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To Our Valued Customers:

We are pleased to provide you with our newest catalog featuring an extensive assortment of equipment needed for the propane and anhydrous ammonia industry. We provide only quality products at competitive prices.

We pride ourselves on our service. With our sales and service team having more than 300 years combined experience, we have the knowledge and ability to handle your questions and needs on all aspects of the industry.

Since 1968, we have been providing equipment from our warehouse located in Byron, Michigan. In 2009, we opened a warehouse in Lucasville, Ohio. In 2018, our Waupaca, Wisconsin location was opened.

Our main concern is your satisfaction. If you are in need of something that is not found in our catalog, please contact us by phone, fax or e-mail.

We would like to thank you, our customers, for your support and for giving us the opportunity to serve you!

Sincerely,

The Employees of IPS EQUIPMENT, INC.

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TERMS AND CONDITIONS

General Policy:

This catalog was published for the benefit of our customers. Usage of this catalog by persons other than our customers or employees is unauthorized. The information contained in this catalog was checked for accuracy and clarity at the time of publication. IPS Equipment, Inc. cannot be responsible for changes in products or specifications or for unintended errors in publication. The sizes, dimensions, and capacities are approximate and should not be considered as actual specifications. For the most accurate specifications, please contact our office. In constructing this catalog, it is our hope that we will provide you with the most comprehensive and detailed one in the industry. If after review there are any questions, please contact us for a prompt and courteous reply. Due to the vast number of items listed in this catalog, not all items are in stock but can be special ordered. Most special order items are marked with *.

Prices:

All prices are subject to change without notice. For the most up-to-date pricing, contact our office.

Terms:

All prices are F.O.B. IPS Equipment, Inc. warehouse unless otherwise stated. Payment terms are NET 30 DAYS for established credit customers unless otherwise stated on invoice. A late charge of 1 1/2% per month, equal to an annual percentage rate of 18%, will be assessed on all overdue accounts.

Taxes:

Buyer shall be liable for all Sales, Use, or Federal Excise taxes not included in total invoice price.

Claims – Shortages and Damages:

All items are shipped F.O.B. our warehouse or F.O.B. the factory. When a carrier accepts merchandise for shipment, he also assumes responsibility for safe delivery. DO NOT SIGN for a shipment until you are satisfied all is in order and in good condition. Be sure any apparent damage is noted across the face of the freight bill and file claim for damages directly to the carrier. If concealed damage is found, be sure to notify the shipping agent within seven (7) days of receipt. Save merchandise cartons and packaging materials for carrier inspection. DO NOT return damaged merchandise to us without calling and receiving a Return Goods Authorization number. IPS Equipment, Inc. cannot be responsible for any credits unless this policy is followed.

Returned Goods:

A Return Goods Authorization number must be obtained before returning any merchandise. All returns are subject to a 20% restocking charge.

Delivery:

It is up to the buyer to specify shipping instructions. If not specified, we will ship best way.

Minimum Orders:

Minimum order will be \$10.00, please.

Warranties:

It is our intention to bring to our customers the very best products available. IPS Equipment, Inc. acts as a warrantor only on behalf of the manufacturer's written warranty policy. Manufacturer warranties are available upon request.



LIMITED 10 YEAR WARRANTY AND LIMITATION OF LIABILITY

LIMITED 10 YEAR WARRANTY

RegO warrants to the original purchasers the products and repair kits manufactured by it to be free from defects in materials and workmanship under normal use and service for a period of 10 years from the date of manufacture. If within thirty days after buyer's discovery of what buyer believes is a defect, buyer notifies in writing and ships the product to RegO at 100 RegO Drive, Elon, NC 27244, RegO, at its option, and within forty-five days of receipt, will repair, replace F.O.B. point of manufacture, or refund the purchase price of that part or product found by RegO to be defective. Failure of buyer to give such written notice and ship the product within thirty days shall be deemed an absolute and unconditional waiver of any and all claims of buyer arising out of such defect.

This warranty does not extend to any product or part that is not installed and used after installation in accordance with RegO's printed instructions, all applicable state and local regulations, and all applicable national standards, such as those promulgated by NFPA, DOT and ANSI. This warranty does not extend to any product or part that has been damaged by accident, misuse, abuse, failure to maintain, or neglect, nor does it extend to any product or part which has been modified, altered, disassembled, or repaired in the field. This warranty does not cover any cosmetic issues, such as scratches, dents, marring, fading of colors or discoloration.

Except as expressly set forth above, and subject to the limitation of liability below, RegO MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, with respect to its products and parts, whether used alone or in combination with others. RegO disclaims all warranties not stated herein.

LIMITATION OF LIABILITY

RegO's total liability for any and all losses and damages arising out of any cause whatsoever shall in no event exceed the purchase price of the products or parts in respect of which such cause arises, whether such cause be based on theories of contract, negligence, strict liability, tort or otherwise.

RegO shall not be liable for incidental, consequential or punitive damages or other losses. RegO shall not be liable for, and buyer assumes any liability for, all personal injury and property damage connected with the handling, transportation, possession, further manufacture, other use or resale of products, whether used alone or in combination with any other products or materials.

From time to time buyers might call to ask RegO for technical advice based upon limited facts disclosed to RegO. If RegO furnishes technical advice to buyer, whether or not at buyer's request, with respect to application, further manufacture or other use of the products and parts, RegO shall not be liable for such technical advice or any such advice provided to buyer by any third party and buyer assumes all risks of such advice and the results thereof.

NOTE: Some states do not allow the exclusion or limitation of incidental, consequential or punitive damages, so the above limitation or exclusion may not apply to you. The warranty gives you specific legal rights, and you may have other rights that vary from State to State. The portions of this limited warranty and limitation of liability shall be considered severable and all portions which are not disallowed by applicable law shall remain in full force and effect.

WARNING

All RegO products are mechanical devices that will eventually become inoperative due to wear, corrosion and aging of components made of material such as rubber, etc. The environment and conditions of use will determine the safe service life of these products. Periodic inspection and maintenance are essential to avoid serious injury and property damage.

Many RegO products are manufactured components which are incorporated by others on or in other products or systems used for storage, transport, transfer and otherwise for use of toxic, flammable and dangerous liquids and gases. Such substances must be handled by experienced and trained personnel only, using accepted governmental and industrial safety procedures.

NOTICE TO USERS OF PRODUCTS

The Limited Warranty stated above is a factory warranty to the first purchasers of RegO products. Since most users have purchased these products from RegO distributors, the user must within thirty (30) days after the user's discovery of what user believes is a defect, notify in writing and return the product to the distributor from whom he purchased the product/part. The distributor may or may not at the distributor's option choose to submit the product/parts to RegO, pursuant to this Limited Warranty. Failure by buyer to give such written notice within thirty (30) days shall be deemed an absolute and unconditional waiver of buyer's claim for such defects. Acceptance of any alleged defective product/parts by RegO's distributor for replacement or repairs under the terms of RegO's Limited Warranty in no way determines RegO's obligations under this Limited Warranty.

Because of a policy of continuous product improvement, RegO reserves the right to change designs, materials or specifications without notice.





This information describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH₃). The following points are important to know for proper use of the catalog:

1. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.
2. Materials used for construction of products in this catalog are suitable for rated service pressure at temperatures of -40°F to +165°F, unless otherwise specified.
3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.
 - a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no brass parts).
 - b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service. These are of partial aluminum materials and are listed by Underwriters Laboratories (UL) for NH₃ service only.
 - c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.
 - d. SS” prefix—Hydrostatic relief valve with this prefix are suitable for NH₃ and LP-Gas service (i.e., they have stainless steel materials).
4. Valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH₃.

Proper application, installation and maintenance of products in this catalog are essential. Users of these products should obtain further information if there are any doubts or questions.

Warning

All RegO products are mechanical devices that will eventually become inoperative due to wear, corrosion and aging of components made of materials such as rubber. The environment and conditions of use will determine the safe service life of these products. Periodic inspection and maintenance are essential to avoid serious injury and property damage.

Many RegO products are manufactured for storage, transport, transfer and use of toxic flammable and dangerous liquids and gases. Such substances should be handled by experienced and trained personnel only, using accepted governmental and industrial safety procedures. Never vent LP-Gas near any possible source of ignition.

Notice

Installation, usage, and maintenance of all RegO products must be in compliance with all RegO instructions as well as requirements and provisions of NFPA #54, NFPA#58, DOT, ANSI, and all applicable federal, state, provincial and local standards, codes, regulations, and laws.

Inspection and maintenance on a periodic basis is essential. Installation and maintenance should be performed only by qualified personnel.

Be sure all instructions are read and understood before installation, operation and service.

Filters

RegO LP-Gas equipment is designed to operate in a system free from contamination. A variety of in-line filters are commercially available to the LP-Gas industry for installation in domestic systems.

The use of an in-line filter should be considered when other system components may be unclean and the system contaminated by rust, scale, dirt, debris or other foreign material.

Line Sizing Chart for Liquid Propane

(Based on Pressure Drop of 1 PSI)

Liquid Propane Flow GPH	Iron Pipe (Feet)																
	1/4"		3/8"		1/2"		3/4"		1"		1-1/4"		1-1/2"		2"		
	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	Schedule 40	Schedule 80	
10	729	416															
15	324	185															
20	182	104	825	521													
40	46	26	205	129	745	504											
60	20	11	92	58	331	224											
80	11	6	51	32	187	127	735	537									
100	7	4	33	21	119	81	470	343									
120			23	15	83	56	326	238									
140			15	9	61	41	240	175	813	618							
160			13	8	47	32	184	134	623	473							
180					37	25	145	106	491	373							
200					30	20	118	86	399	303							
240					21	14	81	59	277	211							
280					15	10	60	44	204	155							
300					13	9	52	38	177	135	785	623					
350							38	28	130	99	578	459					
400							30	22	99	75	433	344	980	794			
500							19	14	64	49	283	225	627	508			
600									44	33	197	156	435	352			
700									32	24	144	114	320	259			
800									25	19	110	87	245	198	965	795	
900									19	14	87	69	194	157	764	630	
1000									16	12	71	56	157	127	618	509	
1500											31	25	70	57	275	227	
2000											18	14	39	32	154	127	
3000											8	6	17	14	69	57	
4000														10	8	39	32
5000																25	21
10000																6	5

To Use Chart

1. Having determined the required flow at point of use, locate this flow in the left hand column. If this falls between two figures, use the larger of the two.
2. Determine total length of piping required from source to point of use.
3. Read across chart from left (required flow) to right to find the total length which is equal to or exceeds the distance from source to use.
4. From this point read up to find the correct size of pipe required.

When RegO LP-Gas Regulators are properly installed, safe, precise, trouble-free service is the result.

Dependability is built into every regulator ... the result of rigid standards of quality control and close tolerance machining. And this has been true for more than 90 years.

RegO Products are manufactured from the finest materials, and assembled and tested using procedures second to none.

RegO Regulator Selection

In order to properly size the RegO Regulator, find the total load of the installation. The total load is calculated by adding up the input ratings (BTU or CFH) of all appliances in the installation. Input ratings may be obtained from the nameplates on the appliances or from the manufacturers' literature.

Determine the type of regulation needed referring to the chart below.

Type of System	Maximum Load	Suggested Regulator
First Stage in a Two Stage System	1,500,000	LV3403TR
	2,500,000	LV4403SR Series LV4403TR Series
Second Stage in a Two Stage System	450,000	LV3403B Series
		LV3403BR Series
	935,000	LV4403B Series
		LV4403BD Series
1,600,000	LV5503B4/B6	
2,300,000	LV5503B8	
Second Stage in a 2 PSIG System	1,000,000	LV4403Y4/Y46R
	2,200,000	LV5503Y6/Y8
Integral Twin Stage	450,000	LV404B34/39 Series
	525,000	LV404B4/B9 Series
Integral Twin Stage 2 PSIG Delivery	800,000	LV404Y9
	650,000	LV404Y39
Automatic Changeover	400,000	7525B34 Series
	450,000	7525B4 Series

* See catalog page for inlet and delivery specifications.

Now determine which regulator in the Series would be most suitable. Turn to the individual product pages and refer to the Performance Curves. Check the performance of the regulator with your actual load conditions at the minimum LP-Gas inlet pressure for the regulator. Use the pressure corresponding to your lowest winter temperatures shown in the chart below or refer to the delivery pressure of your first stage regulator.

Temperature		Approx. Pressure (PSIG)		Temperature		Approx. Pressure (PSIG)	
°F	°C	Propane	Butane	°F	°C	Propane	Butane
-40	-40	3.6		40	4	72	3.0
-30	-34	8		50	10	86	6.9
-20	-29	13.5		60	16	102	12
-10	-23	23.3		70	21	127	17
0	-18	28		80	27	140	23
10	-12	37		90	32	165	29
20	-7	47		100	38	196	36
30	-1	58		110	43	220	45

Example for a First Stage Regulator

1. Assume a load of 500,000 BTU's per hour.
2. Assume a minimum delivery pressure of 9.5 PSIG.
3. Assume a minimum tank pressure of 15 PSIG.
4. For these conditions, refer to chart for the LV4403TR Series,

All give you a product that provides accurate gas delivery under varying pressure ranges and load conditions.

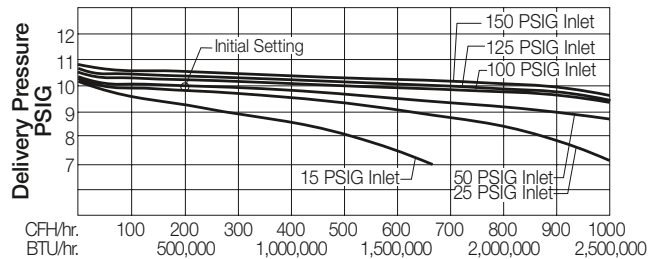
RegO LP-Gas Regulators are UL listed and comply with applicable code requirements.

RegO Products offer a complete line of LP-Gas Regulators with capacities for almost every application.

First Stage Regulator, shown below.

5. Find the line on the chart corresponding to the lowest anticipated winter tank pressure (note that each performance line corresponds to and is marked with a different inlet pressure in PSIG).
6. Draw a vertical line upward from the point of assumed load (500,000 BTU's per hour) to intersect with the line corresponding to the lowest tank pressure.
7. Read horizontally from the intersection of these lines to the delivery pressure at the left side of the chart. In this example the delivery pressure will be 9.7 PSIG. Since the delivery pressure will be 9.7 PSIG at the maximum load conditions and lowest anticipated tank pressure, the regulator will be sized properly for the demand.

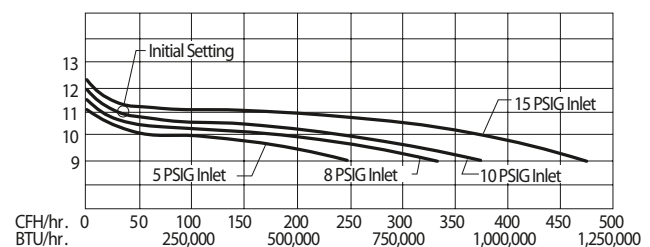
LV4403TR Series First Stage Regulator



Example for a Second Stage Regulator

1. Assume load of 250,000 BTU's per hour.
2. Assume a minimum delivery pressure of 10" w.c.
3. Assume a minimum inlet pressure of 10 PSIG.
4. For these conditions, refer to chart for the LV4403B Series, Second Stage Regulator, shown below.
5. Find the line on the chart corresponding to the anticipated inlet pressure.
6. Draw a vertical line upward from the point of assumed load (250,000 BTU's per hour) to intersect with the line corresponding to the lowest inlet pressure.
7. Read horizontally from the intersection of these lines to the delivery pressure at the left side of the chart. In this example the delivery pressure will read 10.6" w.c. Since the delivery pressure will be 10.6" w.c. at the maximum load condition and lowest anticipated inlet pressure, the regulator is sized properly for the demand.

LV4403B Series Second Stage Regulator





Purpose

In its continuing quest for safety, RegO publishes a series of bulletins explaining the hazards associated with the use, misuse, and aging of LP-Gas valves and regulators. It is hoped that these factual bulletins will make clear to LP-Gas dealer managers and service personnel, that the utmost care and attention must be used in the installation, inspection, and maintenance of these products, or problems could occur which would result in injuries and property damage.

The National Fire Protection Association NFPA 58 Liquefied Petroleum Gas Code - 2017 Edition states in Section 4.4 Qualification of Personnel; "Persons whose duties fall within the scope of this code shall be provided with training that is consistent with the scope of their job activities and that includes proper handling and emergency response procedures... Refresher training shall be provided at least every 3 years, initial and subsequent training shall be documented". These "RegO Safety Warnings" may be useful in training new employees and reminding older employees of hazards that can occur. It is recommended that all employees complete the Propane Education Research Council's Certified Employee Training Program.

Nature of Warnings

It is recognized that warnings should be as brief as possible, but the factors involved in regulator failures are not simple. They need to be fully understood so that proper maintenance programs can be established. If there is a simple warning, it would be:

Inspect regulators regularly as outlined in this safety warning and replace as required per these recommendations. When all of these recommendations are followed, the recommended service life of an RegO regulator (except single stage) manufactured after 1995 is 25 years. The recommended service life of all other RegO regulators is 15 years.

LP-Gas Regulators

This bulletin applies most particularly to permanent LP-Gas installations of cylinders and tanks. The warnings also apply in most cases to portable installations of recreational vehicles, barbecue grills, etc.
This bulletin is not intended to be an exhaustive treatment of the subject of regulators and certainly does not cover all safety practices that should be followed in the installation and maintenance of LP-Gas systems.

It should not be necessary to remind readers of this bulletin that regulators must be installed in strict conformance with NFPA Pamphlets 54 and 58, and all other applicable codes and regulations. Codes, regulations and manufacturer's recommendations have been developed by experts with many years of experience in the LP-Gas industry.

Failure to fully follow these codes, regulations and recommendations could result in hazardous installations.

Pamphlet 58 states "All regulators for outdoor installations, except regulators used for portable industrial applications, shall be designed, installed or protected so their operation will not be affected by the elements (freezing rain, sleet, snow, ice, mud or debris). This protection may be integral with the regulator."

Failed and/or Inoperative Regulators

Failed regulators can cause three kinds of hazards:

- High pressure LP-Gas in a system downstream of the regulator; and
- Leaks of LP-Gas to atmosphere from the regulator itself.
- Loss of pressure due to a "freeze-up" in the orifice.

High Pressure LP-Gas in a System

Anything that prevents a regulator from regulating properly could result in high pressure gas at the regulator outlet and thus in a system.

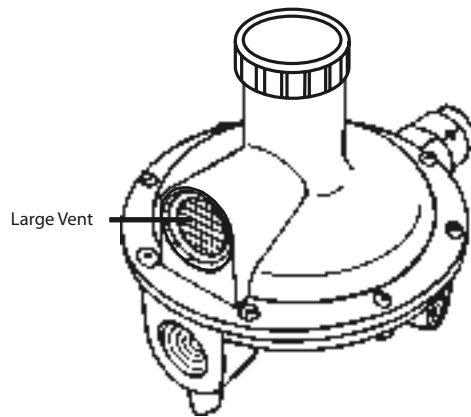
High pressure gas into piping and appliances could cause piping leaks and damage to appliance burner controls with the potential for fires and explosions.

The Causes of High Pressure Gas in a System are:

1. Regulator vents that are clogged or obstructed. Vents must be clear and fully open at all times.

Many regulators are equipped with a pressure relief valve which discharges to atmosphere through the vent. Ice, snow drifts, dirt, bugs, paint, or other foreign material can clog the vents.

An obstructed vent may prevent the pressure relief valve from operating properly.



Regulators should be installed with the vent facing down or protected so their operation will not be affected by the elements. In cases where the regulator vent is equipped with a discharge tube, the outlet of this tube must be facing down. The vents and/or discharge tubes must be protected from the elements and must be equipped with a screen to prevent bugs from obstructing the opening.

Action Required: Regulators should be properly installed and regularly inspected when tanks or cylinders are filled. If vents are clogged or the screen is missing, they must be cleaned or replaced. If the vent screen is missing and there is evidence of foreign material around the vent, the regulator should be replaced.

2. Foreign material lodging between the regulator nozzle and seat disc:

When this occurs, the regulator can remain open, allowing high pressure gas into the system.

This material can come from system piping between the container shut-off valve and the regulator. Chips created during piping installation or dirty piping can create this hazard. Corrosion inside of copper pigtails and piping can cause problems. This can occur particularly when LP-Gas contains high sulphur or excessive moisture.

Action Required: Make sure regulator inlet piping is clean at the time of installation. Periodic checks should be made to ensure piping remains clean without corrosion. Never use old pigtails on new LP-Gas installations. Old pigtails can also work harden and crack if they have been bent and twisted several times.

3. Wrong regulator installed for the application:

The proper regulator must be used for each system.

For example, installation of high pressure regulators not designed to reduce gas pressure to an appliance requirement of 11" w.c. will cause a hazard. Installing a regulator undersized for the load can cause improper combustion at the appliance burner with a potential for carbon monoxide poisoning.

Action Required: Make sure the regulator is correct for each application and test the system with a pressure gauge or a manometer.

4. Failure to external mechanical parts due to corrosion:

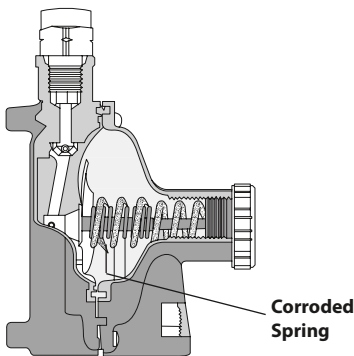
Adjusting springs and relief valve springs can rapidly corrode if exposed to salt air or industrial pollution. Even moisture condensation on these springs can cause them to rust and fail.

Failure of these springs will result in failure of the regulator to control the pressure.

With the vent of a regulator facing down, corrosion products from the springs could clog the regulator vent screen blocking the vent.

Action Required: Regulator inspection for corrosion should be made according to the guidelines listed below:

- For underground installations subject to submersion, the regulator should be inspected **every** time the container is filled.
- For known corrosive atmospheres of salt air or chemical pollution, the regulator should be inspected at least once a year.

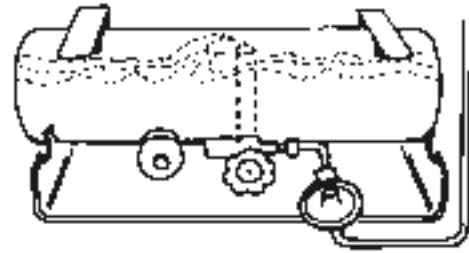


- For other applications, the regulator should be inspected every 3 years. **If any corrosion is evident, replace the regulator.**

It is essential that the regulator bonnet cap be tightly in place at all times to prevent the entrance of water, bugs, dirt, etc. Foreign material can cause the regulator to function improperly with potentially hazardous results.

5. Liquid propane in the regulator:

This can occur on recreational vehicles, unless the regulator is installed substantially higher than the container shut-off valve. Here, sloshing propane could get into the regulator with the resulting high pressure downstream of the regulator. It could also occur on stationary installations if the regulator is installed below the shut-off valve and the container is over-filled.



Action Required: Be careful of regulator installation and never overfill any LP-Gas container.

Leaks of LP-Gas to Atmosphere

While the occurrences of leaking regulators are rare, they can and do occur with a potential for fires and explosions.

These leaks can be caused by:

1. Corrosion of the relief valve spring or foreign material on the seat disc which causes the relief valve to open, will cause LP-Gas to escape through the regulator vent, as well as permitting high pressure into the system.

Action Required: Regulator inspection for corrosion should be made according to the guidelines listed below:

- For underground installations subject to submersion, the regulator should be inspected **every** time the container is filled.
- For known corrosive atmospheres of salt air or chemical pollution, the regulator should be inspected at least once a year.
- For other applications, the regulator should be inspected every 3 years.

If any corrosion is evident, replace the regulator.

2. Bad piping connections at the regulator inlet and outlet. This can occur at the time of installation where connections are loose or the regulator may have been overstressed by excessive wrenching. It is important that proper wrenches, both on the piping and on the regulator inlet and outlet, be used when connecting the system piping, and that the regulator die cast body is not cracked by wrenching the pipe too deeply into the body.

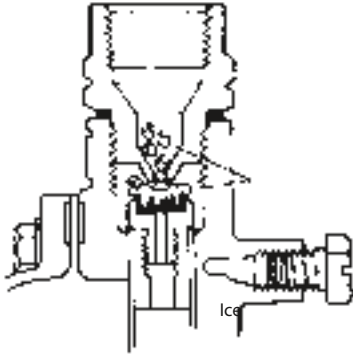
Action Required: Always test for leaks at time of installation and inspect for leaks if there is reason to believe that pipe connections could cause a hazard.

SAFETY WARNINGS



Loss of Pressure

Freeze-up inside the regulator.



This will prevent the regulator from regulating properly.

Regulator freeze-ups occur because there is excessive moisture in the gas. Freeze-ups can also occur in pigtails that are kinked or bent where free flow of the LP-Gas is restricted. These freeze-ups can occur when the moisture, gas flow and temperature combine to create a hazardous condition. Freeze-ups can occur at temperatures above 32° F.

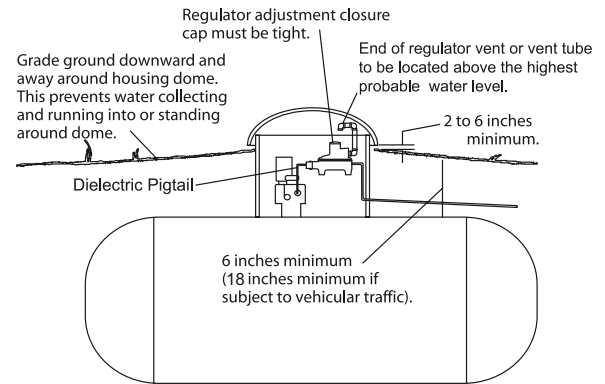
Action Required: All LP-Gas should be checked for moisture content prior to delivery to consumers and proper amounts of anhydrous methanol added if the gas cannot be returned to the supplier. Any container suspected of having excessive moisture should be treated with the proper amount of methanol.

Underground Installations

Special hazards can occur if regulators are not properly installed in underground systems. Water, dirt, mud and insects can get into the regulator if the bonnet cap is not tightly in place and the vent is not protected with a proper vent tube, opening above any potential water level.

Most problems occur because the waterproof dome on the buried storage tank does not extend above the ground level sufficiently to keep out water and mud.

Refer to NPGA No. 401.



Note: Water mark left in housing dome at level above regulator vent, or end of vent tube requires replacement of regulator. Then correct installation.

Customer Safety

Since regulators are often used by consumers without previous knowledge of the hazards of LP-Gas, and the LP-Gas dealers are the only ones who have direct contact with the consumers,

It is the dealer's responsibility to make sure that his customers are properly instructed in safety matters relating to their installation.

At the very minimum, it is desirable that these customers:

1. Know the odor of LP-Gas and what to do in case they smell gas. Use the NPGA "Scratch 'n Sniff" leaflet.
2. Are instructed to never tamper with the system.
3. Know that when protective hoods are used to enclose regulators and/or valves, that these hoods must be closed, but not locked.
4. Keep snow drifts from covering regulators.
5. Know the location of the cylinder or tank shut-off valve in emergencies.

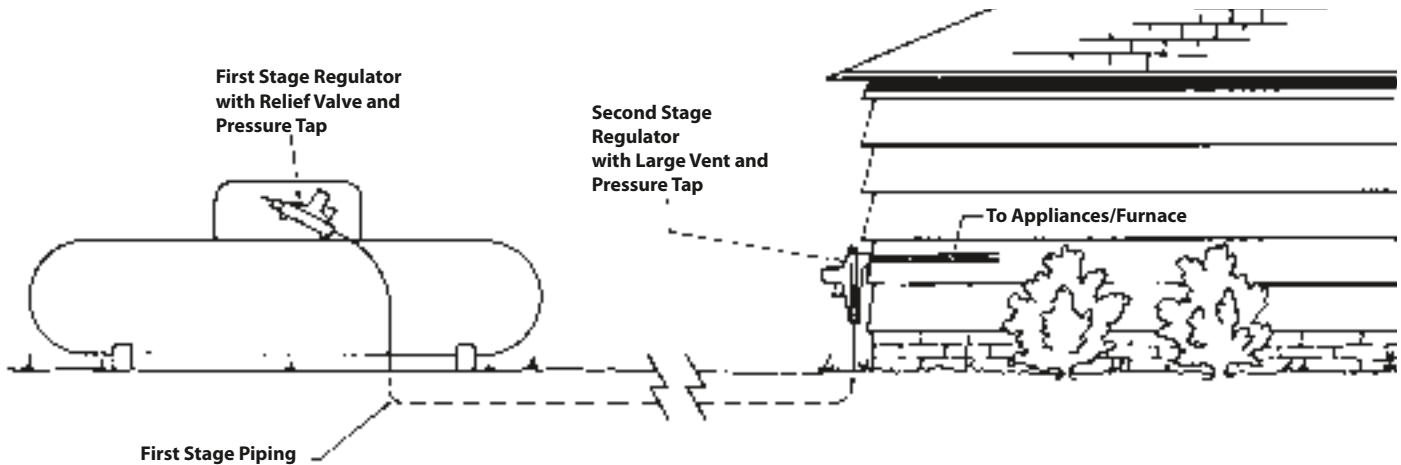
General Warning

All RegO Products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion and aging of components made of materials such as metal and rubber. As a general recommendation, Regulators should be replaced in accordance with all of the recommendations outlined in this safety warning. The recommended service life of a regulator is one of many factors that must be considered in determining when to replace a regulator.

