Seal*	Vanes*	Rotor & Shaft	Liner
LGF1E, LGF1PE LGB1E, LGB1PE	LGF1C, LGF1D, LGF1PC, LGF1PD LGB1C, LGB1D, LGB1PC, LGB1PD	4-Vane 898916 6-Vane 898994	332920 (2)	092913 (4 or 6)	262907	----
LGRL1.25 LGRLF1.25A	LGRLF1.25	4-Vane 898917 8-Vane 898976	333045 (2)	093088 (4 or 8)	(4-Vane) 263076	4-Vane 183003 8-Vane 183019
LGL1.25 LGLF1.25A	LGLF1.25	4-Vane 898918 8-Vane 898976			(8-Vane) 262300	4-Vane 183004 8-Vane 183020
LGL1.5 LGLF1.5A		4-Vane 898919 8-Vane 898976				4-Vane 183301 8-Vane 183310
LGLD2E	LGL2E, TLGLD2E	898979	334439 (2)	091419 (6)	264445	184405
LGLD3E	LGL3E, TLGLD3E	898981	335255 (2)	095131 (6)	265148	185111
TLGLF3C		898980	334439 (2)	095132 (6)	265147	185101
LGLD4A, LGL4A	LGL4, LGLD4	898922	334439 (2)	092019 (6)	LGLD4 262024 LGL4(A) 262023	182000
TLGLF4A	TLGLF4	TLGLF4A 898922 TLGLF4 N/A	332050 (2)	092019 (6)	TLGLF4A 262024 TLGLF4 262022	TLGLF4A 182000 TLGLF4 182039

* Included in maintenance kit

Motors: Class 1, Group D, Explosion Proof , 3-Phase, 50/60HZ, 1800 RPM

Part Number	Item Number	Horsepower	Frame Size
140400	M7037T	2	145T
140405	M7042T	3	182T
140410	M7044T	5	184T
140415	M7047T	7.5	213T
140420	M7170T	10	215T
140425	M7054T	15	254T
140430	M7056T	20	256T
140435	M7058T	25	284T



CFT Propane Dispensers

LPG-7100 & 8100 Retail Models - Retail gasoline style dispenser cabinet with electric computer, key and card lock compatibility, and available with single or dual hose models.

LPG-4100 & 6100 Fleet Models - Fleet style dispenser cabinet with electric computer, key and card lock compatibility, and available with single or dual hose models.

All units have the following standard equipment.

- Meter system with maximum flow capacity of 18 gpm.
- Vapor elimination system
- Pressure differential valve.
- Electronic register for gallons, # of dollars per gallon and total sales(dollars)
- Interface to key and card lock systems.
- Solenoid valve controlled by dispenser computer for safe operation.
- Inlet filter system with removal stainless steel element.
- Electronic pulse system for accurate and reliable control of propane delivered to vehicles.
- Propane delivery hose with nozzle which can only deliver propane if the nozzle is connected to a vehicle.
- Breakaway designed to protect a vehicle pullaway.
- Nozzle holster features a locking devise to prevent unauthorized access.



4100



6100



7100



8100

American Vapor Meter

The AM-250 housing consists of a one piece cast aluminum alloy body and aluminum alloy top and covers. American Meter diaphragm meters have an outstanding record for durability and reliability.

- One-piece, die-cast aluminum case, side connected
- Oil impregnated, self-lubricated bearings
- Convoluted duramic diaphragms
- Rigid, reinforced flag rods
- Long-life grommet seals
- Graphite-filled phenolic valves
- Odometer index standard
- Automatic meter reader compatibility
- Temperature compensation available from -30°F to 140°F
- 15-year warranty
- 10LT female connection only

Meter Model	Capacity - SCFH ½" wc differential		Maximum Working Pressure - PSI	Inlet & Outlet
	Propane	Butane		
AM-250	158	138	5 - 10	3/4" FNPT



LPM-102 LP Gas Flowmeter

Liqua-Tech propane meters are designed for metering small quantities liquid propane into portable containers and engine fuel tanks. Complete with strainer, vapor eliminator and differential valve. An optional automatic temperature compensator is available. The LPM-102 offers the widest flow range, 3 - 18 gpm, available in a meter of this type

- Rate of Flow - 3 to 18 gpm
- Working Pressure - 350 psi maximum
- Connections - Standard assembly has inlet at left and outlet to right with 3/4" or 1" FNPT connections.
- Register - Veeder-Root model 788700-002
- Units of Measure - Calibration in U.S. gallons or liters.
- Reset Wheel Capacity - 9,999 gallons
- Totalizer Capacities - 9,999,999 gallons
- Temperature Compensator: Compensates to 60°F
- Range - -10°F to +125°F
- Weight 63 Lbs



LPM-102

LPM-200

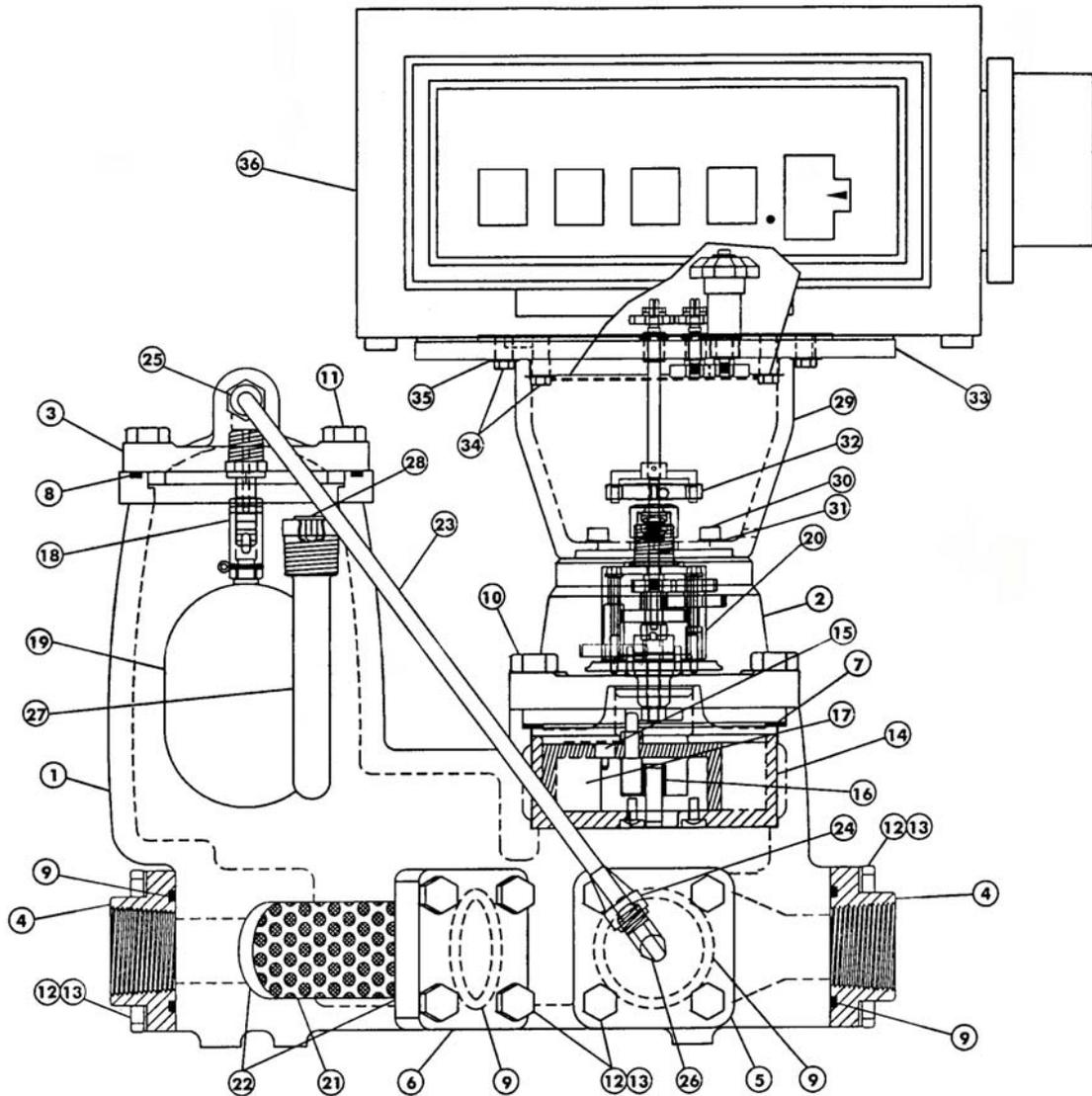
Designed for tank trucks and bulk plant, the LPM-200 offers the widest flow range (20-100gpm) available in a meter of this type. In addition the LPM-200 utilizes all ductile iron housing castings for unequaled reliability, durability and many years of low maintenance truck use.

- Rate of Flow - 20 to 100 gpm
- Working Pressure - 350 psi maximum
- Direction of Flow - Standard assembly has inlet at left rear, outlet to right. Other combinations are possible to suit the installation.
- Connections - Inlet check valve and outlet differential pressure valve have 2" female pipe threads.
- Register - Veeder-Root model 789002-002.
- Units of Measure - Calibration in U.S. gallons or liters.
- Reset Wheel Capacity - 9,999,999 gallons
- Printing Wheel Capacity - Model 7890 - 9,999.9 gallons
- Totalizer Capacities - 9,999,999 gallons
- Temperature Compensator - Compensates to 60°F
- Range - -10°F to 125°F
- Weight - 205 Lbs



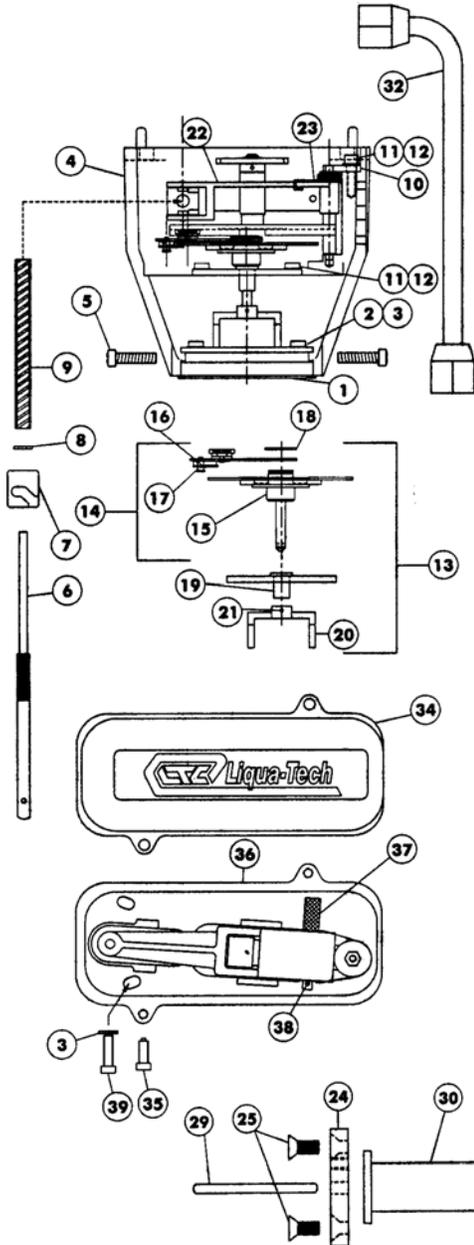
LPM-200

LPM-102 Parts



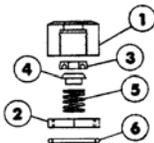
Ref.	Description	Part Number	Ref.	Description	Part Number
1	Main case housing	L400027-001	19	Float	L087189-001
2	Cover, main case	L087173-710	20	Gear train, 43.5 ratio, U.S. gallons	L080905-017
3	Cover, vapor eliminator	L087193-710		Gear train, 11.6 ratio, liters	L080905-015
4	3/4" Flange inlet/outlet	L087180-710	21	Strainer assembly, 80 mesh	L101738-001
	1" Flange inlet/outlet	L087180-711	22	O-ring, strainer end caps	L100139-006
5	Flange, differential valve	L087179-710	23	Tube assembly, vapor release	L087196-001
6	Flange strainer	L400025-001	24	Nut, flared, 1/4" tube	L087198-000
7	Gasket, main case	L004861-016	25	Male connector, 1/8" NPT x 1/4" tube	L084826-100
8	O-ring, vapor eliminator flange	L100139-012	26	90° elbow, 1/8" NPT x 1/4" tube	L087195-000
9	O-ring, inlet/outlet flange	L100139-007	27	Thermowell assembly	L086666-702
10	Bolt, hex head, 7/16 NC x 1 1/4" drilled	L040237-005	28	Cover, thermowell	L083732-000
	Bolt, hex head, 7/16 NC x 1 1/4" undrilled	L040237-004	29	Register adapter tower	L886150-000
11	Bolt, hex head, 3/8-16 NC x 1"	L100067-027	30	Screw, 10-32 x 3/8", socket-cap	L088524-010
12	Bolt, hex head, 5/16 NC x 1"	L100063-026	31	Lock washer, split, #10	L041211-000
13	Lockwasher, split 5/16"	L100121-010	32	Star drive, with set screw	L082976-001
14	Measuring chamber, LP-gas, standard	L042075-101	33	Register gear plate adapter, no ATC	L886101-001
	Measuring chamber, LP-gas, Trac-Bearing	L042075-501	34	Cap screw plated, 1/4-28 x 5/8", drilled	L100061-101
	15 - Seal pin	L042792-000		Cap screw plated, 1/4-28 x 5/8", undrilled	L100061-101
	16 - Roller control	L042086-010	35	Lock washer, external, 1/4"	L100123-100
	17 - diaphragm	L042791-000	36	Register, non-printing, Veeder-Root	788700
18	Vapor return valve	L087190-000		Register, printing, Veeder-Root	789002

LPM-102 Parts - Automatic Temperature Compensator



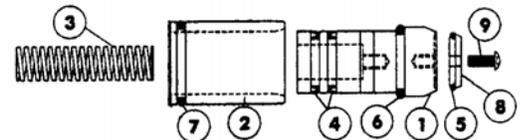
Ref.	Description	Part Number
ATC Complete, LPM-102		L101080-005
1	Adaptor mounting ring, ATC	L101052-001
2	Screw, filister head 10-32 x 3/4", SS	L041750-000
3	Lock washer, split, #10	L041211-000
4	Housing Assembly, ATC	L101047-001
5	Screw, filister head 10-32 x 3/4", drilled	L041750-002
	Screw, filister head 10-32 x 3/4", undrilled	L041750-000
6	Push rod, ATC	L101059-001
7	Swivel block assembly, all ATC's	L086612-000
8	Spacer, spring retainer, all ATC's	L088286-003
9	Spring, push rod	L084888-001
10	Plate, offset arm support	L101060-001
11	Screw, 10-32 x 3/8" socket buttonhead	L041750-008
12	Lock washer, internal, #10	L100122-007
13	Lower drive bracket complete, 1" ATC	L084913-000
14	Ratchet wheel assembly w/arms, ATC	L084916-000
15	Ratchet wheel and shaft assembly, ATC	L084917-000
16	Ratchet arm set (1,2,33,44)	L086055-000
	Ratchet arm assembly, #1	L086057-001
	Ratchet arm assembly, #2	L086064-001
	Ratchet arm assembly, #33	L086637-001
	Ratchet arm assembly, #44	L086639-001
17	Spring, ratchet pawl, ATC	L086063-000
18	Retaining ring, 1/2" extension	L086071-000
19	Plate, drive assembly, ATC	L101055-001
20	Drive fork, long	L084192-006
21	Roll pin, 1/16" x 3/8", steel	L100370-003
22	Arm complete, offset spider	L084910-004
23	Spring, offset spider, ATC	L008355-506
24	Thermostat cover, ATC	L087179-001
25	Screw, socket head, 1/4-20 x 3/4"	L008325-401
26	Thermostat housing, ATC	L101048-001
27	Screw, button head, 1/4-20 x 5/8", SS	L008325-020
28	Lock washer, 1/4", split	L041117-000
29	Thermostat pin, ATC	L086648-006
30	Thermostat bellows assembly	L086646-000
31	O-ring, thermostat	L100139-005
32	Connecting tube, LPM-102, ATC	L101065-001
33	Elbow, 3/8" NPT x 3/8" SAE	L084825-000
34	Cover, lever arm mounting plate	L086665-000
35	Screw, cover, 10-32 x 3/4", special, drilled	L009287-003
36	Lever arm assembly & mounting plate	L086649-003
37	Pin, lever arm lock	L086661-001
38	Cotter pin, 1/16" x 3/8", SS	L041401-000
39	Screw, filister head, 10-32 x 5/8", steel	L041221-002

Stuffing Box Assembly



Ref.	Description	Part Number
1	Nut, stuffing box, complete	L083536-000
2	Clamp nut	L000034-000
3	U-cup seal (buna-n)	L100025-002
4	U-cup expander	L083539-000
5	Spring, stuffing box	L083540-000
6	O-ring, gear train (buna)	L100138-003

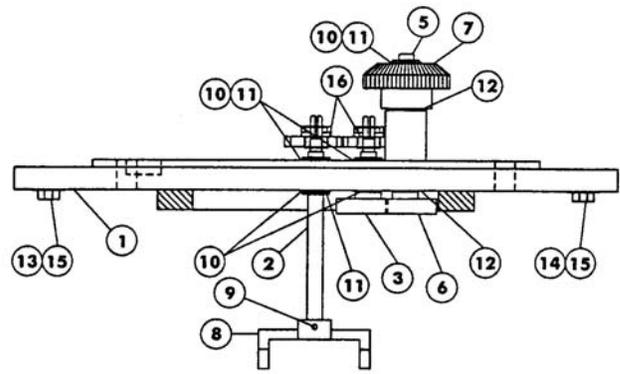
Differential Valve Assembly



Ref.	Description	Part Number
Differential valve assembly, soft seat		L100028-011
1	Piston, differential valve	L100160-040
2	Sleeve, differential valve	L100027-010
3	Spring, differential valve	L100024-001
4	U-cup seals, extra low friction (2)	L100025-008
5	O-ring, primary, soft seat (buna-n)	L100025-102
6	O-ring, secondary, soft seat (viton)	L100025-101
7	O-ring sleeve	L100139-006
8	Retainer, differential valve, (brass)	L100160-050
9	Screw, 10-32 x 1/2", buttonhead, SS	L041750-010

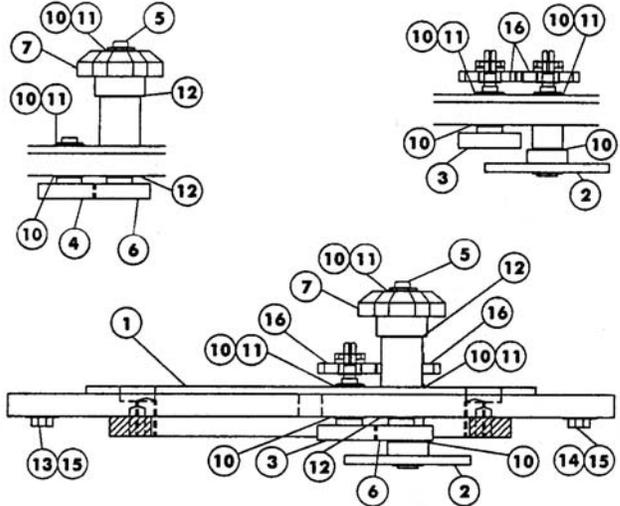
LPM-102 Parts - Register Gear Plate Adapter, No ATC

Ref.	Description	Part Number
1	Gear plate assembly	L886101-001
2	S-Shaft gear assembly	L886112-001
3	R-shaft gear assembly	L886115-000
5	Output shaft bevel gear assembly	L886116-002
6	shaft, output, w/spur gear assembly	L886116-010
7	Gear, bevel, w/clutch assembly	L886116-011
8	Fork driver (short) w/pin	L088589-001
9	1/16" x 3/8" roll pin	L100370-003
10	Washer shim, 3/16" x 3/8" x .010"	L886121-000
11	Retaining ring, 3/16" E-type	L886131-000
12	Washer shim, 1/4" x 1/2" x .005"	L886122-000
13	Cap screws, 1/4"-28 x 5/8", undrilled	L100061-100
14	Cap screw, 1/4"-28 x 5/8", drilled	L100061-101
15	Lock washer, ext 1/4"	L100123-100
16	Register change gear assembly	L081230-xxx



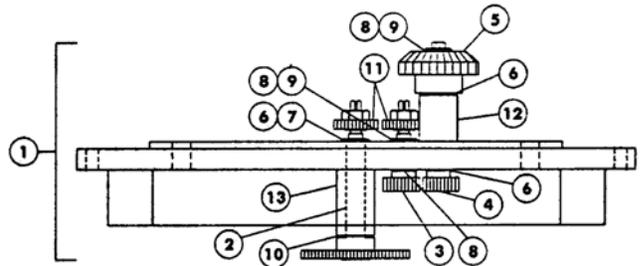
LPM-102 Parts - Register Gear Plate Adapter, ATC