The environment and conditions of use will determine the safe service life of these products. Periodic inspection and maintenance are essential.

Because RegO Products have a long and proven record of quality and service, LP-Gas dealers may forget the hazards that can occur because a regulator is used beyond its safe service life. Life of a regulator is determined by the environment in which it "lives." The LP-Gas dealer knows better than anyone what this environment is.

NOTE: There is a developing trend in state legislation and in proposed national legislation to make the owners of products responsible for replacing products before they reach the end of their safe useful life. LP-Gas dealers should be aware of legislation which could affect them.



The regulator is truly the heart of an LP-Gas installation. It must compensate for variations in tank pressure from as low as 8 PSIG to 220 PSIG – and still deliver a steady flow of LP-Gas at 11" w.c. to consuming appliances. The regulator must deliver this pressure despite a variable load from intermittent use of the appliances.

Two-stage systems can greatly reduce the possibility of freeze-ups and resulting service calls as the expansion of gas from tank pressure to 11" w.c. is divided into two steps, with less chilling effect at each regulator. In addition, after the gas exits the first-stage regulator and enters the first-stage transmission line, it picks up heat from the line, further reducing the possibility of second-stage freeze-up.

Though a single-stage system may perform adequately in many installations, the use of a two-stage system offers the ultimate in pin-point regulation. Two-stage regulation can result in a more profitable LP-Gas operation for the dealer resulting from less maintenance and fewer installation callbacks – and there is no better time than now for installing RegO Regulators in two-stage systems.

Service calls for pilot outages and electronic ignition system failures are also reduced as a result of more uniform appliance pressure from two-stage systems.

Uniform Appliance Pressure

Economy of Installation

The installation of a two-stage system – one high pressure regulator at the container to compensate for varied inlet pressures, and one low pressure regulator at the building to supply a constant delivery pressure to the appliances – helps ensure maximum efficiency and trouble-free operation year-round. It is important to note that while pressure at the appliances can vary up to 4" w.c. using single-stage systems, two-stage systems keep pressure variations within 1" w.c. New high-efficiency appliances require this closer pressure control for proper ignition and stable, efficient operation. In fact, one major manufacturer requires the use of two-stage systems with their appliances.

In a single-stage system, transmission line piping between the container and the appliances must be large enough to accommodate the required volume of gas at 11" w.c. In contrast, the line between the first and second stage regulators in two-stage systems can be much smaller as it delivers gas at 10 PSIG to the second-stage regulator. Often the savings in piping cost will pay for the second regulator.

Reduced Freeze-ups/Service Calls

As an additional benefit, single-stage systems can be easily converted to two-stage systems using existing supply lines when they prove inadequate to meet added loads. This is the least expensive and best method of correcting the problem.

Regulator freeze-up occurs when moisture in the gas condenses and freezes on cold surfaces of the regulator nozzle. The nozzle becomes chilled when high pressure gas expands across it into the regulator body. This chilling action is more severe in single-stage systems as gas expands from tank pressure to 11" w.c. through a single regulator nozzle.

Allowance for Future Appliances

A high degree of flexibility is offered in new installations of two-stage systems. Appliances can be added later to the present load – provided the high pressure regulator can handle the increase – by the addition of a second low pressure regulator. Since appliances can be regulated independently, demands from other parts of the installation will not affect their individual performances.

Size The System Correctly

Prior to installing your two-stage system, be sure the system pipe and tubing is properly sized. Proper sizing will help ensure constant delivery pressure to the appliances during fluctuating loads at all times. Just as important, be sure the RegO Regulators you choose are capable of handling the desired load. This is another advantage

Replace Pigtails

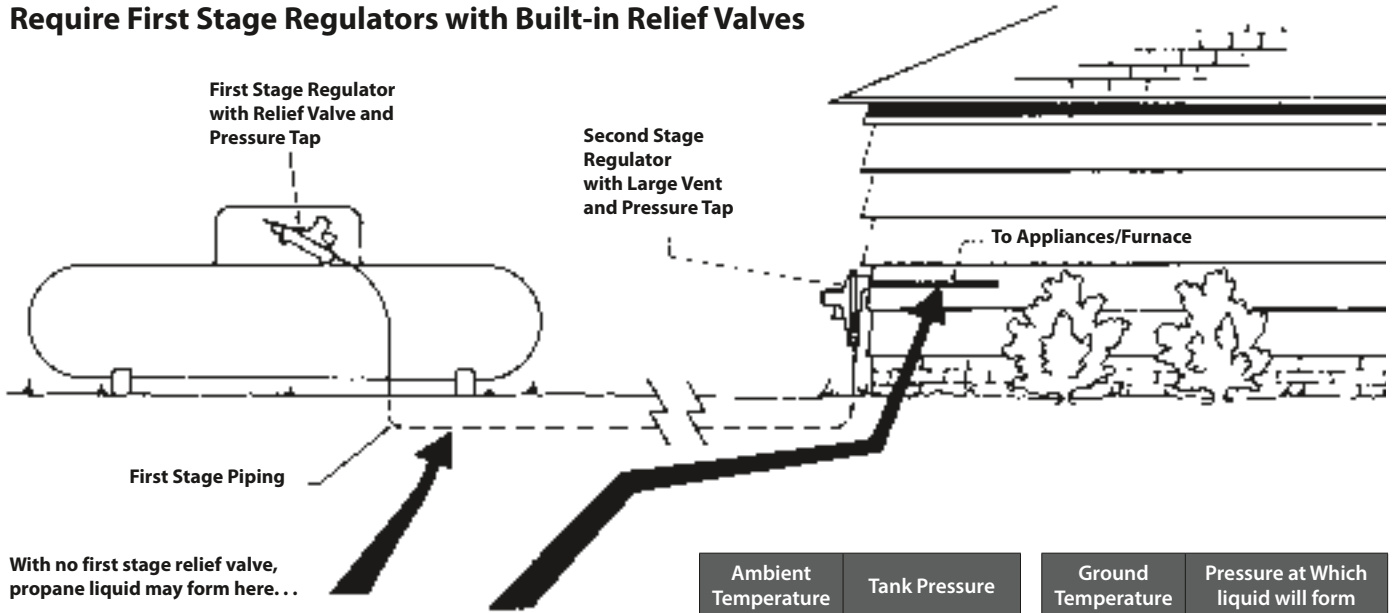
If you are replacing an old regulator, remember to replace the copper pigtail. The old pigtail may contain corrosion which can restrict flow. In addition, corrosion may flake off and wedge between the regulator orifice and seat disc – preventing proper lock-up.

of two-stage systems – they are capable of handling much more BTU's/hr. than single-stage systems. The RegO "LP-Gas Serviceman's Manual" provides complete information on pipe sizing and proper regulator selection.

TWO-STAGE LP-GAS SYSTEMS



Require First Stage Regulators with Built-in Relief Valves



With no first stage relief valve, propane liquid may form here...

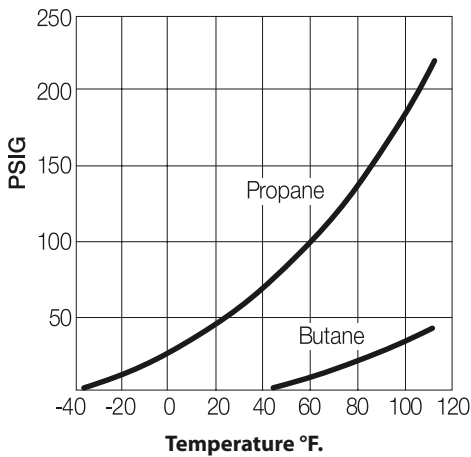
Resulting in sudden pressure surge due to flashing into vapor here! First stage relief can prevent liquid from forming in first stage piping during periods with no gas demand!!!

Ambient Temperature	Tank Pressure
70° F.	120 PSIG
80° F.	140 PSIG
90° F.	165 PSIG

Ground Temperature	Pressure at Which liquid will form
40° F.	72 PSIG
50° F.	86 PSIG
60° F.	102 PSIG

Pressure at which liquid can form at various temperatures.

Vapor Pressures of LP-Gases



The Problem

Many modern LP-Gas appliances are equipped with pilotless ignition systems. Water heaters and older appliances use pilot lights, but it has become a common practice for energy conscious homeowners to shut-off the pilot when leaving home for extended periods of time. In each instance, there is **no gas demand at all** for extended periods.

The Consequences

If the first stage regulator fails to lock-up tight, usually as a result of a worn seat disc or foreign material lodged between nozzle and seat disc, pressure will build-up in the first stage piping – possibly to a level that approaches tank pressure. Combining this with warm ambient temperatures and cool ground, **propane liquid may form** in the first stage piping.

When gas demand resumes, this liquid may pass through the second stage regulator into the appliances and furnace. NOTE – the second stage regulator will not relieve the pressure in first stage piping.

The rapid vaporization of the liquid may cause a rapid pressure surge that could seriously damage critical components of the appliance and furnace controls.

A fire or explosion could occur as a consequence.

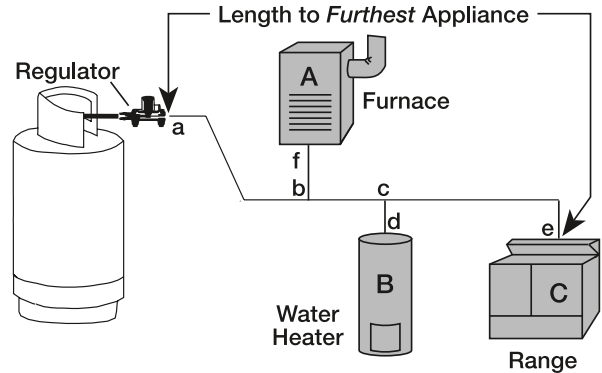
The Solution

RegO LV4403 Series First Stage Regulators with Built-In Relief Valves reduce the possibility of this serious hazard in two stage applications. The built-in relief valve is designed to vent as needed and reduce the possibility of first stage piping pressure from becoming high enough to form liquid.

Use the following simple method to ensure the selection of the correct sizes of piping and tubing for LP-Gas vapor systems. Piping between the first and second stage is considered, as well as lower pressure (2 PSIG) piping between the 2 PSIG second stage or integral twin stage regulator and the line pressure regulator; and low pressure (inches of water column) piping between second stage, single stage, or integral twin stage regulators and appliances. The information supplied below is from NFPA 54 (National Fuel Gas Code) Appendix C, and NFPA 58 (Liquefied Petroleum Gas Code) Chapter 15; it can also be found in CETP (Certified Employee Training Program) published by the Propane Education and Research Council "Selecting Piping and Tubing" module 4.1.8. These illustrations are for demonstrative purposes, they are not intended for actual system design.

Instructions:

1. Determine the total gas demand for the system by adding up the BTU/hr input from the appliance nameplates and adding demand as appropriate for future appliances.
2. For second stage or integral twin stage piping:
 - A. Measure length of piping required from outlet of regulator to the appliance furthest away. *No other length is necessary to do the sizing.*
 - B. Make a simple sketch of the piping, as shown.
 - C. Determine the capacity to be handled by each section of piping. For example, the capacity of the line between a and b must handle the total demand of appliances A, B, and C; the capacity of the line from c to d must handle only appliance B, etc.
 - D. Using Table 3 select proper size of tubing or pipe for each section of piping, using values in BTU/hr for the length determined from step #2-A. If exact length is not on chart, use next longer length. Do not use any other length for this purpose! Simply select the size that shows at least as much capacity as needed for each piping section.
3. For piping between first and second stage regulators
 - A. For a simple system with only one second stage regulator, merely measure length of piping required between outlet of first stage regulator and inlet of second stage regulator. Select piping or tubing required from Table 1.
 - B. For systems with multiple second stage regulators, measure length of piping required to reach the second stage regulator that is furthest away. Make a simple sketch, and size each leg of piping using Table 1, 2, or 3 using values shown in column corresponding to the length as measured above, same as when handling second stage piping.

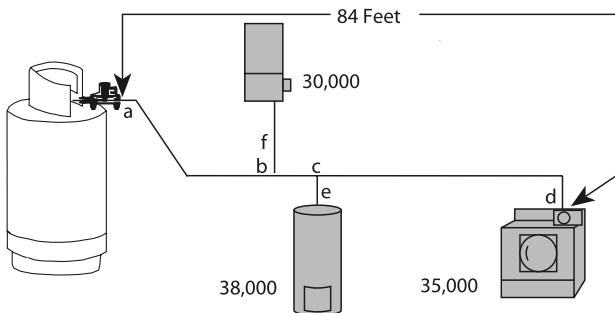


Example 1

Determine the sizes of piping or tubing required for the twin-stage LP-Gas installation shown.

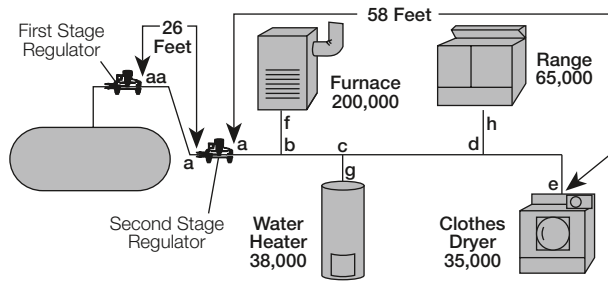
Total piping length = 84 feet (use Table 3 @90 feet)

- From a to b, demand = 38,000 + 35,000 + 30,000 = 103,000 BTU/hr; use 3/4" pipe or 3/4" tubing
- From b to c, demand = 38,000 + 35,000 = 73,000 BTU/hr; use 1/2" pipe or 5/8" tubing
- From c to d, demand = 35,000 BTU/hr; use 1/2" pipe or 1/2" tubing
- From c to e, demand = 38,000 BTU/hr; use 1/2" pipe or 1/2" tubing
- From b to f, demand = 30,000 BTU/hr; use 1/2" pipe or 1/2" tubing



Example 2.

Determine the sizes of piping or tubing required for the two-stage LP-Gas installation shown.



Total first stage piping length = 26 feet; first stage regulator setting is 10 PSIG (use Table 1 or 2 @ 30 feet)

From aa to a, demand = 338,000 BTU/hr; use 1/2" pipe, 1/2" tubing, or 1/2" T plastic pipe.

Total second stage piping length = 58 feet (use Table 3 @ 60 feet)

- From a to b, demand = 338,000 BTU/hr; use 1" pipe
- From b to c, demand = 138,000 BTU/hr; use 3/4" pipe or 5/8" tubing
- From c to d, demand = 100,000 BTU/hr; use 1/2" pipe or 5/8" tubing
- From d to e, demand = 35,000 BTU/hr; use 1/2" pipe or 1/2" tubing
- From b to f, demand = 200,000 BTU/hr; use 3/4" pipe
- From c to g, demand = 38,000 BTU/hr; use 1/2" pipe or 1/2" tubing
- From d to h, demand = 65,000 BTU/hr; use 1/2" pipe or 1/2" tubing

PIPE AND TUBING SELECTION GUIDE



Example 3

Determine the sizes of piping or tubing required for the 2 PSI LP-Gas installation shown.

Total first stage piping length = 26 feet; first stage regulator setting is 10PSIG (use Table 1 or 2 @ 30 feet)
Total 2 PSI Piping Length = 19 ft. (use Table 4 @ 20 ft. or Table 6 @ 20 ft.)

- From aa to a, demand= 338,000 BTU
use 3/8" CSST or 1/2" copper tubing or 1/2" pipe
- From Regulator a to each appliance:
- From a to b, demand= 65,000 BTU; length = 25 ft. (Table 5),
use 1/2" CSST
- From a to c, demand= 200,000 BTU; length = 30 ft. (Table 5)
use 1" CSST
- From a to d, demand= 38,000 BTU; length = 21 ft.* (Table 5)
use 3/8" CSST *use 25 ft. column
- From a to e, demand= 35,000 BTU; length = 40 ft. (Table 5)
use 1/2" CSST

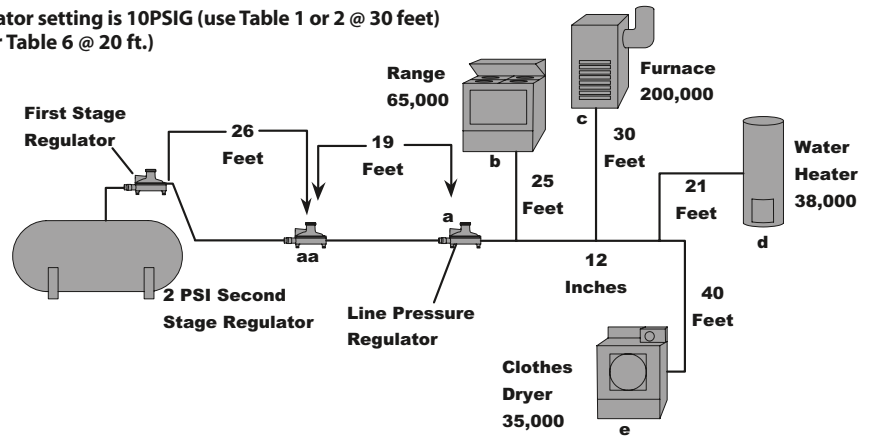


Table 1 - First Stage Tubing or Pipe Sizing * 10 PSIG Inlet with a 1 PSIG Pressure Drop (Between First and Second Stage Regulators)
 Maximum capacity of pipe or tubing in thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

Size of Pipe or Copper Tubing, Inches	Length of Pipe or Tubing in Feet*																		
	10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400	
Copper Tubing (O.D.)	3/8	513	352	283	242	215	194	179	166	156	147	131	118	109	101	90	81	75	70
	1/2	1,060	727	584	500	443	401	369	343	322	304	270	244	225	209	185	168	155	144
	5/8	2,150	1,480	1,190	1,020	901	816	751	699	655	619	549	497	457	426	377	342	314	292
	3/4	3,760	2,580	2,080	1,780	1,570	1,430	1,310	1,220	1,150	1,080	959	869	799	744	659	597	549	511
Pipe Size	1/2	3,320	2,280	1,830	1,570	1,390	1,260	1,160	1,080	1,010	956	848	768	706	657	582	528	486	452
	3/4	6,950	4,780	3,840	3,280	2,910	2,640	2,430	2,260	2,120	2,000	1,770	1,610	1,480	1,370	1,220	1,100	1,020	945
	1	13,100	9,000	7,229	6,180	5,480	4,970	4,570	4,250	3,990	3,770	3,340	3,020	2,780	2,590	2,290	2,080	1,910	1,780
	1 1/4	26,900	18,500	14,800	12,700	11,300	10,200	9,380	8,730	8,190	7,730	6,850	6,210	5,710	5,320	4,710	4,270	3,930	3,650
	1 1/2	40,300	27,700	22,200	19,000	16,900	15,300	14,100	13,100	12,300	11,600	10,300	9,300	8,560	7,960	7,060	6,400	5,880	5,470
	2	77,600	53,300	42,800	36,600	32,500	29,400	27,100	25,200	23,600	22,300	19,800	17,900	16,500	15,300	13,600	12,300	11,300	10,500

* Notes: Total length of piping from outlet of first stage regulator to inlet of second stage regulator (or to inlet of second stage regulator furthest away)

- 1) To allow 2 PSIG pressure drop, multiply total gas demand by 0.707 and use capacities from table.
- 2) For different first stage pressures, multiply total gas demand by the following factor and use capacities from table.

Example: 1,000,000 BTU load at 5 PSI: 1,000,000 (1.12) = 1,120,000 BTU then use chart based on 1,120,000 BTU

First Stage Pressure PSIG	Multiply By	Data Calculated per NFPA # 54 and NFPA # 58
20	0.844	
15	0.912	
5	1.120	

Table 2 - First Stage Polyethylene Plastic Tubing or Pipe Sizing *
10 PSIG Inlet with a 1 PSIG Pressure Drop (Between First and Second Stage Regulators)
 Maximum capacity of polyethylene pipe or tubing in thousands of BTU/hr of undiluted LP-Gases (Propane)
 (Based on 1.50 Specific Gravity Gas)

Size of Plastic Tubing or Pipe		Length of Pipe or Tubing in Feet*																			
NPS	SDR	10	20	30	40	50	60	70	80	90	100	125	150	175	200	225	250	275	300	350	400
1/2 T	7.00			762	653	578	524	482	448	421	397	352	319	294	273	256	242	230	219	202	188
1/2	9.33			2,140	1,840	1,630	1,470	1,360	1,260	1,180	1,120	990	897	826	778	721	681	646	617	567	528
3/4	11.00			4,292	3,673	3,256	2,950	2,714	2,525	2,369	2,238	1,983	1,797	1,653	1,539	1,443	1,363	1,294	1,235	1,136	1,057
1 T	11.00			5,230	4,470	3,960	3,590	3,300	3,070	2,880	2,720	2,410	2,190	2,010	1,870	1,760	1,660	1,580	1,500	1,380	1,290
1	11.00			7,740	6,630	5,870	5,320	4,900	4,560	4,270	4,040	3,580	3,240	2,980	2,780	2,600	2,460	2,340	2,230	2,050	1,910
1 1/4	11.00			13,420	11,480	10,180	9,220	8,480	7,890	7,400	6,990	6,200	5,620	5,170	4,810	4,510	4,260	4,050	3,860	3,550	3,300
1 1/2	11.00			20,300	17,300	15,400	13,900	12,800	11,900	11,200	10,600	9,360	8,480	7,800	7,260	6,810	6,430	6,110	5,830	5,360	4,990
2	11.00			36,400	31,200	27,600	25,000	23,000	21,400	20,100	19,000	16,800	15,200	14,000	13,000	12,200	11,600	11,000	10,470	9,640	8,970

* Note: Total length of piping from outlet of first stage regulator to inlet of second stage regulator (or to inlet of second stage regulator furthest away)

T = Tube Size

First Stage Pressure PSIG	Multiply By	Data Calculated per NFPA # 54 and NFPA # 58
20	0.844	
15	0.912	
5	1.120	

Table 3 - Second Stage or Integral Twin Stage Tubing or Pipe Sizing *
11-in. Water Column Inlet with a 0.05-In. Water Column Drop

Maximum capacity of pipe or tubing in thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

Size of Pipe or Copper Tubing, Inches		Length of Pipe or Tubing in Feet*																	
		10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400
Copper Tubing (O.D.)	3/8	45	31	25	21	19	17	16	15	14	13	11	10	NA	NA	NA	NA	NA	NA
	1/2	93	64	51	44	39	35	32	30	28	27	24	21	20	18	16	15	14	13
	5/8	188	129	104	89	79	71	66	61	57	54	48	44	40	37	33	30	28	26
	3/4	329	226	182	155	138	125	115	107	100	95	84	76	70	65	58	52	48	45
Pipe Size	1/2	291	200	160	137	122	110	NA	101	NA	94	89	84	74	67	62	58	51	46
	3/4	608	418	336	287	255	231	NA	212	NA	197	185	175	155	140	129	120	107	97
	1	1,150	787	632	541	480	434	NA	400	NA	372	349	330	292	265	243	227	201	182
	1 1/4	2,350	1,620	1,300	1,110	985	892	NA	821	NA	763	716	677	600	543	500	465	412	373
	1 1/2	3,520	2,420	1,940	1,660	1,480	1,340	NA	1,230	NA	1,140	1,070	1,010	899	814	749	697	618	560
	2	6,790	4,660	3,750	3,210	2,840	2,570	NA	2,370	NA	2,200	2,070	1,950	1,730	1,570	1,440	1,340	1,190	1,080

* Note: Total length of piping from outlet of regulator to appliance furthest away.

Data Calculated per NFPA # 54 and NFPA # 58

Table 4 - Maximum Capacity of CSST *
2 PSIG and a Pressure Drop of 1 PSIG (Between 2 PSIG Service and Line Pressure Regulator)

In Thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

Size	EDH** Flow Designation	Length of Tubing in Feet*													
		10	25	30	40	50	75	80	100	150	200	250	300	400	500
3/8	13	426	262	238	203	181	147	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	1,110	701	640	554	496	406	393	350	287	248	222	203	175	158
3/4	23	1,740	1,120	1,030	896	806	663	643	578	477	415	373	343	298	268
	25	2,170	1,380	1,270	1,100	986	809	768	703	575	501	448	411	355	319
1	30	4,100	2,560	2,330	2,010	1,790	1,460	1,410	1,260	1,020	880	785	716	616	550
	31	4,720	2,950	2,690	2,320	2,070	1,690	1,630	1,450	1,180	1,020	910	829	716	638

* Notes:

(1) Table does not include effect of pressure drop across the line regulator. If regulator loss exceeds 1/2 psi (based on 13-in. water column 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.

 (2) **CAUTION:** Capacities shown in table can exceed maximum capacity for a selected regulator. Consult with regulator or tubing manufacturer for guidance.

(3) Table includes losses for four 90-degree bends and two end fittings. Tubing runs with a larger number of bends and/or fittings shall be increased by an equivalent length of tubing according to the following equation; L-1.3n where L is additional length (ft) 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.

Data Calculated per NFPA # 54 and NFPA # 58

Table 5 - Maximum Capacity of CSST *
11-in. Water Column and a Pressure Drop of 0.05-in. Water Column (Between Second Stage (Low Pressure) Regulator and Appliance Shutoff Valve)

In Thousands of BTU/hr of undiluted LP-Gases (Propane)

(Based on 1.50 Specific Gravity Gas)

Size	EDH** Flow Designation	Length of Tubing in 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
	15	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
1	30	744	521	422	365	325	297	256	227	207	191	178	169	159	123	112	99	90
	31	863	605	490	425	379	344	297	265	241	222	208	197	186	143	129	117	107

* Notes:

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

Data Calculated per NFPA # 54 and NFPA # 58

Table 6 - Copper Tubing or Schedule 40 Pipe Sizing *
2 PSIG Inlet with a 1 PSIG Pressure Drop (Between 2 PSIG Service and Line Pressure Regulator)

In Thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

Size of Pipe or Copper Tubing, Inches		Length of Pipe or Tubing in Feet*																							
		10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400	450	500	550	600	650	700
Copper Tubing (O.D.)	3/8	413	284	228	195	173	157	144	134	126	119	105	95	88	82	72	66	60	56	53	50	47	45	43	41
	1/2	852	585	470	402	356	323	297	276	259	245	217	197	181	168	149	135	124	116	109	103	97	93	89	86
	5/8	1,730	1,190	956	818	725	657	605	562	528	498	442	400	368	343	304	275	253	235	221	209	198	189	181	174
	3/4	3,030	2,080	1,670	1,430	1,270	1,150	1,060	983	922	871	772	700	644	599	531	481	442	411	386	365	346	330	316	304
Pipe Size	1/2	2,680	1,840	1,480	1,260	1,120	1,010	934	869	815	770	682	618	569	529	469	425	391	364	341	322	306	292	280	269
	3/4	5,590	3,850	3,090	2,640	2,340	2,120	1,950	1,820	1,700	1,610	1,430	1,290	1,190	1,110	981	889	817	760	714	674	640	611	585	562
	1	10,500	7,240	5,820	4,980	4,410	4,000	3,680	3,420	3,210	3,030	2,690	2,440	2,240	2,080	1,850	1,670	1,540	1,430	1,350	1,270	1,210	1,150	1,100	1,060
	1 1/4	21,600	14,900	11,900	10,200	9,060	8,210	7,550	7,020	6,590	6,230	5,250	5,000	4,600	4,280	3,790	3,440	3,160	2,940	2,760	2,610	2,480	2,360	2,260	2,170
	1 1/2	32,400	22,300	17,900	15,300	13,600	12,300	11,300	10,500	9,880	9,330	8,270	7,490	6,890	6,410	5,680	5,150	4,740	4,410	4,130	3,910	3,710	3,540	3,390	3,260
	2	62,400	42,900	34,500	29,500	26,100	23,700	21,800	20,300	19,000	18,000	15,900	14,400	13,300	12,300	10,900	9,920	9,120	8,490	7,960	7,520	7,140	6,820	6,530	6,270

* Note: Maximum undiluted propane capacities listed are based on a 2-PSIG setting and a 1-psi pressure drop. Capacities in 1000 BTU/hr.

Data Calculated per NFPA # 54 and NFPA # 58

REGO REGULATOR DESIGNS



RegO LP-Gas Regulators have been designed to give outstanding performance and dependability with a minimum of maintenance.

Nozzle Orifice
Replaceable and precision machined to prevent scoring of the seat disc.