Ref.	Description	Part Number
1	Gear plate assembly	L886105-001
2	S-shaft gear assembly	L886112-002
3	R-shaft gear assembly	L886112-001
4	Idler shaft assembly	L886117-000
5	Output shaft bevel gear assembly	L886116-002
6	shaft, output, w/spur gear assembly	L886116-010
7	Gear, bevel, w/clutch assembly	L886116-011
10	Washer shim, 3/16" x 3/8" x .010"	L886121-000
11	Retaining ring, 3/16" E-type	L886131-000
12	Washer shim, 1/4" x 1/2" x .005"	L886122-000
13	Cap screws, 1/4"-28 x 5/8", undrilled	L100061-100
14	Cap screw, 1/4"-28 x 5/8", drilled	L100061-101
15	Lock washer, ext 1/4"	L100123-100
16	Register change gear assembly	L081230-xxx



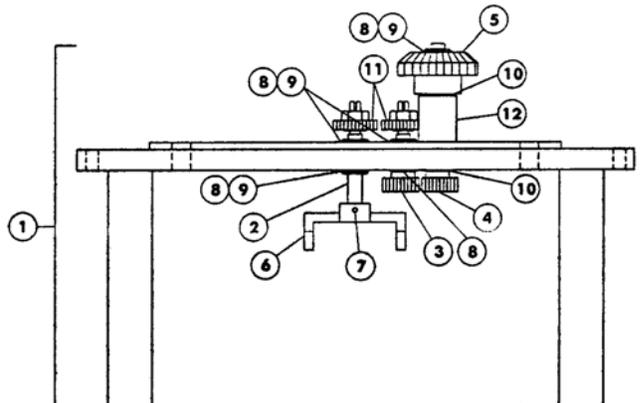
LPM-200 Parts - Register Gear Plate Adapter, ATC

Ref.	Description	Part Number
1	Gear plate assembly, 1 1/4" - 2", ATC	L886205-001
2	S-shaft gear assembly, long knurled, w/41 tooth gear	L886112-004
3	R-shaft gear assembly	L886115-000
4	shaft, output, w/spur gear assembly	L886116-010
5	Gear, bevel, w/clutch assembly	L886116-011
6	Washer shim, 1/4" x 1/2" x .005"	L886122-000
7	Retaining ring, 1/4" E-type	L886132-000
8	Washer shim, 3/16" x 3/8" x .010"	L886121-000
9	Retaining ring 3/16" E-type	L886131-000
10	Washer shim, 1/4" x 1/2" x .028"	L886123-000
11	Register change gear assembly	L081230-xxx
12	Bushing, spacer, 1/4" x 1/2" x 1"	L000010-C02
13	Bushing, spacer, S-shaft, 1/4" x 1/2" x 1 1/4"	L000010-C06
NS	Bushing, R-shaft, 3/16" x 5/16" x 3/8"	L000010-C01

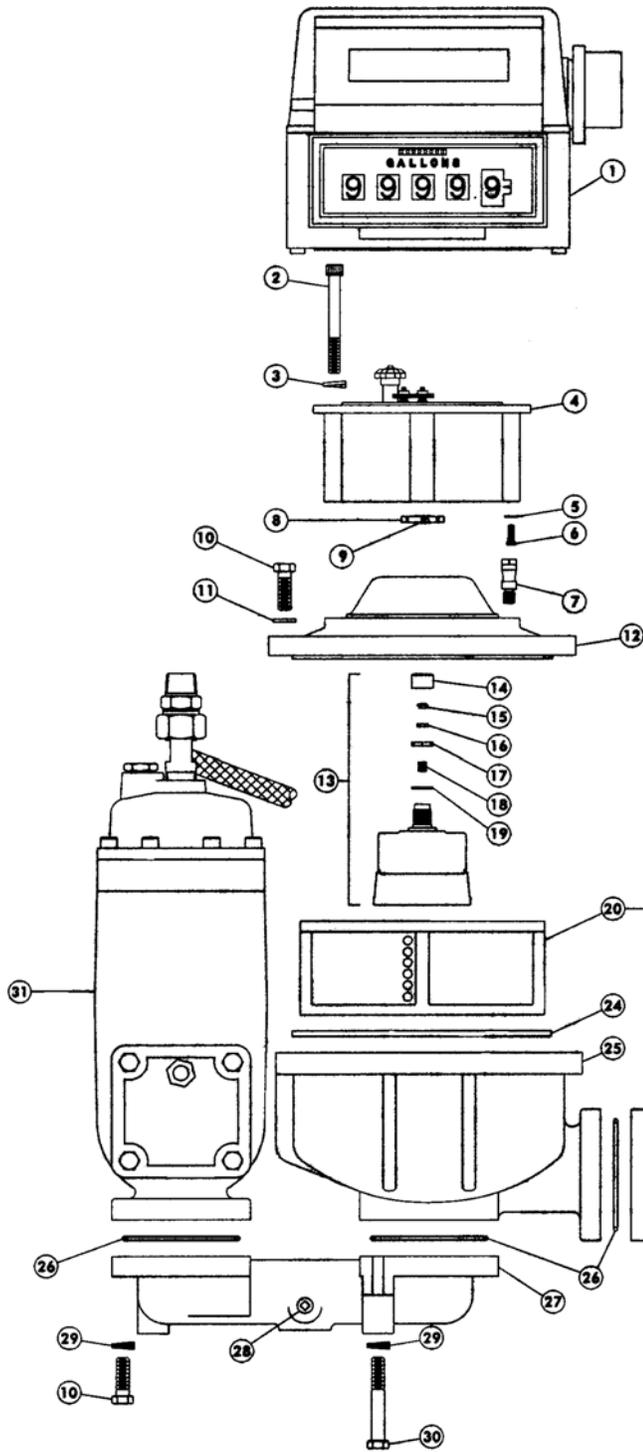


LPM-200 Parts - Register Gear Plate Adapter, ATC

Ref.	Description	Part Number
1	Gear plate assembly, 1 1/4" - 2", ATC	L886201-001
2	S-shaft gear assembly, long knurled, w/41 tooth gear	L886112-005
3	R-shaft gear assembly	L886115-000
4	shaft, output, w/spur gear assembly	L886116-010
5	Gear, bevel, w/clutch assembly	L886116-011
6	Fork driver (short) w/pin	L088589-001
7	Roll pin 1/16" x 3/8"	L100370-003
8	Washer Shim, 3/16" x 3/8" x .010"	L886121-000
9	Retaining ring 3/16" E-type	L886131-000
10	Washer shim, 1/4" x 1/2" x .005"	L886122-000
11	Register change gear assembly	L081230-xxx
12	Bushing, spacer, 1/4" x 1/2" x 1"	L000010-C02
NS	Bushing, change gear shaft, 3/16" x 5/16" x 3/8"	L000010-C01



LPM-200 Parts - Meter Without ATC

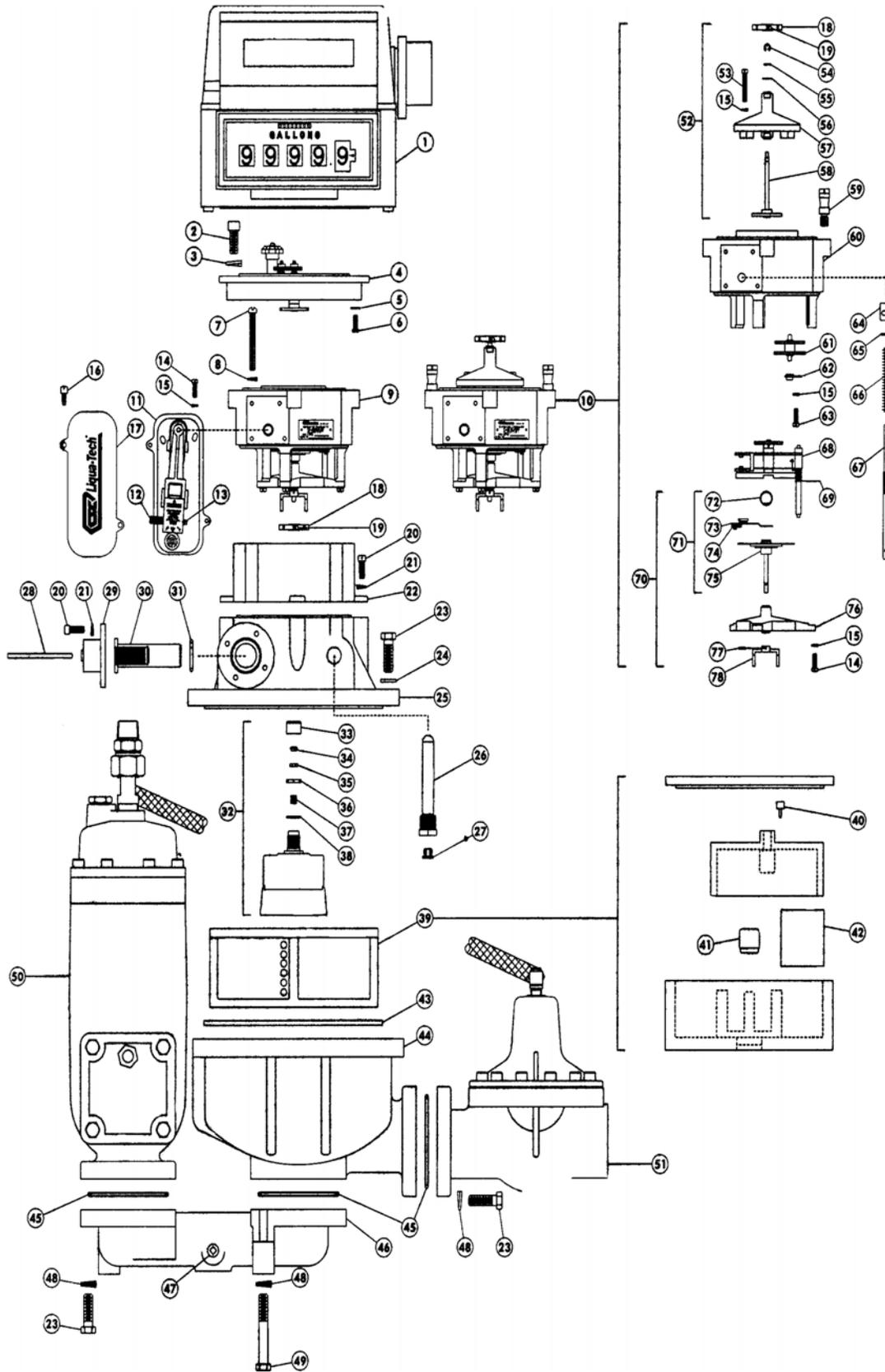


Ref.	Description	Part Number
1	Veeder-Root register, non-printing, US gallons	L788700-036
	Veeder-Root register, non-printing, liters	L788700-703
	Veeder-Root register, printing, US gallons	L789002-705
	Veeder-Root register, printing, liters	L789002-010
2	Screw, 3/8-16 x 3 1/2", socket head	L100072-001
3	Lockwasher, 3/8", high collar, steel	L100440-002
4	Adapter plate, for Veeder-Root register, non-ATC	L886201-001
5	Lockwasher, 1/4", star	L100123-100
6	Screw, 1/4-28 x 5/8", hex head	L100061-100
	Screw, 1/4-28 x 5/8", hex head, drilled	L100061-011
7	Stud, register mounting, SS	L084435-000
8	Star driver, with set screw	L082976-001
9	Set screw, 8-32 x 5/16"	L088796-000
10	Screw, cap, 7/16-14 x 1 3/8"	L000795-003
	Screw, cap, 7/16-14 x 1 3/8", drilled	L000795-011
11	Washer, 7/16", flat, steel	L000796-004
12	Main case cover, w/locking pin, no ATC	L084802-702
13	Gear train, 2", 3.75 ratio, LP, 1 US gallon, clover driver	L083502-000
	Gear train, 2", 3.75 ratio, LP, 1 US gallon, tear drop driver	L083502-005
	Gear train, 2", 9.93 ratio, LP, 1 liter, tear drop driver	L080862-055
14	Nut, stuffing box, complete w/bushing	L083536-000
15	Clamp nut, gear train, LPG	L000034-000
16	U-cup seal, gear train, Buna-N	L100025-002
17	Expander, U-cup	L083539-000
18	Spring, stuffing box	L083540-000
19	O-ring, gear train, Buna-N	L100138-003
20	Measuring chamber, 2", LPG, standard	L045806-101
	Measuring chamber, 2", LPG, Trac-bearing	L045806-501
21	Seal pin, 2" measuring chamber (liqua-Tech), LPG	L042546-010
	Seal pin, 2" measuring chamber, (Neptune), LPG	L042546-000

Ref.	Description	Part Number
24	Gasket, main case	L084806-000
25	Main case housing with locating pin	L084804-702
26	O-ring gasket	L100139-018
	O-ring gasket (square-cut)	L084818-000
27	Connector, meter to vapor eliminator	L086698-702
28	Plug, drain	L100075-003
29	Lockwasher, 7/16", steel	L041012-002
30	Screw, 7/16-14 x 3", hex head, steel	L100071-068
31	Vapor release and strainer assembly, complete	L084807-701
32	Differential valve, complete	L083925-701

Ref.	Description	Part Number
22	Control roller, 2", measuring chamber, (Liqua-Tech) LPG	L042316-010
	Control roller, 2", measuring chamber, (Neptune) LPG	L042316-001
23	Diaphragm, 2" measuring chamber (Liqua-Tech) LPG	L042312-010
	Diaphragm, 2" measuring chamber (Neptune) LPG	L042312-001
NS	Repair Kit, 2" measuring chamber (Liqua-Tech) LPG	L045806-702
	Repair Kit, 2" measuring chamber (Neptune) LPG	L045806-701

LPM-200 Parts - Meter with ATC

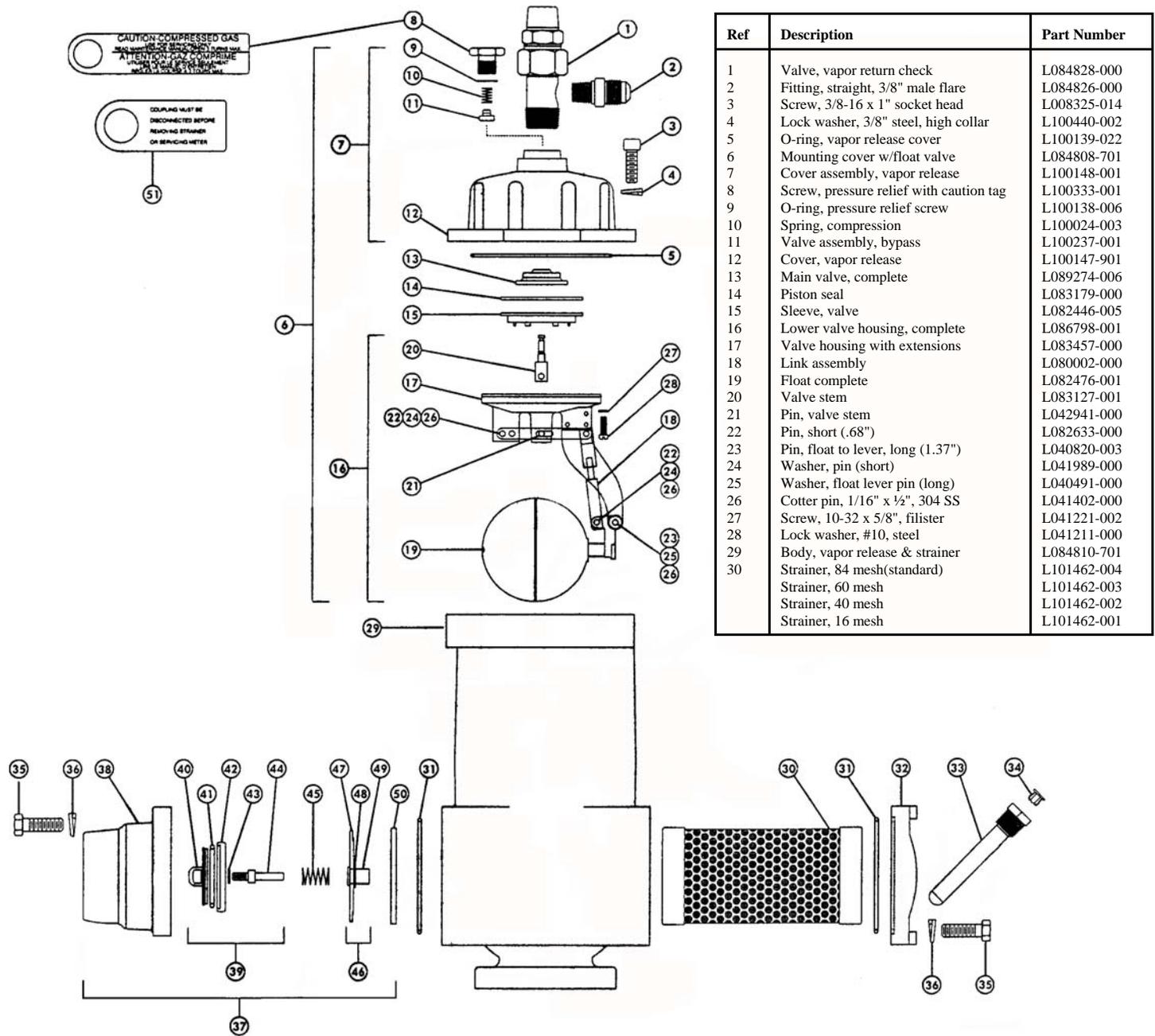


LPM-200 Parts - Meter With ATC

Ref.	Description	Part Number
1	Veeder-Root register, non-printing, US gallons	L788700-036
	Veeder-Root register, non-printing, liters	L788700-703
	Veeder-Root register, printing, US gallons	L789002-705
	Veeder-Root register, printing, liters	L789002-010
2	Screw, 3/8-16 x 1", socket head	L008325-014
	Screw, 3/8-16 x 1", socket head, drilled	L008325-015
3	Lock washer, 3/8", high collar, drilled	L100440-002
4	Adapter plate, for Veeder-Root register, ATC	L886205-001
5	Lock washer, 1/4", star	L100123-100
6	Screw, 1/4-28 x 5/8", hex head	L100061-100
	Screw, 1/4-28 x 5/8", hex head, drilled	L100061-011
7	Screw, 1/4-20 x 2 1/2", filister head	L008302-107
8	Lock washer, 1/4", high collar, steel	L088721-000
9	Temperature compensator adapter	L086602-101
10	Temperature compensator adapter, w/upper drive bracket	L086602-005
11	Mounting plate and lever arm assembly	L086649-003
12	Pin, lever arm lock	L086661-001
13	Cotter pin, 1/16" dia x 3/8", steel	L041401-000
14	Screw, 10-32 x 5/8" filister head, steel	L041221-002
15	Lock washer, #10, steel	L041211-000
16	Screw, cover, 10-32 special	L009287-003
17	Cover, lever arm mounting plate	L086665-000
18	Star driver, with set screw	L082976-001
19	Set screw, 8-32 x 5/16"	L088796-000
20	Screw, 1/4-20 x 3/4", socket head	L100060-010
	Screw, 1/4-20 x 3/4", socket head, drilled	L100060-011
21	Lockwasher, 1/4", steel	L041117-000
22	Spacer, aluminum	L086711-000
23	Screw, cap, 7/16-14 x 1 3/8"	L000795-003
	Screw, cap, 7/16-14 x 1 3/8", drilled	L000795-011
24	Washer, 7/16", flat, steel	L000796-004
25	Main case cover w/locking pin	L086704-701
26	Thermowell	L086666-702
27	Cover, thermowell	L083732-000
28	Pin, thermostat	L086648-000
29	Cover, thermostat	L086647-001
30	Thermostat bellows assembly	L086646-000
31	O-ring, thermostat bellows	L100139-005
32	Gear train, 2", 3.75 ratio, LPG, 1 US gallon, clover drive	L083502-000
	Gear train, 2", 3.75 ratio, LPG, 1 US gallon, tear drop dr	L083502-005
	Gear train, 2", 9.93 ratio, LPG, 1 liter, tear drop drive	L080862-055
33	Nut, stuffing box, complete w/bushing	L083536-000
34	Clamp nut, gear train, LPG	L000034-000
35	U-cup seal, gear train, Buna-N	L100025-002
36	Expander, U-cup	L083539-000
37	Spring, stuffing box	L083540-000
38	O-ring, gear train, Buna-N	L100138-003
39	Measuring chamber, 2", LPG, standard	L045806-101
	Measuring chamber, 2", LPG, Trac-Bearing	L045806-501