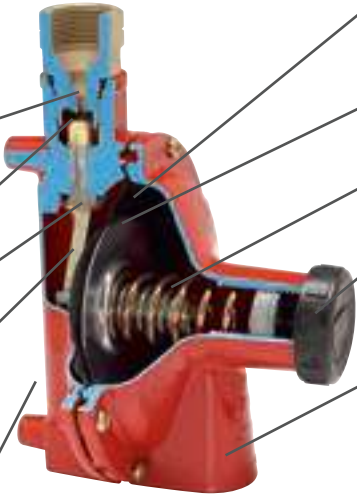
Seat Disc
Replaceable, resilient construction gives sure closing at lock up pressure. Straight line seat disc to nozzle operation provides even seat disc wear and positive lock up.

Pivot Pin
Fully enclosed in regulator body.

Control Linkage
Provides quick response to diaphragm movement; moves directly perpendicular to nozzle orifice to meter gas flow, gives positive closure and reduces seat disc wear.

Built-In Pressure Tap
Provides a convenient way to check downstream pressure on both high and low pressure models.

Body & Bonnet
Painted, heavy-duty zinc resists corrosion and gives long-life protection, even under "salty air" conditions.



Molded Diaphragm Assembly
Molded synthetic rubber with a tough, flexible fabric gives a super sensitive response in a temperature range of -40° to +165°F. Molded diaphragm seals in a groove between the body and bonnet.

Diaphragm Plate
Rigid diaphragm plate transmits pressure variations to control linkage.

Relief Valve
It is built in and tamper resistant. Large bonnet vent allows high capacity relief on second stage regulators.

Bonnet Cap
Bonnet cap incorporates travel stop to help control downstream pressure in the unlikely event of a regulator malfunction.

Large Bonnet Vent
Large vent is equipped with protective screen and threaded for 3/8" F. NPT vent piping. Large vent helps prevent ice from building up and blocking the vent during inclement weather. The regulator should be installed with vent down and the vent protected against blockage.



Laser Engraved Bonnet
New bonnet design features laser-engraved information that is easy to see and matches available stickers for gas check and record keeping. *Patent Pending

Easy to Turn Adjusting Screw
We redesigned our adjusting screw to be easily turned.

1/8" pressure plug ports
Our 1/8" pressure plug ports conform to 7/16" hex wrenches.

Typical of the 1580 Industrial High Pressure Regulators

The pounds-to-pounds, industrial regulator gives higher delivery pressure as tank pressure decreases, thus permitting full use of the gas in the tank. Most units are field adjustable to meet changing conditions.

Connections
Machined and threaded into the body forging; also includes 1/4" NPT pressure gauge ports.

Seat Disc
Synthetic rubber assembly attached directly to the diaphragm assembly to ensure proper movement and regulation.

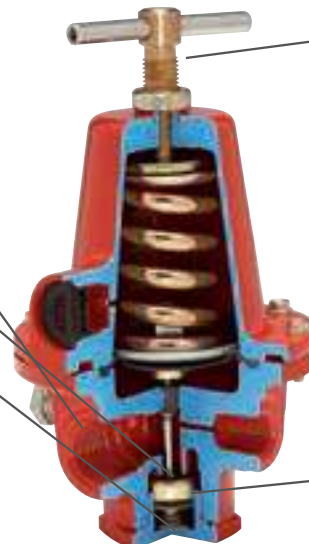
Back Cap Spring
Provides added upward force to help provide a positive lock-up.

Sensitivity

In those cases where there is a choice of delivery pressure ranges, the **lowest** spring range which will fulfill your requirements is recommended because the sensitivity of a regulator decreases as the range of the adjusting spring increases.

Relief Valves

Most high pressure regulators are not equipped with integral relief valves. For certain applications where it is desirable to protect equipment downstream of the regulator, relief valves must be installed in the line.



Adjusting Assembly
Large handle with lock-nut release allows easy resetting of delivery pressure.

Integral O-Ring
Minimizes tendency to vibrate or hum under extreme loads.

Compact First Stage Regulators LV3403TR

Ideal for use as a first stage regulator on any domestic size ASME or DOT container in propane gas installations requiring up to 1,500,000 BTU's per hour. The regulator is factory set to reduce container pressure to an intermediate pressure of approximately 10 PSIG.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane*
LV3403TR	¼" FNPT	½" FNPT	⅞"	10 PSIG	Over Outlet	1,500,000
LV3403TRV9					9:00	
LV3403TR9	F.POL	Over Outlet				



LV3403TR

*Maximum flow based on inlet pressure 20 PSIG higher than the regulator setting and delivery pressure 20% lower than the regulator setting and delivery pressure 20% lower than the setting.

High Pressure First Stage Regulators LV4403SR and TR Series

Provides accurate first stage regulation in two-stage bulk tank systems. Reduces tank pressure to an intermediate pressure of 5 to 10 PSIG. Also used to supply high pressure burners for applications like industrial furnaces or boilers. Also incorporated in multiple cylinder installations.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range* (PSIG)	Integral Relief Included	Vapor Capacity BTU/hr. Propane*
LV4403SR4	½" F. NPT	½" F. NPT	¼"	5	1-5	Yes	2,500,000
LV4403TR4				10	5-10		
LV4403SR9	F. POL	¾" F. NPT		5	1-5		
LV4403TR9				10	5-10		
LV4403SR96				5	1-5		
LV4403TR96				10	5-10		



LV4403 Series

* When used for final stage pressure control, must either incorporate integral relief valve or separate relief valve should be specified in accordance with NFPA Pamphlet 58.

** Maximum flow based on inlet pressure 20 PSIG higher than the regulator setting and delivery pressure 20% lower than the setting.

Low Pressure Second Stage Regulators - Standard Settings LV4403B Series

Designed to reduce first stage pressure of 5 to 20 PSIG down to burner pressure, normally 11" w.c. Ideal for medium commercial installations, multiple cylinder installations and normal domestic loads.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane**
LV4403B4	½" F. NPT	½"	#28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B46							
LV4403B46R*		¾" F. NPT					
LV4403B66							
LV4403B66R*	¾" F. NPT						

* Backmount design

** Maximum flow based on 10 PSIG inlet and 9" w.c. delivery pressure



LV4403B Series

REGULATORS & ACCESSORIES



Dielectric Second Stage Regulators LV4403BD Series

RegO's Dielectric second stage regulators are designed to reduce first stage pressure normally 10 PSIG down to burner pressure, normally 11" w.c. and are ideal for medium commercial installations, multiple cylinder installations and normal domestic loads.

RegO Dielectric second stage regulators are engineered to isolate potential electrical current from metallic piping before entering a building. The use of a separate dielectric union is not necessary because the regulator contains a dielectric union as part of the inlet assembly. Available in both SAE Flare and F.NPT inlet connection.



LV4403BD Series

Item Number	Inlet Connection	Outlet Connection	Inlet Material	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr Propane
3/8" M. Flare = 3								
LV4403B3D	3/8" M Flare	1/2" F. NPT	Brass	# 28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B36D		3/4" F. NPT						
LV4403B3RD*		1/2" F. NPT						
LV4403B36RAD**		3/4" F. NPT						
LV4403B36RABD***								
1/2" M. Flare = 1								
LV4403B1D	1/2" M Flare	1/2" F. NPT	Brass	# 28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B16D		3/4" F. NPT						
LV4403B16RD*								
LV4403B16RAD**								
LV4403B16RABD***								
5/8" M. Flare = 5								
LV4403B5D	5/8" M Flare	1/2" F. NPT	Brass	# 28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B56D		3/4" F. NPT						
LV4403B56RD*								
LV4403B56RAD**								
LV4403B56RABD***								
1/2" - 3/4" F. NPT Female Union								
LV4403B4D	1/2" F. NPT	1/2" F. NPT	Brass & Plated Steel	# 28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B46D	3/4" F. NPT	3/4" F. NPT						
LV4403B66D								
LV4403B46RD*								
LV4403B66RD*	3/4" F. NPT							
LV4403B66RAD**								
LV4403B66RABD***								

* Backmount Design.

** Right Angle Design

***Right Angle with Bracket

Maximum flow based on 10 PSIG inlet and 9" w.c. delivery pressure.

Low Pressure Second Stage Regulators - Special Settings LV4403H Series

Designed to reduce first stage pressure of 5 to 10 PSIG down to pressure higher than 11" w.c., the actual pressure setting is specified in the table below. These regulators are designed for installations where the appliances require pressures greater than 11" w.c.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Delivery Pressure at 10 PSIG Inlet	Adjustment Range Inches w.c.	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane**
LV4403H222	1/4" F. NPT	1/2" F. NPT	#28	7/32"	22" w.c.	Inlet	700,000
LV4403H414	1/2" F. NPT			14" w.c.	12.5-19		
LV4403H420		20" w.c.		15-35			
LV4403H4614		14" w.c.		12.5-19			
LV4403H4620		20" w.c.		15-35			
LV4403H6614	3/4" F. NPT	14" w.c.		12.5-19			



LV4403H Series

Compact "Back-Mount" Regulator LV3403BR Series

The LV3403BR Back Mount Regulator is designed to reduce first stage pressure of 5-10 PSIG down to burner pressure normally 11" w.c. Designed as a second stage regulator for smaller applications with flow requirements up to 450,000 BTU/hr. and are ideal for homes, mobile homes, and cottages.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr *
LV3403B44R	½" F.NPT	½" F.NPT	7/32"	11" w.c. At 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	450,000
LV3403B46R		¾" F.NPT					

* Maximum flow based on 10 PSIG inlet and 9" w.c. delivery pressure.



LV3403BR Series

Compact Second Stage Regulator for LP-Gas LV3403B4

The LV3403B4 is designed to reduce first stage pressure of 5-20 PSIG down to burner pressure normally 11" w.c. Designed as a second stage regulator for smaller applications with flow requirements up to 450,000 BTU's/hr, they are ideal for homes, mobile homes, and cottages.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr *
LV3403B4	½" F.NPT	½" F.NPT	7/32"	11" w.c. At 10 PSIG Inlet	9" to 13" w.c.	Inlet	450,000
LV3403B4V3						3:00	
LV3403B4V0						Outlet	
LV3403B4V9						9:00	

* Maximum flow based on 10 PSIG Inlet 9" w.c. delivery pressure



LV3403B4 Series

Low Pressure Second Stage Regulators LV4403B66RA Series

Designed to reduce first stage pressure of 5 to 20 PSIG down to burner pressure, normally 11" w.c. Ideal for medium commercial installations, vapor meter installations and normal domestic loads.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane*
LV4403B66RA	¾" F. NPT	¾" F. NPT	3/16"	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	1,000,000
LV4403B66RAB**							

* Maximum flow is based on 10 PSIG inlet and 9" w.c. delivery pressure.

** Mounting Bracket Included.



w/ Mounting Bracket

LV4403B66RA Series

Low Pressure Second Stage Regulators - Standard Settings LV5503B Series

Designed to reduce first stage pressure of 5 to 20 PSIG down to burner pressure, normally 11" w.c. Ideal for larger commercial and industrial applications, multiple cylinder installations and large domestic systems.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane
LV5503B4	½" F. NPT	¾" F. NPT	¼"	11" w.c. at 10 PSIG Inlet	9" - 13" w.c.	Over Inlet	1,600,000
LV5503B6							2,300,000
LV5503B8	¾" F. NPT	1" F. NPT	9/32"				2,300,000

Maximum flow is based on 10 PSIG inlet and 9" w.c. delivery pressure.



LV5503B Series

REGULATORS & ACCESSORIES



Low Pressure Second Stage Regulators - Special Settings LV5503H Series

Designed to reduce first stage pressure of 5 to 20 PSIG down to burner pressure, normally 11" w.c. Ideal for larger commercial and industrial applications, multiple cylinder installations and large domestic systems.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure @ 10 PSIG Inlet	Adjustment Range Inches w.c.	Bonnet Vent Position	Vapor Capacity BTU/hr.* Propane	
LV5503H414	½" F. NPT	¾" F. NPT	¼"	14" w.c.	7-16	Inlet	1,600,000	
LV5503H614						Outlet		
LV5503H620				Inlet	20" w.c.	11-28		
LV5503H620V								Outlet
LV5503H640				40" w.c.	28-84			
LV5503H640V								
LV5503H814	1" F. NPT	9/32"	14" w.c.	7-16	Inlet	2,300,000		
LV5503H820							20" w.c.	11-28
LV5503H840								

Maximum flow is based on 10 PSIG inlet 20% drop in delivery pressure (5/1/08)



LV5503H Series

Second Stage Regulators for 2 PSI Systems LV4403Y and LV5503Y Series

Designed to reduce first stage pressure of 10 PSIG down to 2 PSIG. A line pressure regulator is required downstream to reduce the 2 PSIG to a nominal 11" w.c.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane***
LV4403Y4	½" F. NPT	½" F. NPT	¼"	2 PSIG @ 10 PSIG Inlet	1.6 - 2.2 PSI	Over Inlet	1,000,000
LV4403Y46R*		¾" F. NPT					2,200,000
LV5503Y6	¾" F. NPT	1" F. NPT	9/32"				
LV5503Y8							

Maximum flow is based on 10 PSIG inlet pressure and 1.5 PSIG delivery pressure.



LV5503Y Series

LV4403Y Series

Low Pressure Second Stage Tobacco Barn Regulator LV5503G4 Series

Especially developed for drying barns in the tobacco industry. The LV5503G4 regulator will supply a steady and constant flow of fuel to as many as 12 to 20 burners throughout the barn.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane*
LV5503G4	½" F. NPT	¾" F. NPT	¼"	15" w.c. at 15 PSIG Inlet	8" - 18" w.c.	Above Inlet	1,750,000

Maximum flow is based on 15 PSIG inlet pressure and 13" w.c. delivery pressure.



LV5503G4 Series

Compact Twin Stage Regulators LV404B4 and LV404B9 Series

This compact two-stage regulator is designed to reduce container pressure down to 11" w.c. delivery pressure. It is ideal for "on-site" cylinder applications, mobile homes and average domestic service including small ASME and 100 to 420 pound DOT cylinders.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range 2nd Stage	Bonnet Vent Position 1st Stage	Bonnet Vent Position 2nd Stage	Capacity BTU/hr. Propane*	Accessories
									1st Stage Vent Pipe-Away
LV404B4	¼" F. NPT	½" F. NPT	¾"	11" w.c. at 100 PSIG Inlet	9" - 13" w.c.	Down	Over Outlet	525,000	404PE
LV404B4V9						9 o'clock	9 o'clock		
LV404B46		¾" F. NPT				Down	Over Outlet		
LV404B46V9						9 o'clock	9 o'clock		
LV404B9	F. POL	½" F. NPT				Down	Over Outlet		
LV404B9V9						9 o'clock	9 o'clock		
LV404B96		¾" F. NPT				Down	Over Outlet		
LV404B96V9						9 o'clock	9 o'clock		

Maximum flow is based on 25 PSIG inlet pressure and 9" w.c. delivery pressure.

New Compact Twin Stage Regulators for LP-Gas LV404B34 & LV404B39 Series

The compact twin-stage regulator is designed to reduce container pressure down to 11" w.c. delivery pressure. It is ideal for "on site" container applications such as homes, mobile homes and cottages for average domestic service; including small ASME tanks and 100-420 pound DOT cylinders.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range 2nd Stage	Bonnet Vent Position 1st stage **	Bonnet Vent Position 2nd stage**	Vapor Capacity BTU/hr *
LV404B34	¼" F.NPT	½" F.NPT	7/32"	11" w.c. @ 100 PSIG Inlet	9" to 13" w.c.	Rear	Outlet	450,000
LV404B39	F.POL					Left	9:00	
LV404B34V9	¼" F.NPT							
LV404B39V9	F.POL							

* Maximum flow based on 10 PSIG Inlet 9" w.c. delivery pressure

** Other vent positions available upon request



LV404B39



LV404B34

Twin Stage Automatic Changeover Regulators 7525B Series

These combination automatic changeover, two stage regulators are especially suitable for homes, mobile homes, cottages, construction and other portable two cylinder installations. Empty containers may be replaced without interrupting customer's gas service.



Item Number	Inlet	Outlet	Capacity BTU/hr. Propane
7525B34	¼" Inverted Flare	½" F. NPT	400,000
7525B4			450,000

Maximum flow is based on 25 PSIG inlet pressure and 9" w.c. delivery pressure.



7525B34

7525B4

REGULATORS & ACCESSORIES



Two PSIG Delivery Pressure Twin-Stage Regulators LV404Y9 & Compact LV404Y39

Special 2 PSIG delivery pressure twin stage regulator is designed to reduce container pressure down to 2 PSIG. A line pressure regulator is required downstream to reduce the 2 PSIG to a nominal 11" w.c.



Item Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure (PSIG)	Adjustment Range (PSIG)	Bonnet Vent Position 1st Stage	2 PSIG Bonnet Vent Position	Capacity BTU/HR*
LV404Y9	F.POL (CGA 510)	½" F.NPT	7/32"	2	1.8 to 2.5	Down	Outlet	800,000
LV404Y39								650,000

Maximum flow is based on 25 PSIG inlet pressure and 1.5 PSIG delivery pressure.



Two Stage Regulator Outfits 5807, 5808, 5820 Series

These outfits contain the equipment required to provide two-stage regulation.

Kit Number	1st Stage Regulator Included		2nd Stage Regulator Included		Bracket Included	Pigtails Included	Capacity BTU/hr. Propane
	Part Number	Inlet x Outlet Female	Part Number	Inlet x Outlet F. NPT			
5807	LV4403TR9	POL x ½" NPT	LV4403B4	½" x ½"	2503-22	913PS12	935,000
5808			LV4403B46R	½" x ¾"			
5820	LV4403TR96	POL x ¾" NPT	LV4403B66R	¾" x ¾"	Not Required		



Twin Stage Regulator Outfits 5828 and 5832

These outfits contain the equipment required to provide twin-stage regulation.

Kit Number	Twin Stage Regulator Included	Inlet F. NPT	Outlet F. NPT	Pigtails Included	Capacity BTU / hr. Propane
5828	LV404B4	¼"	½"	912JS12	525,000
5832	LV404B34V9				400,000



Automatic Changeover Regulator Outfits 5726B34, 5727B34, 5754B4, 5755B4

These outfits contain the equipment required to provide twin-stage regulation.



Kit Number	Automatic Changeover Regulator Included	Inlet	Outlet	Pigtails Included-2	Bracket Included	Capacity BTU/hr. Propane
5726B34	7525B34	1/4" Inverted Flare	1/2" F. NPT	912FA20	2302-31	400,000
5727B34	7525B34			912FS20		
5754B4	7525B4			912FA20	2503-22	450,000
5755B4	7525B4			912FS20		



912FA20



7525B4

Compact Regulators 302 Series

These compact regulators are designed for smaller outdoor grills and fish cookers. It is intended for use on small portable appliances that use 100,000 BTU's/hr. or less. It may not be used on fixed pipe systems per NFPA 58, 1995 edition.



Item Number	Type	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane*
302	Single Stage	1/4" F. NPT	3/8" F. NPT	No. 50 Drill	11" w.c. at 100 PSIG inlet	9-13" w.c.	Small Vent Above Inlet	125,000
302V		1/4" F. NPT					Drip Lip Above Inlet	
302VP		POL					Drip Lip Above Inlet	
302V9		1/4" F. NPT					Drip Lip at 9 o'clock	
302V9LS		Soft POL w/o orifice						

Maximum flow is based on 25 PSIG inlet pressure and 9" w.c. delivery pressure.



302



302V

High Pressure Industrial / Commercial Pounds-to-Pounds Regulators 597F Series

Designed to reduce propane gas container pressure down to between 3 and 100 PSIG. Ideal for liquid or vapor service, they can be used in a variety of applications including salamander heaters, weed burning torches, fish cookers, tar pot heaters, and other industrial type services.



Item Number	Adjustment Method	Inlet Connection	Outlet Connection	Recommended Delivery Pressure Range (PSIG)	Capacity Determined at Set Pressure of PSIG*	Capacity BTU/hr. Propane**
597FA	Tee Handle	1/4" NPT	1/4" NPT	1-15	10	1,750,000
597FB				10-30	20	3,000,000
597FC				20-45	30	3,500,000
597FD				40-100	40	4,500,000

* Set pressure established at 100 PSIG inlet and a flow of 250,000 BTU/hr.

** Capacity determined at actual delivery pressure 20% less than set pressure with inlet pressure 20 PSIG higher than the set pressure.



597F

REGULATORS & ACCESSORIES



High Pressure Industrial / Commercial Pounds-to-Pounds Regulators 1580V and AA1580V Series

Designed to reduce LP-Gas and anhydrous ammonia container pressures to between 3 and 125 PSIG. Precision-built with a multi-million BTU capacity, the 1580V series is perfect for such big, tough jobs as crop dryers, asphalt batch mixing plants, road building "tar wagons", heat treating and other large industrial and commercial loads. It's also ideal as a first stage regulator in large multiple operations. The AA1580V series is ideal for use in anhydrous ammonia applications such as blue print machines and heat treating.



1580V



Item Number	Service	Adjustment Method	Inlet & Outlet Connections	Recommended Delivery Pressure Range (PSIG)	A Width	B Height (max.)	Capacity Determined at Set Pressure of PSIG*	Capacity**			
1584VN	LP-Gas	Tee Handle	1/2" F. NPT	3-30	2 15/16"	4 7/8"	20	7,000,000 BTU/hr. LPG			
1584VL				25-50			30	10,000,000 BTU/hr. LPG			
1584VH				45-125			60	10,000,000 BTU/hr. LPG			
AA1584VW				3-25			20	4,500 CFH NH ₃			
AA1584VL	20-50			30			4,800 CFH NH ₃				
AA1584VH	45-125			60			5,100 CFH NH ₃				
1586VN	LP-Gas		Tee Handle	3/4" F. NPT	3-30	3 1/2"	7"	20	7,500,000 BTU/hr. LPG		
1586VL					25-50			30	14,000,000 BTU/hr. LPG		
1586VH					45-125			60	14,000,000 BTU/hr. LPG		
AA1586VW	NH ₃			3-25	20			7,700 CFH NH ₃			
AA1586VL				20-50	30						
AA1586VH				45-125	60				8,900 CFH NH ₃		
1588VN	LP-Gas	Tee Handle		1" F. NPT	3-30			3 1/2"	7"	20	7,500,000 BTU/hr. LPG
1588VL					25-50					30	14,000,000 BTU/hr. LPG
1588VH					45-125					60	14,000,000 BTU/hr. LPG

High Pressure / High Temperature Industrial / Commercial Pounds-to-Pounds Regulators X1584V, X1586V, and X1588V Series

Designed to reduce LP-Gas container pressures to between 3 and 50 PSIG. Ideal for crop drying, heat treating, asphalt batch mixing and other large industrial and commercial load application utilizing high temperature LP-Gas or high temperature atmosphere under conditions up to 300°F. Also ideal as a first stage regulator in large multiple operations.



Item Number	Service	Adjustment Method	Width	Height	Inlet & Outlet Connections	Recommended Delivery Pressure Range (PSIG)	Capacity Determined at Set Pressure of PSIG*	Capacity BTU/hr. Propane**
X1584VN	LP-Gas	Tee Handle	2 7/8"	8 7/8"	1/2" F. NPT	3-30	20	7,000,000
X1584VL						25-50	30	10,000,000
X1586VN			3 3/8"	6 7/8"	3/4" F. NPT	3-30	20	7,500,000
X1586VL						25-50	30	14,000,000
X1588VN			1" F. NPT	3-30	20	7,500,000		
X1588VL				25-50	30	14,000,000		



X1584

* Set pressure is established with 100 PSIG inlet pressure and a flow of 500,000 BTU/hr. propane.

** Capacity determined at 100 PSIG inlet, set pressure noted on chart at 20% drop.

NOTE: Care must be taken to prevent re-liquefaction of propane at normal temperatures by heat tracing or other effective means. Use of a relief valve upstream or downstream of these regulators is recommended in accordance with NFPA 58.

Vapor Relief Valves 3139 Series

Designed for use as a relief valve on high pressure regulators to comply with NFPA 58 5.1.1 "High-pressure regulators with a rated capacity of more than 500,000 BTU/hr where permitted to be used on two stage systems shall incorporate an integral relief valve or shall have a separate relief valve."



Item Number	Set Pressure	Regulator Settings	Connection Size	Height	Width	Flow Capacity at 120% of Set Pressure (SCFH Propane)	Pipe Away Adapter
3139-18	18 PSIG	10 PSIG	1/4" M. NPT	2 27/32"	1 1/16"	1357*	B-009412-2B
3139-26	26 PSIG	15 PSIG				1725**	
3139-38	38 PSIG	20 PSIG				2304***	

* Flow recorded at 21.6 PSI inlet pressure for this valve. ** Flow recorded at 31.2 PSI inlet pressure for this valve. *** Flow recorded at 45.6 PSI inlet pressure for this valve.

Copper Pigtails 912 and 913 Series

Straight Pigtails

Connections	Approximate Length	Item Number		
		1/4" Tube		3/8" Tube
		7/8" Hex Short Nipple	1 1/8" Hex Long Nipple	7/8" Hex Short Nipple
M.POL x M.POL	5"	-	1/2"	913JS05
	12"	912PS12	-	913PS12
	20"	912PS20	912PA20	913PS20
	30"	912PS30	-	913PS30
	36"	912PS36	912PA36	913PS36
	48"	912PS48	912PA48	913PS48
1/4" Inverted Flare x M.POL	12"	912FS12	-	-
	20"	912FS20	912FA20	-
	30"	912FS30	-	-
	36"	912FS36	-	-
1/4" M.NPT x M.POL	5"	-	-	913JS05
	12"	912JS12	-	-
	20"	912JS20	-	-
	36"	912JS36	-	-
1/2" M.NPT x M.POL	12"	-	-	913LS12
1/2" M.NPT x 3/8" M.NPT	12"	-	-	913KL12

Pigtails are available in a variety of connections, sizes and styles. Care should always be taken in selecting the proper pigtail for a particular application.

Note: RegO recommends a new pigtail be installed with every new and replaced regulator.



Dielectric Pigtails



Item Number	Approximate Length	Tube	Connections
D912P12	12"	1/4"	M.POL x M.POL
D912P20	20"		
D912P30	30"		
D912J12	12"		
D912J20	20"	3/8"	1/4" M.NPT x M.POL
D912J30	30"		
D913P12	12"		
D913P20	20"		M.POL x M.POL
D913P30	30"		
D913J12	12"		
D913J20	20"	1/4" M.NPT x M.POL	
D913J30	30"		

Bent Pigtails

Connections	Approximate Length	Item Number		Type/Degree of Bend
		3/8" Tube		
		7/8" Hex Short Nipple		
1/4" M. NPT x M. POL	5"	913JS05A		90°
M. POL x M. POL		913PS05A		
M. POL x M. POL	12"	913PS12G		270° Right Hand
		913PS12H		270° Left Hand
		913PS12S		360°

Inlet Fittings

Item Number	Description
970	Hard nose POL with wrench nut.
970AX	Hard nose POL with wrench nut and excess flow.
970AXS	Soft nose POL with wrench nut and excess flow.
970WXS	
3199W	Heavy duty hard nose POL with wrench nut and excess flow.
970AW	Soft nose POL with Handwheel.
970HT	Soft nose POL with Handwheel and 60 DMS orifice.
970S	Soft nose POL with wrench nut and 60 DMS orifice.

These inlet fittings are available for assembly into either first stage or single stage regulators. All have 1/4" M. NPT connections and are machined from brass.



REGULATORS & ACCESSORIES



Brackets

RegO Brackets are especially designed for use in installing RegO Regulators in applications requiring the use of a bracket.

Item Number	Material	For Use With Regulator Model:
2302-31	Cadmium Plated Steel	LV3403, LV404B34, LV404B39
2503-22		LV404B4 LV404B9 Series, LV5503 Series LV4403 Series
2503-19	Aluminum	



Manifolds

Tee Check Manifolds 1350R and 1450R

For use in systems that require uninterrupted gas service during cylinder exchange. Especially for summer cottages, mobile homes and single appliance loads.

Item Number	Inlet Connections	Outlet Connection
1350R	F. POL	M. POL
1450R	¼" Inverted Flare	¼" M. NPT



Multiple Cylinder Manifolds 1350E and 1450E

Use with suitable pigtails to connect multiple cylinders together. Ideal for loads that require more than one cylinder to be in service at a time.

Item Number	Inlet Connections	Outlet Connection
1350E	F. POL	M. POL
1450E	¼" Inverted Flare	¼" M. NPT



Adjustable Flexible Vent Kit

Item Number	Flex Tubing Length	Reusable End Connectors	90° Elbow	Mounting Bracket
LV960-48	48" (4 feet)	2	1	3
LV960-72	72" (6 feet)			4
LV960-120	120" (10 feet)			5



Test Kits

Low Pressure Test Set 2434A Series

This kit provides the equipment necessary for checking regulator delivery pressure (low pressure) at the appliances. The basic set contains a 2424A-2 low pressure gauge and a 3 foot (¾" O.D.) flexible synthetic rubber tube. Adapters are also available.

Item Number	Contents	Adapters	Adapter size
2434A	Test Kit	1328	¾" OD
		1331	½" OD
		1332	⅝" OD



2434A



1328 Adapter

Water Manometer Kit 1212 Kit

The water manometer kit is especially suited for use with low pressure LP-Gas systems. It is ideal for pressure checks downstream of the low pressure regulator and at the appliances.

Item Number	Description
1212 KIT	Flexible Tube Water Manometer Kit



1212 KIT

Accessories

High Pressure Gauge Adapter 2962

Designed for testing high pressure lines. Adapter has 0 to 300 PSIG gauge. A bleeder valve allows you to bleed down to correct pressure during pressure tests.

Item Number	Inlet Connection	Outlet Connection	Pressure Gauge Range (PSIG)
2962	Soft Nose M. POL	F. POL	0 - 300



2962

Adhesive Warning Labels

These adhesive warning labels are intended for application as close as possible to the LP-Gas regulator in use.

Item Number	Description
LV4403-400	Adhesive Warning Label

DANGER	READ THIS FIRST	WARNING
LP-GAS IS EXTREMELY FLAMMABLE AND EXPLOSIVE		
<p>AVOID SERIOUS INJURY AND PROPERTY DAMAGE. IF YOU SEE, SMELL OR HEAR ESCAPING GAS... EVACUATE AREA IMMEDIATELY! CALL YOUR LOCAL FIRE DEPARTMENT! DO NOT ATTEMPT TO REPAIR. DO NOT STORE IN BUILDING OR ENCLOSED AREA. DO NOT USE ON HOT AIR BALLOONS OR AIRCRAFT.</p> <p>Make sure you are thoroughly trained before you attempt any regulator installation or maintenance. Improper conditions or procedures can cause accidents resulting in property damage and personal injury.</p> <p>Become thoroughly familiar with NPGA Safety Pamphlet 306 "LP-Gas Regulator and Valve Inspections & Maintenance" and RegO Safety Warning "LP-Gas Regulators" found in the regulator section of the L-500 & L-102 Catalogs. Follow its recommendations.</p> <p>Know and understand NFPA Pamphlet 58 "Liquefied Petroleum Gas Code" which is the law in many states. This publication is available from NFPA, Batterymarch Park, Quincy, MA 02269. Following its requirements is essential in the safe use of LP-Gas. Section 4.4 states: "Persons who transfer liquid LP-Gas, who are employed to transport LP-Gas, or whose primary duties fall within the scope of this code shall be trained in proper handling procedures. Refresher training shall be provided at least every three years and shall be documented."</p> <p>Pamphlet 58 also states that "All regulators for outdoor installations, except regulators used for portable industrial applications, shall be designed, installed or protected so their operation will not be affected by the elements (freezing rain, sleet, snow, ice, mud or debris). This protection may be integral with the regulator."</p> <p>Vents must be clear and fully open at all times. An obstructed vent will prevent the regulator from functioning properly and may result in property damage and personal injury.</p> <p>Regulators should be installed with the vent facing down or otherwise covered for protection.</p> <p>Twin-Stage Regulators should be installed completely under cover and/or with screened vent pipe away adapters that position both vents in a down position without obstructing flow through the vents.</p> <p>Make sure piping is clean and free from foreign material (such as dirt, corrosion, chips, pipe joint compound, etc.) Always replace the pigtail when replacing a regulator. Thread sealant used on piping must be compatible with LP-Gas.</p> <p>Make sure the use and location of the regulator(s) as a component(s) of the LP-Gas system to be installed is proper. (Avoid missing LP-Gas equipment.) See the following RegO publications: L-500 & L-102 Catalogs and the LP-Gas Serviceman's manual.</p> <p>For underground installations, make sure that water, mud, dirt, and insects cannot get into the regulator, and that the regulator is easily accessible for regulator maintenance. Follow NPGA Bulletin 401. See RegO Safety Warning "LP-Gas Regulators" found in the regulator section of the L-500 & L-102 Catalogs.</p> <p>Check regulator and installation for leaks following NFPA #54 and NPGA Bulletin 403 "Pressure Testing and Leak Checking LP-Gas Piping Systems".</p> <p>In selecting a label for posting at the installation site, consider RegO part number 2403-400 along with your own, NPGAs and others.</p> <p>Remember to instruct the owner/user/customer in safety matters concerning LP-Gas and this equipment. See RegO Safety Warning "LP-Gas Regulators" found in the regulator section of the L-500 & L-102 Catalogs.</p>		
<p>RegO requests that this information be forwarded to your customers. Additional copies are available from RegO and your authorized RegO Distributor.</p>		
<p>Elon, N.C. 27244 U.S.A. Phone (336) 449-7707 Fax (336) 449-6594 www.regoproducts.com</p>		

LV4403-500

DANGER WARNING

LP-GAS IS EXTREMELY
FLAMMABLE AND EXPLOSIVE

AVOID SERIOUS INJURY AND PROPERTY DAMAGE. IF YOU SEE, SMELL, OR HEAR ESCAPING GAS... EVACUATE AREA IMMEDIATELY! CALL YOUR LOCAL FIRE DEPARTMENT! DO NOT ATTEMPT TO REPAIR. DO NOT STORE IN BUILDING OR ENCLOSED AREA. DO NOT USE ON HOT AIR BALLOONS OR AIRCRAFT.

Insist that your LP-Gas dealer regularly inspect and maintain this installation and properly instruct you in safety matters.

Make sure ice, snow drifts, dirt, bugs and other foreign material do not obstruct vent passage-ways and openings. The vent opening must have a screen installed. If screen is missing, call your gas dealer for immediate examination and replacement.

DO NOT REMOVE, DEFACE OR OBLITERATE THIS LABEL.
DO NOT FILL CONTAINER UNLESS THIS LABEL IS READABLE.

ADDITIONAL SAFETY INFORMATION IS AVAILABLE FROM

Engineered Controls International, Inc.
Printed in U.S.A. 04-0994-1189
Part Number LV4403-400

100 RegO Drive PO Box 247 Elon College, NC 27244 USA Phone (336) 449-7707 Fax (336) 449-6594 www.regoproducts.com

LV4403-400

VALVES: Cylinder & Service Valves



Heavy-Duty Cylinder Valves for Vapor Withdrawal 9103 Series

This heavy duty cylinder valve is designed for vapor withdrawal of DOT cylinders up to 100 lbs. propane capacity. It can be used in domestic hookups and industrial commercial installations.



Item Number	Container Connection	Service Connection	Fixed Liquid Level Vent Valve	Dip Tube Length w/ Deflector	Pressure Relief Valve Setting	For Use in Cylinders w/Propane Capacity Up To:	Approximate Filling Rate Liquid Flow, GPM				Accessories
							Pressure Drop Across Valves				
							10 PSIG	25 PSIG	50 PSIG	100 PSIG	POL Plug
*9103D10.6	3/4" M NGT	F. POL (CGA 510)	Yes	10.6"	375 PSIG	100 lbs.	12.7	20.3	29.0	41.3	N970P
*9103D11.6				11.6"							

* 72 Orifice low emission version is also available.

Tamper-Resistant Cylinder Valve with Outlet Check for Vapor Withdrawal 9103T9F

This valve is designed for vapor withdrawal from and protection of DOT cylinders up to 100 lbs. propane capacity. Ideal for cylinders used in the field by construction crews, utility repair men and plumbers.



Item Number	Container Connection	Service Connection	Fixed Liquid Level Vent Valve Style	Pressure Relief Valve Setting	For Use in Cylinders w/Propane Capacity Up To:	Approximate Filling Rate Liquid Flow, GPM			
						Pressure Drop Across Valves			
						10 PSIG	25 PSIG	50 PSIG	100 PSIG
9103T9F	3/4" M. NGT	F. POL (CGA 510)	None	375 PSIG	100 lbs.	5.0	7.6	10.7	14.9

NOTE: These valves incorporate an excess flow valve. Refer to L-500/Section F, for complete information regarding selection, operation and testing of excess flow valves.

Cylinder Valve for RV and Small ASME System Vapor Withdrawal 9106CO

Designed especially for vapor withdrawal service in small ASME containers with surface area up to 23.8 square feet. UL flow capacity is 645 SCFM/air.



Item Number	Container Connection	Service Connection	Fixed Liquid Level Vent Valve Style	Pressure Relief Valve Setting	For Use In Cylinders w/ Propane Capacity Up To	Flow Capacity SCFM/Air
9106CO	3/4" M. NGT	F. POL (CGA 510)	none	312 PSIG	ASME Tanks*	645

* Surface area up to 23.8 square feet.

Compact Cylinder Valves with Overfilling Prevention Devices

Item Number	Description
ROPD3.1	4 1/4# OPD Valve
ROPD3.6	11# OPD Valve
ROPD4.0	20# OPD Valve
ROPD4.7	30# OPD Valve
ROPD6.4	40# OPD Valve
033-294	OPD Dust Cap



VALVES: Cylinder & Service Valves

Cylinder Valve for Liquid Withdrawal 9107K8A

Equipped with excess flow valves and liquid withdrawal tubes, they are designed for liquid withdrawal of DOT cylinders up to 100 lbs. propane capacity. They are most often used with heavy BTU loads found in industrial uses.

Item Number	Container Connection	Service Connection	Fixed Liquid Level Vent Valve	Dip Tube Length	Liquid Withdrawal Tube Length
*9107K8A	3/4" M. NGT	CGA 555	Included	11.6"	44"

* 72 Orifice low emission version is also available.



Pressure Relief Valve Setting	For Use in Cylinders w/Propane Capacity Up To:	Approximate Filling Rate Liquid Flow, GPM				Closing Flow (LP-Gas) *		
		Pressure Drop Across Valves				Vapor		Liquid
		10 PSIG	25 PSIG	50 PSIG	100 PSIG	25 PSIG Inlet	100 PSIG Inlet	
375 PSIG	100 lbs.	3.3	5.4	7.7	11.1	525 SCFH	1,000 SCFH	1.7 GPM

* Closing flows based on 3/8" O.D. withdrawal tube 44" long or less attached.

IMPORTANT: 1/4" O.D. pigtailed or POL connections for 1/4" O.D. pigtailed should not be used with these valves.

NOTES: To ensure proper functioning and maximum protection from excess flow valves, the cylinder valve should be fully opened and back-seated when in use. These valves incorporate an excess flow valve. Refer to L-500 / Section F, for complete information regarding selection, operation and testing of excess flow valves.

Service Valves for ASME and DOT Containers or Vapor Fuel Line Applications 901C1, 9101C, 9101D, 9101R and PT9102 Series

Designed for vapor withdrawal service on ASME and DOT containers or in fuel line applications. Since none of these valves have an integral pressure relief valve, they may only be used as an accessory valve on containers that have an independent pressure relief valve sufficient for that container's capacity.



Item Number	Bonnet Style	Container Connection	Service Connection	Fixed Liquid Level Vent Valve	Approximate Filling Rate Liquid Flow, GPM				Ready To Go™							
					Pressure Drop Across Valve											
					10 PSIG	25 PSIG	50 PSIG	100 PSIG								
901C1	Standard	3/4" M. NGT	F. POL CGA 510	No	5.3	8.2	10.8	14.2	NA							
*9101C1					8.8	12.4	15.8	21.7								
*9101D11.1				Yes	8.6	12.7	16.3	22.3								
*9101D11.7																
9101R1	MultiBonnet			3/4" M. NGT	F. POL CGA 510	No	7.6	11.7		15.2	20.6	Plugged				
*9101R11.1													Yes			
*9101R11.7						No										
9102D11.1													Yes			
9102R11.7		No														
*PT9102R1			Yes													
*PT9102R11.1																
*PT9102R11.7																

* 72 Orifice low emission version is also available.



901C1



9101R1



PT9102



9101D

VALVES: Cylinder & Service Valves

Service Valves for ASME Motor Fuel Containers 901C, 901H, and 901Y Series

Designed specifically for vapor or liquid withdrawal service on ASME motor fuel containers. Since none of these valves have an integral pressure relief valve, they may only be used as an accessory valve on containers that have an independent pressure relief valve sufficient for that container's capacity.

The integral excess flow valve found in all these service valves helps prevent excessive product loss in the event of fuel line rupture.

When installed for liquid withdrawal, the 9101H6 has provisions for attachment of a liquid withdrawal tube. All other valves must be installed in containers that have provisions for a separate liquid withdrawal.

To ensure proper functioning and maximum protection from integral excess flow valves, these service valves should be fully opened and backseated when in use.



Item Number	Container Connection	Service Connection	Liquid Withdrawal Connection	Closing Flow (LP-Gas)			
				Vapor		Liquid GPM	
				25 PSIG Inlet (SCFH)	100 PSIG Inlet (SCFH)		
901C3	3/4" M. NGT	F. POL CGA 510	None	350***	605***	1.5***	
901C5				550***	1050***	2.6***	
9101H3		3/8" SAE Flare	None	430**	800**	1.5**	
9101H5*				765**	1300**	3.6**	
9101H6*				1/4" NPT	550****	1050****	2.6****
9101Y5H*			60° Angle 3/8" SAE Flare	None	765**	1300**	3.6**

* Heavy-duty models

** Based on 3/8" O.D. pigtail, 20" long or less, connected to valve outlet. For greater lengths, the pigtail must have a larger O.D.

*** Same as (**). In addition, 1/4" O.D. pigtails or POL connections for 1/4" O.D. should not be used with this valve.

**** Based on 3/8" O.D. pigtail; 20" long or less, connected to valve outlet. Also based on 1/4" pipe size dip tube, 42" long or less, attached to special inlet connection. For longer pigtail lengths, the diameter of the pigtail must be increased.

NOTE: These valves incorporate an excess flow valve. Refer to L-500/Section F, for complete information regarding selection, operation and testing of excess flow valves.

"Dual" Cylinder Valve for Simultaneous Liquid and Vapor Withdrawal 8556

This dual cylinder valve was designed especially for industrial uses. It increases the cylinder's flexibility by permitting DOT cylinders up to 100 lbs. propane capacity to be used interchangeably or simultaneously for either liquid or vapor withdrawal.



8556

Item Number	Container Connection	Service Connection		Fixed Liquid Level Vent Valve Style	Liquid Withdrawal Tube Length
		Vapor	Liquid		
8556	3/4" M. NGT	F. POL (CGA 510)	CGA 555	None	44"

Pressure Relief Valve Setting	For Use in Cylinders w/ Propane Capacity Up To:	Approximate Filling Rate Liquid Flow, GPM				Liquid Closing Flow* (LP-Gas)
		Pressure Drop Across Valves				
		10 PSIG	25 PSIG	50 PSIG	100 PSIG	
375 PSIG	100 lbs.	6.6	10.0	14.5	21.0	2.3 GPM

*To ensure proper functioning and maximum protection from integral excess flow valves, the cylinder valve should be fully opened and backseated when in use.

NOTE: These valves incorporate an excess flow valve. Refer to L-500/Section F, for complete information regarding selection, operation and testing of excess flow valves.

VALVES: Cylinder & Service Valves

Service Valves for DOT Fork Lift Containers 9101P5 and 9101P6 Series

Designed specifically for vapor or liquid withdrawal service on DOT fork lift containers. Valves with 1.5 GPM closing flow are for use in small and medium size lift truck applications, while those with 2.6 GPM closing flow are for large lift trucks. Since none of these valves have an integral pressure relief valve, they may only be used as an accessory valve on containers that have an independent pressure relief valve sufficient for that cylinder's capacity.

The integral excess flow valve found in all these service valves helps prevent excessive product loss in the event of fuel line rupture.

When installed for liquid withdrawal, the 9101P6 Series has provisions for attachment of a liquid withdrawal tube. The 9101P5 Series must be installed in containers that have provisions for a separate liquid withdrawal.

To ensure proper functioning and maximum protection for integral excess flow valves, these service valves should be fully opened and backseated when in use.



**9101P5
9101P5H**



**9101P6
9101P6H**

Item Number	Container Connection	Service Connection	Liquid Withdrawal Connection	Closing Flow (LP-Gas)			Approximate Filling Rate Liquid Flow, GPM				Accessories		
				Vapor		Liquid (GPM)	Pressure Drop Across Valve				ACME Check Connectors		
				25 PSIG Inlet (SCFH)	100 PSIG Inlet (SCFH)		10 PSIG	25 PSIG	50 PSIG	100 PSIG	Male	Female	Cap
9101P5	¾" M. NGT	⅜" M. NPT	None	430	900	1.5	5.0	7.6	10.7	14.9	7141M	7141F	7141M-40 or 7141FP
9101P5H				550	1050	2.6							
9101P6			¼" NPT	430	900	1.5	4.5	7.2	10.3	14.8			
9101P6H				550	1050	2.6							

Note: These valves incorporate an excess flow valve. Refer to L-500/Section F, for complete information regarding selection, operation and testing of excess flow valves.

Cylinder Valve for Propylene Service 9104PT and 9104PPA

Designed for vapor withdrawal from and protection of DOT cylinders up to 100 lbs. propylene capacity with pressure ratings such as 4B-260, 4BA-260, and 4BW-260 cylinders.



9104PT



9104PPA

Item Number	Container Connection	Service Connection	Fixed Liquid Level Vent Valve Style	Dip Tube Length*	Pressure Relief Valve Setting	For use in Cylinders w/ Propylene Capacity up to:
9104PPA	¾" M.NPT	F.POL - (CGA 510)	N/A	N/A	435 PSIG	100lbs
*9104PT10.1			Knurled	10.0"		
*9104PT10.7			Knurled	10.7"		

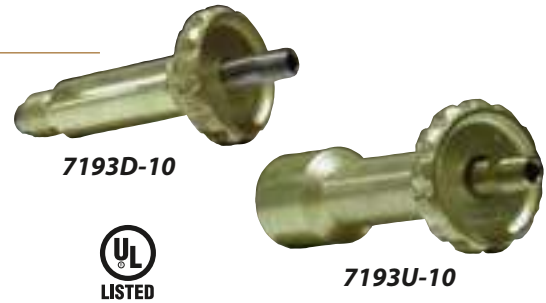
* Valve can be ordered with other dip tube lengths. Specify required length when ordering. X = diptube size

VALVES: Cylinder Filling

Hose End Adapters for DOT Cylinder Filling 7193D-10 and 7193U-10

Designed to provide quick and easy filling of DOT cylinders with POL or Type I connections. This adapter may be used with hydraulic and electric automatic systems or with manual systems in conjunction with a RegO 7901TB Quick Acting Shut-Off Valve.

These filling connectors have an extended connection on the handwheel, which makes it possible to connect the loading hose to valves on cylinders with fixed collars. The handwheel is well outside the collar for easy operation.



Item Number	Applications	Inlet Connection	Outlet Connection	Materials
7193D-10	Filling of DOT Cylinders with POL Connections	¼" M. NPT	M. POL (CGA 510)	Brass & Stainless Steel
7193U-10	Filling of DOT Cylinders with Type I Connections		Type 1 Connection (1 ⁵ / ₁₆ " F. ACME)	Brass

Connector for DOT Cylinder Filling Adapter 7193T-10

The 7193T-10 Connector is designed for use on the 7193D-10 Filling Adapters. Connector allows quick connection to the Type I 1⁵/₁₆" M. ACME threads for operators that fill both POL and Type I valves.



Item Number	Applications	Inlet Connection	Outlet Connection	Materials
7193T-10	Converts 7193D-10 Adapters from POL to a Type 1 Connection	F. POL CGA 510	Type 1 Connection (1 ⁵ / ₁₆ " F. ACME)	Brass

New Patented Low Emission Hose End Safety Adapter 7193D-10L

Low Emission Adapter (1.18 cc at disconnect) designed to provide quick and easy filling of DOT cylinders with POL connections with minimal release of product on disconnect. This adapter may be used with dispensing systems in conjunction with RegO 7901T Series Quick Acting Shut-Off Valve. Balanced, light weight design for filling into 20 # - 200 # cylinders.



Item Number	Application	Inlet Connection	Outlet Connection	Materials
7193D-10L	Filling of DOT cylinders with POL Connections	¼" M. NPT	M. POL (CGA 510)	Brass & Stainless Steel

New Patented Low Emission Hose End Safety Adapter 7193U-10L

Low Emission Adapter (1.18 cc at disconnect) designed to provide quick and easy filling of DOT cylinders with Type 1 connections with minimal release of product on disconnect. This adapter may be used for dispensing systems in conjunction with RegO 7901T Series Quick Acting Shut-Off Valve. Balanced, light weight design for filling into 20 # - 200 # Cylinders



Item Number	Application	Inlet Connection	Outlet Connection	Materials
7193U-10L	Filling of DOT cylinders with Type 1 Connections	¼" M. NPT	Type 1 Connection (1 ⁵ / ₁₆ " F. ACME)	Brass

VALVES: Cylinder Filling

Hose End Adapter for Lift Truck Cylinder Filling 7193L-10A

The 7193L-10A is designed to provide quick and easy attachment of the filling hose to DOT cylinders equipped with RegO 7141M check connectors.

The 1¼" ACME outlet threads facilitate rapid make-up. When connected, back-checks in the adapter and check connector automatically open. Low pressure drop between the two ensures high filling rates. An integral check closes when disconnected, eliminating the need to close any valves manually to disconnect the charging hose.

Because a leak-tight seal is formed before the integral check opens or closes, product loss is kept to an absolute minimum when connecting or disconnecting the loading hose.



7193L-10A

Item Number	Application	Inlet Connection	Outlet Connection	Body Material	Accessories
					Adapter
7193L-10A	Filling of Fork Lift Cylinders*	¼" M. NPT	1¼" F. ACME	Brass	5760A

*The 7193L-10A is intended to be permanently attached to the filling hose. A 5760A adapter enables the 7193L-10A to be attached to the POL connection on the 7193D-10 at regular cylinder filling stations to allow for occasional filling of fork lift cylinders.

Lever Operated Hose End Adapter for Fork Lift Cylinder Filling 7193K-10B

Designed to drastically reduce labor and time when continuously filling large numbers of lift truck cylinders equipped with RegO 7141M check connectors.

Rapid make-up is accomplished by simply slipping the adapter yoke behind the hex wrenching section of the 7141M connector and depressing the lever. When the cylinder is filled, the adapter is easily disengaged by releasing the operating lever. When connected, back checks in the adapter and connector automatically open. An integral check closes when disconnected, eliminating the need to close any valves manually on the filling manifold to disconnect the charging hose. The shut-off valve on the container must be closed after filling.

Because a leak-tight seal is formed before the checks close, product loss is kept to an absolute minimum when connecting or disconnecting the loading hose.

The 7193K-10B is intended to be permanently attached to the filling hose.



7193K-10B



Item Number	Application	Inlet Connection	Outlet Connection	Materials
7193K-10B	Lever Operated for Quick Filling of Fork Lift Cylinders	¼" F. NPT	Quick Disconnect Yoke*	Brass and Steel

* For use with RegO 7141M check connector.

VALVES: Multivalve® Assemblies



ASME Multivalves® for Vapor Withdrawal G8475RL Series Valves with Presto-Tap PG8475, PT7556 Series Valves

These Multivalves® are designed for use in single opening ASME containers equipped with a 2½" M. NPT riser. They can be used with underground ASME containers up to 639 sq. ft. surface area, and above ground ASME containers up to 192 sq. ft. surface area. A separate opening is required for liquid withdrawal. The MultiBonnet® is standard on this valve.

Liquid Filling Rates

Item Number	Approximate Filling Rate Liquid Flow, GPM			
	Pressure Drop Across Valve			
	10 PSIG	25 PSIG	50 PSIG	100 PSIG
G8475RL	42	72	98	125
G8475RLW				
PG8475RL				



PG8575RV

Item Number	Container Connection	Service Connection	Filling Connection	Relief Valve Height	Vapor Equalizing Connection		Float Gauge Flange Opening	Fixed Liquid Level Vent Valve	Dip Tube Length	Pressure Relief Valve			For use in containers w/ surface area up to:	
					Size	UL Listed Closing Flow				Setting	Part Number	Flow Capacity		
G8475RL	2½" F. NPT	F. POL (CGA 510)	1¾" M. ACME	6¾"	1¼" M. ACME	4200 CFH @ 100 PSIG	Fits "JUNIOR" size	Yes	30"*	250 PSIG	M3131G	2020 SCFM, air	1939 SCFM, air	83 sq. ft. above ground
*G8475RLW				8½"								MV3132G	3995 SCFM, air	n/a
														639 sq. ft. under ground

* Dip tube not installed, may be cut by customer to desired length.

** 72 Orifice low emission version is also available.

ASME Multivalves® for Vapor Withdrawal 8593AL

These Multivalves® provide vapor withdrawal and filling of ASME containers. A separate pressure relief valve is required in addition to this valve. The MultiBonnet® is standard on this valve.

Liquid Filling Rates

Item Number	Approximate Filling Rate Liquid Flow, GPM			
	Pressure Drop Across Valve			
	10 PSIG	25 PSIG	50 PSIG	100PSIG
8593AL16.0	42	72	98	125



8593AL

Item Number	Container Connection	Service Connection	Filling Connection	Vapor Equalizing Connection		Fixed Liquid Level Vent Valve Style	Dip Tube Length	For Use In Containers w/ Surface Area Up To:
				Connection Size	UL Listed Closing Flow			
8593AL16.0	1½" M. NPT	F. POL (CGA 510)	1¾" M. ACME	1¼" M. ACME	4200 CFH at 100 PSIG	Knurled	16"*	**

* Dip tube not installed, may be cut by customer to desired length.

** Since these Multivalves® have no integral pressure relief valves, they can be used on any ASME container with an independent relief device sufficient for that tank's capacity.

VALVES: Multivalve® Assemblies

DOT Multivalve® for Liquid Withdrawal 8555DL

These Multivalves® permit liquid withdrawal from DOT cylinders with up to 100 lbs. propane capacity. They eliminate unnecessary cylinder handling when servicing high volume loads and allow on-site filling into the vapor space without interrupting gas service.



8555DL

Liquid Filling Rates

Item Number	Approximate Filling Rate Liquid Flow, GPM			
	Pressure Drop Across Valve			
	10 PSIG	25 PSIG	50 PSIG	100 PSIG
****8555DL11.6	8	23	34	42

Item Number	Container Connection	Service Connection	Filling Connection	Fixed Liquid Level Vent Valve Style	Dip Tube Length w/ Deflector	Liquid Withdrawal Tube Length	Pressure Relief Valve Setting	For Use In Cylinders w/ Propane Capacity Up To:	Liquid Closing Flow (LP-Gas)***
****8555DL11.6	¾" M. NGT	CGA 555*	1¾" M. ACME	Knurled	11.6"	44"	375 PSIG	100 lbs. **	1.7 GPM

* Use adapter 12982 to connect to pipe threads.

** Per CGA Pamphlet S-1.1.

*** To ensure proper functioning and maximum protection from integral excess flow valves, the cylinder valve should be fully opened and backseated when in use.

****72 orifice low emission version is also available.

DOT & ASME Multivalves® for Vapor Withdrawal 6555R, 8555D and 8555R Series

These Multivalves® permit vapor withdrawal. They allow for container filling without interrupting gas service.

The 6555R Series is designed for ASME containers with up to 25 ft² surface area or 60 gallons water capacity.

The 8555D and 8555R Series are designed for DOT cylinders with up to 200 lbs. propane capacity.



8555R

Liquid Filling Rates

Item Number	Approximate Filling Rate Liquid Flow, GPM			
	Pressure Drop Across Valve			
	10 PSIG	25 PSIG	50 PSIG	100 PSIG
**6555D Series	8	23	34	42
**6555R Series				
**8555D Series				
**8555R Series				

Item Number	Bonnet Style	Application	For Use In Containers with Size Up To:	Dip Tube Length w/ Deflector	Container Connection	Service Connection	Filling Connection	Fixed Liquid Level Vent Valve	Pressure Relief Valve		
									Setting	Flow Capacity*	
										UL Listing	ASME
**6555R10.6	MultiBonnet®	ASME Containers	25 ft ² surface area or 60 gallons water capacity	10.6"	¾" M. NGT	F. POL (CGA 510)	1¾" M. ACME	Yes	250 PSIG	793 SCFM, air	700 SCFM, air
**6555R11.6	MultiBonnet®			11.6"							
**6555R12.0	MultiBonnet®			12.0"							
**8555D10.6	Standard	DOT Cylinders	200 lbs. Propane **	10.6"	¾" M. NGT	F. POL (CGA 510)	1¾" M. ACME	Yes	375 PSIG	n/a	n/a
**8555R10.6	MultiBonnet®			10.6"							
**8555D11.6	Standard			11.6"							
**8555R11.6	MultiBonnet®			11.6"							

* Per CGA Pamphlet S-1.1.

** 72 orifice low emission version is also available.

VALVES: Multivalve® Assemblies

DOT and ASME Multivalves® for Vapor Withdrawal 6532, 6533, 6542, 6543 Series and PT6542, PT6543 Series with Presto-Tap®

These Multivalves® permit vapor withdrawal from ASME containers up to 50 sq. ft. surface area and DOT containers up to 420 lbs. propane capacity. They allow on-site cylinder filling without interrupting gas service.