Ref.	Description	Part Number
40	Seal pin, 2" measuring chamber (Liqua-Tech), LPG	L042546-010
	Seal pin, 2" measuring chamber (Neptune), LPG	L042546-000
41	Control roller, 2" measuring chamber (Liqua-Tech), LPG	L042316-010
	Control roller, 2" measuring chamber (Neptune), LPG	L042316-001
42	Diaphragm, 2" measuring chamber (Liqua-Tech), LPG	L042312-010
	Diaphragm, 2" measuring chamber (Neptune), LPG	L042312-001
NS	Repair Kit, 2" Measuring chamber (Liqua-Tech)	L045806-702
	Repair Kit, 2" Measuring chamber (Neptune)	L045806-701
43	Gasket, main case	L084806-000
44	Main case housing with locating pin	L084804-702
45	O-ring gasket	L100139-018
	O-ring gasket (square cut)	L084818-000
46	Connector, meter to vapor eliminator	L086698-702
47	Plug, drain	L100075-003
48	Lockwasher, 7/16", steel	L041012-002
49	Screw, 7/16-14 x 3", hex head, steel	L100071-068
50	Vapor release and strainer assembly, complete	L084807-701
51	Differential valve, complete	L083925-701
52	Register (upper) drive bracket, complete	L084890-004
53	Screw, filister head, steel plated,	L089073-000
54	Retaining ring, 3/16"	L886131-000
55	Washer, drive shaft	L008571-014
56	Shim, drive shaft	L886121-000
57	Bracket assembly, (upper) w/bushings	L086808-000
58	Gear & drive shaft complete (41 tooth)	L086554-001
59	Stud, register mounting, stainless steel	L084435-000
60	Adapter housing	L084921-003
61	Gear & shaft assembly (41 & 35 teeth)	L084907-001
62	Plate, idler gear retainer	L086609-000
63	Screw, 10-32 x 3/8", fillister head	L088524-000
64	Swivel block assembly	L086612-000
65	Washer, spring retaining	L088286-003
66	Spring, push rod	L084888-001
67	Push rod	L086611-001
68	Arm complete, offset spider (31T gear)	L084910-003
69	Spring, offset spider	L086645-000
70	Lower drive bracket, complete	L084913-002
71	Ratchet wheel assembly w/arms	L084916-001
72	Ring, retaining	L086071-000
73	Ratchet arm assembly #1	L086057-001
	Ratchet arm assembly #2	L086064-001
	Ratchet arm assembly #33	L086637-001
	Ratchet arm assembly #44	L086639-001
74	Spring, ratchet pawl	L086063-000
75	Ratchet wheel/shaft assembly	L084917-001
76	Drive bracket w/bushings	L084914-000
77	Roll pin, 1/16" x 3/8", steel	L100370-003
78	Drive fork	L084192-006

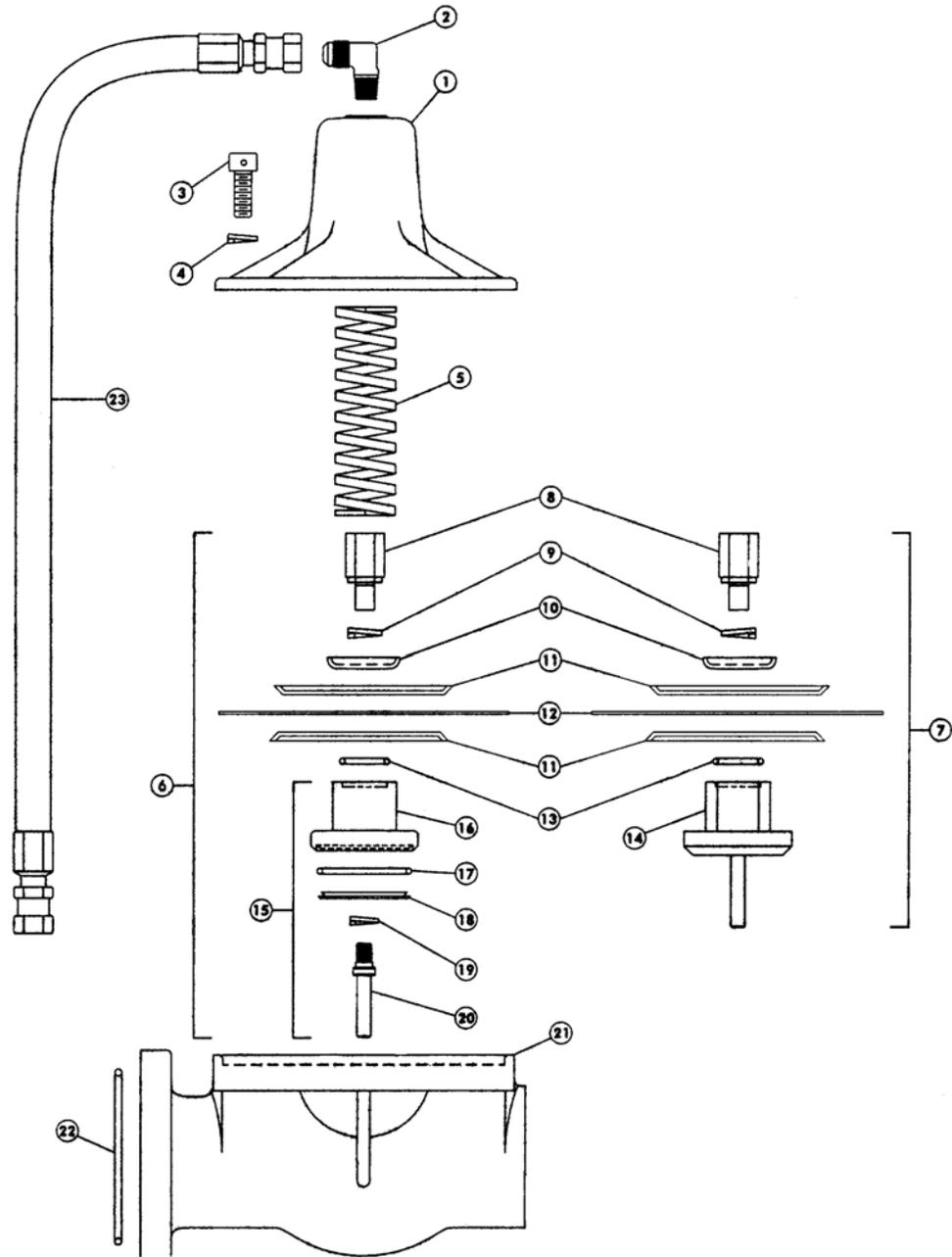
Vapor Eliminator



Ref	Description	Part Number
1	Valve, vapor return check	L084828-000
2	Fitting, straight, 3/8" male flare	L084826-000
3	Screw, 3/8-16 x 1" socket head	L008325-014
4	Lock washer, 3/8" steel, high collar	L100440-002
5	O-ring, vapor release cover	L100139-022
6	Mounting cover w/float valve	L084808-701
7	Cover assembly, vapor release	L100148-001
8	Screw, pressure relief with caution tag	L100333-001
9	O-ring, pressure relief screw	L100138-006
10	Spring, compression	L100024-003
11	Valve assembly, bypass	L100237-001
12	Cover, vapor release	L100147-901
13	Main valve, complete	L089274-006
14	Piston seal	L083179-000
15	Sleeve, valve	L082446-005
16	Lower valve housing, complete	L086798-001
17	Valve housing with extensions	L083457-000
18	Link assembly	L080002-000
19	Float complete	L082476-001
20	Valve stem	L083127-001
21	Pin, valve stem	L042941-000
22	Pin, short (.68")	L082633-000
23	Pin, float to lever, long (1.37")	L040820-003
24	Washer, pin (short)	L041989-000
25	Washer, float lever pin (long)	L040491-000
26	Cotter pin, 1/16" x 1/2", 304 SS	L041402-000
27	Screw, 10-32 x 5/8", filister	L041221-002
28	Lock washer, #10, steel	L041211-000
29	Body, vapor release & strainer	L084810-701
30	Strainer, 84 mesh(standard)	L101462-004
	Strainer, 60 mesh	L101462-003
	Strainer, 40 mesh	L101462-002
	Strainer, 16 mesh	L101462-001

Ref	Description	Part Number	Ref	Description	Part Number
31	Gasket, o-ring, strainer cover	L100139-018	41	O-ring, soft seat	L100139-032
32	Strainer cover, for thermowell	L084811-701	42	Holder, dick	L100374-002
	Strainer cover, no thermowell	L084812-702	43	Lock washer	L100121-009
33	Thermowell	L086666-702	44	Shaft, valve stem	L100896-001
34	Cover, thermowell	L083732-000	45	Spring	L083492-010
35	Screw, 7/16-14 x 1-3/8", hex head	L000795-003	46	Inlet check valve bearing support assembly	L084815-050
	Lockwasher, 7/16", steel	L041012-002	47	Bearing	L100899-010
36	Stud, 5/8-11 x 2 1/4", steel	L082678-000	48	Strap, inlet check	L084816-002
37	Inlet check valve, soft seat	L084813-702	49	Retaining ring, 1/2"	L086071-000
38	Flange, inlet	L084814-003	50	Retaining ring, spiral	L084817-000
39	Inlet check valve disc assembly	L084815-000	51	Caution tag, vapor return valve	L100333-001
40	Retainer, disk	L100898-001	NS	Caution tag, meter calibration	L100322-001

Differential Valve



Ref	Description	Part Number	Ref	Description	Part Number
1	Cover	L083766-701	12	Diaphragm	L083771-002
2	Fitting, elbow, 3/8" NPT x 3/8" SAE	L084825-001	13	O-ring, differential valve	L100139-001
3	Screw, 3/8-16 x 1" socket head	L008325-014	14	Valve stem, hard seat	L083927-002
4	Screw, 3/8-16 x 1" socket head, drilled	L008325-015	15	Valve stem assembly, soft seat	L083927-010
5	Lock washer, 3/8" steel, high collar	L100440-002	16	Valve plug	L083927-011
6	Spring, valve	L083775-000	17	O-ring, soft seat	L100139-046
7	Diaphragm assembly, soft seat	L083947-010	18	Retainer, o-ring	L083927-012
8	Diaphragm assembly, hard seat	L083947-003	19	Lock washer, 3/8"	L100440-001
9	Screw, diaphragm	L083774-002	20	Valve stem, threaded	L083927-013
10	Lock washer, 7/16" steel	L041012-002	21	Body, differential valve	L083926-701
11	Retainer, spring	L083773-000	22	O-ring, flange	L100139-018
	Retainer, diaphragm	L083772-002	23	Hose, connector	L084823-010



2" 4D-MT with Vapor Release, Print Register and ATC



1" 4D WITH 600 Series Register

Neptune's line of liquid meters are supplied in four different sizes that are capable of handling virtually any application from portable cylinder filling to large truck or bulk plant installations.

Type 4D (1" Size) -Compact meter with strainer, vapor release, and differential valve for accurate flow measurement and reliable deliveries. Furnished with horizontal totalizer (Model 157) or the Model 600 series register that includes a totalizer and resettable counter.

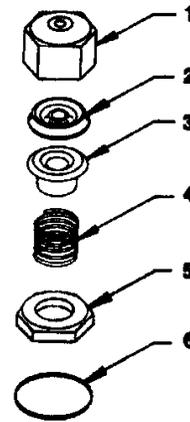
Type 4D (1 1/4", 1 1/2", & 2" Sizes) -Complete with all accessories-vapor release, strainer, relief valve, check valves, differential valve, and thermometer well. Available with or without temperature compensator. Choice of direct-reading register (Model 831) or Print-O-Meter (Model 833) which gives a permanent record of the transaction.

FLOW RATE, GPM	REGISTER MODEL NUMBER	TEMPERATURE COMPENSATOR	PART NUMBER	TYPE 4D METER SIZE	CONNECTIONS	FLOW DIRECTION	OPERATING PRESSURE
3 - 18	600	NO	RL1001012	1"	1" FNPT tapped flange	Inlet left	350 psig
	600 w/ATC	YES	RL1001123				
5 - 30	831*	NO	RL12511RGA1	1 1/4"	1 1/4" FNPT tapped flange	Left rear inlet, outlet at right	350 psig
	833#	NO	RL12511RGD1				
	831*	YES	RL12521RGA1				
	833#	YES	RL12521RGD1				
12 - 60	831*	NO	RL15011RGA1	1 1/2"	1 1/2" FNPT tapped flange	Left rear inlet, outlet at right	350 psig
	833#	NO	RL15011RGD1				
	831*	YES	RL15021RGA1				
	833#	YES	RL15021RGD1				
20 - 100	831*	NO	RL20011RGA2	2"	2" FNPT tapped flange	Left rear inlet, outlet at right	350 psig
	833#	NO	RL20011RGD2				
	831*	YES	RL20021RGA2				
	833#	YES	RL20021RGD2				

* Direct reading reset counter with totalizer. # Direct reading reset counter with zero start Print-O-Meter and totalizer.

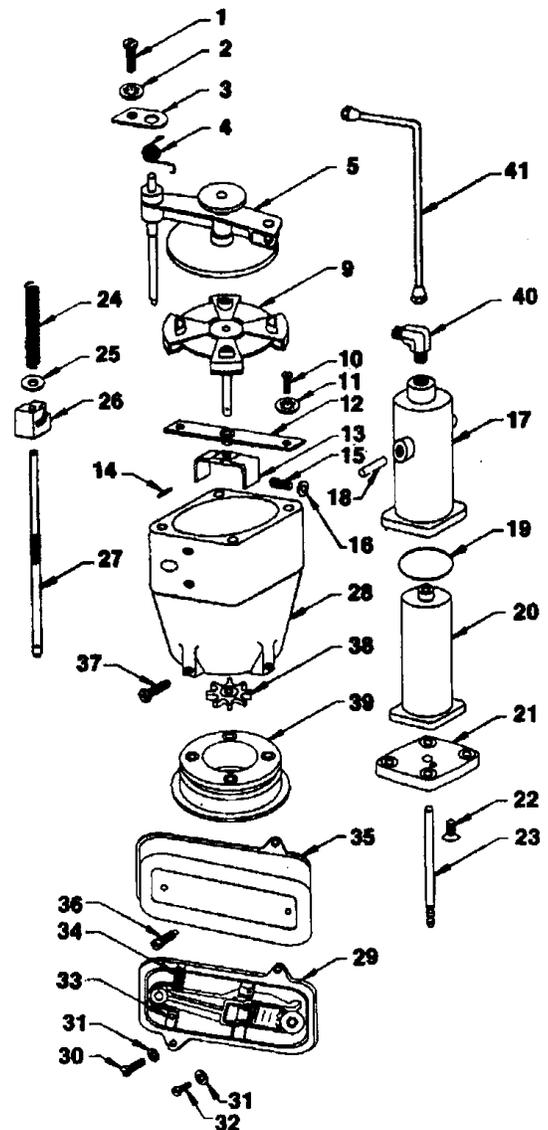
Stuffing Box - 100 and 600 Series

Ref	Description	Part Number
1	Stuffing box nut with bushing	83536-00
2	Seal, U-cup shaft	100025-002
3	Expander, seal	83539-000
4	Spring, stuffing box	83540-000
5	Nut, clamp	34-000
6	Gasket, o-ring, gear train	100138-003



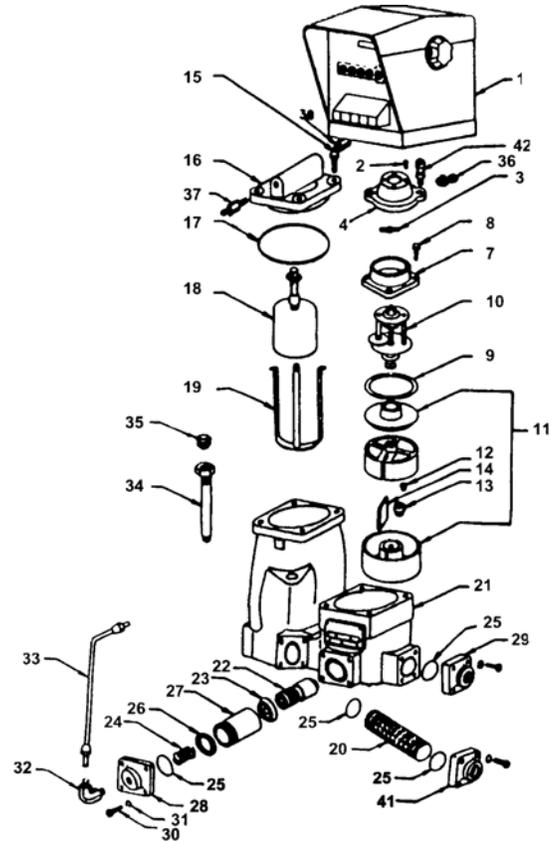
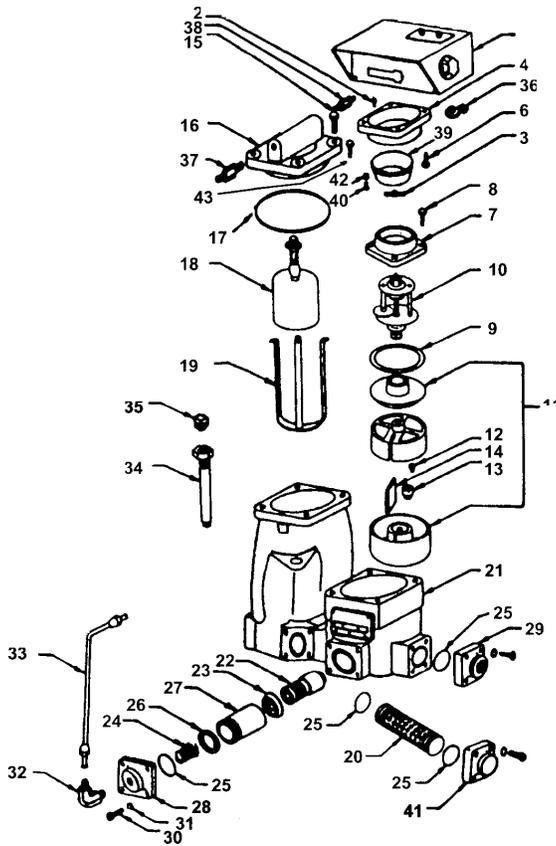
ATC

Ref	Description	Part Number
1	Screw, 8-32 x 3/8 lg bd-hd	8383-003
2	Washer, internal tooth lock, no. 10	100122-007
3	Plate, offset arm support	101060-001
4	Spring, offset spider arm	8355-506
5	Arm complete, offset spider	84910-002
9	Ratchet & arm assembly	101053-002
10	Screw, 10-32 x 3/16 fil hd	88524-001
11	Washer ,internal tooth lock, no. 10	100122-007
12	Plate assembly, drive	101055-001
13	Driving fork	84192-006
14	Rollpin, 1/16 dia x 3/8 steel	100370-003
15	Screw, 1/4-20 x 1/2 socket hd	8325-033
16	Washer, 1/4 lock	41117-000
17	Housing, thermostat	101048-001
18	Pin, dowel, 3/16 dia x 1/2 long	8349-015
19	Gasket, o-ring	100139-005
20	Thermostat (bellows)	400020-003
21	Cover, thermostat	87179-001
22	Screw, 1/4-20 x 5/8 lg socket flat hd	8325-401
23	Pin, thermostat	86648-006
24	Spring, pushrod	84888-001
25	Washer, spring retaining	88286-003
26	Swivel block assembly	86612-000
27	Push rod	101059-001
28	Housing assembly, ATC	101047-001
29	Mounting plate and lever arm assembly	86649-002
30	Screw, 10-32 x 5/8 fil hd	41221-002
31	Lockwasher, no. 10, steel	41211-000
32	Screw, 10-32 x 5/16 lg fil hd	8396-005
33	Cotter pin, 1/16 dia x 3/8 lg brass	86973-000
34	Pin, lever arm lock	86661-001
35	Cover, lever arm mounting plate	86665-000
36	Screw, cover (10-32 special)	9287-003
37	Screw, 10-32 x 3/4 lg fil hd	41750-000
38	Star wheel	82976-001
39	Adapter mounting ring	101052-001
40	Elbow	8323-001
41	Connecting tube assembly	101065-002
42	Screw, 10-32 x 3/4 lg fil hd, drilled	41750-002



1" Type 4D-MD with 600 Series Register

1" Type 4D-MD with 800 Series Register



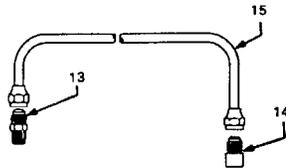
600 Series		800 Series		
Ref	Description	Part Number	Description	Part Number
1	Register complete, 600 series, Gallons w/ATC	100498-018	Register complete, 800 series, Gallons w/Printer	880030-000
	Register complete, 600 series, Gallons non ATC	100498-016	Register complete, 800 series, Liters w/Printer	880130-158
	Register complete, 600 series, Liters w/ATC	100498-015		
	Register complete, 600 series, Liters non ATC	100498-019		
2	Screw, 10-32 x 3/8 fil hd	733-001	Screw, 10-32 x 3/8 fil hd	733-001
3	Star conn w/set screw	82976-001	Star conn w/set screw	82976-001
4	Adapter, 600 series register	100729-001	Adapter, 800 series register	101779-001
6	Bolt, 1/4-28 x 1/2 hex hd, drilled	100062-023		
	Bolt, 1/4-28 x 1/2 hex hd, undrilled	100061-023		
7	Main case cover assembly	400024-701	Main case cover assembly	400024-701
8	Cap screw, 7/16-14 x 1-3/16, drilled	40237-005	Cap screw, 7/16-14 x 1-3/16, drilled	40237-005
	Cap screw, 7/16-14 x 1-3/16, undrilled	40237-004	Cap screw, 7/16-14 x 1-3/16, undrilled	40237-004
9	Gasket, main case	4861-016	Gasket, main case	4861-016
10	Gear train complete, 116.87 reduction (600: 10 liter)	80905-013	Gear train complete, 116.87 reduction (600: 10 liter)	80905-013
	Gear train complete, 43.5 reduction (600: US gal) lg spindle	80905-017	Gear train complete, 43.5 reduction (600: US gal) lg spindle	80905-017
11	Measuring chamber complete with piston	101748-001	Measuring chamber complete with piston	101748-001
12	Pin, seal	42792-000	Pin, seal	42792-000
13	Roller, control	42086-000	Roller, control	42086-000
14	Diaphragm	42791-000	Diaphragm	42791-000
15	Cap screw, 3/8-016 x 1 hex hd drilled	100071-025	Cap screw, 3/8-016 x 1 hex hd drilled	100071-025
	Cap screw, 3/8-016 x 1 hex hd undrilled	100071-024	Cap screw, 3/8-016 x 1 hex hd undrilled	100071-024
16	Cover, vapor release	400021-701	Cover, vapor release	400021-701
17	Gasket, o-ring	100139-012	Gasket, o-ring	100139-012
18	Vapor release float assembly	87188-001	Vapor release float assembly	87188-001
19	Bracket	101749-001	Bracket	101749-001
20	Strainer, 14 x 88 mesh	101738-001	Strainer, 14 x 88 mesh	101738-001

1" Type 4D-MD with 600 Series Register

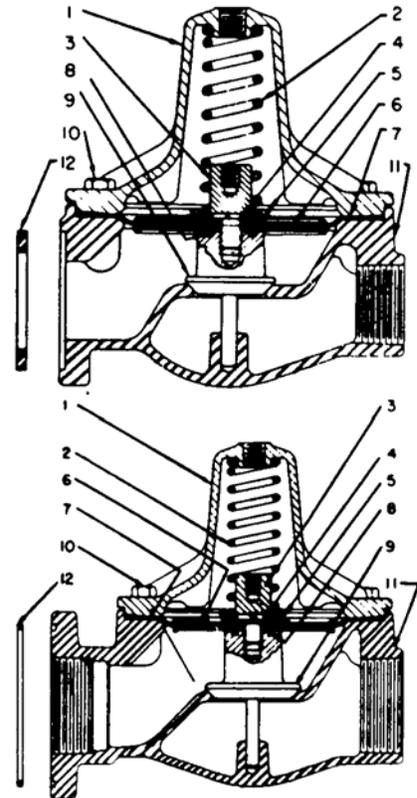
1" Type 4D-MD with 800 Series Register

Ref	600 Series		800 Series	
	Description	Part Number	Description	Part Number
21	Main case assembly	400027-701	Main case assembly	400027-701
---	Pin, measuring chamber locating	100370-022	Pin, measuring chamber locating	100370-022
---	Kit, valve	100028-001	Kit, valve	100028-001
22	Piston, differential valve	100160-002	Piston, differential valve	100160-002
23	U cup, valve	100025-008	U cup, valve	100025-008
24	Spring	100024-001	Spring	100024-001
25	O-ring, cover	100139-007	O-ring, cover	100139-007
26	O-ring, sleeve sealing	100139-006	O-ring, sleeve sealing	100139-006
27	Sleeve, valve	100027-003	Sleeve, valve	100027-003
28	Cover, differential valve	400020-702	Cover, differential valve	400020-702
29	Flange, inlet or outlet	87180-700	Flange, inlet or outlet	87180-700
30	Screw, 5/16-18 x 7/8 hex hd steel, drilled	100064-026	Screw, 5/16-18 x 7/8 hex hd steel, drilled	100064-026
---	Screw, 5/16-18 x 7/8 hex hd steel, undrilled	100063-026	Screw, 5/16-18 x 7/8 hex hd steel, undrilled	100063-026
31	Lockwasher, 5/16 steel	100121-010	Lockwasher, 5/16 steel	100121-010
---	Tubing kit, vapor release	100017-011	Tubing kit, vapor release	100017-011
32	Elbow, male 1/4-90° (flare tube fitting)	87195-001	Elbow, male 1/4-90° (flare tube fitting)	87195-001
33	Tube assembly, vapor release	87196-001	Tube assembly, vapor release	87196-001
34	Thermometer well	1001906	Thermometer well	1001906
35	Cover, Thermometer well	83732-000	Cover, Thermometer well	83732-000
36	Change gears, (give diameter & number of teeth)	**	Change gears, (give diameter & number of teeth)	**
37	Connector, male 1/4 (flare tube fitting)	100135-002	Connector, male 1/4 (flare tube fitting)	100135-002
38	Connector, male 3/8 flared	84826-000	Connector, male 3/8 flared	84826-000
39	Register CUP	138-031		
40	Screw, 1/4-20 hex head	100059-024		
41	Strainer cover assembly	400025-701	Strainer cover assembly	400025-701
42	Sleeve, screw	100737-001	Register stud	84435-000
43	Screw, 10-32 x 3/8 fil hd	733-001		

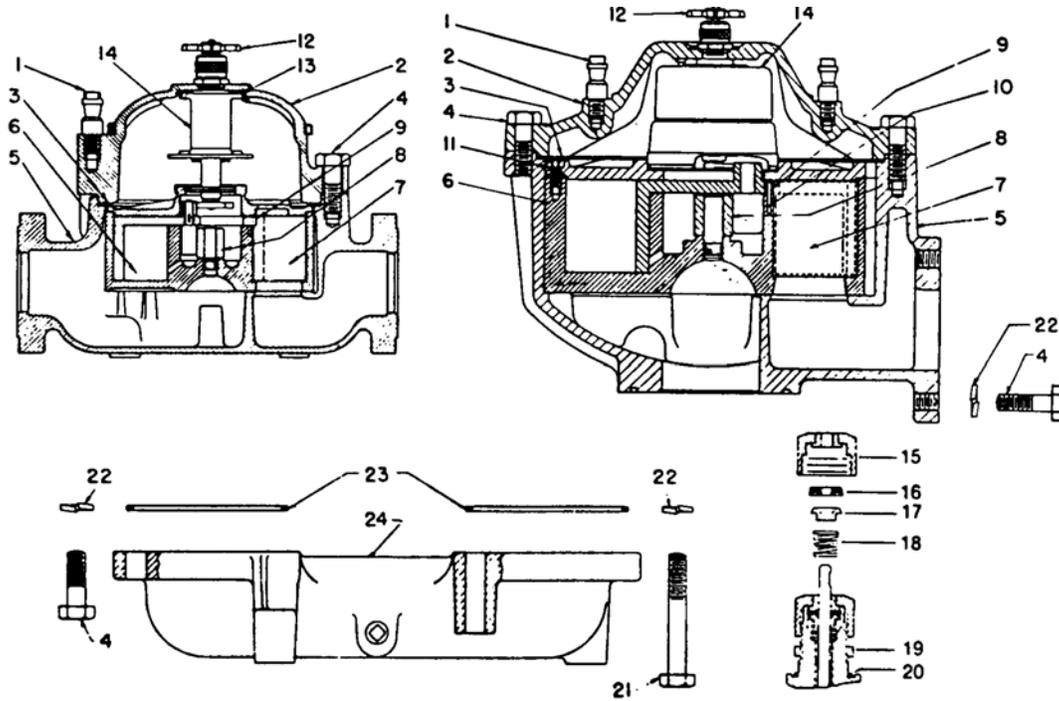
1 1/4", 1 1/2" (84985-701) & 2" (83925-701) Differential Valve & Parts



Ref	Description	Part Number	
		1 1/4 & 1 1/2	2"
1	Cover	83766-701	83766-701
2	Spring, Valve	83775-000	83775-000
---	Diaphragm Complete	83946-006	83947-003
3	Screw, Diaphragm	83774-002	83774-002
4	Lockwasher, 7/16 steel	41012-002	41012-002
5	Retainer, Spring	83773-000	83773-000
6	Retainer, Diaphragm	83772-002	83772-002
7	Diaphragm	83771-002	83771-002
8	Gasket, O-Ring	100139-001	100139-001
9	Valve Stem Assembled	83768-002	83927-002
10	Screw, 1/8-16 x 1 hex hd steel	100067-027	100067-027
---	Screw, 1/8-16 x 1 hex hd steel w/ hole	100068-027	100068-027
11	Body	84986-701	83926-701
12	Gasket, Flange	82060-000	84818-000
13	Fitting, straight 1/8 flared tube (male)	84826-000	84826-000
14	Fitting, elbow, 1/8 flared tube (male)	84825-000	84825-000
15	Tube, Connecting, with nuts	83937-000	84823-000
---	Tube, Connecting, with nuts (angle)	---	84821-000

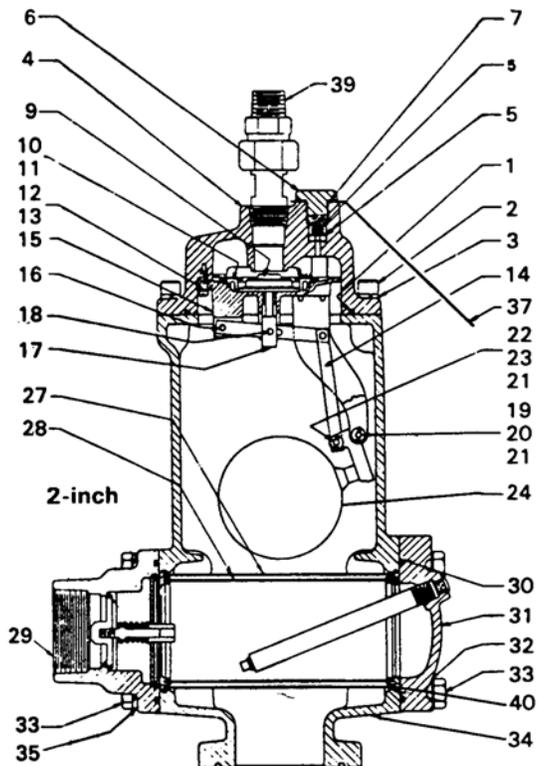
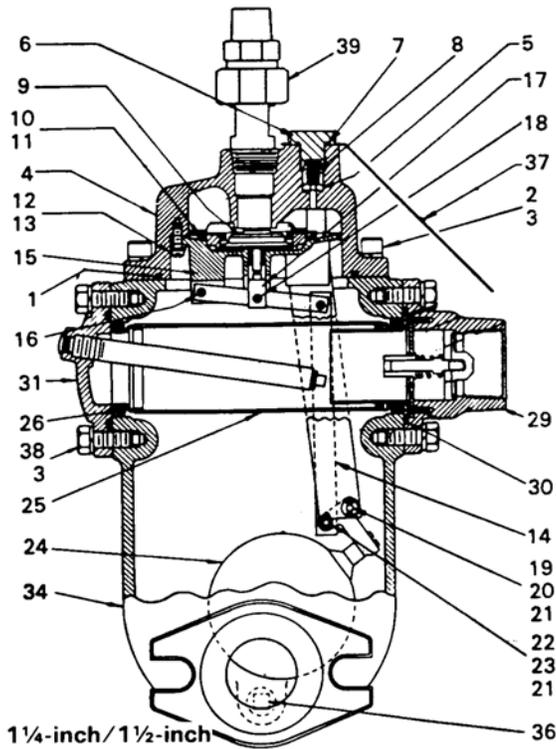


1 1/4", 1 1/2" & 2" Meter Parts Less ATC



Ref	Description	Part Number		
		1 1/4"	1 1/2"	2"
1	Stud, register mounting	84435-000	84435-000	84435-000
2	Cover, main case	83479-701	83479-701	84802-702
3	Gasket, main case	4862-008	4862-008	84806-000
4	Screw, main case	40237-004	40237-004	795-003
	Screw, main case (with seal hole)	40237-005	40237-005	795-011
5	Main casing with locating pin	83477-701	84978-702	84804-702
6	Measuring chamber complete	43260-101	83271-101	45806-101
7	Diaphragm	43271-000	83277-000	42312-001
8	Roller, control	43275-000	43275-000	42316-001
9	Pin, seal	42792-000	42792-000	42546-000
10	Dowel stud, seal pin			2857-003
11	Screw, measuring chamber			2387-001
12	Star connection with set screw	82976-001	82976-001	82976-001
13	Adapter, gear train, non-swivel	85006-000	85006-000	
14	Gear train complete 3.75 Reduction US gallons			83502-000
	4.58 Reduction IMP gallons			83502-001
	9.375 Reduction US gallons		84981-000	
	9.93 Reduction liters			80862-055
	11.6 Reduction IMP gallons		84981-001	
	14.06 Reduction US gallons	83501-000		
	16.5 Reduction IMP gallons	83501-001		
	25.4184 Reduction liters		83280-052	
	36.41 Reduction liters	82710-054		
15	Stuffing box nut with bushing	83536-000		83536-000
16	Seal, U-cup shaft	100025-002	83536-000	100025-002
17	Expander, seal	83539-000	100025-002	83539-000
18	Spring, stuffing box	83540-000	83539-000	83540-000
19	Nut, clamp	34-000	83540-000	34-000
20	Gasket, o-ring, gear train	100138-003	34-000	100138-003
21	Screw, 7/16 x 3 hex hd steel		100138-003	100071-068
22	Lockwasher, 7/16 steel			41012-001
23	Gasket, connector			84818-000
24	Connector with plug, meter-to-vapor release			86698-702

1 1/4", 1 1/2" (84982-701) & 2" (84807-701) Vapor Release & Strainer Parts



Ref	Description	Part Number	
		1 1/4" & 1 1/2"	2"
1	Gasket, O-Ring	100139-022	100139-022
2	Screw, 3/8-16 x 1 socket hd	8325-014	8325-014
3	Lockwasher, 3/8 steel	100440-001	100440-001
--	Mounting Cover with Float	83481-701	84808-701
4	Cover Assembly Vapor Release	100148-001	100148-001
5	Valve Assembly Bypass	100237-001	100237-001
6	Screw and Plate Assy	100333-001	100333-001
7	O-Ring 1/16 sect x 11/16 ID	100138-006	100138-006
8	Spring Compression	100024-003	100024-003
9	Main Valve Complete	89274-006	89274-006
10	Sleeve, Valve	82446-005	82446-005
11	Piston, Seal	83179-000	83179-000
12	Lockwasher, No. 10 steel	41211-000	41211-000
13	Screw, 10-32 x 5/8 fil hd steel	41221-002	41221-002
	Lower Valve Housing Complete	86797-001	86798-001
14	Link Assembly	100334-001	80002-002
15	Valve Housing with Extensions	82455-000	83457-000
16	Rivet, Valve Lever	40819-002	40819-002
17	Stem, Valve	83127-001	83127-001
18	Pin, Valve Stem	42941-000	42914-000
19	Pin, Float Lever (long)	40820-003	40820-003
20	Washer, Float Lever Pin (long)	40491-000	40491-000
21	Cotter Pin, 1/16 dia x 1/2 brass	41402-000	41402-000
22	Pin, Float Lever (short)	82633-000	82633-000
23	Washer, Float Lever Pin (short)	41989-000	41989-000
24	Float Complete	82476-001	82476-001
25	Strainer & Gasket Assy (80 mesh)	101433-704	101462-004
26	Gasket, Strainer, O-Ring	100139-032	84818-000
29	Inlet Check Valve Complete(soft seal)	84983-704	84813-702
30	Gasket, O-Ring	100139-010	84818-000
31	Strainer Cover, w/ thermometer well	83485-702	84811-701
	Strainer Cover, wo/ thermometer well	83486-705	84812-702
32	Washer, plain, 7/16 steel	----	40640-000
33	Cap Screw, 7/16-14 x 1-3/8, hex hd	----	795-003
34	Body, Vapor Release & Strainer	83495-701	84810-701
35	Lockwasher, 7/16 steel	----	41012-002
36	Plug, Drain	100075-003	----
	Bushing, 1 1/2 x 1/4 (for 1 1/4 meter)	8384-101	----
37	Caution Tag	100322-001	100322-001
38	Cap Screw, 3/8-16x1 Hex hd wo/seal	100067-027	----
	- with seal hole	100068-027	----
39	Valve, Vapor Return Check (straight)	84828-000	84828-000



Veeder-Root EMR3

The new generation of electronic meter-register, exemplified by **Veeder-Root's EMR3**, wraps the latest technology around a robust/user friendly system, providing unprecedented value for customers worldwide. Fully capable of meeting the most demanding customer requirements, it can be affordably configured to fit a wide variety of applications.

The ability of any electronic meter register system to store fuel-dispensing transaction data is critical in today's total-solution business environment. That's why Veeder-Root designed a non-volatile memory capability in the EMR3. The system continuously stores data for the last 200 transactions. All EMR3 systems include three communication ports, intended for connection with vehicle On-board computers, delivery Ticket printers, I.B. net, or other auxiliary devices. Many leading back-office software providers rely on EMR3 as a key component in their fuel-solution offerings, using hand-held devices to transfer data from the I.B. unit to the customer's Back-office PC.

Call for additional Information.



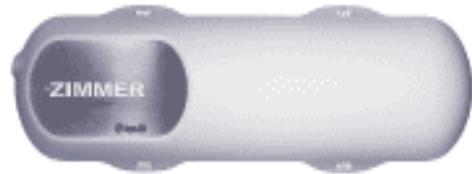
Neptune E4000

The **Neptune E4000** electronic register system automates transaction operations for deliveries of LP-Gas through flowmeters on bulk delivery trucks.

The E4000 register displays the delivered volume on the flowmeter at the rear of the truck, as do conventional mechanical registers. Selectable electronic temperature compensation allows deliveries to be made in gross or net (compensated) volumes, according to local practice. A printer in the cab provides a simple volume delivery ticket or, using the E4000's pricing capability, a complete priced invoice as a record of the transaction. Tickets are stamped with time and date information for security. The E4000 register can print an "end-of-shift" report to totalize the day's deliveries by product.

ZIMMER Electric LPG Vaporizer

- The latest innovation in LPG vaporizers
- Simple design, reliable performance
- No switches, thermostats, floats or relays
- Operates on any voltage
- Small, explosion proof, light weight, and wall mountable
- Very few parts, low maintenance
- No corrosion, no water to monitor or replace



Vaporization Capacity	20 Gallons/hr (nominal) 1.82 Million BTU/hr
Electrical	100 - 240 Volts Freq: 50 - 60 HZ
Shipping Dimensions	35" x 15" x 12"
Shipping Weight	66 lbs

Optional Accessories:

- 80885 Mounting Kit
- 80892 Valve & Strainer Kit
- 80890 Outlet Regulator

Power XP Electric LPG Vaporizer

- Energy for vaporization is provided by multiple heating elements cast into a finned aluminum heat exchanger.
- Heat exchanger temperature and on/off cycles at predetermined temperatures are monitored and regulated by a solid state controller.
- Options include: remote control box, automatic restart, and economy operation.



Model		XP12.5	XP25	XP50	XP80	XP160
Vaporization Capacity *	Gallons/hr (nominal)	12.5	25	50	80	160
	Million BTU/hr	1.18	2.36	4.71	7.54	15.1
Shipping Weight	Pounds	90	90	90	120	225

* Capacity rating based on vaporization at saturated conditions and full voltage. Higher pressures or lower temperatures will decrease the capacity accordingly.

Options:

Auto Re-start - In the event of a power interruption, the vaporizer will re-start automatically when power is restored.

Economy - Shuts off vaporizer when natural vaporization of the tank can meet demand. Must order auto re-start if economy is ordered.