Item Number	Approximate Filling Rate -- Liquid Flow, GPM			
	Pressure Drop Across Valve			
	10 PSIG	25 PSIG	50 PSIG	100 PSIG
6532A12.0/6532R12.0	11	16	23	28
6542A12.0/6542R12.0	23	32	46	57
6533A10.5/6533R10.5	11	16	23	28
6533A11.7/6533R11.7				
6543A11.1/6543R11.1	23	32	46	57
6543A11.7/6543R11.7				
PT6542A12.0/6542R12.0	23	32	46	57
PT6543A11.1/6543R11.1				
PT6543A11.7/6543R11.7				



PT6543R

Item Number	Bonnet Style	Application	Container Connection	Service Connection	Filling Connection	Fixed Liquid Level Vent Valve Style	Dip Tube Length with Deflector	Pressure Relief Valve Setting	For Use In Cylinders w/Propane Capacity Up To:**	UL Flow Capacity @ 120% of set pressure SCFM (air)	Ready To Go™		
6532A12.0	Standard	ASME*	¾" M. NGT	F. POL (CGA 510)	1¾" M. ACME	Knurled	12.0"	250 PSIG	-	1180	Plugged		
6532R12.0	MultiBonnet®										Yes		
6542A12.0	Standard		1" M. NGT							1530	Plugged		
PT6542A12.0	MultiBonnet®										Yes		
6533A10.5	Standard	DOT	¾" M. NGT	F. POL (CGA 510)	1¾" M. ACME	Knurled	-	375 PSIG	420 lbs. Propane	-	Plugged		
6533R10.5	MultiBonnet®										11.7"	Yes	
6533A11.7	Standard												11.1"
6533R11.7	MultiBonnet®										11.7"	Yes	
6543A11.1	Standard		1" M. NGT										Plugged
PT6543A11.1	MultiBonnet®										11.1"	Yes	
6543R11.1													
PT6543R11.1	Yes												
6543A11.7	Standard		11.7"								Plugged		
PT6543A11.7	MultiBonnet®											Yes	
6543R11.7													Plugged
PT6543R11.7	Yes												

VALVES: Multivalve® Assemblies

ASME Multivalves® for Vapor Withdrawal 7556R

These compact Multivalves® are especially suited for vapor withdrawal of ASME containers where compact groupings of components are necessary. Separate filler valves and pressure relief valves are required.

PT7556 R Multivalve®

Especially suited for vapor withdrawal of ASME containers where compact groups of components are necessary. Separate filler valves and pressure relief valves are required.



PT7556R

Item Number	Container Connection	Service Connection	Vapor Equalization Connection		Fixed Liquid Level Vent Valve	Dip Tube Length	Ready to Go™
			Connection Size	UL Listed Closing Flow			
7556R12.0	¾" M. NGT	F. POL (CGA 510)	1¼" M. ACME	4200 CFH @ 100 PSIG	Yes	12"***	Plugged
PT7556R12.0							Yes

* Since these Multivalves® have no integral pressure relief valves, they can be used on any ASME container with an independent relief device sufficient for that tank's capacity.
** Other tube lengths available.

Adhesive Warning Label

The following warning information, Part Number 903-500, is included with each shipment of Multivalve® Assemblies to the first purchaser of the product from the factory.

This information is intended to be forwarded throughout the product distribution chain. Additional copies are available from RegO and Authorized Product Distributors.



VALVES: Pressure Relief & Relief Valve Manifolds



“Pop-Action” Pressure Relief Valves

The “Pop-Action” design permits the RegO Pressure Relief Valve to open slightly to relieve moderately excessive pressure in the container. When pressure increases beyond a predetermined point, the valve is designed to “pop” open to its full discharge capacity, reducing excess pressure quickly. This is a distinct advantage over ordinary valves which open gradually over their entire range, allowing excessive pressure to develop before the relief valve is fully open. All RegO internal, semi-internal, and external relief valves incorporate this “Pop-Action” design.

Relief Valves in this catalog are only intended for use in LP-Gas or anhydrous ammonia service. Do not use any other service commodity. If you have an application other than conventional LP-Gas or anhydrous ammonia service, contact RegO before proceeding.

Fully Internal “Pop-Action” Pressure Relief Valves for Transports and Bobtail Delivery Vehicles A8434 and A8436 Series

Designed specifically for use as a primary relief valve on ASME cargo tanks for transportation and bobtails with 2" and 3" F.NPT couplings.



A8434 Series

Item Number	Start To Discharge Setting PSIG	A Container Connection	B Overall Height (Approx.)	C Height Above Coupling (Approx.)	UL (At 120% of Set Pressure)	ASME (At 120% of Set Pressure)	LP-Gas	NH ₃	Propylene	Protective Cap (Included)
A8434G	250	2" M. NPT	9 ¹ / ₁₆ "	½"	3700	3456	Yes	Yes	No	A8434-11B
A8434N	265					3659				
A8436G	250	3" M. NPT	17 ⁷ / ₈ "	¾"	10210	9598				No
A8436N	265					9839				
VA8436G	250					-		9596		
VA8436N	265					-		9839		

* Per NFPA Pamphlet #58, Appendix D. Area shown is for UL or ASME flow rating—whichever is larger.

Semi-Internal “Pop-Action” Pressure Relief Valves for ASME Portable Containers 7583, 8684 and 8685 Series

Designed for use as a primary relief valve on ASME containers such as 250, 500 and 1,000 gallon tanks. Underwriters’ Laboratories lists containers systems on which these types of valves are mounted outside the hood without additional protection, if mounted near the hood and fitted with a protective cap.



7583G

Item Number	Start To Discharge Setting PSIG	A Container Connection M. NPT	B Overall Height (Approx.)	C Height Above Coupling (Approx.)	D Wrench Hex Section	Flow Capacity SCFM/Air		Protective Cap (Included)
						UL (At 120% of Set Pressure)	ASME (At 120% of Set Pressure)	
7583G	250	¾"	8 ³ / ₁₆ "	1 ⁷ / ₁₆ "	1 ³ / ₄ "	1980	1806	7583-40X
8684G		1"	9 ³ / ₈ "	1 ¹ / ₁₆ "	1 ⁷ / ₈ "	2620	2565	8684-40
8685G		1 ¹ / ₄ "	11 ¹ / ₁₆ "	1 ¹ / ₁₆ "	2 ³ / ₈ "	4385	4035	7585-40X

VALVES: Pressure Relief & Relief Valve Manifolds

Fully Internal "Pop-Action" Pressure Relief Valves for Motor Fuel Containers 8543, 8544 and 8546 Series

8543 Series relief valves are designed for use as a primary relief valve in larger ASME motor fuel containers such as on buses, RV's, trucks and construction equipment.

8544 Series relief valves are designed for use as a primary relief valve in smaller ASME and DOT motor fuel containers such as on tractors, lift trucks, cars and taxicabs.



8546-11 3/4"



7544-11A 1"



7543-10 1 1/4"



8544 Series

Item Number	Container Type	Start To Discharge Setting PSIG	A Container Connection M. NPT	B Overall Height (Approx.)	C Height Above Coupling (Approx.)	D Hex Wrenching Section	Flow Capacity SCFM/Air****		Protective Cap (Included)	Accessories Pipeaway Adapter
							UL (At 120% of Set Pressure)	ASME (At 120% of Set Pressure)		
8546G	ASME	250	3/4"	4 1/2"	15/16"	1 1/16"	723	651	11565-26	8546-11
8544G			1"	5 7/16"	7/8"	1 5/16"	1020	936	7544-41G	7544-11A*
8543G			1 1/4"			1 11/16"	1465	1400	3131-41	7543-10**
8546T		312	3/4"	4 1/2"	15/16"	1 1/16"	880	792	11565-26	8546-11
8544T			1"	5 7/16"	7/8"	1 5/16"	1282	1158	7544-41	7544-11A
8543T			1 1/4"			1 11/16"	1990	1731	3131-41	7543-10**
8544A375T	DOT	375	1"			1 5/16"	NA	1384	7544-41G	7544-11A
8544K							1545***	NA	7544-41	7544-11A

* 1" M. NPT outlet connection.

** 1 1/4" M. NPT outlet connection.

*** Rating also applies to DOT requirements.

**** Flow rates shown are for bare relief valves. Adapters and pipeaway will reduce flow as discussed in the Foreword section.

Fully Internal "Pop-Action" Pressure Relief Valve for DOT Fork Lift Cylinders 8545AK

Designed specifically for use as a primary relief valve on forklift cylinders, the 8545AK reduces the possibility of improper functioning of the relief mechanism due to foreign material build up. All guides, springs, stem and adjusting components are located inside the cylinder - removed from the direct exposure of foreign materials and debris from the atmosphere.

NFPA Pamphlet #58 requires that:

"All containers used in industrial truck (including forklift truck cylinders) service shall have the container pressure relief valve replaced by a new or unused valve within 12 years of the date of manufacture of the container and each 10 years thereafter."



7545-12 90° Adapter



7545-14 45° Adapter



8545AK

Item Number	Container Type	Start To Discharge Setting PSIG	Container Connection M. NPT	Flow Capacity SCFM/Air** (RegO Rated at 480 PSIG)	Accessories (Order Separately)		
					Protective Cap	Deflectors***	
						45° Elbow	90° Elbow
8545AK	Dot	375	3/4"	400*	11557-19	7545-14	7545-12

* Classified by U.L. in accordance with Compressed Gas Association Pamphlet S-1.1 Pressure Device Standards for Cylinders.

Meets requirements for use on DOT containers with 262 pounds or less weight of water or 109 pounds or less of LP-Gas.

** Flow rates are shown for bare relief valves. Adapters and pipeaways will reduce flow as discussed in the Foreword section.

*** Order protective cap #8545-41 or 7545-40.

VALVES: Pressure Relief & Relief Valve Manifolds

Semi-Internal "Pop-Action" Pressure Relief Valves for Large Storage Containers

Designed especially for use as a primary relief valve on large stationary storage containers, these low profile relief valves are generally mounted in half couplings. However, they are designed so that the inlet ports clear the bottom of a full 2" coupling. This ensures that the relief valve should always be capable of maximum flow under emergency conditions.

Item Number	Start To Discharge Setting PSIG	Container Connection M. NPT	Flow Capacity SCFM/Air*		Accessories	
			UL (At 120% of Set Pressure)	ASME (At 120% of Set Pressure)	Protective Cap	Pipeaway Adapter
7534B	125	2"	6,025	-	7534-40X	7534-20**
7534G***	250		11,675	10,422		



7534 Series

* Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow as discussed in the Foreword section.
 ** 3" F. NPT outlet connection.
 *** Other seat materials are available.

External "Pop-Action" Pressure Relief Valves for ASME Containers and Bulk Plant Installations AA3126, AA3130, 3131, 3132, 3133, 3135, AA3135, and A3149 Series

Designed for use as a primary relief valve on ASME above ground and underground containers, bulk plant installations and skid tanks. The 3131 Series may also be used as a primary or secondary relief valve on DOT cylinders, or as a hydrostatic relief valve. All working components of these relief valves are outside the container connection, so the valves must be protected from physical damage.



3135-10



3132-10



3135



A3149



AA3135



W3132G

Item Number	Start To Discharge Setting PSIG	A Container Connection M. NPT	B Overall Height (Approx.)	C Wrench Hex Section	Flow Capacity SCFM/Air (a)		Protective Cap	Accessories		Weep Hole Deflector		
					UL (At 120% of Set Pressure)	ASME (At 120% of Set Pressure)		Pipeaway Adapter				
								Part Number	Outlet Size			
AA3126L030	30	1/2"	2 3/8"	7/8"	(b)	-	9103-54	AA3126-10	1/2" M. NPT	-		
A3149L055	55	2 1/2"	10 1/2"	4 1/8"	2608(c)	-	3149-40	(h)		Included (j)		
A3149L200	200				8770 (c)	-						
AA3126L250	250	1/2"	2 3/8"	7/8"	277 (c)	-	9103-54	AA3126-10	1/2" M. NPT	-		
3131G		3/4"	3 7/16"	1 3/4"	2060	1939	3131-41 (g)	-				
AA3130UA250		1"	6 1/2"	2 1/2"	2 1/2"	2045	1838	11557-110	AA3131-10		1" F. NPT	
W3132G						3340	-	3132-54 (g)	3132-10		1 1/4" F. NPT	
3132G						4130	-		-			
T3132G						3790	-		3132-10		1 1/4" F. NPT	
MV3132G						3995	-		-			
3135G						5 1/2"	2 1/16"	5770	-		3135-54 (g)	3135-10
AA3135UA250		6 1/2"	6430	6341	AA3135-40PR	AA3135-10						
3133G		1 1/2"	5 1/16"	3 3/8"	6080	-	3133-54 (g)	3133-10				
A3149MG		2 1/2"	10 1/2"	4 1/8"	10390	-	3149-40	(h)			Included (j)	
A3149G						9153						
AA3130UA265		265	3/4"	3 7/16"	1 3/4"	2125	1912	11557-110	AA3131-10		1" F. NPT	-
AA3135UA265			1 1/4"	6 1/2"	2 1/16"	6615	6703	AA3135-40PR	AA3135-10		2" F. NPT	3133-11
AA3126L312	312	1/2"	2 3/8"	7/8"	330 (c)	-	9103-54	AA3126-10	1/2" M. NPT	-		

(a) Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow as discussed in the Foreword section.
 (b) Not UL or ASME rated. .059 square inch effective area.

(c) Not UL or ASME rated. RegO rated at 120% of set pressure.
 (g) Cap supplied with chain.
 (h) Outlet 3/2-8N (F) thread, will accept 3" M. NPT pipe thread.
 (j) Weep hole deflector is Part No. A3134-11B.

VALVES: Pressure Relief & Relief Valve Manifolds

External "Pop-Action" Supplementary Pressure Relief Valves for Small ASME Containers and DOT Cylinders 3127 and 3129 Series

Designed for use as a supplementary relief valve on small ASME above ground and underground containers. They may also be used as a primary or secondary relief device on DOT cylinders, or as hydrostatic relief valves.

All working components of these relief valves are outside the container connection, so the valves must be protected from physical damage.



3129-10
Pipe Away Adapter



3127 Series

Item Number	Container Type	Start To Discharge Setting PSIG	A Container Connection M. NPT	B Overall Height (Approx.)	C Wrench Hex Section	Flow Capacity SCFM/ Air		Suitable for Tanks w/Surface Area Up To:*	Accessories		
						UL (At 120% of Set Pressure)	RegO Rated at 480 PSIG***		Protective Cap	Pipeaway Adapter	
										Part Number	Outlet Size
3127G	ASME	250	1/4"	1 ³¹ / ₃₂ "	7/8"	295	-	-	9103-54	-	
3129G			1/2"	2 ¹⁹ / ₃₂ "	1 1/8"	465	-	-	3129-40P	3129-10	1/2" F. NPT
3127K	DOT	375	1/4"	1 ³¹ / ₃₂ "	7/8"	-	450	100 lbs./Propane	9103-54	-	
3129K			1/2"	2 ¹⁹ / ₃₂ "	1 1/8"	-	780	200 lbs./Propane	3129-40P	3129-10	1/2" F. NPT

* Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow as discussed in the Foreword section.

** Not UL or ASME rated. RegO rated at 480 PSIG.

*** Meets DOT requirements.

External Hydrostatic Relief Valves 3125, 3127, 3129, SS8001, SS8002, SS8021 and SS8022 Series

Designed especially for the protection of piping and shut-off valves where there is a possibility of trapping liquid LP-Gas or anhydrous ammonia. They may be installed in pipelines and hoses located between shut-off valves or in the side boss of RegO shut-off valves.

Item Number	Start To Discharge Setting PSIG	Valve Body Material	Container Connection M. NPT	Height (Approx.)	Wrench Hex Section	Accessories	
						Protective Cap	Pipeaway
							Adapter or Threads
SS8001G	250	Stainless Steel	1/4"	7/8"	11/16"	-	-
SS8002G			1/2"		7/8"		-
SS8021G			1/4"	1 3/8"	11/16"		1/4" NPSM Thrds
SS8022G			1/2"		3/8" NPT Thrds		
3127G	275	Brass	1/4"	131/32"	7/8"	9103-54	-
3129G			1/2"	219/32"	1 1/8"	3129-40P	3129-10*
3127H			1/4"	131/32"	7/8"	9103-54	-
3129H			1/2"	219/32"	1 1/8"	3129-40P	3129-10*
3127P	300	Brass	1/4"	131/32"	1 1/8"	9103-54	-
3129P			1/2"	219/32"	1 1/8"	3129-40P	3129-10*
SS8022P		Stainless Steel	1/2"	1 3/8"	7/8"	-	3/8" NPT Thrds
3127J	350	Brass	1/4"	131/32"	7/8"	9103-54	-
3129J			1/2"	219/32"	1 1/8"	3129-40P	3129-10*
SS8001J	375	Stainless Steel	1/4"	7/8"	11/16"	-	-
SS8002J			1/2"		7/8"		-
SS8021J			1/4"	1 3/8"	11/16"		1/4" NPSM Thrds
SS8022J			1/2"		3/8" NPT Thrds		
3127K	400	Brass	1/4"	131/32"	7/8"	9103-54	-
3129K			1/2"	219/32"	1 1/8"	3129-40P	3129-10*
3125L			1/4"	19/16"	5/8"	3125-40P	-
3127L			1/2"	131/32"	7/8"	9103-54	-
3129L	450	Stainless Steel	1/2"	219/32"	1 1/8"	3129-40P	3129-10*
SS8001L			1/4"	7/8"	11/16"	-	-
SS8002L			1/2"		7/8"		-
SS8021L			1/4"	1 3/8"	11/16"		1/4" NPSM Thrds
SS8022L	1/2"	3/8" NPT Thrds					
3127U	450	Brass	1/4"	131/32"	7/8"	9103-54	-
3129U			1/2"	219/32"	1 1/8"	3129-40P	3129-10*
SS8001U			1/4"	7/8"	11/16"	-	-
SS8002U			1/2"		7/8"		-
SS8021U	1/4"	1"	11/16"	1/4" NPSM Thrds			
SS8022U	1/2"		7/8"	3/8" NPT Thrds			

* 1/2" F. NPT outlet connection.



3125 Series
3127 Series
3129 Series

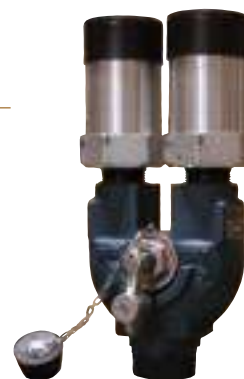


SS8022G

VALVES: Pressure Relief & Relief Valve Manifolds

DuoPort® Pressure Relief Valve Manifolds for Small Storage Containers 8542 Series

Designed especially for use as a primary relief device on smaller stationary storage containers, with 2" NPT threaded couplings. These manifolds allow servicing or replacement of either of the two relief valves without evacuating the container or loss of service. The operating lever selectively closes off the entrance port to the relief valve being removed while the remaining valve provides protection for the container and its contents. The rating of each manifold is based on actual flow through the manifold and a single pressure relief valve, taking friction loss into account. It is not merely the rating of the relief valve alone.



8542 Series

Item Number	Start to Discharge Setting PSIG	Application		Container Connection M. NPT	Relief Valve Included				Flow Capacity SCFM/Air** (at 120% of set pressure)	
		LP-Gas	NH ₃		Quantity	Part Number	Inlet Connection M. NPT	Accessories Pipeaway Adaptors	UL Rating (at 120% of set Pressure)	ASME Rating (at 120% of set Pressure)
8542G	250	Yes	No	2"	2	3135MG	1 1/4"	3135-10*	5250 (1)	NA
8542AG									NA	5549 (1)
AA8542UA250	265	No	Yes			AA3135MUA250		AA3135-10*	6430 (1)	6341 (1)
AA8542UA265						AA3135MUA265			6615 (1)	6703 (1)

* 2" F. NPT outlet connection.

** Flow rating based on number of relief valves indicated in parenthesis (). Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow rates as discussed in the Foreword section.

Delta Port Relief Valve Manifolds 8530/AA8530 Series

Designed especially for use as a primary relief device on large stationary pressurized storage containers, the base is supplied with a two-inch NPT threaded container connection. These manifolds incorporate an additional relief valve, not included in the flow rating, allowing for servicing or replacement of any one of the relief valves without evacuating the container. The hand-wheel on the manifold selectively closes off the entrance port to the relief valve being removed while the remaining relief valves provide protection for the container and its contents. All manifold flow ratings are based on flow through the relief valves after one has been removed for service or replacement.



8533AG

Item Number	Start to Discharge Setting PSIG	Application		Container Connection M.NPTF	Relief Valve				ASME Flow Rating SCFM (air) @ 120% of Set Pressure *
		LPG	NH ₃		Qty.	Part Number	Inlet Connection M.NPT	Accessories Pipe-away Adapter**	
8532AG	250	Yes	No	2"	2	3135MG	1 1/4"	3135-10	5,549 (1)
8533AG					3				11,098 (2)
AA8532MA250		No	Yes		2	AA3135MA250		AA3135-10	6,341 (1)
AA8533MA250	3				12,682 (2)				
AA8532MA265	265				2	AA3135MA265			6,615 (1)
AA8533MA265					3				13,230 (2)

* Flow rating based on number of relief valves indicated in parentheses ().

Flow rates shown are for bare relief valves. Adapters and pipe-aways will reduce flow rates as discussed in forwarding information in L-500 catalog. ** 2" F. NPT outlet connection

VALVES: Pressure Relief & Relief Valve Manifolds

Multiport™ Pressure Relief Valve Manifold Assemblies for Large Storage Containers A8560, A8570 and AA8570 Series

Designed especially for use as a primary relief device on large stationary pressurized storage containers with flanged openings. These manifolds incorporate an additional relief valve, not included in the flow rating, allowing for servicing or replacement of any one of the relief valves without evacuating the container. The handwheel on the manifold selectively closes off the entrance port to the relief valve being removed while the remaining relief valves provide protection for the container and its contents. All manifold flow ratings are based on flow through the relief valves after one has been removed for service or replacement.



**A8560
A8570**

Bolt Stud and Nut Assemblies

Item Number	Consists of	For Use With:	For Connection To:	Number Required
7560-55	1-Bolt Stud and Nut	All RegO Multiports™	Modified 3" - 300# and 4"-ANSI 300# Welding Neck Flange	8
7560-56			Manhole Cover Plate	

Item Number	Start To Discharge Setting PSIG	Application		Container Flange Connection	Relief Valve				Flow Capacity SCFM/Air** At 120% of Set Pressure						
		LP-Gas	NH ₃		Quantity	Part Number	Inlet Connection M. NPT	Accessories Pipeaway Adapters	UL Rating	ASME Rating					
A8563G	250	Yes	Yes	3"-300#*	3	A3149MG	2½"	****	18,500 (2)	Not Applicable					
A8564G									27,750 (3)						
A8573G				4"-300#	3	A3149G	2½"	****	18,500 (2)						
A8574G					4				27,750 (3)						
A8563AG				Not Applicable	3"-300#*	3	A3149G	2½"	****	18,300 (2)					
A8564AG										4	27,400 (3)				
A8573AG										4"-300#	3	A3149G	2½"	****	18,300 (2)
A8574AG											4				27,400 (3)

* For use with modified 300# ANSI flange with 4" port.

** Flow rating based on number of relief valves indicated in parentheses (). Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow rates as discussed in the Foreword section.

*** 2" F. NPT outlet connection.

**** Outlet 3½-8N (F) thread, will accept 3" M. NPT pipe thread.

Relief Caps

Item Number	Fits Valve Numbers	Tank Size
31-54	3131G, 7583G, 8684G	120, 250, 320, 500
35-54	3135G, 8685G	1000



35-54

Item Number	Fits Valve Numbers	Tank Size
7583-40X	7583G	120, 250, 320
7585-40X	8685G	1000
A8434-11B	A8934G	Bobtail
A8436-11B	A8936G	Transports
8684-40	8684G	500



7583-40X

VALVES: Hose End Valves



Quick-Acting Minimum Loss Hose-End Valves for Bobtail Delivery Trucks and Dispensing Stations A7793A and A7797A

Designed to vastly reduce the amount of product vented when disconnecting bobtail delivery trucks, dispensing systems and anhydrous ammonia nurse tanks. These valves provide instant, full-on flow at the flip of a handle. Shut-off is instant and the handle locks for added protection. This "top of the line" hose-end valve is a fully contained unit that does not require additional filling adapters or connectors.



A7793

Item Number	Inlet Connection (F. NPT)	Outlet Connection (F. ACME)	Locking Handle	Flow at 1 PSIG (Cv) Pressure Drop* (GPM/Propane)
A7793A	¾"	1 ¾"	Yes	16.0
A7797A	1"	1 ¾"	Yes	16.0

*To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: A7797 @ 9 PSIG = 16.0 x √9 = 48.0 GPM/propane. For NH₃ flow, multiply propane flow by .90.

Quick-Acting Hose-End Valves for Bobtail Delivery Trucks and Dispensing Stations A7707L and A7708L

Designed especially for safe operator handling of LP-Gas in bobtail delivery truck, dispensing systems and anhydrous ammonia nurse tank service.

These valves provide instant, full-on flow at the flip of the handle and provide instant positive shut-off with a handle lock for added protection.



A7707L

A7708L

Item Number	Body Design	Inlet & Outlet Connection (F. NPT)	Locking Handle	Flow at 1 PSIG Pressure Drop (Cv) (GPM/Propane)**	Accessories		
					Filling Connectors**		
					Extended Steel	Compact Brass Steel	
A7707L	Straight	1"	Yes	18.0	A7575L4	3175A	A3175A
A7708L	Angle			22.0			

*To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: A7708L @ √9 PSIG = 22.0 x 3 = 66.0 GPM/propane. For NH₃ flow, multiply propane flow by .90.

** See appropriate catalog section for additional information.

New 2" ACME Low Emission Hose End Valve for Loading Bobtails and Transports A7914A

The A7914A Low Emission valve is designed to reduce the amount of product vented when disconnecting bobtail and transport loading hoses. This valve provides a full-on flow when pressing the release trigger and the lifting of an easy grip handle. Lowering the handle will immediately stop flow and lock the lever in the closed position. This valve can be used with any standard ¾" Male ACME connector, or our 6588LE and 6589LE minimum loss filler valves.



A7914A

Item Number	Inlet Connection	Outlet Connection	Locking Handle	Flow at (Cv) Pressure Drop GPM Propane	
				1 PSIG	10 PSIG
A7914A	2" F.NPT	¾" F.Acme	Yes	55	174

*To obtain approximate flow at other than 1 PSIG drop, multiply flow in table by square root of pressure drop. Example A7914 @ 9PSIG drop = 55 X √9 = 165 GPM /propane

Quick-Acting Valves for Crop Driers and Charging Manifold Hoses 7554 Series

7554S Series valves provide instant shut-off and fast opening control on LP-Gas crop driers. They are also ideal for charging manifold hoses, stationary fuel transfer hoses and other applications requiring quick, positive shut-off. They are not for use with delivery truck hoses because the handle could snag on the ground and open the valve as the hose is reeled back to the truck.

7554L Series valves feature a locking handle device to help prevent accidental opening of the valve. It is ideal for all the same applications as the 7554S Series and may be used on delivery trucks as it incorporates the locking handle design.

Both valve series must be installed so that flow through the valve is opposite to that of a conventional globe valve. This allows the inlet flow to assist in closing the valve and prevents the valve from being opened by high pump pressures.



7554S



7554LV

Item Number	Inlet & Outlet Connection (F. NPT)	Locking Handle	Flow At 1 PSIG (Cv) Pressure Drop* (GPM/Propane)
7554SAV	1/2"	No	7.3
7554LAV		Yes	
7554SV	3/4"	No	11.3
7554LV		Yes	

*To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: 7554LV @ 9 PSIG = 11.5 X $\sqrt{9}$ = 34.5 GPM/propane.

Quick-Acting Valves for Cylinder Charging Hoses 7053T and 7901T Series

Designed primarily for use on cylinder charging hoses to provide fast, convenient shut-off and fast opening.

These valves must be installed so that flow through the valve is in the opposite direction to that of a conventional globe valve. This allows the inlet flow to assist in closing the valve, and even more important, helps prevent the valve from being forced open by high pump pressure.



7901T

Item Number	Inlet Connection (F. NPT)	Outlet Connection (F. NPT)	Body Material	Flow At 1 PSIG (CV) Pressure Drop* (GPM/Propane)
7901T	1/4"	1/4"	Brass	1.95
7901TA	3/8"	3/8"		
7901TB	1/2"	1/4"		
7901TC		1/2"		
7053T		1/2"		

*To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: 7901T @ 9 PSIG = 1.95 x $\sqrt{9}$ = 5.85 GPM/propane. For NH3 flow, multiply propane flow by .90.

VALVES: Quick Acting Valves & Needle Valves

Quick-Acting Valves for Dispensing Hoses 7901TL Series

Designed primarily for use on dispensing hoses to provide safe, convenient shut-off and fast opening. These valves feature a locking handle device to help prevent accidental opening of the valve.

Item Number	Inlet Connection (F. NPT)	Outlet Connection (F. NPT)	Body Material	Flow At 1 PSIG (CV) Pressure Drop* (GPM/ Propane)
7901TLA	3/8"	3/8"	Brass	1.95
7901TLB	1/2"	1/4"		
7901TLC		1/2"		

* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: 7901T @ 9 PSIG = 1.95 x $\sqrt{9}$ = 5.85 GPM/propane. For NH3 flow, multiply propane flow by .90.