Direct Fired Vaporizers

- Simple to install, no electricity
- Complete with all operating and safety controls
- Offers uniform gas supply over a broad temperature range.
- Only requires two connections to install these self-contained units



Algas-SDI Direct Fired Vaporizers

Propane Vaporization Capacity		Model	Connections		Shipping Dimensions			Shipping Weight lbs
Gallons/hr	Million BTU/hr		Liquid Inlet	Vapor Outlet	Depth	Height	Width	
40	3.64	40/40H	3/4" FNPT	1" FNPT	21"	41"	22"	155
60	5.46	60/60H	3/4" FNPT	1" FNPT	21"	50"	22"	175
80	7.28	80/40H	3/4" FNPT	1" FNPT	21"	41"	35"	220
120	10.92	120/60H	3/4" FNPT	1" FNPT	21"	50"	35"	275
160	14.56	160H	3/4" FNPT	1" FNPT	21"	62"	15"	405
320	29.12	320H	2" FNPT	2" FNPT	21"	62"	29"	810
480	43.68	480H	2" FNPT	2" FNPT	21"	62"	43"	1215
640	58.24	640H	2" FNPT	2" FNPT	21"	62"	57"	1620

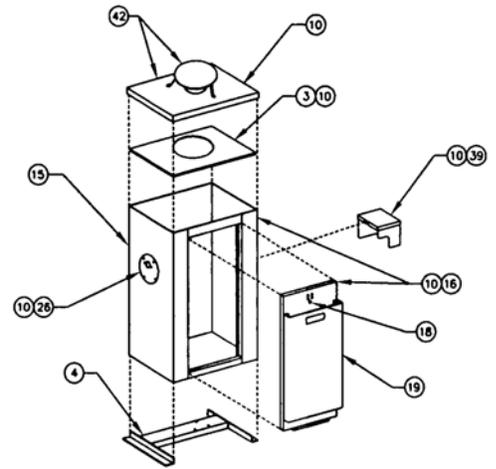
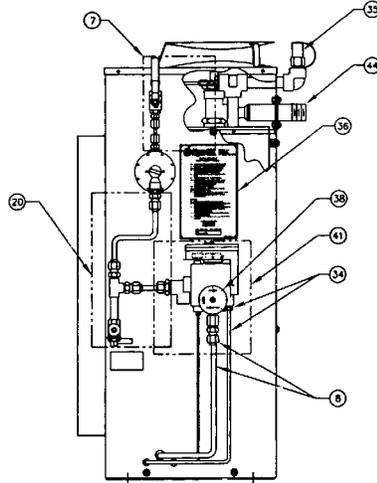
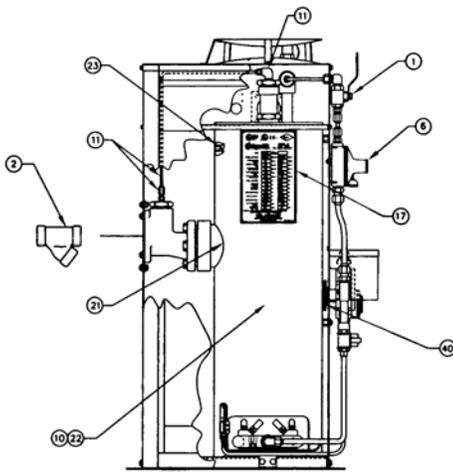
* At 40 deg. F. Ambient temperature.

Algas-SDI formerly known as Alternate Energy Direct Fired Vaporizers



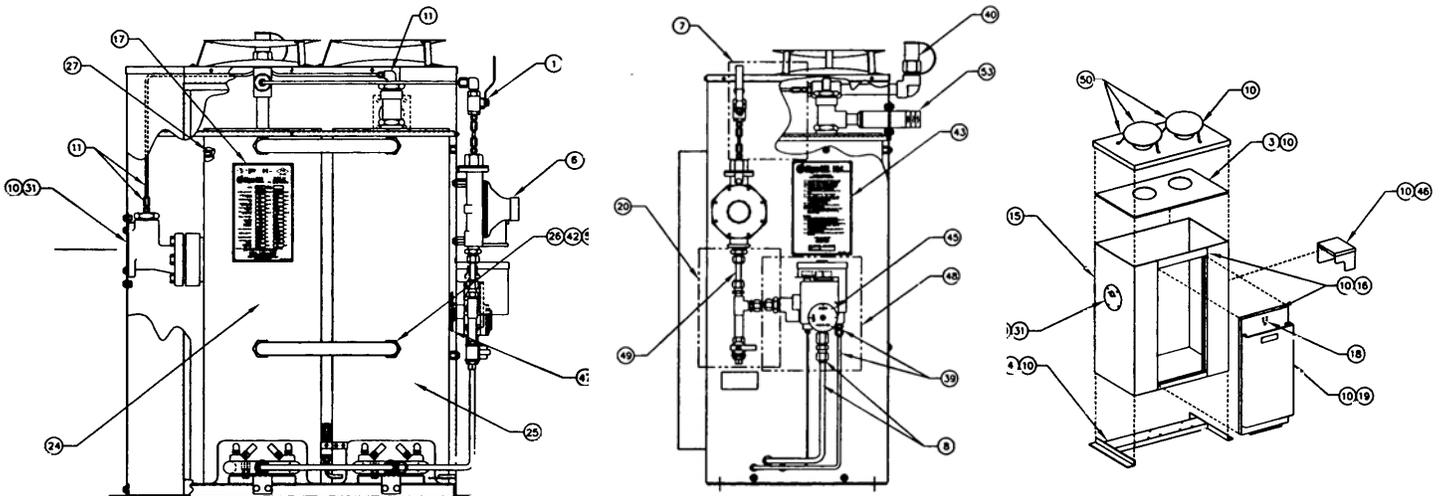
Propane Vaporization Capacity		Model	Shipping Dimensions			Shipping Weight lbs
Gallons/hr	Million BTU/hr		Depth	Width	Height	
50	4.55	AE-50F	20"	25"	72"	210
80	7.28	AE-80F	20"	25"	72"	230
120	10.92	AE-120F	20"	25"	72"	280
160	14.56	DF-1600F	24"	22"	58"	460
240	21.84	DF-2400F	24"	22"	76"	560
360	32.76	DF-3600F	35"	22"	76"	840
480	43.68	DF-4800F	45"	22"	76"	1120

40/40H Parts



Ref	Description	All Units	Serial Nos after A02J0015142 Oct 2002 to Present	Serial Nos before A02J0015142 Before Oct 2002	Comments
1	1/4" NPT Ball Valve	33819			
2	3/4" NPT Strainer	8138-132			
3	Baffle Plate	1502-5012			Old part no 3-3940 Old part no 3-0518
4	Base Assembly		1502-4001	3-0519	
5	Burner Manifold Assembly		1502-4006	40C39A	
6	Burner Regulator	8122-176			
7	Burner Regulator Supply Tube Kit	3-0776			
8	Burner Supply Tube Kit		41022	3-0782	
9	Burner Tip		33581	40C14	
10	Cabinet Kit		41023	81103	81103 replaces part nos. 451-503-01 & 451-0301-01C
11	Capacity Control Tube Kit	3-0778			
12	Capacity Control Valve	40C68			
13	Capacity Control Valve Piston	40C66			
14	Capacity Control Valve Repair kit	3-0017			
15	Case Assembly Structure		1502-4003	3-0508	
16	Case Assembly with Door		41016	3-0144	81105 is obsolete Std units use part number 3-0884 Newer units w/paddle style latch - 37110 Old part no 3-0502 & 81107
17	CE Nameplate		541-512-01		
18	Door Latch	3-0506			
19	Door Assembly	1502-4005			
20	Drip Leg Kit		41025	451-501-01	
21	Heat Exchanger & Flue Assembly	451-304-01		N/A	
22	Heat Exchanger Flue		451-506-01	3-0529	
23	Heat Exchanger Support Spacer	40C30			
24	Inlet Valve Plug		1501-5001		3-4174 Obsolete
25	Liquid Inlet Valve	3-4150			
26	Liquid Inlet Valve Cover	1501-5012			Old part no 3-0517
27	Liquid Inlet Valve Orifice	3-4152			
28	Liquid Inlet Valve Repair Kit	3-0016			
29	Master Rebuild Kit		81111	451-504-01	
30	Master Repair Kit		3-0034	3-0002	81109 obsolete - use 3-0034 3-0631 obsolete
31	Pilot Assembly Kit	81113			
32	Pilot Flame Guide		1502-5010	N/A	
33	Pilot Orifice & Thermocouple Kit	3-0014			
34	Pilot Supply Tube kit		41024	3-0777	
35	Relief Valve		35009	8121-106	
36	Starting Instruction Plate	1501-5004			3-0634 obsolete
37	Thermocouple	46-5			
38	Thermostat Control Valve	3-3540F			3-3540 & 80967 obsolete
39	Thermostat Cover	1501-5015-02			451-402-01 obsolete
40	Thermostat Heat Shield	40C42			
41	Thermostat kit	41026			80967 obsolete
42	Top Cover Assembly	451-405-01			3-0522 & 81114 obsolete
43	Tubing Replacement kit		40401	451-502-01	
44	Vapor Outlet Reducer	3-0549			

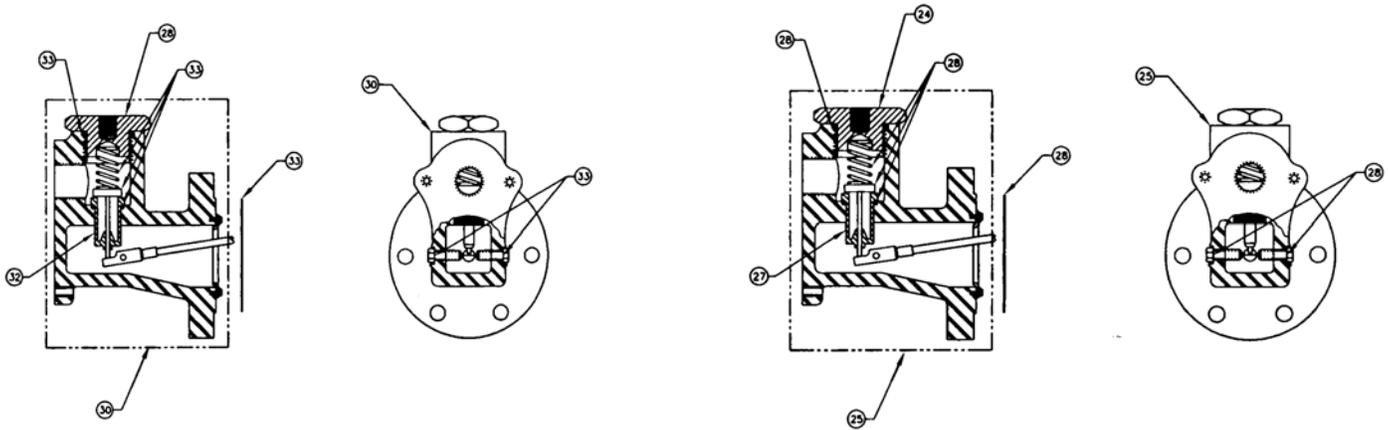
80/40H Parts



Ref	Description	All Units	Serial Nos after A02J0034725 Oct 2002 to Present	Serial Nos before A02J0034725 Before Oct 2002	Comments
1	1/4" NPT Ball Valve	33819			
2	3/4" NPT Strainer	8138-132			
3	Baffle Plate	1504-5014			Old part no 3-3940 Old part no 3-0556
4	Base Assembly		1504-4001	3-0557	
5	Burner Manifold Connector Kit	3-0783			
6	Burner Regulator	8151-102A			
7	Burner Regulator Supply Tube Kit	3-0779			
8	Burner Supply Tube Kit		41019	3-0782	
9	Burner Tip		33581	40C14	
10	Cabinet Kit		81104	452-503-01	452-301-01C is obsolete includes parts 3,15,19,22,23,31,46,50
11	Capacity Control Tube Kit	3-0786			
12	Capacity Control Valve	40C68			
13	Capacity Control Valve Piston	40C66			
14	Capacity Control Valve Repair kit	3-0017			
15	Case Assembly Structure		1504-4002	81106	
16	Case Assembly with Door		41017	3-0145	3-0541 is obsolete
17	CE Nameplate		452-509-01		
18	Door Latch	3-0506			Std units use part number 3-0885
19	Door Assembly	1504-4003			Newer units w/paddle style latch - 37110 Old part no 3-0550
20	Drip Leg Kit		40403	452-501-01	
21	Flame Guide		1504-5013	3-0642	
22	Flue, Left		452-505-01	3-0569	
23	Flue, Right		1504-5009	3-0570	
24	Heat Exchanger & Flue Ass, Left		452-302-01	N/A	452-506-01 is obsolete
25	Heat Exchanger & Flue Ass, Right		452-303-01	N/A	
26	Heat Exchanger Conn. Tube Kit	3-0792			
27	Heat Exchanger Support Spacer	40C30			
28	Inlet Valve Plug		1501-5001		
29	Left burner Assembly		1504-4004	40C39	3-4174 is obsolete
30	Liquid Inlet Valve	3-4150			
31	Liquid Inlet Valve Cover	1501-5012			
32	Liquid Inlet Valve Orifice	3-4152			Old part no 3-0517
33	Liquid Inlet Valve Repair Kit	3-0016			
34	Master Rebuild Kit		81112	452-504-01	Includes parts 6, 9, 35
35	Master Repair Kit		3-0035	3-0003	Includes parts 14,33,36,38,48
36	Pilot Assembly Kit		41021	3-0644	
37	Pilot Bracket		1504-5010	3-0643	
38	Pilot Orifice & Thermocouple Kit	3-0013			
39	Pilot Supply Tube kit		40404	3-0781	
40	Relief Valve		35009	8121-107	
41	Right Burner Assembly		1504-4005	80C99	
42	Sleeve, 3/4"	3-1022			
43	Starting Instruction Plate	1501-5004			3-0634 obsolete
44	Thermocouple	46-4			
45	Thermostat Control Valve	3-3540F			3-3540 & 80967 obsolete
46	Thermostat Cover	1501-5015-02			451-402-01 is obsolete

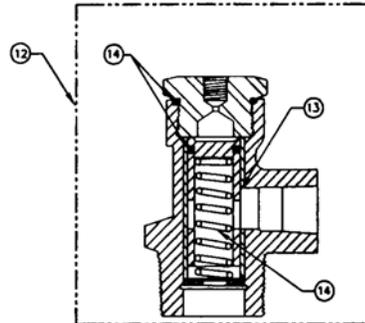
40/40H & 80/40H Parts

Ref	Description	All Units	Serial Nos after A02J0015142 Oct 2002 to Present	Serial Nos before A02J0015142 Before Oct 2002	Comments
47	Thermostat Heat Shield	40C42			
48	Thermostat Kit	41026			80967 is obsolete
49	Thermostat Supply Tube		1504-5005	3-0788	
50	Top Cover Assembly	452-403-01			3-0560 & 81115 are obsolete
51	Tube Nut, 3/4"	7105X12			
52	Tubing Replacement Kit		40402	452-502-01	
53	Vapor Outlet Reducer	3-0549			includes parts 7,8,11,20,39

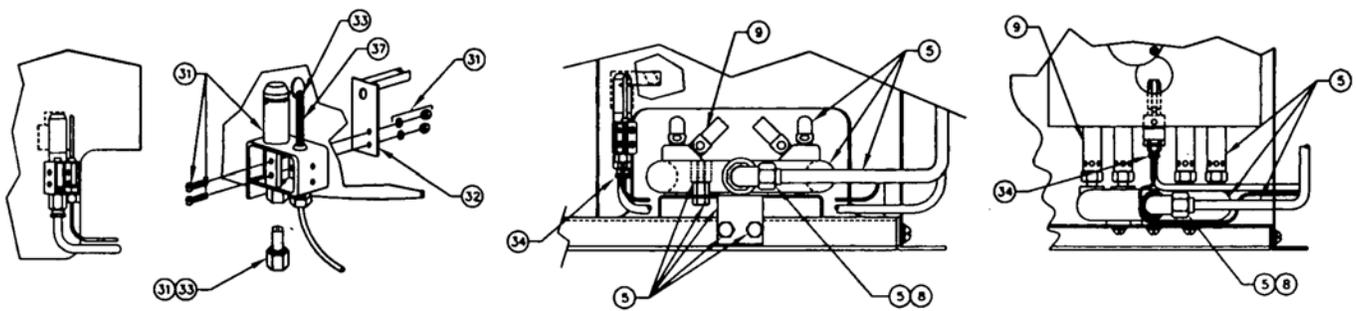


80/40 Inlet Valve Detail

40/40 Inlet Valve Detail



Capacity Control Valve Detail



Pilot Detail

Low Emission Burner Detail (post Oct 2002)

Old Style Burner Detail (Pre Oct 2002)

Alternate Energy Vaporizer Parts

From June/2003

For parts orders, include model number and serial number

Qty	Description	AE-50	AE-80	AE-120	DF-1600	DF-2400	DF-3600	DF-4800
1	Complete Burner Assy (Propane)	BUR0006	BUR0015	BUR0015	BUR0015	BUR0015	BUR0015	BUR0015
Includes: Burner, Pilot Light, Thermocouple & Piezo Spark Lighter)								
1	Complete Burner Assy (Propane/Butane)	BUR0006	BUR0019	BUR0019	BUR0019	BUR0019	BUR0019	BUR0019
Includes: Burner, Pilot Light, Thermocouple & Piezo Spark Lighter)								
1	Burner (Propane)	BUR0005	BUR0001	BUR0001	BUR0001	BUR0001	BUR0001	BUR0001
1	Burner (Butane)	BUR0005	BUR0018	BUR0018	BUR0018	BUR0018	BUR0018	BUR0018
1	Complete Pilot Light Assy	PIL0005	PIL0005	PIL0005	PIL0005	PIL0005	PIL0005	PIL0005
Includes: Pilot Light, Thermocouple & Pilot Light Fuel Line								
1	Thermocouple for Pilot Burner	THE0001	THE0001	THE0001	THE0001	THE0001	THE0001	THE0001
1	Piezo Spark Igniter	IGN0003	IGN0003	IGN0003	IGN0003	IGN0003	IGN0003	IGN0003
1	Two-Stage Burner Regulator (Rego)	REG0033*	REG0033*	REG0033*	-----	-----	-----	-----
1	Two-Stage Burner Regulator (Fisher)	REG0021**	REG0021**	REG0021**	-----	-----	-----	-----
1	First Stage Regulator (Rego)	-----	-----	-----	REG0032	REG0032	REG0032	REG0032
1	First Stage Regulator (Fisher)	-----	-----	-----	REG0023	REG0023	REG0023	REG0023
1	Second Stage Regulator (Rego)	-----	-----	-----	REG0035	REG0035	REG0035	REG0035
1	Second Stage Regulator (Fisher)	-----	-----	-----	REG0022	REG0022	REG0022	REG0022
1	Temperature Control Valve	TEM0003	TEM0003	TEM0003	TEM0003	TEM0003	TEM0003	TEM0003
1	Liquid Inlet Valve (Viton O-Ring & Seat)	LIQ0001	LIQ0001	LIQ0001	LIQ0001	LIQ0001	LIQ0001	LIQ0001
2	Liquid Inlet Valve Viton Seat Seal	LIQ0005	LIQ0005	LIQ0005	LIQ0005	LIQ0005	LIQ0005	LIQ0005
2	Liquid Inlet Valve Viton O-Ring	ORI0002	ORI0002	ORI0002	ORI0002	ORI0002	ORI0002	ORI0002
1	Door for Burner Shroud (burner Cover)	SHR0005	SHR0005	SHR0005	SHR0005	SHR0005	SHR0005	SHR0005

* For AE-XXGR models, order REG0032 for 1st Stage Regulator, & REG0035 for 2nd Stage Regulator.

** For AE-XXGF models, order REG0023 for 1st Stage Regulator, & REG0022 for 2nd Stage Regulator.

Before June/2003

Same as above with the following exceptions.

1	Pilot Light	BUR0008	BUR0008	BUR0008	BUR0008	BUR0008	BUR0008	BUR0008
1	Two-Stage Burner Regulator	REG0050*	REG0050*	REG0050*	-----	-----	-----	-----
1	First Stage Regulator	-----	-----	-----	REG0054	REG0054	REG0054	REG0054
1	Second Stage Regulator	-----	-----	-----	REG0056	REG0056	REG0056	REG0056
1	Temperature Control Valve	TEM002	TEM002	TEM002	TEM002	TEM002	TEM002	TEM002

* For AE-XXG models, order REG0051 for 1st Stage Regulator, & REG0056 for 2nd Stage Regulator.

Alternate Energy Vaporizer Parts

Before August/2001

For parts orders, include model number and serial number.

Quantity	Part Number	Description
1	BUR0001	Burner AE-80, AE-120 & DF-Series for Propane
1	BUR0005	Burner AE-50 for Propane
1	BUR0018	Burner AE-80, AE-120 & DF-Series for Propane/Butane
1	BUR0020	Burner AE-50 for Propane/Butane
1	BUR0015	Complete Burner Assy for AE-80, AE-120 & DF-Series for Propane (burner, pilot light & thermocouple)
1	BUR0006	Complete Burner Assy for AE-50 for Propane (burner, pilot light & thermocouple)
1	BUR0019	Complete Burner Assy for AE-80, AE-120 & DF-Series for Propane/Butane (burner, pilot light & thermocouple)
1	BUR0021	Complete Burner Assy for AE-50 for Propane/Butane (burner, pilot light & thermocouple)
1	IGN0003	Pietzo Igniter for AE-Series & DF-Series
1	REG0050*	Twin-Stage Burner Gas Regulator for AE-Series
1	REG0054	First-Stage Burner Gas Regulator for DF-Series
1	REG0056	Second-Stage Burner Gas Regulator for DF-Series
1	TEM0001	Temperature Control Valve
2	LIQ0005	Viton Seat for Liquid Inlet Valve
2	LIQ0002	Gasket for Liquid Inlet
1	BUR0008	Pilot Light for Burner
1	THE0001	Thermocouple for Burner
1	SHR0003	Shroud for Pilot Assy
1	PAN0001	Flue Screen
1	PIL0005	Complete Pilot Light Assy (Pilot Burner, Thermocouple & Mounting Bracket)
1	SHR0005	Shroud for Burner

* For AE-XXG models, order REG0053 for 1st stage regulator and REG0056 for 2nd stage regulator.