7901TL Series

Needle Valves 1224, 1316 and 1318

These valves are high quality, "true" throttling valves. Unlike most so-called needle valves, both the body seat and stem are tapered to provide fine, precise control over a wide range of adjustment without stem galling.

The 1224 may be used as a small, inexpensive shut-off valve between a pressure gauge and bulk storage container to allow for convenient gauge replacement.

The 1316 and 1318 provide taper pipe thread by left hand hose connection threads and are useful in a wide range of torch and fuel burner applications where an accurate throttling action is required.



1224

Item Number	A. Inlet Connection	B. Outlet Connection	C. Height	D. Length
1224WA	1/4" M. NPT	1/4" M. NPT	1 9/16"	1 3/4"
1316WA	9/16" - 18 L.H.	1/8" M. NPT		
1318WA		1/4" M. NPT		

"V"-Ring Seal Globe and Angle Valves for Bulk Storage Containers, Transports, Bobtails and Plant Piping A7500 Series and TA7500 Series

Specifically designed to ensure positive shut-off and long, maintenance free service life in liquid or vapor service on bulk storage containers, transports, bobtails, cylinder filling plants and plant piping.

The high quality construction and wide variety of sizes make them highly suited for use with LP-Gas, anhydrous ammonia and in the chemical and petrochemical industries.



A7517AP



TA7034P



A7513AP



A7505AP



A7514AP



A7518FP



A7517FP

Item Number				Inlet and Outlet Connection	Port Diameter	Flow at 1 PSIG Pressure Drop (Cv) (GPM/Propane)***		Accessories	
Buna N Seat Discs		Teflon Seat Discs*				Globe	Angle	Hydrostatic Relief Valve	Vent Valve
Globe	Angle	Globe	Angle						
-	-	TA7034P	TA7034LP	½" F. NPT	¾"	10.0	14.8	SS8001U	TSS3169
A7505AP	A7506AP	TA7505AP	TA7506AP	¾" F. NPT		12.0	17.7		
A7507AP	A7508AP	TA7507AP	-	1" F. NPT	1"	17.8	22.0		
A7509BP	A7510BP	TA7509BP	TA7510BP	1¼" F. NPT	1¼"	36.5	54.0		
A7511AP	A7512AP	TA7511AP	TA7512AP	1½" F. NPT	1½"	43.0	55.5		
A7511FP	-	TA7511FP	-	1½" Flange**		46.0	-		
A7513AP	A7514AP	TA7513AP	-	2" F. NPT	2"	75.0	88.5		
A7513FP	A7514FP	TA7513FP	TA7514FP	2" Flange**		78.0	133.0		
A7517AP	A7518AP	TA7517AP	-	3" F. NPT	3½"	197.0	303.0		
A7517FP	A7518FP	TA7517FP	-	3" Flange**					

*Teflon seat discs on valves built to order.

**300# ANSI R.F. Flange.

***To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in chart by square root of pressure drop. Example: 7514FP @ 9 PSIG = 133 x √9 = 399 GPM/propane. For NH3 flow, multiple propane flow by .90.

2" & 3" Globe/Angle valves with Built-in Automatic Back Check HA7513AP/HA7514AP and HA7517AP/HA7518AP

Designed for use in conjunction with our 6588LE and 6589LE low emission filler valves installed on bobtails and transports. The valves are designed to stop flow out of the container when the hand-wheel is closed. They incorporate an automatic integral back check that is designed to allow flow back into the container to prevent liquid from becoming trapped between the 6588/89LE and the closed globe/angle valve.



HA7514AP



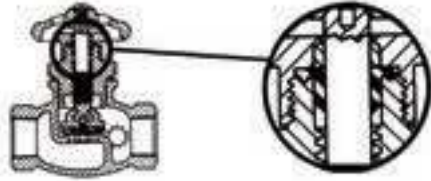
HA7513AP

Item Number		Inlet/Outlet Connection	Port Diameter	Flow at 1 PSIG Pressure drop GPM Propane	
Globe	Angle			Globe	Angle
HA7513AP	HA7514AP	2" -FNPT	2"	75.0	88.5
HA7517AP	HA7518AP	3" -FNPT	3½"	197.0	303.0

VALVES: Globe & Angle Valves

Flange Seal Globe and Angle Valve Information

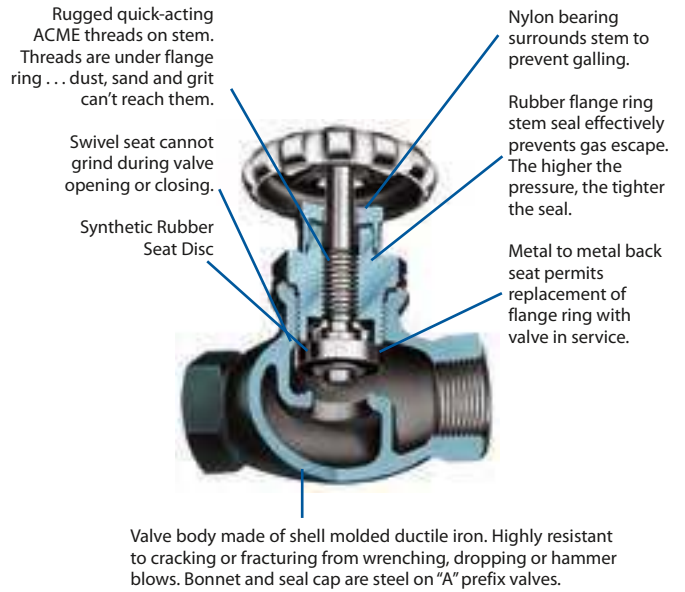
Globe and Angle Valves, incorporating the synthetic rubber flange seal design, operate on the same principle as the "V"-ring valves. Gas pressure in the valve is exerted against the synthetic rubber flange, forcing it tightly against the stem.



Leak-tight performance is assured and periodic adjustment is not required. The synthetic rubber construction provides smooth operating performance with long service life.

These valves all incorporate a plugged 1/4" NPT side boss on the downstream side of the valve that can be equipped with a hydrostatic relief valve or vent valve.

Please be familiar with the "Installation and Operation Note" and "Downstream Accessory Boss" section of the "V"-ring valve design general information before ordering these valves.



Flange Seal Globe and Angle Valves for Bulk Storage Containers, Filling Hoses and Plant Piping 7704, 7705 and 7706 Series

Designed to ensure positive shut-off and long maintenance-free service life in liquid or vapor service. Ideally suited for use on cylinder charging manifolds, truck filling hoses, bulk storage containers and plant piping.

The high quality construction and wide variety of sizes make them highly suited for use with LP-Gas, anhydrous ammonia and in the chemical and petrochemical industries.



7706P



A7704P

Item Number		Inlet & Outlet Connection (F. NPT)	Flow at 1 PSIG Pressure Drop (Cv) (GPM/Propane)*		Accessories	
Globe	Angle		Globe	Angle	Hydrostatic Relief Valve	Vent Valve
7704P	7704LP	1/2"	7.3	12.3	SS8001J or SS8001L	TSS3169
A7704P	A7704LP					
7705P	7706P	3/4"	11.5	17.7		
A7705P	A7706P					

* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: A7704LP @ 9 PSIG = 12.3 x √9 = 36.9 GPM/ propane. For NH₃ flow, multiply propane flow by .90.

VALVES: Globe & Angle Valves

Flange Seal Liquid Transfer Angle Valves for Bulk Storage Containers 7550 and 7551 Series

Designed especially for liquid transfer of LP-Gas from consumer bulk storage containers when used with a Chek-Lok® or equipped with an integral excess flow valve. May also be used for vapor LP-Gas service.

In NH₃ applicator tanks they may be used as a vapor bleeder valve or as a liquid withdrawal valve when installed in a coupling with a dip pipe.

These liquid transfer valves are equipped with an integral excess flow valve for liquid transfer directly from the tank fitting, or without an integral excess flow for LP-Gas transfer through a Check-Lok®.

When equipped with an integral excess flow valve (7550PX), the valve should be mounted in a forged steel 3000 lb. half coupling. When mounted in a 1¼" x ¾" NPT reducing coupling, the ¾" female thread in this coupling must be full length — equivalent to a forged steel 3000 lb. half coupling.

The excess flow valve will not function properly if these specifications are not met. Refer to the Warning Bulletin in the Excess Flow Valve Section of this catalog.



Item Number	Inlet Connection (M. NPT)	Outlet Connection (F. NPT)	Integral Excess Flow	Flow at 1 PSIG (Cv) Pressure Drop* (GPM/Propane)	Excess Flow Approximate Closing Flow** (GPM/Propane)	Accessories	
						Hydrostatic Relief Valve	Vent Valve
7550P	¾"	¾"	No	13.3	-	3127U	3165
A7550P						SS8001J	TSS3169
7550PX			Yes	-	16.0	3127U	3165
A7550PX						SS8001J	TSS3169
7551P		½"	No	8.9	-	3127U	3165
A7551P						SS8001J	TSS3169

*To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: 7550P @ 9 PSIG = 13.3 x √9 = 39.9 GPM/propane. For NH₃ flow, multiple propane flow by .90.

**For NH₃ flow, multiply propane flow by .90.

VALVES: Multipurpose



High Capacity Liquid Withdrawal Valves For NH3 A8012 Series

The A8012 Series is designed especially for use as a high capacity liquid withdrawal valve on anhydrous ammonia nurse tanks or risers.

This valve incorporates an integral excess flow valve; when the valve is in operation the handwheel must be completely open and back-seated to allow the excess flow valve to function properly as explained in the excess flow section of our L-500 and L-102 catalogs.



A8012D

Item Number	Inlet Connection	Outlet Connection	Approximate Closing Flow GPM	Accessories for NH3 Use	
				Hydrostatic Relief Valve	Vent Valve
A8012D	1½" M.NPT	1¼" F.NPT	72 GPM NH ₃ *	SS8001J	TSS3169
A8012C			45 GPM NH ₃ *		

* When installed in a horizontally flowing system.

Multipurpose Valve for Filling of NH3 Containers A8016DBC

Designed specifically for use as a manual filler valve on anhydrous ammonia applicator tanks. This valve incorporates an integral back check valve.



A8016DBC

Item Number	Inlet Connection	Filling Connection	Filling Capacity at 20 PSIG Pressure Drop GPM/NH ₃	Accessories	
				Hydrostatic Relief Valve	Vent Valve
A8016DBC	1¼"	1¾"	95	SS8001J	TSS3169

Multipurpose Valve for Filling of NH3 Containers A8016DP

Designed specifically for use as a manual valve or vapor equalizing valve on anhydrous ammonia applicator and nurse tanks.

This valve incorporates an integral excess flow valve. When product is required, the valve must be completely open and backseated to allow the excess flow valve to function properly as explained in the excess flow section of this catalog.



A8016DP

Item Number	Inlet Connection (M. NPT)	Filling Connection (M. ACME)	Filling Capacity At 20 PSIG Pressure Drop GPM/NH ₃ *	Approximate Excess Flow Closing Flows		Accessories	
				Liquid* GPM/NH ₃	Vapor** CFH/NH ₃	Hydrostatic Relief Valve	Vent Valve
A8016DP	1¼"	1¾"	95	44	24,000	SS8001J	TSS3169

* Determined at 9.5 to 12 PSIG differential.

** Determined at 100 PSIG inlet.

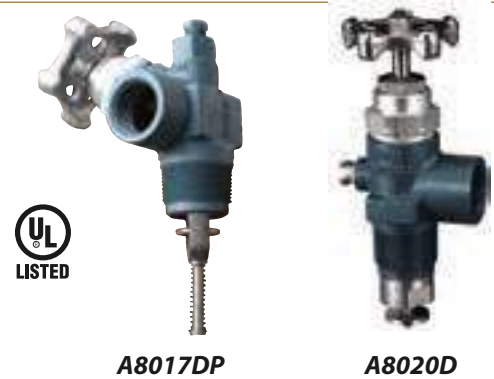
VALVES: Multipurpose

Multipurpose Valves for Liquid Withdrawal of LP-Gas and NH₃ Containers A8017D & A8020D

Designed especially for use as a high capacity liquid withdrawal valve on LP-Gas and anhydrous ammonia containers.

These valves incorporate an integral excess flow valve. When product is required, the valve must be completely open and backseated to allow the excess flow valve to function properly as explained in the excess flow valve section of this catalog.

The A8017DH is equipped with a soft seated automatic differential back pressure check valve in the seat disc assembly. This allows any pressure build up in the liquid transfer line in excess of 10-15 psig above the container pressure to flow back into the container. The transfer hose is protected against excessive liquid or vapor pressure entrapment, which adds materially to the useful life of flexible hose. In addition to increasing hose service life, the equalizing valve adds substantially to the operating safety of liquid transfer systems.



Item Number	Inlet Connection (M. NPT)	Outlet Connection (F. NPT)	Approximate Excess Flow Liquid Closing Flow** (GPM/Propane)	Accessories	
				Hydrostatic Relief Valve	Vent Valve
A8017DH*	1 1/4"	1"	49	Not Required	TSS3169
A8017DP			55		
A8017DLP			49		
A8020D	1 1/4"	1"	78	SS8001J	TSS3169

* Built-in back pressure check valve incorporated into shut-off valve.

** Determined at 11.5 to 13.5 PSIG differential for 3/4" outlet and 9 to 12 PSIG differential for 1" outlet. For NH₃ flow, multiply by .90.

Multipurpose Valve for Filling and Liquid Transfer of NH₃ Containers A8018DP

Designed primarily for use as a combination filler and liquid withdrawal valve on three-opening applicator tanks or on nurse tanks.

This valve incorporates an integral excess flow valve. When product is required, the valve must be completely open and backseated to allow the excess flow valve to function properly as explained in the excess flow valve section of RegO L-102 catalog.



Item Number	Inlet Connection (M. NPT)	Outlet Connection (F. NPT)	Filling Connection (M.ACME)	Filling Capacity At 20 PSIG Pressure Drop GPM/NH ₃	Approximate Excess Flow Liquid Closing Flow GPM/NH ₃	Accessories	
						Hydrostatic Relief Valve	Vent Valve
A8018DP	1 1/4"	1"	1 3/4"	74	50	SS8001J	TSS3169

* Determined at 9 to 12 PSIG differential.

Multipurpose Filler Valves 8118P and 8117

Designed primarily for use as a Multipurpose valve with combination filler valve and manual shutoff valve for the outlet connection of the valve for use on LP-Gas containers.

This valve incorporates an integral excess flow valve. When product is required, the valve must be completely open and back seated to allow the excess flow valve to function properly as explained in the excess flow valve section of the RegO L-102 or L-500 catalogs.



Item Number	Inlet Connection	Outlet Connection	Filler Connection	Plug	Filling Capacity at 20 PSIG Pressure Drop	Excess Valve Closing Flow SCFH at 100 PSIG
8117	1 1/4" M.NPT	3/4" F. NPT	1 3/4" M.ACME	No	82 GPM	19,300
8118P		1" F. NPT		Yes		

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing



Excess Flow Valves for Liquid or Vapor Service 1519C Series

Designed for top mounting in storage tank manhole covers for liquid or vapor applications. The tapped inlet allows for an optional 1" NPT dip pipe connection to withdraw liquid from the top of the tank.

The 1519C4 is designed for installation in long line or branch piping applications.



1519C2



1519C4

Item Number	A Inlet Connection NPT	B Outlet Connection F. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	E Threaded End to Port	Approximate Closing Flows**		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
1519C2	1½" Male*	1"	2¼"	2½"	2¹¹⁄₁₆"	25	5,000	8,800
1519C4	2" Female	2"	3"	4⁹⁄₁₆"	-	170	28,590	48,600

* 1" Female Dip Pipe Connection

** Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow.

Excess Flow Valves for Liquid or Vapor Line Service 1519A Series, 1519B Series and A1519 Series

Designed for top installation, in any position, in liquid or vapor service lines. They are intended for long lines or branch piping where tank mounted excess flow valves cannot suffice.



**1519A2, 1519A3,
1519A4, 1519B4**



**A1519A2, A1519A4,
A1519A6**

Item Number	Brass or Steel	A Inlet Connection NPT	B Outlet Connection F. NPT	C Wrench Hex Flats	D Effective Length (Approx)	Approximate Closing Flows*		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
1519A2	Brass	1"	1"	1¾"	3½"	25	5,000	8,800
A1519A2	Steel							
1519A3	Brass	1½"	1½"	2¼"	4"	60	11,500	20,200
1519A4								
A1519A4	Steel	2"	2"	3"	4¹³⁄₁₆"	100	19,000	34,500
1519B4	Brass				4⁹⁄₁₆"			
A1519B4	Steel				4¹³⁄₁₆"			
A1519A6		3"	3"	4"	6²⁷⁄₃₂"	225	45,000	82,000

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Excess Flow Valves for Liquid or Vapor 3272 Series, 3282 Series, 3292 Series, A3272 Series, A3282 Series, A3292 Series, 7574 and 12472

Designed for liquid or vapor use for filling, withdrawal and vapor equalizing in container or line applications. They are intended for long lines or branch piping where tank-mounted excess flow valves are inadequate.



3282A

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

Item Number	Brass or Steel	A Inlet Connection (M. NPT)	B Outlet Connection (F. NPT)	C Wrench Hex Flats	D Effective Length (Approx.)	Approximate Closing Flow*		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
12472	Brass	¾"	¾"	1 3/8"	1 1/16"	4	1,050	1,700
3272E					10	2,100	3,700	
3272F					15	2,800	5,000	
3272G					20	3,700	6,900	
A3272G	Steel				1 3/8"			
3282A	Brass	1 1/4"	1 1/4"	2"	1 1/16"	30	5,850	10,000
3282B					40	7,600	13,600	
3282C					50	9,000	16,300	
A3282C	Steel				1 5/8"			
7574	Brass	1 1/2"	1 1/2"	2 1/4"	1 7/8"	90	15,200	28,100
7574L					70	14,000	25,000	
3292A	Steel	2"	2"	2 7/8"	2"	75	14,200	24,800
A3292A				3"				
3292B	Brass			2 7/8"		100	18,100	32,700
A3292B	Steel			3"		122	22,100	37,600
A3292C								

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

Excess Flow Valve for Autogas Dispensing Systems 3272H

Especially designed for high flow/high differential dispensing systems. Can also be used for filling, liquid withdrawal, and vapor equalizing in container or line applications.



3272H

Item Number	Inlet Connection	Outlet Connection	Wrench Hex Flats	Effective Length (Approx.)	Liquid (GPM Propane)
3272H	¾"	¾"	1 3/8"	1 3/8"	29

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Excess Flow Valves for Container Service

A7537 Series, A7539 Series, A8523 and A8525

Designed for mounting in threaded full or half couplings in container installations. They may be used for filling, withdrawal or vapor equalizing applications. The exceptionally low pressure drop makes them ideal for pump suction lines. If a riser pipe to the vapor space is used with these valves, the minimum inside diameter of the riser pipe must be at least two times the valve thread size in order not to restrict flow to the side inlet ports.



A7537N4

Item Number	For Use With This Type Coupling	A Inlet Connection M. NPT	B Outlet Connection NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Approximate Closing Flow*		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
A8523	Half	3/4"	3/4" Male	1 1/8"	1 3/4"	15	5,170	8,800
A8525	Half	1 1/4"	1 1/4" Male	1 3/4"	2 1/8"	35	12,540	21,560
A7537L4	Half	2"	2" Male and 1 1/4" Female	2 5/8"	2 1/2"	75	13,000	25,600
A7537L4F	Full					125	25,000	42,500
A7537N4	Half							
A7537N4F	Full							
A7537P4	Half							
A7537P4F	Full					150	30,500	52,000
A7539R6	Half	3"	3" Male and 2" Female	3 3/4"	3 1/8"	150	32,100	55,500
A7539R6F	Full					200	39,400	68,300
A7539T6	Half							
A7539T6F	Full							
A7539V6	Half							
A7539V6F	Full					250	51,100	88,700

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

Excess Flow Valves for Vapor or Liquid

A2137 Series and 2139 Series

Designed especially for filling, withdrawing or vapor equalizing in half and full coupling installations. Ideal for container service where welded-in dip pipes are not provided. For vapor use, mount in the bottom opening with a threaded dip pipe. For liquid use, mount in the top opening with a threaded dip pipe. These may also be installed in pipe lines provided the connection is made to the male inlet thread and not the female dip pipe connection.



A2137

Item Number	A Inlet Connection NPT	B Outlet Connection F. NPT	C Wrench Hex Flats	D Effective Length (Approx.)	Approximate Closing Flows***		
					Liquid (GPM Propane)	Vapor SCFH (Propane)	
						25 PSIG Inlet	100 PSIG Inlet
A2137	2**	2" Male and 1 1/4" Female	2 7/16"	1 9/16"	50	10,000	17,000
A2137A					70	14,000	25,000
2139	3***	3" Male and 2" Female	3 1/2"	1 3/4"	125	26,500	46,000
2139A					160	32,700	57,200

* 1 1/4" F. NPT Dip Pipe Connection

** 2" F. NPT Dip Pipe Connection

*** Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Excess Flow Valves for Flange Mounting in Container Service A3500 Series and A4500 Series

Designed for mounting in flanged tank connections with internal threads in the bottom of a container. They may be used in filling, withdrawal or vapor equalizing application. They provide high flow capacity with low pressure drop to minimize pump inlet line cavitation.

If a riser pipe to the vapor space is used with these excess flow valves, the minimum inside diameter of the riser pipe must be at least two times the valve thread size in order not to restrict flow to the side inlet ports.

Flange mounted excess flow valves are readily accessible for servicing and completely enclosed and protected in event of fire. Because there is no direct connection between external piping and the valve, stresses imposed on piping will not affect the excess flow valve.



A3500L4

Item Number	A Inlet Connection NPT	B For Installation	C Effective Thread (Approx.)	D Threaded End To Port	Approximate Closing Flows*		
					Liquid (GPM Propane)	Vapor SCFH (Propane)	
						25 PSIG Inlet	100 PSIG Inlet
A3500L4	2"	Slotted Body	3/4"	1 1/16"	75	13,000	22,500
A3500N4					125	25,000	42,500
A3500P4					150	30,500	52,000
A3500R6	3"		1"	1 1/8"	150	32,100	55,500
A3500T6					200	39,400	68,300
A3500V6					250	51,100	88,700
A4500Y8	4"		1 1/8"	1 1/2"	500	89,000	154,000

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

Excess Flow Valves for Liquid or Vapor Withdrawal 2723C and A8013D Series

These valves are designed for bottom mounting in consumer storage tanks for liquid service. They may also be top mounted for vapor service. These valves are designed especially for use with RegO globe and angle valves.



A8013D



2723C

Item Number	A. Inlet Connection M. NPT	B. Outlet Connection NPT	C. Wrench Hex Flats	D. Effective Length (Approx.)	E. Threaded End To Port	Approximate Closing Flow**		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
A8013D	1 1/4"	3/4"	1 3/4"	1 1/32"	-	39	8,700	14,700
A8013DA		1"		1 1/16"		44		
A8013DB		1 1/4"		1 1/2"		55		
2723C	1 1/4"	3/4"	1 1/16"	1 1/16"	1 1/16"	20	3,900	6,900

* 3/4" F. NPT Dip Pipe Connection

** Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Excess Flow Valve for Pressure Gauges 2884D

Designed for container use in pressure gauge installations to minimize excess gas discharge in the event the pressure gauge is sheared. A suitable shut-off valve should be installed between this valve and the pressure gauge to allow convenient gauge replacement.



2884D

Item Number	A. Inlet Connection M. NPT	B. Outlet Connection F. NPT	C. Wrench Hex Flats	D. Effective Length (Approx.)	E. Threaded End To Port	Approximate Closing Flow*		
						Liquid (GPM Propane)	Vapor SCFH (Propane)	
							25 PSIG Inlet	100 PSIG Inlet
2884D	3/4"	1/4"	1 1/2"	1 1/8"	1 5/8"	N/A	60	110

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down. NOTE: Multiply flow rate by .94 to determine liquid butane flow.

Excess Flow Valve for DOT Cylinders 3199W

Designed for use on portable systems with vapor or liquid including torches, heaters, lead melting burners, tar and asphalt burners, wallpaper steamers and other applications involving portable DOT cylinders. The POL inlet attaches directly to the cylinder valve and the outlet mounts to the regulator.



3199W

Item Number	A. Inlet Connection	B. Outlet Connection	C. Wrench Hex Flats	D. Effective Length (Approx.)	Approximate Closing Flow*		
					Liquid (GPM Propane)	Vapor SCFH (Propane)	
						25 PSIG Inlet	100 PSIG Inlet
3199W	Male POL	1/4"	7/8"	2 1/8"	.95	265	500

*Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down. NOTE: Multiply flow rate by .94 to determine liquid butane flow.

Chek-Lok® Excess Flow Valves 7590U and 7591U Series

Chek-Lok® Excess Flow Valves are designed to provide a convenient means of withdrawing liquid from stationary containers prior to moving the container. The Chek-Lok® permits one transfer shut-off valve with an adapter to be used interchangeably on a number of tanks.

The 7590U and 7591U Chek-Loks® are also designed for use on permanent installations provided the excess flow valve is sized properly for the system and piping. NOTE: In some cases, it may be necessary to use an in-line excess flow valve to protect the downstream piping. This valve is not recommended for use as a liquid source for pumps.



7590U with Cap

Item Number	Inlet Connection	Outlet Connection	A. Body Wrench Hex Flats	B. Approximate Effective Length	C. Cap Wrench Hex Flats	Approximate Closing Flow, Liquid GPM (Propane)*
7590U	3/4" M. NPT	1 1/8" UNF	1 3/4"	1 1/8"	1 1/8"	20
7591U	1 1/4" M. NPT		1 3/4"	1 7/8"		35

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up, and slightly less when installed with outlet down. Note: Multiply flow rate by .94 to determine liquid butane flow.

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Chek-Lok® Liquid Evacuation Adapter for 7590U and 7591U Valves 7590U-20

Designed specifically for use with RegO 7590U and 7591U Chek-Lok® Excess Flow Valves. Adapter's operating handle opens and closes equalizing stem in the Chek-Lok® valve. Eliminates gas flow through Chek-Lok® valve when installing or removing adapter. Use of RegO adapter ensures proper connections and opening of the check mechanism.

Item Number	Inlet Connection	Outlet Connection	A Wrench Hex Flats	B Approximate Length
7590U-20	1½"-12 UNF	¾"	1¾"	4¾"



7590U-20

7580F-20 Liquid Evacuation Adapter for older design 7572FC and 7580FC Chek-Lok® Valves

Designed specifically for use with RegO 7572FC and 7580FC Chek-Lok® Excess Flow Valves. The adapter's operating handle opens and closes the equalizing stem in these older style Check-Lok® valves. This adapter is designed to eliminate the need for gas to flow from the Chek-Lok® when the adapter is installed or removed. A shutoff valve, such as a full port ball valve must be installed at the outlet of the 7580F-20.

Item Number	Inlet Connection	Outlet Connection	Approximate Length	Wrench Hex Flats
7580F-20	¾" M.NPT	¾" F. NPT	4½"	1½"



7580F-20

Union Style Adapters for 7590U and 7591U Valves

The 7590U-10 adapter must be used to connect to the 7590U and 7591U Chek-Lok. This insures a proper connection to open the check mechanism. A built-in nylon gasket provides a gas tight seal.

Item Number	Inlet Connection	Outlet Connection	A. Wrench Hex Flats	B. Approximate Length
7590U-10	1½" UNF	¾" F. NPT	1¾"	1"



7590U-10

Adapters for 7572FC and 7580FC Valves

These adapters must be used to connect to the 7572FC and 7580FC Chek Loks to open the check mechanism properly. A built in nylon gasket provides a gas tight seal.



Item Number	Inlet Connection	Outlet Connection	A. Wrench Hex Flats	B. Approximate Effective Length
7572C-14A	¾" M. NPT	¾" F. NPT	1¾"	1"
7572C-15A		¾" M. NPT		¾"



7572C-14A
For Transfer Valves



7572C-15A
For Globe and Angle Valves

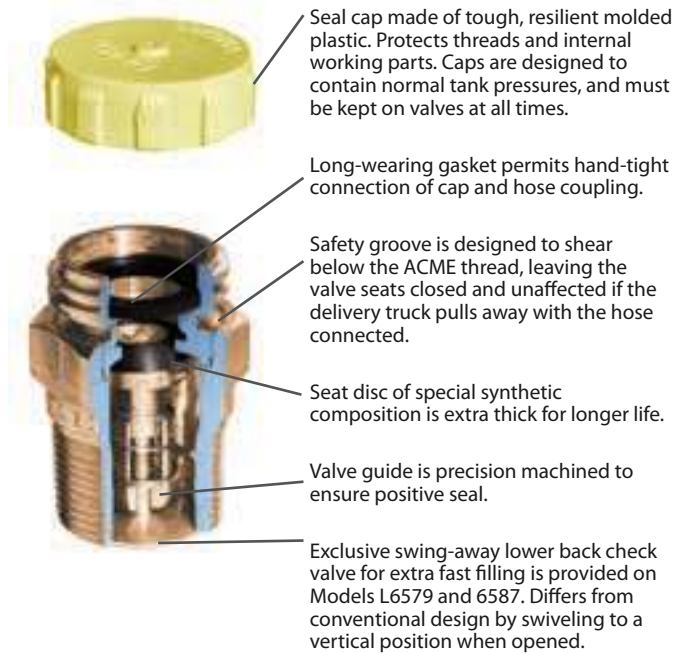
VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Double-Check Filler Valves

RegO Double-Check Filler Valves incorporate a resilient upper check valve, normally designated as a filler valve, and a lower check valve, commonly called a back pressure check valve. Available in a range of sizes to cover virtually all LP-Gas storage containers, these valves are UL listed and meet NFPA standards, as well as other safety requirements.

Flow of liquid into the storage container opens both check valves. When flow stops, they both are designed to close automatically to permit the operator to disconnect the hose coupling. The automatic closing action also helps prevent the discharge of container contents in the event of hose failure. The lower back pressure check affords extra protection by restricting the discharge if the upper check fails to function properly due to accidents or other causes.

The double back check construction allows emergency inspection, repair, or replacement of the upper fill assembly without removing product from the container. When the upper filler valve body is removed, the lower back check valve provides a seal, permitting only some leakage, allowing a new upper filler valve body to be installed.



Spare Gasket Ordering Information

ACME	Part Number
1¼"	A2797-20R
1¾"	A2697-20R
2¼"	A3184-8R
3¼"	A3194-8R

Double-Check Filler Valves for Large DOT and ASME Tanks L6579 Series and L7579 Series

Designed to provide fast filling of large motor fuel and ASME domestic tanks. The 6579 Series incorporates a swing-away lower check which greatly reduces pressure drop across the valve. This lower pressure drop promotes faster filling rates and greater efficiency resulting in more profitable operations.



Item Number		A. ACME Hose Connection	B. Tank Connection M. NPT	C. Wrench Hex Flats	D. Effective Length (Approx.)	Propane Liquid Capacity at Various Differential Pressures (GPM)				
Basic	With Cap & Lanyard					5 PSIG	10 PSIG	25 PSIG	50 PSIG	75 PSIG
L7579	L7579C	1¼"	1¼"	1⅞"	1 ²⁷ / ₃₂ "	50	70	111	157	192
7579P*	-				2 ⁷ / ₃₂ "	37	52	82	116	142
L6579**	L6579C**				1 ²⁷ / ₃₂ "	78	110	174	246	301

* Incorporates ¾ F. NPT dip pipe connection

** Swing-away lower back check valve design for higher filling rate. NOTE: Multiply flow rate by .94 to determine liquid butane capacity.

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

New Low Emission Filler Valve with Manual Shutoff Feature 7501L & 7502L

RegO Manual Double-Back Check filler valves that incorporate a resilient upper check and a **manual shutoff feature**. When filling a container from a delivery truck, this valve will allow flow into the container through the upper and lower check, when the manual lever is in the open position. When flow stops both the upper and lower checks will close; the lever is then turned to the closed position, the hose-end valve can then be removed from the filler valve.

Designed for fast filling of larger DOT cylinders and ASME domestic containers; the 7501L and 7502L feature a manual shutoff in addition to upper and lower back checks.



Item Number	Container Connection	ACME Hose Connection	Propane Liquid Capacity at Various Differential Pressures		
			15 PSIG	25 PSIG	50 PSIG
7501L	1 1/4" M.NPT	1 3/4" M.ACME	62 GPM	90 GPM	125 GPM
7502L					

Combination Filler and Overfill Protection Device (OPD) Low Emissions SF7647V Series

This combined filler valve and overfill protection device is designed to provide fast filling and protection against overfilling of Vertical above ground small bulk type containers. The SF7647V Series offers good fill rates and an overfill prevention device that will stop* the flow of product into the container when the liquid level reaches 80-83% of its capacity.

Item Number	Propane Liquid Capacity at 20 PSIG differential pressure gallons/minute	Propane Liquid Capacity at 30 PSIG differential pressure gallons/minute	Propane Liquid Capacity at 50 PSIG differential pressure gallons/minute
SF7647V11.0	19	24	50
SF7647V11.1			



VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Combination Low Emission Filler and Overfill Protection Device (OPD) SFL7579V Series

The SFL7579V Series filler valve is for use on ASME containers. This combined filler valve and overfill protection device is designed to provide fast filling and protection against overfilling of vertical and horizontal above ground LPG containers. This is typically installed in the top of horizontal containers.

Note:

- Must be installed in a vertical position.
- Depending on the application this valve is designed to be used in conjunction with another device such as a fixed liquid level gauge or float gauge in low emission transfer systems.



SFL7579V

Item Number**	ACME Hose Connection	Tank Connection M.NPTF	Wrench Hex Flats	Length A*	Propane Liquid Capacity at Various Differential Pressures GPM			
					1 PSI	25 PSI	50 PSI	75 PSI
SFL7579V13.8	1 3/4" Male	1 1/4"	1 7/8"	14.43"	23	49	54	66
SFL7579V13.0				13.63"				
SFL7579V12.3				12.93"				
SFL7579V11.1				11.73"				
SFL7579V10.6				11.23"				

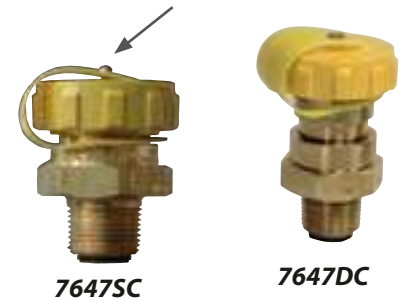
* Distance from center thread to float at closure.

** Suffix number indicates dip tube length (Fixed liquid level gauge) different lengths available upon request.

Double Check Low Emission Filler Valves for Forklift and DOT Containers 7647 Series

Designed to provide fast filling of forklift, motor fuel, and recreational vehicle tanks

Lanyard and Cap



7647SC

7647DC

Item Number	A Hose Connection	B Tank Connection M. NPT	C Wrench Flats	D Effective Length (Approx.)	Propane Liquid Capacity at Various Differential Pressures (GPM)**				
					10 PSIG	20 PSIG	30 PSIG	40 PSIG	50 PSIG
7647DC	1 3/4" ACME + F. POL	3/4"	1 5/8"	2 9/16"	14	20	24	27	50
7647SC*	1 3/4" ACME		1 3/4"	1 11/16"					

* Large 1 3/4" hex wrench flats.

** Multiply flow rate by .94 to determine liquid butane capacity.

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Double Check Filler Valves for Delivery Truck Tanks and Large Storage Containers 7579S, 6587EC and 3197C

Designed to provide fast filling of bobtails, transports and large bulk storage tanks.

The 6587EC incorporates a swing-away lower check which greatly reduces pressure drop across the valve. This lower pressure drop promotes faster filling rates and greater efficiency resulting in more profitable operations.



7579S



6587EC

3197C

Item Number	A. ACME Hose Connection	B. Tank Connection M. NPT	C. Wrench Hex Flats	D. Effective Length (Approx.)	Propane Liquid Capacity at Various Differential Pressures (GPM)				
					5 PSIG	10 PSIG	25 PSIG	50 PSIG	75 PSIG
7579S	1 3/4"	1 1/2"	2"	2 1/16"	44	62	98	139	170
6587EC*	2 1/4"	2"	2 7/8"	4 3/8"	92	130	206	291	356
3197C	3 1/4"	3"	4"	6 1/2"	148	210	332	470	575

* Swing-away lower back check valve design for higher filling rates.
NOTE: Multiply flow rate by .94 to determine liquid butane capacity.

Single Check Filler Valves for Storage Tanks with Supplementary Back Check Valves 3174C, 3194C and 6584C

Designed for use with RegO Back Check Valves to provide fast filling of bulk storage tanks. Also may be used as a spare or replacement part.

These single check filler valves must never be installed directly into container couplings. They must be used with the appropriate back check valve to comply with NFPA Pamphlet #58.



3174C



3194C, 6584C

Item Number	ACME Hose Connection	Outlet Connection M. NPT	Wrench Hex Flats	Propane Liquid Capacity at Various Differential Pressures (GPM)				For Use With Back Check Valve:
				5 PSIG	10 PSIG	25 PSIG	50 PSIG	
3174C	1 3/4"	1 1/4"	1 11/16"	23	33	52	74	3176
6584C*	2 1/4"	2"	2 3/8"	156	220	348	492	A3186
3194C	3 1/4"	3"	3 1/2"	147	208	329	465	A3196

* Stem Assembly designed for higher filling rates.
NOTE: Multiply flow rate by .94 to determine liquid butane capacity.

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Vapor Equalizing Valves

RegO Vapor Equalizing Valves consist of an upper back check valve and lower excess flow valve. In the closed position, the attachment of a vapor hose coupling with its projecting nozzle, opens the back check valve to permit flow in either direction. The lower excess flow valve is designed to close automatically when flow out of the container being filled exceeds the rated capacity. The valve closes automatically when the coupling is removed. Like the double-check filler valves, the vapor equalizing valves utilize a two-piece body construction. The lower excess flow valve will permit some leakage when the upper back check valve is removed for emergency repairs or replacement.

RegO Vapor Equalizing Valves are designed for use in both ASME and DOT containers.



Seal cap made of tough, resilient molded plastic. Protects threads and internal working parts. Caps are designed to contain normal tank pressures, and must be kept on valves at all times.

Long-wearing gasket permits hand-tight connection of cap and hose coupling.

Seat disc of special synthetic composition is extra thick for longer life.

Valve guide is precision machined to ensure positive seal.

Spare Gasket Ordering Information

ACME	Part Number
1¼"	A2797-20R
1¾"	A2697-20R

Double Check Vapor Equalizing Valves for ASME and DOT Containers 7573 Series and 3183AC

Designed to facilitate loading operations by providing equalization of pressures in the supply and storage containers. The supplementary excess flow valve closes when the flow from the container being filled exceeds a predetermined rate.

The 7573 Series is designed for use in bulk delivery systems and motor fuel containers. The 3183AC is designed for use in delivery trucks and other large containers.



7573 Series

Item Number		A.	B.	C.	D.	Approx. Closing Flow at 100 PSIG Inlet Pressure (SCFH/Propane)
Basic	W/ Chain & Cap	ACME Hose Connection	Tank Connection M. NPT	Wrench Hex Flats	Effective Length (Approx.)	
7573D	7573DC	1¼"	¾"	1¾"	1½½"	4,100
-	3183AC	1¾"	1¼"	2"	2¾½"	10,000

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Single Check Vapor Equalizing Valves for ASME and DOT Containers with Supplementary Excess Flow Valves

Designed for use with RegO Excess Flow Valves to facilitate loading operations by providing equalization of pressures in the supply and storage containers. Also may be used as a spare or replacement part. These vapor equalizing valves must never be installed directly into container couplings. They must be used with the appropriate excess flow valve to comply with NFPA Pamphlet #58.



3170

Item Number		A. ACME Connection	B. Tank Connection M.NPT	C. Wrench Hex Flats	D. Effective Length (Approx.)	Approximate Closing Flow at 100 PSIG Inlet Pressure (SCFH/Propane Vapor)	For Use With Excess Flow Valve:
Basic	With Cap & Chain						
3170	-	1¼"	¾"	1¼"	1½"	7.600	3272E
-	3180C	1¾"	1¼"	1½"	1½"	10,000	3282A

Back Pressure Check Valves

General Information

RegO Back Pressure Check Valves are designed to allow flow in one direction only. The check, normally held in the closed position by a spring, precludes the possibility of flow out of the container. When flow starts into the container, the pressure overcomes the force of the spring to open the check. When the flow stops or reverses, the check closes.

Metal-to-metal seats will allow slight leakage after closure. These valves will restrict the escape of container contents in the event of accidental breakage of the piping or fittings.

Back Pressure Valves for Container or Line Applications

3146 Series, 3176 Series, A3186, A3187S, A3196, and A3276BC

Designed to provide protection of a container opening when desired flow is always into the vessel. May be used in line applications where flow must be limited to one direction.

When used with the appropriate single check filler valve, the combination forms a double check filler valve suitable for use in filling of bulk storage tanks.



A3198S



A3187S

3146, 3176, A3186,
A3196

A3276BC

Item Number		A Inlet Connection F. NPT	B Outlet Connection M. NPT	C Wrench Hex Flats	D Effective Length (approx.)	Propane Liquid Capacity at various differential pressures (GPM)			
Brass	Steel					5 PSIG	10 PSIG	25 PSIG	50 PSIG
3146	A3146	¾"	¾"	1⅜"	1½"	11	16	25	36
3146S*									
3176	A3176	1¼"	1¼"	2"	1½"	28	40	63	89
	A3276BC*				2"	32	45	73	103
	A3186	2"	2"	3"	2⅜"	124	175	276	391
	A3187S* **	2" M & 1¼" F	2" M & 1¼" F	2⅜"	1¾"	60	110	225	350
	A3196	3"	3"	4"	3¾"	297	420	664	939
	A3198S* **	3" M & 2" F	3" M & 2" F	3½"	3¼"	210	290	400	

*Soft seat version.

**The 1¼" and 2" outlet connections are for a standpipe when installed inside of a container.

NOTE: Multiply flow rate by .94 to determine liquid butane capacity and by .90 to determine liquid anhydrous ammonia capacity.

VALVES: Excess Flow, Check, Filler & Pressure Vapor Equalizing

Swing-Away Back Pressure Check Valves for Container or Line Applications 6586D and A6586D

Designed to provide protection of a container opening when desired flow is always into the vessel. May also be used in the line applications where flow must be limited to one direction.

When used with the appropriate single check filler valve, the combination forms a double check filler valve suitable for use in filling of bulk storage tanks.

The swing-away check offers more efficient flow rates than conventional designs. It swivels open vertically to reduce pressure drop across the valve and improves flow rates.



6586D

Item Number		A. Inlet Connection F. NPT	B. Outlet Connection M. NPT	C. Wrench Hex Flats	D. Effective Length (Approx.)	Propane Liquid Capacity at Various Differential Pressures (GPM)			
Brass	Steel					5 PSIG	10 PSIG	25 PSIG	50 PSIG
6586D		2"	2"	2¾"	2½"	190	270	420	600
	A6586D			2⅞"					

NOTE: Multiply flow rate by .94 to determine liquid butane capacity.

Back Pressure Check Valves for Flanged Installation A3400L4 and A3400L6

Designed to provide high flow capacity and allow more efficient tank filling than conventional designs. The unobstructed throat area reduces flow turbulence through the valve, thereby reducing pressure drop. Large flow channels and spacious side ports ensure ample capacity for the most demanding high capacity filling operations.

The valve is designed for installation in internally threaded flanges in container bottoms.



A3400L6

Item Number	A. Flange Connection M. NPT	B. Wrench Hex Flats	C. Overall Length	D. Threaded End To Port	Propane Liquid Capacity at Various Differential Pressures (GPM)			
					5 PSIG	10 PSIG	25 PSIG	50 PSIG
A3400L4	2"	Slotted	5¼"	1⅞"	223	316	500	707
A3400L6	3"		5½"	1⅞"	424	600	949	1342

NOTE: For installation in flange tank connections with internal threads, see the "Flanged Installation in Container" section under "Excess Flow Valves." Multiply flow rate by .94 to determine liquid butane capacity and by .90 for liquid anhydrous ammonia capacity.

1 1/4" Threaded Internal Valve for Small Capacity Pumping Systems and Bobtail Vapor Equalization A3209D & A3209DT Series

Designed primarily for use with LP-Gas and anhydrous ammonia as a main valve on small capacity pumping systems, NH3 nurse tanks and in-line installations. It may also be installed in the vapor equalizing opening on bobtail delivery trucks. Installation is quick and easy, and it fits in both full and half couplings, as well as, in-line applications. The valve may be actuated manually by hand or cable.



Item Number	Inlet Connection M. NPT	Outlet Connection F. NPT	Closing Flow		LP-Gas Vapor Capacity** (SCFH/Propane)		Accessories	
			LP-Gas	NH3	25 PSIG	100 PSIG	Thermal Latch	Pneumatic Actuators
A3209D050	1 1/4"	1 1/4"	50	45	13,300	22,900	A3209TL	A3209PA A3209PAF
A3209D080	1 1/4"	1 1/4"	80	72	15,700	26,700		
A3209DT050*	1 1/4"	1 1/4"	50	45	13,300	22,900		
A3209DT080*	1 1/4"	1 1/4"	80	72	15,700	26,700		

* T-Body Design

1 1/4" Threaded Internal Valve with Electric Actuator for Small Capacity Pumping Systems and Bobtail Vapor Equalization A3209E Series

Designed primarily for use with LP-Gas and anhydrous ammonia as a main valve on small capacity pumping systems, NH3 nurse tanks and in-line installations. It may also be installed in the vapor equalizing opening on bobtail delivery trucks. Installation is quick and easy, and it fits in both full and half couplings, as well as, in-line applications. The valve may be actuated manually by hand or cable.



Item Number	Inlet Connection M. NPT	Outlet Connection F. NPT	Voltages	Closing Flow		LP-Gas Vapor Capacity** (SCFH/Propane)	
				LP-Gas	NH3	25 PSIG	100 PSIG
EA3209D050	1 1/4"	1 1/4"	12/24 VDC	50	45	13,300	22,900
EA3209D080	1 1/4"	1 1/4"		80	72	15,700	26,700
EA3209DT050*	1 1/4"	1 1/4"		50	45	13,300	22,900
EA3209DT080*	1 1/4"	1 1/4"		80	72	15,700	26,700

* T-Body Design

**Data for full flow in half coupling.

VALVES: Internal Valves & Accessories

Straight Through 1½" Internal Valve A3211D Series

Designed primarily for use with LP-Gas and anhydrous ammonia as a main valve on pumping systems, and in-line installations. Installation is quick and easy and it fits in both full and half couplings, as well as, in-line applications. The valve may be opened manually by hand or pneumatic actuator.



A3211D

Item Number	Inlet M.NPT	Outlet F.NPT	Closing Flow GPM				LP-Gas Vapor Capacity (SCFH/Propane)		Accessories	
			Half Coupling		Full Coupling		25 PSIG Inlet	100 PSIG Inlet	Thermal Latch	Pneumatic Actuator
			LP-Gas	NH ₃	LP-Gas	NH ₃				
A3211D080	1½"	1½"	80	72	63	67	15,700	26,700	A3209TL	A3209PAF
A3211D110	1½"	1½"	110	99	84	76	N/A	N/A		

3" Flanged Internal Valves for Bobtail Delivery Trucks, Transports and Large Stationary Storage Containers

A3217A & A3217DA

Designed primarily for LP-Gas and anhydrous ammonia filling and/or withdrawal on MC331 bobtail delivery trucks, transports and stationary storage tanks with flanged pumps or piping. Installation is quick and easy, and the valve may be operated manually by cable or pneumatically. Lever available on right or left side to allow for installation without the use of an extra pulley.



A3217AR

A3217ARPA and A3217ALPA Pneumatic Actuators

These Pneumatic Actuators are designed specifically for use with the A3217 Series 3" Internal Valves. The diaphragm design provides a convenient means of opening and closing the valve from a remote location, using either air or nitrogen.

Item Number	Operating Lever Position	Inlet Connection	Outlet Connection	Closing Flow GPM		Accessories		
				LP-Gas	NH ₃	Pneumatic Actuator		
						Right Operation	Left Operation	
Single Flange								
A3217AR160	A3217AL160	Right or Left	3" 300# ANSI RF Modified Flange*	3" 300# ANSI RF Flange	160	145	A3217ARPA A3217RA	A3217ALPA A3217LA
A3217AR210	A3217AL210				210	190		
A3217AR260	A3217AL260				260	236		
A3217AR410	A3217AL410				410	372		
A3217AR510	A3217AL510				510	459		
Double Flange								
A3217DAR160	A3217DAL160	Right or Left	3" 300# ANSI RF Modified Flange*	3" 300# ANSI RF Flange	160	145	A3217ARPA A3217RA	A3217ALPA A3217LA
A3217DAR210	A3217DAL210				210	190		
A3217DAR260	A3217DAL260				260	236		
A3217DAR410	A3217DAL410				410	372		
A3217DAR510	A3217DAL510				510	459		

* Valve supplied with 16 nuts and 8 studs for mounting.
 ** Modified bore=4½" diameter with 5¼" diameter raised face.

VALVES: Internal Valves & Accessories

4" Flanged Internal Valve for Transports and Large Stationary Storage Tanks A3219 Series

Designed primarily for LP-Gas and anhydrous ammonia service on MC331 transport pressure vessels and large stationary storage tanks. Installation is quick and easy, and it fits in most existing tank flanges. The valve may be actuated manually or pneumatically.

Use of the A3219RT Remote Thermal Release with this valve is suggested to provide a remote means of mechanical closure along with thermal protection, as required by DOT.

A3219FPA Pneumatic Actuator

The A3219FPA Pneumatic Actuator is designed especially for use with the A3219FA Series Flanged Internal Valves. The diaphragm type A3219FPA provides a convenient means of opening and closing the valve from a remote location, using either air or nitrogen, on LP-Gas and NH3 transport trailers and stationary tanks.



A3219FA

A3219FPA



A3219RA

Item Number*	Inlet Connection	Outlet Connection	Closing Flow GPM***		Accessories		
			LP-Gas	NH3	Pneumatic Actuator	Remote Thermal Release	
A3219FA400L	4" 300# ANSI RF Modified Flange**	4" 300# ANSI RF Flange	400	360	A3219FPA A3219RA	A3219RT (2)	
A3219FA600L			600	540			
A3219FA600W			400	360	-		A3219W
A3219FA400W							

* Valve supplied with 16 nuts and 8 studs for mounting.
 ** Modified bore = 5 7/8" diameter with 7" diameter raised face.
 *** Other closing flows available

Remote Thermal Release for DOT MC331 Pressure Vessel A3219RT

Designed especially for use with Internal Valves installed in DOT MC331 pressure vessels. The A3219RT provides a remote means of mechanical closure along with thermal protection, as required by DOT MC331.

The A3219RT is connected by cable to the internal valve(s) on the vessel. In the event of extreme heat (over 212° F.), the fuse link will melt, causing the spring to contract and pull the cable. When properly installed the cable will trip the internal valve release lever(s) allowing the connected handle(s) to move to the closed position.



A3219RT

Item Number	For Use With	Release Temperature	Spring Load		Minimum Number Required By MC331
			Fully Extended	After 4" Travel	
A3219RT	Internal Valves	212° F.	≈100 lbs.	≈50 lbs.	2

VALVES: Internal Valves & Accessories

Remote Cable Controls for Internal Valves 3200C and 3200L

The 3200C Remote Cable Kit is designed especially for use with the 3200L Remote Operating Lever to operate internal valves from a remote location.

The internal valve is opened by pulling back the remote operation lever and closed by returning the lever to its original position. A remote release is provided to close the internal valve from a different remote location.



3200L

Item Number	Description	Contents
3200C	Remote Cable Kit	100 Foot Cable, 6 Cable Clamps, Quick Link, Sign, Fuse Link, Steel Nut and Bolt
3200L	Operating Lever	Lever Assembly

Threaded Internal Valves For Bobtail Delivery Trucks, Transports and Stationary Storage Tanks A3213D Series

Designed primarily for use with LP-Gas and anhydrous ammonia for liquid withdrawal; vapor transfer or vapor equalization of bobtail delivery trucks, transports, stationary storage tanks, and in-line installations. The valve may be operated manually by cable or pneumatically.



A3213RA



A3213D Series



A3213TL



A3213PA

Item Number	Inlet Connection M.NPT	Outlet Connections F.NPT	Closing Flow Half Coupling (GPM)		Closing Flow Full Coupling (GPM)		Vapor Closing Flow (SCFH)		Accessories		
			LPG	NH ₃	LPG	NH ₃	25 PSIG Inlet	100 PSIG Inlet	Pneumatic Actuator	Rotary Actuator	Thermal Latch
A3213D150	3"	3"	150	135	125	113	26,900	45,900	A3213PA	A3213RA	A3213TL
A3213D200			200	180	160	144	32,300	55,100			
A3213D300			300	270	250	225	50,500	86,500			
A3213D400			400	360	325	293	71,400	121,300			
A3213DT150*			150	135	125	113	26,900	45,900			
A3213DT200*			200	180	160	144	32,300	55,100			
A3213DT300*			300	250	250	225	50,500	86,500			
A3213DT400*			400	325	325	293	71,400	121,300			

*T-body design

VALVES: Internal Valves & Accessories

Threaded Internal Valves For Bobtail Delivery Trucks, Transports and Stationary Storage Tanks A3212 Series

Designed primarily for use with LP-Gas and anhydrous ammonia for liquid withdrawal; vapor transfer or vapor equalization of bobtail delivery trucks, transports, stationary storage tanks, and in-line installations. The valve may be operated manually by cable or pneumatically.



A3212R Series

Item Number	Inlet Connection M. NPT	Outlet Connection F. NPT	Closing Flow (GPM) Half Coupling		Closing Flow (GPM) Full Coupling		A	B	C	Accessories			
			LP-Gas	NH3	LP-Gas	NH3				Thermal Latch	Pneumatic Actuator	Rotary Actuator	
A3212R 105	2"	2"	105	95	65	59	1 9/16"	4 11/16"	3 45/64"	A3213TL	*A3213PA	A3212RA	
A3212R T105		2" T-body											
A3212R 175		2"	175	158	100	90							4 11/16"
A3212R T175		2" T-body											
A3212R 250		2"	250	225	130	117							4 11/16"
A3212R T250		2" T-body											

* For the old A3212A Series please use the A3212PA Pneumatic Actuator

Flomatic® Internal Valves for Bobtail Delivery Trucks, Transports and Large Stationary Storage Tanks A7883FK

Designed primarily for LP-Gas and anhydrous ammonia liquid withdrawal on MC331 bobtail delivery trucks, transports and large stationary storage containers with flanged connections. The valve is fully automatic, opening and closing as the pump is turned on or off.



A7883FK

Item Number	Inlet Connection ANSI Flange	Outlet Connection ANSI Flange	Strainer Width	Base Width	Overall Height (Approx.)	Height from Indicator to Base	Accessories (included with Flomatic®)	
							Filter	3-Way Valve
A7883FK	3"-300#**	3"-300#	4 3/4"	8 1/4"	10 7/8"	4 13/16"	A7884-201	A7853A

* Supplied with A7853A 3-way valve, A7884-201 filter, studs, nuts and gaskets.

** With 4 13/16" diameter bore.

*** With 5 13/16" diameter bore.

1/4" Three-Way Quick-Acting Valve A7853A

Item Number	Flange Type	A	B	C	D	Accessories	
						Pneumatic Actuator	3-Way Valve
A7853A	T-1 Steel Carbon Steel	4 13/16"	5 3/4"	6 5/8"	8 1/4"	A7853PAF	A7853PA



A7853A 1/4" Three-Way Quick-Acting Valve

* Supplied with A7853A 3-way valve, A7884-201 filter, studs, nuts and gaskets.

** With 4 13/16" diameter bore.

*** With 5 13/16" diameter bore.

VALVES: Emergency Shutoff Valves



1¼", 2" & 3" Swing-Check ESV for Bulk Plants A6010, A6016 and A6024 Series

Designed for installation in liquid or vapor transfer lines at LP-Gas or Anhydrous Ammonia bulk plants to provide for quick shut-off of liquid or vapor flow in the event of an accidental pull-away, line break, or hose rupture.



A6010



A6016



A6024



6016-60C



6016RA



6016-60D

Item Number	Seat	Inlet and Outlet Connections	Liquid Flow Capacity at 10 PSIG Drop (GPM)	Accessories		
				Remote Close Pneumatic	Remote Open/Close Pneumatic	Remote Open/Close Rotary
VA6010	Viton	1¼" F. NPT	259 (LP-Gas) 233 (NH ₃)	6016-60D	6016-60C	6016RA
A6010	Buna-N					
VA6016	Viton	2" F.NPT	711 (LP-Gas) 640 (NH ₃)			
A6016	Buna-N					
VA6024	Viton	3" F.NPT	1325 (LP-Gas) 1173 (NH ₃)			
A6024	Buna-N					

Flanged Swing-Check ESVs for Bulk Plants FA6010, FA6016 and FA6024

Designed for installation in liquid transfer lines at LP-Gas or Anhydrous Ammonia bulk plants to provide for quick shut-off of liquid or vapor flow in the event of an accidental pull-away, line break, or hose rupture.



FA6010



FA6016



FA6024

Item Number	Seat	Inlet and Outlet Connections	Liquid Flow Capacity at 10 PSIG Drop (GPM)	Accessories		
				Remote Close Pneumatic	Remote Open/Close Pneumatic	Remote Open/Close Rotary
FVA6010	Viton	1¼" - 300# ANSI RF Flange	233 (NH ₃) 259 (LP-Gas)	FA6016-60D	*	6016RA
FA6010	Buna-N	1¼" - 300# ANSI RF Flange				
FVA6016	Viton	2" - 300# ANSI RF Flange	640 (NH ₃) 711 (LP-Gas)			
FA6016	Buna-N	2" - 300# ANSI RF Flange				
FVA6024	Viton	3" - 300# ANSI RF Flange	1173 (NH ₃) 1325 (LP-Gas)		6016-60C	
FA6024	Buna-N	3" - 300# ANSI RF Flange				

* Not Available

VALVES: Emergency Shutoff Valves

3" Heavy Duty Swing Check with Flow Indicator A7624

This back check valve is designed to provide required back flow protection for the unloading riser in the bulk plant's transfer area. It is designed specifically for pipeline installation and is suitable for LP-Gas and anhydrous ammonia service. Product flow moves the swing check to the open position, when flow stops the spring loaded swing check closes.