Black Extra Heavy Welded Nipples

Nipple Length	Pipe Size, MNPT										
	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Close*	210650	210673	210695	210718	210741	210764	210787	210810	210833	210856	210877
1 1/2"	210651	210672	210693	210717	210740						
2"	210649	210674	210696	210719	210742	210765	210788	210811	210834		
2 1/2"	210652	210675	210697	210720	210743	210766	210789	210812	210835		
3"	210653	210676	210698	210721	210744	210767	210790	210813	210836	210857	
3 1/2"	210654	210677	210699	210722	210745	210768	210791	210814	210837	210858	210878
4"	210655	210678	210700	210723	210746	210769	210792	210815	210838	210859	210879
4 1/2"	210656	210679	210701	210724	210747	210770	210793	210816	210839	210860	210880
5"	210657	210680	210702	210725	210748	210771	210794	210817	210840	210861	210881
5 1/2"	210658	210681	210703	210726	210749	210772	210795	210818	210841	210862	210882
6"	210659	210682	210704	210727	210750	210773	210796	210819	210842	210863	210883
7"	210660	210684	210705	210728	210752	210775	210798	210821	210844	210864	210885
8"	210661	210686	210706	210729	210754	210777	210800	210823	210846	210865	210887
9"	210662	210688	210707	210730	210755	210778	210802	210825	210848	210866	210888
10"	210663	210690	210708	210735	210756	210781	210804	210850	210827	210867	210891
11"	210664	210692	210709	210736	210757	210782	210806	210829	210852	210868	210893
12"	210671	210694	210710	210739	210762	210783	210808	210830	210854	210869	210895

* Minimum length of nipple. Lengths as follows:

Pipe Size	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Length	3/4"	7/8"	1"	1 1/8"	1 3/8"	1 1/2"	1 5/8"	1 3/4"	2"	2 1/2"	2 5/8"

Concentric Swage Nipples

Pipe Size, MNPT	Part Number	Pipe Size, MNPT	Part Number
3/4" x 1/2"	214295	2" x 1 1/4"	214420
1" x 1/2"	214315	2" x 1 1/2"	214425
1" x 3/4"	214320	2 1/2" x 1"	214455
1 1/4" x 3/4"	214345	2 1/2" x 1 1/4"	214460
1 1/4" x 1"	214350	2 1/2" x 1 1/2"	214465
1 1/2" x 3/4"	214355	2 1/2" x 2"	214470
1 1/2" x 1"	214380	3" x 1"	214500
1 1/2" x 1 1/4"	214385	3" x 1 1/4"	214505
2" x 3/4"	214410	3" x 2"	214515
2" x 1"	214415	3" x 2 1/2"	214520



LP-Gas Equipment

Steel Fittings

Forged Steel Fittings

2000 Lbs., A105, ANSI B16.11 / 3000 Lbs., A105, ANSI B16.11



Pipe Size, FNPT	Type of Fitting							
	90 Elbow	45 Elbow	Tees	Crosses	90 Street Elbow	Couplings	Half Couplings	Caps
1/4"	610005	610105	610205	610305	611305	600105	600205	600805
3/8"	610010	610110	610210	610310	611310	600110	600210	600810
1/2"	610015	610115	610215	610315	611315	600115	600215	600815
3/4"	610020	610120	610220	610320	611320	600120	600220	600820
1"	610025	610125	610225	610325	611325	600125	600225	600825
1 1/4"	610030	610130	610230	610330	611330	600130	600230	600830
1 1/2"	610035	610135	610235	610335	611335	600135	600235	600835
2"	610040	610140	610240	610340	611340	600140	600240	600840
2 1/2"	610045	610145	610245	610345		600145	600245	600845
3"	610050	610150	610250	610350		600150	600250	600850
4"	610055	610155	610255	610355		600155	600255	600855

Hex Head Plugs A105, ANSI B16.11

Pipe Size	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
Part Number	600500	600505	600510	600515	600520	600525	600530	600535	600540	600545	600550	600555

Forged Steel Unions 3000 Lbs., ASTM A105, MSS SP-83

Pipe Size	1/8"	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"
Part Number	661100	661105	661110	661115	661120	661125	661130	661135	661140	661145	661150

Hex Bushings A105, ANSI B16.11

Size, FNPT	Size, MNPT											
	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	
1/8"	603100	603105	603115	603130	603150	603175	603205	603240	603280	603325	603375	
1/4"		603110	603120	603135	603155	603180	603210	603245	603285	603330	603380	
3/8"			603125	603140	603160	603185	603215	603250	603290	603335	603385	
1/2"				603145	603165	603190	603220	603255	603295	603340	603390	
3/4"					603170	603195	603225	603260	603300	603345	603395	
1"						603200	603230	603265	603305	603350	603400	
1 1/4"							603235	603270	603310	603355	603405	
1 1/2"								603275	603315	603360	603410	
2"									603320	603365	603415	
2 1/2"										603370	603420	
3"											603425	

L.B. White Portable Forced Air Heaters

Portable Forced Air Heaters Include:

- One-Year Warranty
- Air-Flow Proving Switch
- Motor with Overload Protector
- Direct Spark Ignition with LED Troubleshooting Light
- Visual Ignition Monitor
- Hose, 10' x 1/2" I.D.
- Electronic Flame Sensor (10-second reaction)
- Regulator, with Excess Flow Valve
- Automatic Gas Shut-off Assembly
- High-Temperature Backflash Switch



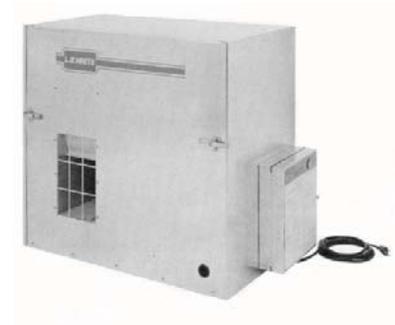
Model Number	Part Number	BTU/H	Fuel	Gas Pressure	Shipping Weight
Tradesman 100	350834	100,000	Propane	10" w.c.	38.0 lbs
Tradesman 155	350835	155,000	Propane	10" w.c.	38.0 lbs

* A.G.A. Design Certified

L.B. White Outdoor or Indoor Hot Surface Ignition (HSI) Heaters

Adjustable BTU/Hr. - Bottom Draw Design

- One-Year Warranty
- Fully Enclosed Access Panels
- Ball-Bearing Motors with Thermal Overload Protection
- Sediment Traps
- "System II" HSI System featuring
- "6-16 LED analyzer"
- Continuous diagnostic monitoring
- 15-second "chill-guard"
- Auto fan shut-off
- External Master Control Panel
- Eyebolt and Chain Mounting System



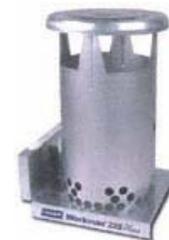
Model Number	Part Number	BTU/H (Adjustable)	Fuel	Shipping Weight
AW075CHP3 *	350806	45,000 - 75,000	Propane	66 lbs
AW230DHP3 *	350813	100,000 - 230,000	Propane	126 lbs

* Certified by A.G.A. under Agricultural Heater Standard 5-88

L.B. White Convection Heater

Convection Heaters Includes:

- One-Year Warranty
- Pilot Light for Intermittent Operation
- Manually Controlled Burner
- 360 deg Radiant Heat
- Heavy Duty Construction
- Automatic Gas Shut-off Assembly with Pilot Safety Control Valve
- Matchless Piezo Ignition System



Model Number	Part Number	BTU/H	Fuel	Gas Pressure	Shipping Weight
340A	350833	250,000	Propane	10 psig	20 lbs

L.B. White Agricultural Heaters

Side Draw Design

- Removable access panel for easy access to high limit switch
- Integral gas pressure tap for quick testing of supplied gas pressure
- Easily removable fan wheel
- Quick-change motor mount for speedy field replacement of fan motors or blower wheels
- Pilot light operation for dependable ignition
- Stainless steel thermostat for accuracy and corrosion resistance



Model Number	Part Number	BTU/H	Fuel	Shipping Weight
346	350805	60,000	Propane	61 lbs
377	350812	115,000	Propane	100 lbs
408	350815	170,000	Propane	129 lbs

Enerco Infrared Industrial / Commercial Heaters



Specifications

Model No.	BTU/H	Normal Mounting Position	Clearances to Combustibles				Dimensions in Inches L x W x H	Shipping Weight (pounds)	Gas Inlet FNPT
			Top	Sides	Back	Below			
4030	30,000	Horiz. - 45 deg	30"	30"	30"	54"	30 1/4 x 19 1/4 x 12	25	1/2"
4040	40,000		34"	30"	30"	68"	30 1/4 x 19 1/4 x 12	25	1/2"
8050	50,000		36"	30"	30"	78"	45 1/4 x 19 1/4 x 12	34	1/2"
8060	60,000		40"	30"	30"	84"	45 1/4 x 19 1/4 x 12	34	1/2"
9100	100,000		44"	40"	40"	104"	83 x 19 1/4 x 12	61	1/2"
9120	120,000		46"	46"	46"	114"	83 x 19 1/4 x 12	61	1/2"

Control Systems

Suffix	Description
A-5	Automatic Spark Ignition on Pilot with Safety Shutoff on Pilot and Burner, 24V. AC Control with intermittent pilot. (Pilot is off when heater is off.) Transformer (120/25V.) Is shipped loose with either heater.
PP	Power Pile (self-generating) Control. No outside electrical source required to turn heater on and off. Manually lit pilot. Safety Shutoff on Pilot and Burner. Power Pile Thermostat shipped loose with each heater.

K-Series High Intensity Heaters

- A.G.A. and C.G.A. Design Certified
- Accepted by I.R.I. and FM
- Natural Gas or LP-Gas
- Minimum Inlet: Natural gas - 7" wc, LP-Gas - 11" wc
- Flexible inputs from 30,000 to 200,000 BTU/H
- Compact and durable design
- All heaters are shippable via UPS
- Less maintenance - no moving parts
- "Instant ON" - "Instant Off"
- Requires no direct venting
- Simple chain mounting
- Factory prewired, prepiped and tested



Models & BTU/H Ratings

Model Number	BTU/H (Thousands)		Model Number	BTU/H (Thousands)		Model Number	BTU/H (Thousands)	
	Nat	LP		Nat	LP		Nat	LP
K-30	30	n/a	K-75	75	75	K-125	125	n/a
K-35	35	n/a	K-80	80	80	K-130	130	n/a
K-40	40	n/a	K-85	85	85	K-135	135	n/a
K-45	45	n/a	K-90	90	90	K-150	150	n/a
K-50	50	50	K-95	95	n/a	K-160	160	160
K-55	55	n/a	K-100	100	n/a	K-175	175	n/a
K-60	60	n/a	K-110	110	n/a	K-200	200	n/a
K-70	70	70	K-120	120	120			

Control Options

Control Suffix Letters	Gas	Shut-Off	Voltage	Max Power Consumption	Ignition	Pilot
TAN	Natural	100%	Millivolt	None	Manual	Constant
TAL	LP	100%	Millivolt	None	Manual	Constant
DSAN	Natural	100%	115V	6 VA	Direct Spark	None
DSAL	LP	100%	115V	6 VA	Direct Spark	None
QSAN	Natural	100%	25V	5 VA	Direct Spark	None
QSAL	LP	100%	25V	5 VA	Direct Spark	None

Call for details on Straight Tube and U-Tube Infra-Red Heaters



Mr. Heater MH40PH Outdoor Patio Heater

- Powerful 40,000 BTU Heater
- Quality Stainless Steel Finish - Components manufactured from stainless steel to ensure years of dependable performance.
- Adjustable Bar Table - Exclusive milled finish. Turns heater into an entertainment center.
- Innovative Wheel Design - Hide-a-way wheels allow you to transport the heater with ease.
- Reliable Piezo Ignition - Control knob has off, pilot position and low to high variable.
- Energy Efficient Design - Generates more than other brands with less gas usage.
- Insect Proof Design
- Designed for safe operation.
- Easy to Assemble



RED DRAGON Construction Heaters

AG-235 - The AG-235 is an economical, powerful, and portable heater. It's perfect for temporary indoor heating of warehouses, buildings under construction, shop areas, workshops and remodeling areas. A great product for the propane, farm, construction and rental industries.

- Up to 210,000 BTU/h
- All steel construction
- Compact and lightweight
- Shipping weight 21 lbs



CH-220 - The CH-220 Construction Heater incorporates a unique box design which adds strength, stability and stack-ability. Solid, all steel construction makes it one of the most dependable and long lasting heaters.

- Up to 210,000 BTU/h
- Low profile prevents tipping
- Stackable for convenient storage
- All steel construction
- Shipping weight 49 lbs



Heaters and Lanterns

Single Heaters - POL mounts directly to bulk tank. Safety shut-off valve. Wind resistant burner screen. Hi-Med-Lo regulator.

Double Heaters - Two safety shut-offs. Hand wheel POL. Hi-Med-Lo regulators.

Triple Heaters - Three safety shut-offs. Soft nose POL. Hi-Med-Lo regulators.

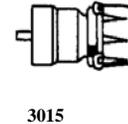
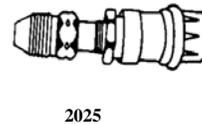
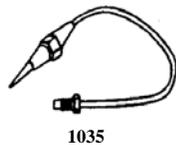
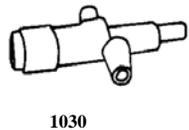
Heater-Cookers - Safety shut-off. Use with disposable cylinder or bulk tank (with a hose). Hi-Med-Lo Regulator.

Mini Heaters - On/Off regulator. Rustproof aluminum reflector resists corrosion deterioration.

Lanterns - With exclusive air adjustment control. Model **6100** single mantle lantern is as bright as a 100 watt bulb. Model **6200** double mantle lantern is as bright as a 150 watt bulb.



Model	Type Number	Connection	BTU/H		
			Hi	Med	Lo
1500	350903	Hand-wheel POL	15,000	12,000	9,000
2500	350927	Hand-wheel POL	24,000	20,000	16,000
3500	350905	Portable Adaptor	12,000	10,000	8,000
5500	351008	Portable Adaptor	4,400	-----	2,000
4500	350901	Hand-wheel POL	42,000	24,000	8,000



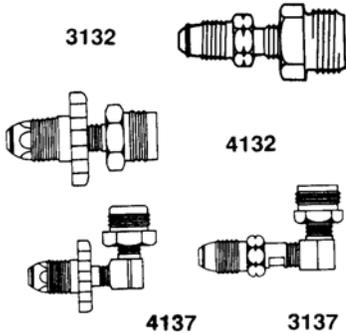
Heater and Lantern Replacement Parts

Part Number	Type Number	Description	For Model
1030	350968	Safety Shutoff with Orifice Assembly	All
1035	350972	12.5" Thermocouple Lead	All
1040	350976	Burner Screen Assembly	All
2025	350977	Hi-Med-Lo Regulator & Tank Union	All except 3000
3015	350978	Hi-Med-Lo Regulator Assembly	3000
5005	350912	Base for Disposable Cylinders	5000
6101	350889	Pyrex Globe	6100, 6200
6102	350891	Heavy Duty Mantle	6100, 6200



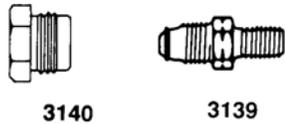
Tank Unions With O-Ring Seal - Connects a Coleman or Primus Campstove hose which uses a disposal cylinder to a bulk tank. Also used with 4120 or 4121 hose.

Part Number	Type Number	Description
3132	350950	Soft seal POL Male x 1" - 20 Male
4132	350918	Hand Wheel POL Male x 1"-20 Male



90 deg Tank Unions With Shut-off and O-Ring Seal - Connects horizontal outlet of bulk tank to mini heater or lantern that normally uses disposable cylinders.

Part Number	Type Number	Description
3137	350984	Soft seal POL Male x 1" - 20 Male
4137	350919	Hand Wheel POL Male x 1"-20 Male



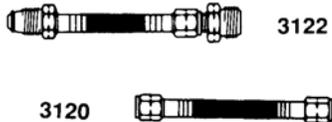
Tank Union Component Parts - 3139 soft seal POL nut, use with 3140 to connect an appliance that uses a disposable cylinder to a bulk tank. Also connects 'Y' block or quick connector to a bulk tank. 3140 plain adapter connects a 1/4" male pipe fitting to appliances that use disposable cylinders.

Part Number	Type Number	Description
3139	350123	1/4" Male Pipe Soft Seal POL Nut and Pigtail
3140	350955	Plain Adaptor, 1/4" Female Pipe x 1"-20 Male



Hose Assemblies With Fittings - Connects an appliance that uses a disposable cylinder; or a Coleman or Primus Campstove hose that uses a disposable cylinder to a bulk tank.

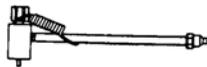
Part Number	Type Number	Description
3122	350114	5' hose - Soft seal POL Male x 1"-20 Male
3123	350116	12' hose - Soft seal POL Male x 1"-20 Male
4122	350920	5' hose - Hand Wheel POL Male x 1"-20 Male with swivel
4123	350922	125' hose - Hand Wheel POL Male x 1"-20 Male with swivel



Hose Assembly Components

Part Number	Type Number	Description
3120	350923	5' hose, 9/16"-18 Left Hand female Fitting on Each End
3121	350924	12' hose, 9/16"-18 Left Hand female Fitting on Each End
3129	350119	9/16"-18 Left Hand POL with Restricted Flow
3130	350940	9/16"-18 Male x 1"-20 Male
3142	350951	9/16"-18 Male x 1"-20 Female

3142



3101

4174

Easy-To-Use Conversion Kit - Converts 2 or 3 Burner Colman Gasoline stove to Propane.

Part Number	Type Number	Description
3101	350915	1"-20 Female x Stove Connection

Distribution Posts - Connects up to 3 appliances which use disposable cylinders to bulk tank. Tip proof bracket for stability. Each outlet has automatic shutoff.

Part Number	Type Number	Description
4174	350895	10" Post , Handwheel POL and Three 1"-20 Male Outlets
4184	350894	30" Post , Handwheel POL and Three 1"-20 Male Outlets

E-Z Multi-Accessory Hose- Connects an appliance that uses disposable cylinders to a distribution post or splitter for multiple hookups.

Part Number	Type Number	Description
4120	350893	5' hose- hand swivel 1"-20 Female x hand swivel 1"-20 Male
4121	350925	10' hose- hand swivel 1"-20 Female x hand swivel 1"-20 Male

Hose Assemblies and Components-E-Z hose with 11" low pressure regulator connects low pressure appliance to a bulk tank.

Part Number	Type Number	Description
4117	350917	5' hose-3/8" Female Pipe x 11" regulator with handwheel POL
4118	350921	12' hose-3/8" Female Pipe x 11" regulator with handwheel POL
3124	350117	5' hose-3/8" Female Pipe x 3/8" Male Pipe
3125	350118	12' hose-3/8" Female Pipe x 3/8" Male Pipe

Replacement Gas Grill Hoses- Connects gas grill or RV appliance to a low pressure regulator.

Part Number	Type Number	Description
3103	351002	24" hose- 3/8" Female Flare x 3/8" Male Pipe
3105	351001	36" hose- 3/8" Female Flare x 3/8" Male Pipe

Flexible Hose Pigtails-Connects bulk tank to tee check- commonly used for RV's.

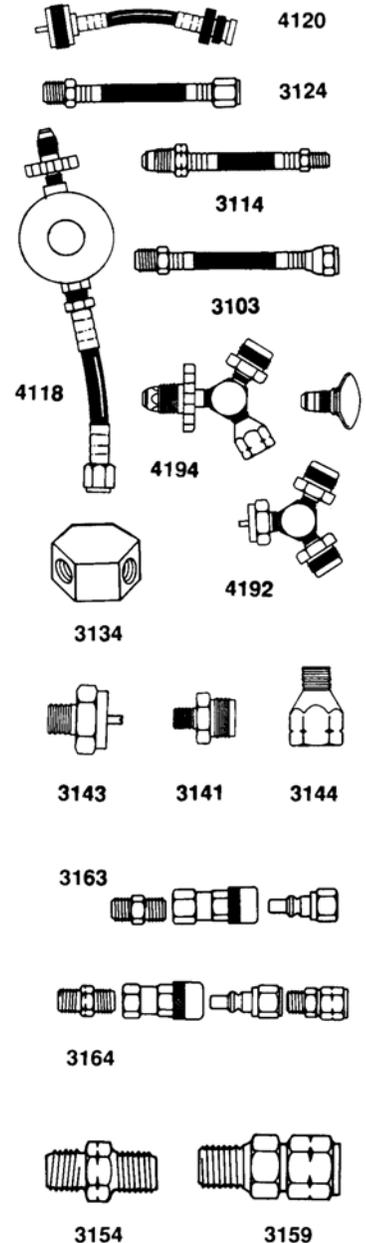
Part Number	Type Number	Description
3112	350930	12" flexible hose pigtail- Soft Seal POL x 1/4" inverted flare
3113	350932	18" flexible hose pigtail- Soft Seal POL x 1/4" inverted flare
3114	350934	24" flexible hose pigtail- Soft Seal POL x 1/4" inverted flare
3115	350936	30" flexible hose pigtail- Soft Seal POL x 1/4" inverted flare
3116	350938	36" flexible hose pigtail- Soft Seal POL x 1/4" inverted flare

Splitters and Component Parts- Each disposable cylinder connection has an automatic shutoff.

Part Number	Type Number	Description
4191	350108	"Y" Block- POL x Two 1"-20 Male Outlets
4192	350109	"Y" Block- POL x Two 9/16"-18 Left Hand Male Outlets
4193	350101	"Y" Block- POL x Two POL Female Outlets
4194	350103	"Y" Block- POL x POL Female Outlets x 9/16"-18 Male Outlet
3134	350134	"Y" Block- Three 1/4" Female Pipe Threads
3141	350956	Adapter with shutoff & o-ring seal- 1/4" Male x 1"-20 Male
3143	350957	Post Adapter- 1/4" Male x 1"-20 Female
3144	350126	POL Female x 1/4" Male Pipe

Quick Connectors & Reducing and Connecting Adapters- Disconnect appliances without tools.

Part Number	Type Number	Description
3162	350990	Quick Connector, 1/4" Female Pipe x 1/4" Male Pipe
3163	350965	Quick Connector, 3/8" Female Pipe x 3/8" Male Pipe
3164	350131	Quick Connector, 9/16"-18 Left Hand Male x Female
3152	350959	1/4" Male Pipe x 9/16"-18 Left Hand Male
3153	350960	3/8" Male Pipe x 9/16"-18 Left Hand Male
3154	350988	9/16"-18 Left Hand Male x 9/16"-18 Left Hand Male
3159	350129	9/16"-18 Left Hand Female x 1/4" Male Pipe
3160	350964	Reserve Gas Adapter, no Shutoff, Female Pol x 1"-20 Female



Motor Fuel Cylinder Cabinets - Accommodates 20, 33, or 43 lb. cylinders used for motor fuel service. Six sizes available (2 to 12 cylinder storage capacity). All cabinets feature a tamper-proof padlock hasp and drop hinges welded to the door for maximum security. Cabinets should be marked with a "No Smoking" decal or with an all metal sign which states, "Danger-Flammable Gas- Keep Fire or Flame Away- No Smoking". Decals and signs are not included. (Does not include cylinders as pictured)

Application	Type Number	Cylinder Capacity	Construction
Fork Lift Cylinders	260006	2	Steel, Welded, Galvanized
	260000	4	Steel, Welded, Galvanized
	260001	6	Steel, Welded, Galvanized
	260002	8	Steel, Bolted, Galvanized
	260003	12	Steel, Bolted, Galvanized
20 # DOT	260004	12	Steel, Welded, Galvanized



Sumter Paint

Industrial, Commercial and general Maintenance require that buildings, structures, equipment and the workplace be protected from the varying environments to which they are exposed.

Part Number	Type Number	Size	Description
5	270515	1 Gallon	White
SC1151	270520	1 Gallon	Aluminum
899D1373	270525	1 Gallon	Grey Primer
880N2209	270530	1 Gallon	Ft Ring Protector Black
856X2210	270535	1 Gallon	Paint Thinner



Paint Coverage

Tank Size Gallons	Approx. Sq. Ft.	Enamels & Primers	Aluminum Finishes
250	56	1/4 gal.	1/8 gal.
500	116	1/2 gal.	1/3 gal.
1,000	225	1 gal.	1 gal.
12,000	1,160	4 gal.	4 gal.
18,000	1,250	5 gal.	5 gal.
30,000	1,950	7 gal.	8 gal.





LP-Gas Cylinders

Cylinder Size	Type No.	Description
5 lb	260023	Type 1 OPD valve
10 lb	260021	Type 1 OPD valve
11 lb	260022	Type 1 OPD valve
20 lb	260026 260027 260040	Type 1 OPD valve Type 1 OPD valve gauge Type 2 OPD valve
20 lb Plumber's Pot	260029	Less valve
30 lb	260035	Type 1 OPD valve
40 lb	260041	Type 1 OPD valve
50 lb	260042	10% valve
60 lb	260039	10% valve
100 lb	260031	10% valve
200 lb	-----	Multivalve, Gauge
420 lb	-----	POL, outage, fill, relief , gauge

Aluminum Fork Lift Cylinders -Equipped with filler valve, vent valve, service valve, and universal gauge.

Cylinder Size	Part No.	Mounting Position
20 lb Buffer	260012	Universal
33 ½ lb	720027	
43 ½ lb	720035	

Protective Caps-For use on cylinders in transit. Fits over standard cylinder valve



Cylinder Size	Type Number	Cap Size
100 lb	260015	3 1/2"
	260016	3 1/8"

Protective Collar- For use on cylinders in transit and on construction sites to conform with DOT and OSHA requirements. Fits easily over valve.



Cylinder Size	Type Number
100 lb	260050



Steel Fork Lift & Buffer Cylinders- Equipped with filler valve, vent valve, service valve, and universal gauge.

Cylinder Size	Type Number	Mounting Position
20 lb. 20 lb. Buffer	720020 260014	Universal
33 ½ lb	720025	
43 ½ lb	720030	



Fork Lift Cylinder Brackets

Cylinder Size	Part Number	Description
33 ½ & 43 ½ lb	TB-2	Horizontal
	TB-2P	Horizontal (tilt)
	TB-67	Horizontal (low profile)
20 lb	TB-3	Vertical
-----	TB2-60	Toggle latch for TB-2

Portable Beam Scale

Fairbank Portable Beam Scales have been the world-wide standard for general utility weighing. The 1124 series continues this tradition with a rugged and economical scale for industrial and commercial utility weighing needs.

The large platform and 1,000 pound capacity fill many industrial and commercial utility weighing requirements. The 1124 meets or exceeds National Bureau of Standards Handbook 44 requirements for commercial accuracy, and is certified by the National Type Evaluation Program (NTEP).

The platform is completely free and non-binding. Recessed counterpoises guard against interference from people or objects around the scale. To provide long life, accuracy and sensitivity, self-aligning, hardened steel pivots and "v" bearings are used.

Model Number	Type Number	Capacity	Beam Graduation	Counterpoise Weights
1124	271100	1000 lb	100 lb x 8 oz	900 lb
1124-1	271101	500 kg	50 kg x 200 g	450 kg

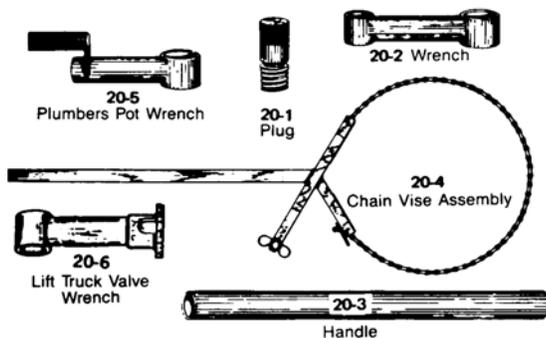
Liquid Level Indicator

29000 Accu-Level Gauge Strips stick to the side of 20 lb. Cylinders. Pouring hot water on the strip activates it to show the liquid level of the LP-Gas in the cylinder. Part number **260038** (Ctn Qty - 48)



Bot-L-Rench

For removing and installing valves in DOT cylinders and lift truck cylinders



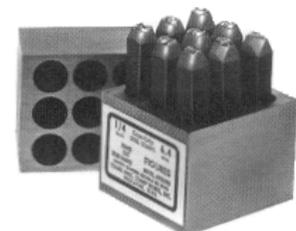
Air Hammer Stamping Tool

Standard steel stamp die inserts directly into the tool and prevents the stamp from getting out of track. Utilizes a low volume of air pressure (50 psi or less). Comes complete with recertification date-stamp tool, stamp number set '0 to 9' plus the letter 'E'.



Steel Stamp Set

Type Number	Description
404016	SK-09E/14 Number Set with letter E
404017	SK-AZ/14 Letter Set
404018	Letter 'E' only - 1/4"



Part Number Codes:

M = Metal (Aluminum) A = 6" Letters
 S = Scotchlite® Brand Reflective B = 4" Letters
 V = Vinyl BB = 3" Letters
 G = Magnetic C = 2" Letters
 P = Polyethylene

THIS VEHICLE STOPS AT ALL RAILROAD CROSSINGS

8" x 36" S22-A 650030

LIQUEFIED PETROLEUM GAS

2" V302-C 650071 3" V302-BB 650015

PROPANE GAS

3" V288-BB 650077

PROPANE

6" V28-A 650013
 4" V28-B 650014
 2" V28-C 650042

FLAMMABLE

6" V24-A 650012
 3" V24-BB 650032
 2" V24-C 650079

FLAMMABLE GAS

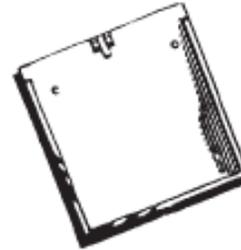
6" V17-A 650009
 4" V17-B 650010
 2" V17-C 650076

NO SMOKING

6" V23-A 650004
 4" V23-B 650011
 2" V23-C 650031

WE STOP AT ALL RR CROSSINGS

4" x 36" S22-B 650039



MPH69 Placard Holder
650001



Poly P-1075 650002
 Magnetic G-1075 650025
 Vinyl V-1075 650003



Vinyl V52 650051



Vinyl V53 650055



7.5" x 7.5" V704-1 650021
 15" x 15" V704-3 650066



S500B (Blue) 650036

CYLINDER FILLING CAPACITY CHART

W.C.	U.S. PROPANE	W.C.	U.S. PROPANE
2.39	1	35.8	15
4.78	2	38.2	16
7.17	3	40.6	17
9.56	4	43.0	18
11.9	5	45.4	19
14.3	6	47.8	20
16.7	7	50.2	25
19.1	8	71.7	30
21.5	9	78.8	33
23.9	10	83.6	35
26.2	11	95.6	40
28.6	12	105.1	44
31.0	13	119.5	50
33.4	14	239	100

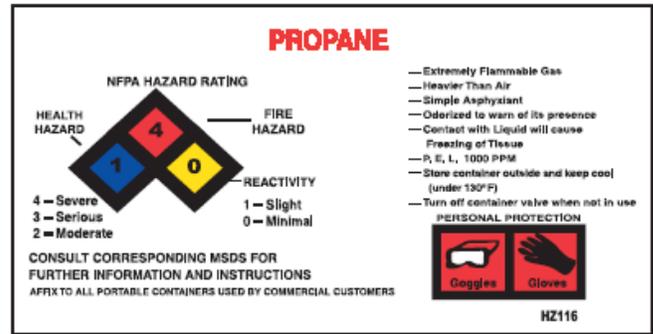
P101
650006

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 V = Vinyl BB = 3" Letters
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 P = Polyethylene



AA16 650027



2.5" x 5" HZ116 650037



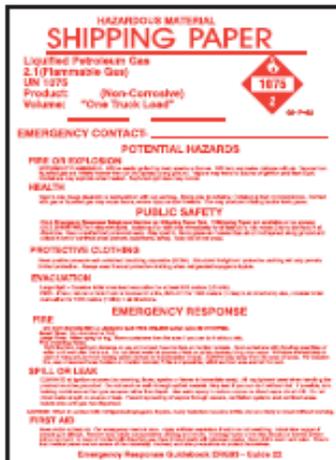
Vinyl V82 650056
 Poly P82 650058



4" x 9" SP53-R 650029

EMERGENCY SHUTOFF

1" Letters 650044



7" x 8.5" P83 650018



P102 650068

We have many other decals available in stock or we can special order to meet your requirements.

GM-3

The GM-3 is one of the finest and most popular lighters made. The continuous ignition system means that it will never blow out. The long slender design lets you get at hard to reach places with total safety. Loaded with lots of great features. **Type Number 320303**



GM-3

GM-3X

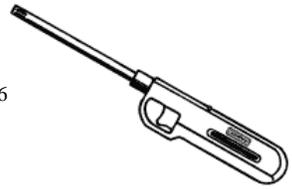
All the great features of the GM-3 with a flexible 15" extender nozzle. Ideal for industrial uses or hard-to-reach pilot lights. A must for service technicians. **Type Number 320301**



GM-3X

GM-6

Easy one-handed operation makes this high quality lighter a snap to use. The GM-6 is our most popular mid-priced model and one of the handiest tools you will ever use at home, on the road, outdoors or in the workshop. **Type Number 320304**



GM-6

GM-12

This handy igniter is the one designed exclusively for lighting all gas appliances. No butane gas to refill! The continuous ignition piezo electric sparkler assures an immediate spark every time. The automatic illumination micro light along with a curved nozzle makes tough lighting jobs easy. **Type Number 320306**



GM-12

Standard Baso Thermocouple

The K15 Standard Thermocouple is used for Baso, Basoid, and Basotrol valves and switches.

Part Number	Item Number	Length	Millivolt Range
K15DS-18	300038	18"	20 - 28
K15DS-24	300040	24"	20 - 28
K15DS-30	300042	30"	20 - 28
K15DS-36	300044	36"	20 - 28
K15DS-48	300045	48"	30 - 35



K15

“Super Slim Jim” Universal Thermocouple

The K19 is used with all “G” and “H” Baso valves as well as automatic pilot valves made by other control manufacturers whose power unit connector is like the Baso series.

Part Number	Item Number	Length	Millivolt Range
K19AT-18	300018	18"	25 - 35
K19AT-24	300024	24"	25 - 35
K19AT-30	300030	30"	25 - 35
K19AT-36	300036	36"	25 - 35
K19AT-48	300037	48"	25 - 35



K19

Winter Monkey Grip

Chemical resistant. Vinyl coated, caramel color. Curved fingers, wing thumb and general softness make this glove very comfortable and easy to wear.

23-193	Coated safety cuff	Men's size
--------	--------------------	------------



Wet Winter Monkey Grip

Raised Finish Vinyl Coating A tough, flexible vinyl coating is bonded to a needled non-woven material to provide a raised surface that resists chemicals and abrasion plus offers an excellent wet and dry grip.

Non Woven Insulation Protected from wetness by the vinyl coating is a soft, comfortable non woven inner lining that insulates against the cold better than jersey and foam/fleece lined winter work gloves.

23-173	Coated safety cuff	Men's size
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Winter Tuf-Duk

Vinyl impregnated, 2-tone brown and gold. Repels liquid (not chemical resistant). Provides an excellent grip and long wear.

31-791	Knitwrist style	Men's M & L
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Summer Gloves

General Use * Truck Driving * Maintenance

52-547	Drivers style	Men's M & L
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Snorkel Vinyl Coated Gloves

Comfortable ... a premium plastic compound provides easier flexibility and comfort. Two-piece lining eliminates seams from the working areas to prevent hand irritation and premature wear-through. Curved, preflexed fingers and wing thumb give extra working ease.

4-452	Jersey lined. 12" coated gauntlet.	Men's M & L
4-414	Jersey lined. 14" coated gauntlet.	Men's L



Red Dragon Torch Kits

HT 1 ½-10C Hand Torch Kit Contains:
 HT 1 ½-10 Hand Torch (50,000 BTU/hr.)
 HP 10 C U.L. Listed Hose (10 ft)
 P-3199 W POL Fitting
 V-334 Adjusting Needle Valve
 PC2C Pipe Thread Compound
 L2001 Spark Lighter
 Type Number: **280313**



VT 2 ½-30C Torch Kit Contains:
 VT 2 ½-30 Vapor Torch (200,00 BTU/hr.)
 HP 10 C U.L. Listed Hose (10 ft)
 P-3199 W POL Fitting
 V-3055 P Adjusting Needle Valve
 PC2C Pipe Thread Compound
 Type Number: **280305**



VT 3-30C Torch Kit Contains:
 VT 3-30 Vapor Torch (500,00 BTU/hr.)
 HP 10 C U.L. Listed Hose (10 ft)
 V-3055 P Adjusting Needle Valve
 P-3199 W POL Fitting
 PC2C Pipe Thread Compound
 Type Number: **280300**



JET 8 Head Mix Torch - Twin vapor flamer features up to 1.7 million BTU and plenty of length, a great combination for those big jobs which require high heat. The twin burners mix at the torch head reducing the risk of flashback at the handle. Flame length up to six feet.
 Type Number: **280311**



Manchester Torch Kits

8017 - (920,000 BTU/hr.)
 The Power Jet is only 3 feet long and utilizes a pilot flame and trigger lock also. Type Number: **280360**

8061 - (920,000 BTU/hr.)
 The Power Jet Bubble Pack Kit contains the 8017 burner, 10 feet of hose, 0 - 100 lb. adjustable regulator, pressure gauge, POL fitting and operating instructions. Type Number: **280364**

8062 - (460,000 BTU/hr.)
 The Handy-Boy Burner Kit includes the smaller, pilot-less, burner assembly, 10 feet of hose, POL fitting and operating instructions. Type Number: **280365**



8061



8062

Rain Suits

Wet Wear 200 is a three-piece rain suit that is tough enough to reuse yet is economical enough to dispose of after one wearing. Made of .8 mil satin finish PVC film, it consists of a snap-front jacket, front bib overalls, and a detachable hood. Snaps at wrists and ankles provide easy size adjustment plus added safety.

Dielectrically welded seams are unaffected in chemical or solvent applications, unlike suits using thread or cement.

Rain Suit Model No.	Sizes
65-200	S,M,L,XL, & XXL



Chock-Blocks

ME-200 - Two chock-blocks with mounting bracket. Required equipment for all trucks.

Type Number	Part Number	Material
360200	ME-200	Aluminum
360203	WC2556A	Rubber



ME-200

Valve-Lok Locking Device

Prevents tampering with valve by unauthorized personnel. Easily installed by removing the valve's handwheel and placing Valve-Lok over the stem and then replacing the handwheel.

Description	Type Number
Fits standard globe & angle valves and tank valves, from 3/4" to 2" (Up to 4 3/4" diameter Handwheel)	360137
Fits standard globe & angle valves of 3"	360138



360137

Locking Cap

Type Number 404010 - Encloses ACME thread of filler valve to prevent tampering. Fits 1 3/4" ACME thread.

Padlock

22KA - Steel case padlock (1 1/2" wide) with two nickel-plated steel keys (keyed alike). Lock has cadmium rust proofing and a self-locking steel swivel shackle. **Type Number 280635**



SAF-T-LOK

Securely locks POL service valves to help prevent unauthorized hookups, reduce pilferage and increase security.

Part Number	Type Number	Description
510	404438	Standard carton contains (10) SAF-T-LOK complete & (1) Key
510-K	404439	Key



SUPERB Hot Plates

Stoves come with star burners with raised port holes. Each burner has individual burner control. Burner is rated at 12,000 BTU/HR.

Model Number	Type Number	Description
ES-100	350512	Low Leg Single Round Burner
ES-S100	350510	Low Leg Single Star Burner
ES-200	350515	Low Leg Double Round Burner
ES-S200	350518	Low Leg Double Star Burner
ES-300	350517	Low Leg Triple Round Burner
ES-S300	350519	Low Leg Triple Star Burner



Automatic Gas #1 Utility Stove

- Up to 80,000 BTU/H
- Lifetime cast iron burner
- Steel galvanized jacket
- 233 raised ports in burner for better air mixture

Item Number	Part Number	Description
#1 Utility Stove	350607	Stove with cooking grid
#1 Burner	350606	Burner with orifice & less valve



Gas & Air Leak Detector -

Find large and small leaks quickly with this safe to use liquid. Not a soap! But a scientifically blended product that has the ability to find even the smallest hairline leaks and indicate them with a cluster of bubbles. Simple spray on, brush on, squirt on or swab on and, presto, large leaks - large bubbles, small leaks - small bubble, No harsh chemical - safe to use - contains no ammonia, acids, or any other harsh ingredients.

Part Number	Description
360300	8 Oz. Bottle with Dauber Cap
360310	8 Oz. Empty Bottle
360305	1 Gallon



PLS-2 - Paste type thread sealer for every pipe joint service. Leak proof, seize proof, non-hardening and insoluble.

Part Number	Size
200000	1/4 Pint Can
200003	1 Pint Can



JC-30 - Paste type thread sealer, non-toxic, clean sealer which contains teflon. Easy to apply.

Part Number	Size
200005	1/4 Pint Can
200010	1 Pint Can



Rectorseal No. 5 - Pipe thread compound. Color yellow, slow dry and soft set.

Part Number	Size
200525	1/4 Pint Can
200530	1/2 Pint Can
220535	1 Pint Can



Teflon Tape - Pipe thread sealer

Part Number	Width	Length
223675	1/2"	520"
223676	3/4"	520"



Teflon Tape - Yellow gas pipe thread sealer

Part Number	Width	Length
223677	1/2"	260"
223678	3/4"	260"



LP-Gas Engine Fuel Hose

UL Listed engine fuel hose specially compounded heat resistant synthetic rubber seamless inner tube. Single braid or stainless steel wire. The hose is impregnated with oil and mildew resistant rubber compound. Available in cut or reel lengths

Item Number	Part Number	Hose ID
750556	SS25UL-4	3/16
750561	SS25UL-6	5/16
750565	SS25UL-8	13/32
750566	SS25UL-10	1/2



Couplings for LP-Gas Engine Fuel Hose

Item Number	Part Number	Hose ID	Connection	Description
750576	20820-4-4	3/16	1/4	Female Flare
750580	20820-6-6	5/16	3/8	Female Flare
750589	20820-8-8	13/32	1/2	Female Flare
750591	20820-10-10	1/2	5/8	Female Flare
750584	20820-12-12	3/4	3/4	Female Flare
750593	27920-4-4	3/16	1/4	Female Flare - 90°
750587	27920-6-6	5/16	3/8	Female Flare - 90°
750590	27920-8-8	13/32	1/2	Female Flare - 90°
750586	27720-6-6	5/16	3/8	Female Flare - 45°
750579	20120-4-4	3/16	1/4	Male NPT
750582	20120-4-6	3/16	3/8	Male NPT
750585	20120-6-6	13/32	3/8	Male NPT



Needle Valve

Carbon steel body and handle, valves serve in a variety of applications.

Body Style	Inlet	Outlet	Part Number
Globe	1/4" MNPT	1/4" FNPT	118203
Angle	1/4" MNPT	1/4" FNPT	118204

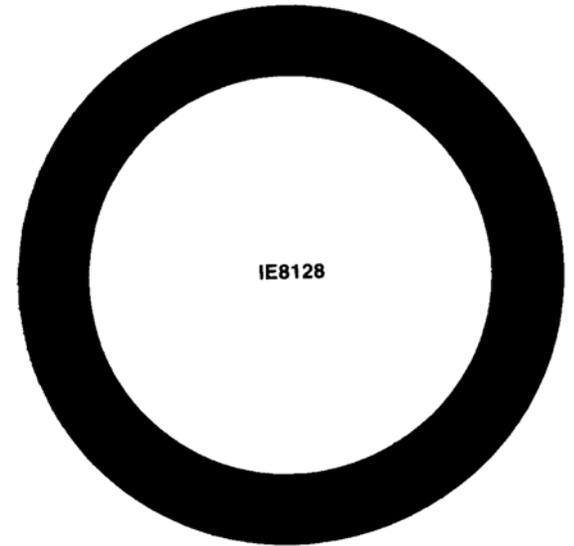


118204

Washers, O-Rings & Gaskets

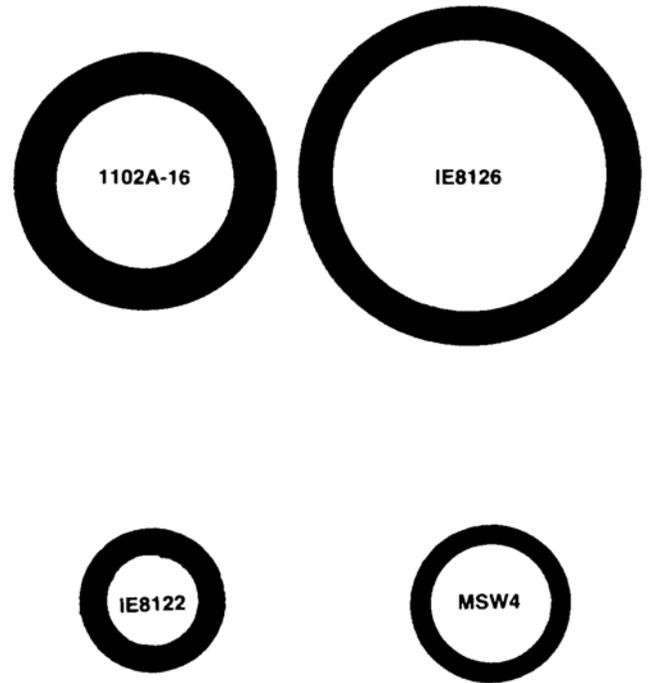
Washers (Actual Size Shown)

Application	Size	Part Number	Item Number
Forklift Connection	1 1/4" Acme	MSW4	403005
Filler, Vapor Return Valves & Adaptors	1 1/4" Acme	1E8122	126663
	1 3/4" Acme	ST-1102A-16	119337
	2 1/4" Acme	ST-1E8126	126670
	3 1/4" Acme	ST-1E8128	126673
	4 1/4" Acme	T10948	128169



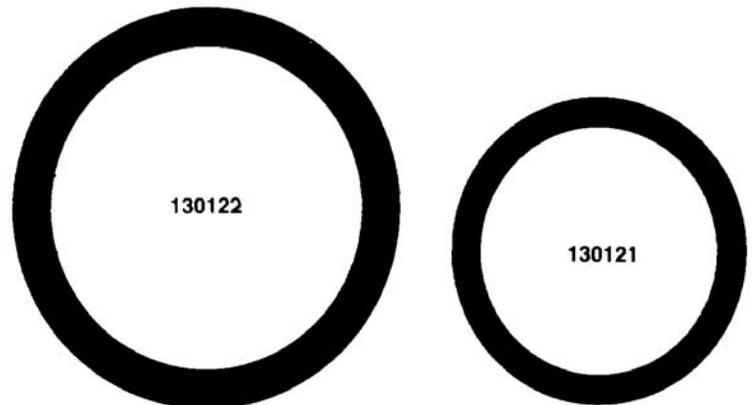
O-Rings

Application	Size	Part Number	Item Number
POL Nipple	POL	T12945	129076
Internal Forklift	1 1/4" Acme	114	403008
Filler, Vapor Return Valves & Adaptors	1 1/4" Acme	210	403010
	1 3/4" Acme	216	403012
	2 1/4" Acme	T12655	129055
	3 1/4" Acme	1H2917	127069
	4 1/4" Acme	238	403015



Float Gauge Gaskets (Actual Size Shown)

Description	Item Number
Senior Gauge Gasket	130122
Junior Gauge Gasket	130121





EM & Intelligen Generators

10 KW



7 KW



12 KW



15 KW



Traditional Power Generators

Intelligen

Household power needs	<u>7 kW</u>	<u>12 kW</u>	<u>15 kW</u>	<u>17 kW</u>	<u>20 kW</u>	<u>25 kW</u>	<u>Intelligen Comfort</u>	<u>Intelligen Premium</u>
Furnace Fan	●	■	■	◆	⊕	⊕	●	●
Refrigerator/Freezer	●	■	■	◆	⊕	⊕	●	●
Sump Pump	●	■	■	◆	⊕	⊕	●	●
Lighting	●	■	■	◆	⊕	⊕	●	●
Well Pump	●	■	■	◆	⊕	⊕	●	●
Televisions/Radio	●	■	■	◆	⊕	⊕	●	●
Computer	●	■	■	◆	⊕	⊕	●	●
Home Ventilation Fan		■	■	◆	⊕	⊕	●	●
Garage Door Opener		■	■	◆	⊕	⊕	●	●
Water heater			■	◆	⊕	⊕	●	●
Security System			■	◆	⊕	⊕	●	●
Central Air System (4 ton)				◆	⊕	⊕	●	●
Washing Machine				◆	⊕	⊕	●	●
Clothes Dryer					⊕	⊕	●	●
Dishwasher					⊕	⊕	●	●
Vacuum Cleaner					⊕	⊕	●	●
Toaster Oven					⊕	⊕	●	●
Humidifier						⊕	●	●
Microwave Oven						⊕	●	●
Extensive Power Needs						⊕	●	●



EM & Intelligen Generators

Intelligen Generators

1978MT	7kw Home Standby 60amp NEMA 1 Manual Transfer Switch with Engine Oil Warmer
1976MT	7kw Home Standby 50amp NEMA 1 Automatic Transfer Switch with Engine Oil Warmer
1977MT	7kw Home Standby 50amp NEMA 3 Automatic Transfer Switch with Engine Oil Warmer
1938MT	10kw Automatic Home Standby*
1815MT	12kw Automatic Home Standby*
4023MT	15kw Automatic Home Standby*
40213	Intelligen 25 15kw Automatic Home Standby**

*10 kw, 12 kw, and 15 kw are automatic but require the purchase of Automatic Transfer switch

**Intelligen Generator includes the 71013MT Upgrade listed below

All generators come ready to start, includes battery and oil.

1917MT	50amp Automatic Transfer Switch (NEMA 1)
1918MT	50amp Automatic Transfer Switch (NEMA 3)
1813MT	100amp Automatic Transfer Switch (NEMA 3)
1814MT	200amp Automatic Transfer Switch (NEMA 3)
1928MT	100amp Automatic Transfer Switch w/ Service Disconnect (NEMA 3)
1929MT	200amp Automatic Transfer Switch w/ Service Disconnect (NEMA 3)
71008MT	100amp Automatic Transfer Switch w/ ACCM* (NEMA 3)
71009MT	200amp Automatic Transfer Switch w/ ACCM* (NEMA 3)
71010MT	100amp Automatic Transfer Switch w/ ACCM* and Service Disconnect (NEMA 3)
71011MT	200amp Automatic Transfer Switch w/ ACCM* and Service Disconnect (NEMA 3)
71013MT	15kw Empower Series System Management Intelligen Upgrade - LCC (Load Control Center)
71015MT	A/C Power Control Module upgrade. For 12kw and 15kw units w/o ACCM

Empower Home Generator Systems

Features	12kw	15kw
Fully Automatic	●	●
Permanent Installation	●	●
Continuous Fuel Supply	●	●
LP of Natural Gas	●	●
Ultra Quiet operation	●	●
Computer-Safe Power	●	●
Fully Supported Service Network	●	●
Central A/C Capable <i>up to 4 ton</i>	●	●
Central A/C Capable <i>up to two 4 ton</i>		●
A/C Power Control Module	●	●
Remote System Status	●	●
Premium Vanguard Engine	●	●
Engine Oil Heater	○	○
Battery Warmer	○	○

*Central A/C requires the ACCM Module

Optional ○
Standard ●



10kw Portable Generator Available

Squibb-Taylor Valve Repair Parts

For Valve Part Numbers	Repair Kit	Part Number	Bonnet Assembly	Part Number	Stem & Disc Assembly	Part Number	Handle Assembly	Part Number
AL308, AL309	308-22	119039	308-25	119040	308-26	119041		
AL310, AL311, A1587, A1590, A1596, A1597, A1598, A1599	310-22	119059	310-25	119060	310-26	119061		
AL312, AL313	312-22	119109	312-25	119110	312-26	119111		
AL314, AL315	314-22	119125	314-25	119126	314-26	119127		
AL316, AL316F, AL317, AL317F	316-22	119169	316-25	119170	316-26	119171		
AL320, AL320F, AL321, AL321F	320-22	119217	320-25	119218	320-26	119219		
AL342, AL343	343-22	119360	343-25	119335	342-1700	119333	340-1300	119359
AL344, AL345	344-22	119361	345-25	119356	340-1200	119221		
AL407, AL409	407-21	119255	407-25	119257	407-23	119256		
AL410, AL411, AL412, AL413	410-21	119279	410-25	119281	410-23	119280		
AL416, AL417	417-22	119289	417-25	119290			417-1400	119291
L422, L423, L424	422-22	119464						
L422			422-1600	119466	422-1300	119468		
L423			423-1600	119470	423-1300	119472		
L424			424-1600	119474	424-1300	119476		

Tripod Parts

TP1-2020	119406	Seal O-Ring	TP3-2022	119416
TP2-2020	119408	Seal O-Ring	TP1-1304 *	119418
TP3-2020	119410	Seal O-Ring	TP2-1304 *	119420
TP4-P5-099	119396	Seal O-Ring	TP3-1304 *	119422
TP4-P5-100	119398	Seal O-Ring	* For Models T55, T77 or T126 (prior to 1997)	
TP1-2022	119412	Body O-Ring		
TP2-2022	119414	Body O-Ring		

Repair Parts Kits

Fisher Internal Valves

FOR PART NUMBER	KIT COMPONENTS	REPAIR PARTS KIT NUMBER
C204-43	Liner Bushings, Packing, Rod Wiper, Discs, & O-Ring	125000
C208	Seat Disc & O-Rings	125005
C402-16, C421-16, & C427-16	Discs, Packing, Stub Shaft, O-Rings, Cotter Pin, & Washer	125010
C402-24, C421-24, & C427-24	Discs, Packing, Stub Shaft, O-Rings, Cotter Pin, & Washer	125015
C403-24	Discs, Packing, Stub Shaft, Cotter Pin, Washer, & Gaskets	125020
C404-24	Discs, Packing, Stub Shaft, Cotter Pin, Washer, & Gaskets	125025
C407-10	Discs, Packing, & O-Ring	125030

Fisher Globe & Angle Valves

N300, N400, N310, & N410	Disc, Packing, O-Ring, & Body Gasket	1/2", 3/4", & 1" Sizes	125050
		1 1/4" & 1 1/2" Sizes	125055
		2" Size	125060
		3" Size	125065
N350 & N450	Disc, Packing, O-Ring, & Body Gasket		125070

Fisher Cylinder & Service Valves

B600, C600, & L600 Series	Diaphragm Assembly	T13184	129080
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Sherwood Valves

Part Number	Item Number	Description	For Valve Part Number
623A-100	331740	Repair Kit	623A
440-50	331695	Bonnet Assembly	440 Series
440-50L	331700	Bonnet Assembly	440L Series
1855-100	331530	Repair Kit	1855 Series
1901	331545	Handwheel	3250 Series
1901S	331550	Handwheel	1425, 1426, 1427, 1445 & 1446 Series
2341-100	331590	Bonnet Assembly	2341 Series
3250-8LH	331605	Bonnet Assembly	3250A, 1425, 1427, 1445 & 1447 Series
3329-7	331620	Handwheel	3329, 3331 & 2030 Series
3329-13LH	331615	Bonnet Assembly	3329, 3331, 1425C, 1427C, 1447C, & 2030 Series

BASIC FACTS

	Propane	Butane
Formula	C ₃ H ₈	C ₄ H ₁₀
Boiling Point. F	-44	32
Specific Gravity of Gas (Air=1.00)	1.53	2.00
Specific Gravity of Liquid (Water = 1.00)	0.51	0.58
Weight per Gallon of Liquid at 60 deg F	4.23	4.87
BTU per Gallon of Gas at 60 deg F	91,500	102,600
BTU per Pound of Gas	21,560	21,180
BTU per Cubic Foot of Gas at 60 deg F	2,500	3,175
Cubic Feet of Gas/Gal. Liquid at 60 deg F	36.5	31.0
Cubic Feet of Gas/lb.. Liquid at 60 deg F	8.55	6.51

VAPOR PRESSURES

Temperature degrees F	Approximate Pressure (PSIG)	
	Propane	Butane
-40	1.3	
-30	5.5	
-20	10.7	
-10	16.7	
0	23.5	
10	31.3	
20	40.8	
30	51.6	
40	63.3	3.0
50	77.1	6.9
60	92.5	11.5
70	109.3	16.5
80	128.1	22.0
90	149.3	29.0
100	172.3	37.0
110	197.3	46.0

PRESSURE & FLOW EQUIVALENTS

1 Std. Atmosphere	14.73 lb./sq. In.	1.014 bar
1" Water Column (wc)	0.58 oz./sq.in.	2.49 millibar
11" Water Column	0.4 lb./sq.in.	27.39 millibar
1 lb./sq.in. (psig)	27.71" wc	0.0689 bar
1" Mercury	0.49 psig	33.46 millibar
1 Std. Cubic Ft./Hr.	2,500 BTU/Hr.	0.02832 Cu.metres/Hr.
1 BTU/Hr,	0.2931 Watts	

100 POUND CYLINDERS

Guide for installing 100 pound cylinders. For continuous draws when temperatures may reach 0 degrees F. Assume the vaporization rate of a 100 pound cylinder is approximately 50,000 BTU per hour.

$$\text{Number of cylinders} = \frac{\text{Total load in BTU}}{50,000}$$

Approximate Vaporization Rate For 100 Pound Cylinder

Lbs. of Propane In Cylinder	Maximum Continuous Draw in BTU per Hour at Various Temperatures in Degrees F.				
	0 F	20 F	40 F	60 F	70 F
100	113,000	167,000	214,000	277,000	300,000
90	104,000	152,000	200,000	247,000	277,000
80	94,000	137,000	180,000	214,000	236,000
70	83,000	122,000	160,000	199,000	214,000
60	75,000	109,000	140,000	176,000	192,000
50	64,000	94,000	125,000	154,000	167,000
40	55,000	79,000	105,000	131,000	141,000
30	45,000	66,000	85,000	107,000	118,000
20	36,000	51,000	68,000	83,000	92,000
10	28,000	38,000	49,000	60,000	66,000

ASME STORAGE CONTAINERS

Guide for determining propane vaporization capacity for ASME storage containers. Where **D** = Outside diameter in inches

L = Overall tank length in inches

K = Constant for percent volume of liquid in tank

Percentage of Container Filled	K Value	*Propane Vaporization Capacity at 0 Degrees F (in BTU/HR.)
60	100	D x L x 100
50	90	D x L x 90
40	80	D x L x 80
30	70	D x L x 70
20	60	D x L x 60
10	45	D x L x 45

* These formulae allow for the temperature of the liquid to refrigerate to -20 degrees F. producing a temperature differential of 20 degrees F for the transfer of heat from the air to the container's wetted surface and then into the liquid. The vapor space area of the vessel is not considered. Its effect is negligible. To obtain vaporizing capacities for other air temperatures, multiply the results of the above formulae, bu one of the following factors for the prevailing air temperature.

Prevailing Air Temperature	Multiplier	Prevailing Air Temperature	Multiplier
-15 degrees F	.25	5 degrees F	1.25
-10 degrees F	.5	10 degrees F	1.5
-5 degrees F	.75	15 degrees F	1.75
0 degrees F	1	20 degrees F	2

Squibb-Taylor's Quality Policy

We will provide defect-free products and service to our customers and associates.

We will fully understand the requirements of our jobs and the systems that support us.

We will conform to these requirements at all times.

Squibb-Taylor, Inc., established in 1947, has been serving the LP-gas industry with quality lines and service for over fifty years.

Squibb-Taylor, Inc., is responsible for the national marketing of Taylor's liquid level gauges and PGI International valves for the LP-gas industry.

In addition, Squibb-Taylor, Inc., is a leading distributor of the full line of Fisher Controls, Sherwood Gas Products, Cavagna Valves, Corken pumps, Neptune meters, Blackmer pumps and a complete line of supply items for the LP-Gas market.

Squibb-Taylor's Dallas headquarters is the hub of planning, the respective production projections and the research and development programs of its affiliates. The Dallas facility houses 24,500 square feet of space, of which 14,500 square feet are devoted to its warehouse that stocks some 10,000 separate items.

The Memphis, Tennessee, warehouse facility was established in 1952 for rapid access to the constantly growing mid-southern markets.

We wish to thank you for the support and confidence you have shown in Squibb-Taylor and hope relationships will continue for decades to come.

TERMS & CONDITIONS

Payment

To customers with established credit, *net 30 days from date of invoice*. Customers without established credit will be shipped C.O.D., credit card with percentage upcharge or cash in advance.

Prices

Prices are subject to change without notice.

Shortage Claims

Claims for shortages must be made within 10 days after receipt of shipment.

Warranty

Warranties as expressed by individual manufacturers will be honored.

Returned Material

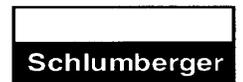
No material should be returned for credit without Seller's prior approval. Transportation charges must be prepaid. A restocking charge may apply. Merchandise returned must be accompanied by a Returned Goods Authorization (RGA) number, which is given to the customer by Squibb-Taylor.

Taxes

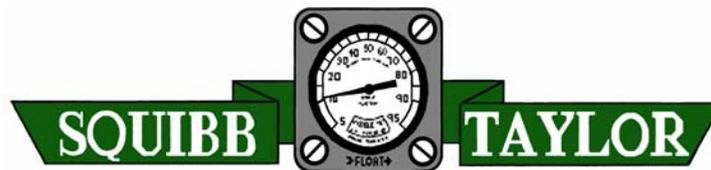
Buyer shall be liable for all Sales, Use, or Excise taxes not included in total invoice price.

Special Orders

On special items we order that are not normal stock items, we cannot accept cancellations or returns and may require prepayment at the discretion of Squibb-Taylor.



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