Item Number	For Use With:	Inlet & Outlet Connections	Liquid Capacity at 10 PSIG Drop GPM
A7624	LPG & NH3	3" F.NPT	1325-GPM(LPG) 1173-GPM(NH3)



A7624



2" Heavy Duty Swing Check with Flow Indicator A7616

This back check valve is designed to provide required back flow protection for the unloading riser in the bulk plant's transfer area. It is designed specifically for pipeline installation and is suitable for LP-Gas and anhydrous ammonia service. Product flow moves the swing check to the open position, when flow stops the spring loaded swing check closes.

Item Number	For Use With:	Inlet & Outlet Connections	Liquid Capacity at 10 PSIG Drop GPM
A7616	LPG & NH3	2" F.NPT	711-GPM(LPG) 640-GPM(NH3)



A7616



Sight Flow Indicators for Bulk Plants A7794 and A7796

Designed to promote maximum pump efficiency, these indicators enable bulk plant operators to visually inspect liquid flow conditions. With glass on both sides of the indicator, flow can be observed from either side, even under some poor light conditions. The integral swing check also serves as a back-check valve to prevent reverse flow and product loss if the hose fails in a loading operation.

By installing an indicator on the upstream side of the plant pump, suction conditions can be observed and the pump speed adjusted to obtain the maximum possible flow rate without cavitation. Additionally, if an indicator is installed in the piping at the loading rack, just ahead of the loading hose, the operator can maintain a constant check on pump conditions.

Both installations are designed to allow for observation to provide maximum pump efficiency and ensure safe plant pump operation.

In compressor operations a sight flow indicator installed in the liquid line will give a visual indication when the tank car or transport is emptied. Compressor operation can then be immediately reversed to start recovery of the vapor.



A7794

Item Number	A Inlet/Outlet Connections	B Length
A7794	2" F. NPT	5¾"
A7796	3" F. NPT	7¾"

VALVES: Gas Ball Valves

Blue Top Gas Ball Valve

Valve can be locked in the closed position by reversing the handle

- 2 Viton® o-rings
- 100% leak tested
- Made in Italy
- Leak proof system - Lifetime Warranty

Flare x F.I.P. Blue Top

Item Number	Inlet / Outlet
101-512	3/8" x 1/2" FNPT
101-513	1/2" x 1/2" FNPT



Item Number	Inlet / Outlet
101-412	3/8" F. NPT x 3/8" F. NPT
101-413	1/2" F. NPT x 1/2" F. NPT
101-414	3/4" F. NPT x 3/4" F. NPT
101-411	1/4" F. NPT x 1/4" F. NPT



Flare x M.I.P. Blue Top

Item Number	Inlet / Outlet
101-702	3/8" x 1/2" MNPT
101-703	1/2" x 1/2" MNPT



Gas Ball Valve with Side Tap

Eliminates need for test tee and labor to install

- Ideal for use outside in extremely cold climates
- Removable plug enables port for pressure gauge
- Valve can be locked in the closed position by reversing the handle
- 2 Viton® a-rings
- 1/8" side tap
- 100% leak tested
- Made in Italy
- Leak proof system - Lifetime Warranty



Flare x Flare

Item Number	Inlet / Outlet
101-612	3/8"
101-613	1/2"
101-614	5/8"



Item Number	Inlet / Outlet
102-303	1/2"
102-304	3/4"

Flare x Flare with Side Tap

Item Number	Inlet / Outlet
102-402	3/8" x 3/8"
102-403	1/2" x 1/2"



Dielectric Ball Valves

Item Number	Inlet / Outlet
101-404DU	3/4" FNPT x 3/4" FNPT
101-403DU	1/2" FNPT x 1/2" FNPT
101-513DU	1/2" FNPT x 1/2" Male Flare
101-703DU	1/2" MNPT x 1/2" Male Flare
101-803DU	1/2" MNPT x 1/2" FNPT
101-804DU	3/4" MNPT x 3/4" FNPT



101-513DU



101-803DU

Combination Valve for Bulk Storage Containers A2805C

Designed for installation on bulk storage containers, this valve combines a pressure gauge mounting and provision for a fixed tube liquid level gauge.

The shut-off valve prevents the pressure gauge from being subjected to constant pressure, thereby prolonging its life and accuracy. The valve may be closed, and the vent valve opened to vent pressure from the gauge to permit replacement.

For fixed liquid level gauging, the valve can be mounted at the maximum permitted filling level. When equipped with a dip tube threaded 1/8" M.NPT, it can be installed at any convenient level.



A2805C

Item Number	Container Connection	Service Connection	Liquid Level Vent
A2805C	3/4" M. NPT	1/4" F. NPT for Gauge Mounting	Tee Handle

*Has 1/8" F. NPT opening for installing separate dip tube.

Gritrol Fuel Line Filters 12802

Designed especially for use in liquid motor fuel lines to trap foreign material which otherwise may damage precision components in the LP-Gas carburetion system. These filters incorporate an integral sintered metal filter element in a straight through design.

Item Number	Inlet Connection	Outlet Connection
12802	1/4" F. NPT	1/4" M. NPT



12802

Vent Valves 3165C, 3165D, 3165S and TSS3169

Especially designed to bleed off liquid or vapor pressures trapped in transfer lines. When installed in the downstream boss of RegO globe and angle valves used at the end of a liquid transfer hose, the bleeder valve allows for the controlled venting of the product and indicates to the operator that the valves are closed and he can disconnect the coupling. They may also be used as a fixed liquid level gauge where the dip tube is part of the container.

The 3165C, 3165S and TSS3169 incorporates a No 54 drill size orifice
The 3165D incorporates a No 72 drill size orifice.

An optional instruction plate with "Stop Filling When Liquid Appears" may be ordered for use with these valves.



3165C



3165S



TSS3169

Item Number	Service	Connection	Actuation	Accessories
				Warning Plate Kit
3165C	LP-Gas Only	1/4" M. NPT	Ribbed	2550-40P
3165D			Slotted	
3165S			Tee Handle	
TSS3169	LP-Gas & NH ₃			

VALVES: Vent Valves

Fixed Liquid Level Gauges 3165 Series and TA3169F

Especially designed to provide a visible warning when containers are filled to the maximum permitted filling level. At the start of the filling operation, with the vent stem opened, the valve discharges vapor. When the maximum permitted filling level is reached, the valve discharges liquid. The 3165CF*, 3165CF12.0, 3165SF12.0 and TA3169F12.0 incorporate a No 54 drill orifice; the 3165DF* and 3165DF12.0 incorporate a No 72 drill orifice. They all are normally furnished with a 12" 3/16" OD dip tube.

An optional instruction plate with "Stop Filling When Liquid Appears" may be ordered for use with these valves.

Item Number	Service	Connection	Actuation	Dip Tube Length	Accessories
					Warning Plate Kit
3165CF*	LP-Gas Only	¼" M. NPT	Ribbed	*	2550-40P
3165DF*				12"	
3165CF12.0			Slotted		
3165DF12.0				Tee Handle	
3165SF12.0					
TA3169F12.0	LP-Gas & NH ₃				



3165CF12.0
3165DF12.0



TA3169F12.0

VALVES: Pullaway Valves



Pull-Away Valves for Transfer Operations

A2141 Series

Designed especially to provide pull-away protection for LP-Gas and anhydrous ammonia transfer operations including transport and delivery truck loading and unloading, engine fuel container filling and miscellaneous cylinder filling operations. When properly fastened to the inlet end of the discharge hose, the valve is designed to stop gas escape from both upstream and downstream lines in the event of a pull-away. An excessive tension pull causes the valve to automatically separate, closing two internal back pressure checks. Only a few cubic centimeters of gas escape at the instant of separation.

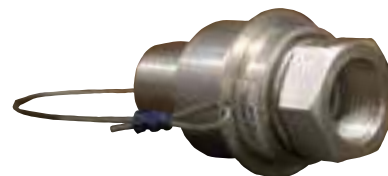
It is recommended that a convenient means be provided to safely remove the pressure from the line upstream of each coupling half to enable reassembly of the valve. To reassemble, simply push the male half firmly into the female half until the retaining balls slip into the retaining groove. Check for leaks after reassembly.

NOTE: It is recommended that pull-away valves be maintained and safety tested periodically to confirm that they will separate properly in the event of a pull-away. Lubrication every six months is essential to the pull-away's operation. Dry nitrogen or other inert gas is suggested as a source of pressure for pull-away tests.

If the A2141 pull-away valve is going to be stored for a period of time, A2141 Series such as in seasonal applications, it is recommended that it be sprayed with a good grade of rust-preventive machine oil, and covered to protect it from moisture.



A2141A6



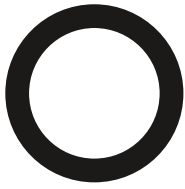
A2141A10

Item Number	Inlet/Outlet Connections NPT F.	Disconnect Force Approx-lbs	Reconnect Force Approx-lbs	Length Of Valve	LP-Gas Liquid Flow Capacity at Various Differential Pressures (GPM)*			
					5 PSIG	10 PSIG	25 PSIG	50 PSIG
A2141A6	¾"	130	80	3¾"	11	16	25	36
A2141A6L**								
A2141A8	1"	75	50	4⅞"	21	30	47	67
A2141A8L**								
A2141A10	1¼"	160	25	5½"	52	75	120	170
A2141A16	2"	300	50	14⅞"	250	350	550	750

* To Determine NH₃ liquid flow capacity, multiply by .90.

Gaskets (Actual Size)

Item Number	Use	Size	Pkg
7141M-3R	Fork Lift Conn.	1-1/4" ACME	25
A2697-20R	Filter, Vapor Valve & Adapter Connections	1-3/4" ACME	25
A2797-20R		1-1/4" ACME	25
A3184-8R		2-1/4" ACME	10
A3194-8R		3-1/4" ACME	10



7141M-3R



A2797-20R



A2697-20R



A3184-8R



A3194-8R

Buna-N O-Rings (Actual Size)

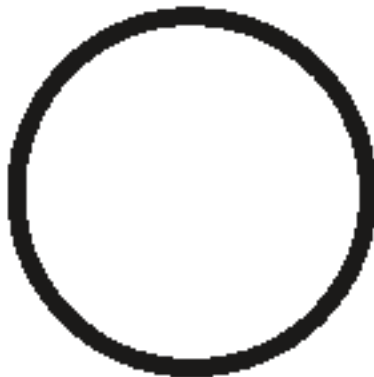
Item Number	Use	Size	Pkg
7193-1	POL Nipple	POL	EA
7513-25	Internal Fork Lift	1-1/4" ACME	EA
A3184-20R	Filler, Vapor Valve & Adapter Connections	2-1/4" ACME	10
A3194-20R		3-1/4" ACME	10



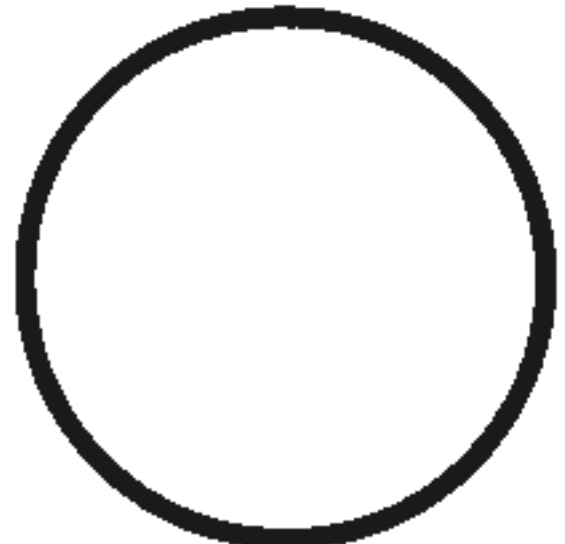
7193-1



7513-25



A3184-20R



A3194-20R

HOSE: COUPLINGS & ADAPTERS

Extended Type Hose Couplings for Vapor and Liquid Service A7571 and A7575 Series

Designed especially for liquid filling and vapor equalization of LP-Gas and anhydrous ammonia. The limited travel of the handle on the tailpiece minimizes spin-off, encouraging cautious removal to properly bleed off trapped product to ensure closure of the filler valve and hose end valve. The ACME threads are machined on a rugged steel insert which is permanently cast in the aluminum handle, providing for durability under repeated use.

Item Number	Type of Service	A. Hose Connection (M. NPT)	B. Coupling Connection (F. ACME)	C. Approx. Length
A7575L2'	Liquid	1/2"	1 3/4"	7"
A7575L3		3/4"		
A7575L4		1"		
A7575L5**		1 1/4"		
A7571LA	Vapor	1/2"	1 1/4"	
A7571LB		3/4"		

* Includes 7199-33 adapter, shipped loose.

** Includes A7575L5-1 adapter, shipped loose.



A7571 Series



A7575 Series

Short Type Hose Couplings for Vapor and Liquid Service 3171, 3175, 3181, 3185 and 3195 Series



3175 Series



A3185 Series



3171A Series



3191 Series

Item Number	Material	Style	A. Hose Connection (M. NPT)	B. Coupling Connection (F. ACME)	C. Tailpiece Bore	D. Hose End To Nut	E. Overall Length		
3175B	Brass	A	1/2"	1 3/4"	35/64"	1 13/16"	2 11/16"		
3175			3/4"		3/4"				
3175A			1"		15/16"				
3185	Brass Nut & Steel Nipple	B	1 1/4"	2 1/4"	1 3/16"	2 11/16"	3 3/4"		
3195			2"	3 1/4"	7/8"	2 1/4"	3 5/8"		
A3175	Steel	A	3/4"	1 3/4"	3/4"	2"	2 7/8"		
A3175A			1"		7/8"	2 1/4"	3 1/8"		
A3185		B	1 1/4"	2 1/4"	1 1/4"	2 1/8"	3 3/16"		
A3195			2"	3 1/4"	1 7/8"	2 1/4"	3 5/8"		
3171	Brass	C	3/8"	1 1/4"	3/8"	1 17/32"	2 13/32"		
3171A			1/2"		31/64"				
3181			3/4"		3/4"			1 3/16"	2 11/16"
3181A			1"		3/4"			1 7/8"	2 3/4"
3191		D	1 1/4"	2 1/4"	1 3/16"	2 1/8"	3 3/16"		

Spanner Wrench for ACME Connectors

This aluminum spanner wrench is especially designed for use with 2 1/4" and 3 1/4" ACME couplings, adapters and caps.

Item Number	For Use With ACME Connector Size
3195-50	2 1/4" & 3 1/4"
J-Wrench	3 1/4"



3195-50



J-Wrench

HOSE: COUPLINGS & ADAPTERS

ACME Check Connectors for Lift Trucks 7141F and 7141M

These brass connectors are especially designed to join the carburetor fuel line to the service valve on lift truck cylinders. Sturdy, long lasting ACME threads allow quick, hand-tight assembly that provides for quick and simple cylinder replacement. Back checks automatically close in each connector when disconnected.

The 7141M couples directly to the service valve. An integral O-ring is designed to seal before the internal check opens, aiding in product loss prevention. A gasket at the ACME thread is a secondary seal when the connectors are tightened together. The connector fits RegO lift truck cylinder filling adapters for fast, convenient filling.

The 7141F accepts fuel line adapter and couples directly to the 7141M. The O-ring seal in the 7141M is designed to seal before the internal check opens to allow product to pass through the connection. The knurled coupling eases threading and the ACME threads provide rapid effortless make-up, even against LP-Gas pressure.

NOTE: Refer to the "Cylinder and Service Valves" section of the L-500 catalog for additional information.



7141M



7141F

Item Number	Application	A. Inlet	B. Outlet	Protective Cap*	
				Rubber	Brass
7141M	Service Valve	3/8" F. NPT	1 1/4" M. ACME	7141M-40	7141FP
7141F	Fuel Line	1 1/4" F. ACME	1/4" F. NPT	-	-

*Recommended to minimize foreign material entering valves which could result in leakage.

Unloading Adapters for Container Evacuation 3119A, 3120 and 3121

Designed to provide an efficient means of evacuating an LP-Gas container for relocation or repair. They thread directly onto the 1 3/4" ACME male hose connection of RegO Filler Valves used on RegO Double Check Filler Valves and Multivalves®.

The unloading adapters can be used to withdraw liquid provided the container is equipped with a dip pipe extending from the filler valve to the bottom of the container.



3120



3121



3119A

Item Number	Style	A. Filler Valve Connection	B. Hose Connection
3119A	In-Line	1 3/4" F. ACME	1 3/4" M. ACME
3120	Angle		3/4" F. NPT
3121			

Left Hand Thread ACME Connectors for Vapor Withdrawal Industrial Cylinders 7142LF and 7142LM

These brass connectors are especially designed to join the carburetor **vapor fuel** line to the service valve on industrial cylinders especially designed for and used on propane fueled lawn mowers. Sturdy long lasting ACME **left hand** threads provides for quick hand tight assembly that provides for quick and simple cylinder replacement.



7142LM



7142LF

Item Number	Application	Inlet	Outlet	Protective Cap
7142LM	Vapor Service Valve	3/8" F. NPT	1 1/4" M. ACME -left hand	7141M-40
7142LF	Vapor Fuel Line	1 1/4" F. ACME -left hand	1/4" F. NPT	-

HOSE: COUPLINGS & ADAPTERS

Filler Hose Adapters

3179B, 7577V and 7576

These adapters are designed with minimal flow restriction and recommended for use on the outlet of the LP-Gas delivery truck filler hose. If the controlled bleed off of the connection indicates the filler valve on the tank being filled has failed to close, the hose adapter should be left in place on the filler valve and disconnection should be made at the regular filler hose coupling. (Repair of the filler valve must be made as soon as possible). An integral check valve in these adapters helps prevent further loss of product. The standard filler valve cap should be attached to these adapters when left on the container.



3179A

3179B



7576



7577V



ME571



ME572

Item Number	Built-in Vent Valve	A Filler Valve Connection	B Hose Connection
7577V	Yes	1 3/4" F. ACME	1 3/4" M. ACME
3179A	No		
3179B			
7576	Yes		
ME571	No		
ME572	No		

POL Plugs

Highly recommended for installation in LP-Gas cylinder valve POL outlets whenever the service line is disconnected or when the cylinder is being transported.

When properly installed, the POL plug is designed to prevent contamination of the valve outlet and guards against product leakage if the cylinder valve is accidentally opened.



N970P



10538P

(Has hole for attaching wire to prevent loss of plug)

Item Number	Material	Connection
N970P	Cyclac	M. POL (CGA 510)
10538P	Brass	
3705RC		

3 1/4" M.ACME X 2" M.NPT Adapter with Vent Valve & Integral Screen

5769HVB

Designed to prevent debris from impeding the action of valves and components of LPG piping systems at bulk plants and industrial plants.

Item Number	Style	Gasket Qty	Vent Valve	Hex Size	Thread	"A" Length
5769H	1	1	-	3/4"	2" M.NPT	2.875
5769K	1	1		3/2"	3" M.NPT	3.625
5769M	2	2		3/4" ACME	2.750	
5769HVB	1	1	3165CBT	3/4"	2" M.NPT	3.150
5769VSS	1	1	TSS3169	3.150		



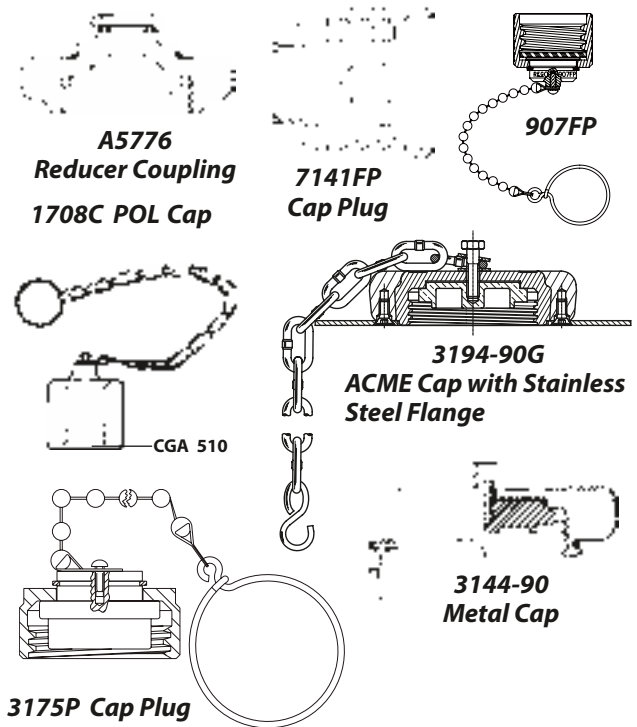
5769HVB

Caps and Reducers

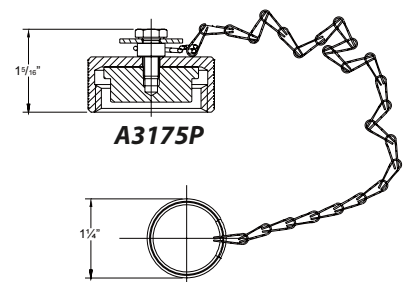


Cap With Chain & Ring		Cap Only Part Number	Material	Thread Connection		
Item Number	Ring Fits Pipe Size Up To:					
3144-91	3/4"	3144-9P	ABS	1 1/4" F. ACME		
3174-91		3174-9P		1 3/4" F. ACME		
3174-93		1 1/4"	A8016-9P	Nylon		
A8016-93						
1708C	3/4"	-	Brass	F. POL (CGA 510)		
7141FP	-			1 1/4" F. ACME		
3175P	1 1/4"		Steel	1 3/4" F. ACME		
A3175P				2 1/4" F. ACME		
3184-90	-	5776*	Brass	3 1/4" F. ACME		
3194-90					2 1/4" F. ACME	
-					3 1/4" F. ACME	
A3184-90	-	-	Steel	2 1/4" F. ACME		
A3194-90					3 1/4" F. ACME	
-					5776*	
907FP	1"	-	Brass	115/16" F. ACME		
3194-90G	-					
3194-90GS	Adjustable Cable					3 1/4" ACME
3194-91L						
3194-91S						
3194-91V						
A3194-91L						
A3194-91S	-		A5776*	Steel	2 1/4" F. ACME	
A3194-91V						3 1/4" F. ACME
5778	3 1/4 F. ACME			Brass	2 1/4" M. ACME	

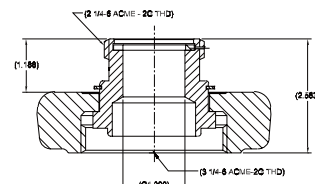
* Reduces to 1 3/4" M. ACME



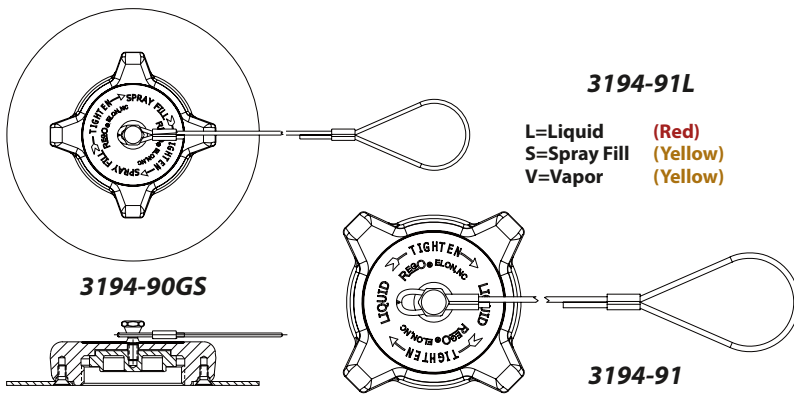
3175P Cap Plug



A3175P



5778



3194-91L

L=Liquid (Red)
S=Spray Fill (Yellow)
V=Vapor (Yellow)

3194-90GS

3194-91

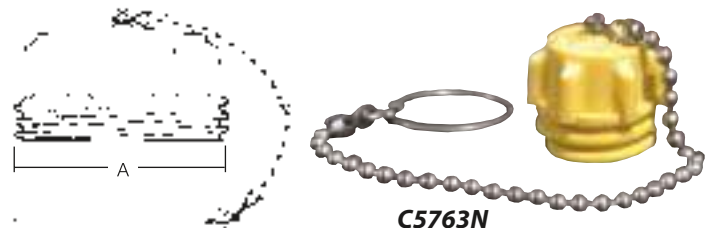
ACME Plugs

Specifically designed to withstand the everyday abuse given to hose end valves on delivery trucks and hose end couplings on risers in bulk plants, these rugged plugs protect the coupling tip as well as prevent the entrance of dirt, dust, snow and rain. They also prevent possible gas contamination from these same sources. The heavily ribbed outer surface permits hand-tight make-up.

These plugs are available in a choice of four sizes which may be used with liquid as well as vapor type couplings. As a convenience, the nylon plugs have a retaining chain and ring to prevent loss during a transfer operation.

All are suitable for LPG or anhydrous ammonia service except the brass 5765PR, which is for LP-Gas only.

Not intended for use as pressure closures.



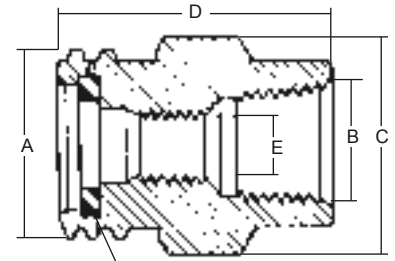
C5763N

Item Number	Material	A (M. ACME)	Chain & Ring Fits Pipe Size Up To:
C5763N	Nylon	1 1/4"	3/4"
C5765N		1 3/4"	1 1/4"
5765PR	Brass		Not Applicable
C5767N	Nylon	2 1/4"	1 1/4"
C5769N		3 1/4"	2"

HOSE: COUPLINGS & ADAPTERS

ACME Adapters

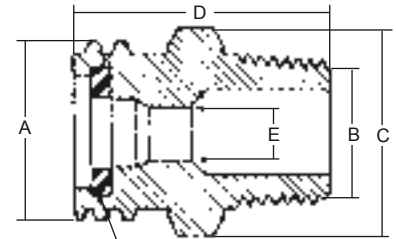
Item Number	Material	A M. ACME	B F.NPT	C Hex	D Overall Length	E Diameter	For Spare Gasket Order Part No.
5764A	Brass	1 3/4"	1/4"	1 3/4"	1 3/4"	1 3/32"	A2697-20R
5764B			3/8"		1 23/32"	9/16"	
5764C			1/2"		1 1/4"	11/16"	
5764D			3/4"		1 1/2"	29/32"	
5764E			1"		1 5/8"	1 3/32"	
5766E	Brass	2 1/4"	1"	2 1/4"	2 5/16"	1 3/32"	A3184-8R
5766F			1 1/4"		1 3/8"		
5768G			3/4"		1 1/2"	3 1/4"	1 3/4"
A5764D	Steel	1 3/4"	3/4"	1 3/4"	2 3/16"	7/8"	A2697-20R
A5764E			1"				
A5768H			3/4"				



Gasket (Furnished with adapter)

ACME x Female NPT

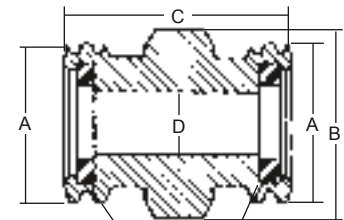
Item Number	Material	A M. ACME	B M. NPT	C Hex	D Overall Length	E Diameter	For Spare Gasket Order Part No.
5763D	Brass	1 1/4"	3/4"	1 1/4"	1 3/4"	1/2"	A2797-20R
5765D		1 3/4"	3/4"	1 3/4"	1 23/32"	2 2/32"	A2697-20R
5765E			1"		2 3/32"		
5765F			1 1/4"				
5767F		2 1/4"	1 1/4"	2 1/4"	2 3/8"	1 3/16"	A3184-8R
5767G			1 1/2"			1 3/8"	
5767H			2"			2 3/8"	
5769K		3 1/4"	3"	3 1/2"	3 5/8"	2 1/8"	A3194-8R
A5765C	Steel	1 3/4"	1/2"	1 3/4"	2 3/16"	1 7/32"	A2697-20R
A5765D			3/4"			1 1/16"	
A5765E			1"			5 7/64"	
A5765F			1 1/4"				
A5767F		2 1/4"	1 1/4"	2 1/4"	2 3/8"	1 1/4"	A3184-8R
A5769H	3 1/4"	2"	3 1/4"	2 7/8"	1 15/16"	A3194-8R	
A5769K		3"	4"	3 13/16"			



Gasket (Furnished with adapter)

ACME x Male NPT

Item Number	Material	A M. ACME	B Hex	C Overall Length	D Diameter	For Spare Gasket Order Part Number
5765M	Brass	1 3/4"	1 3/4"	2 1/16"	29/32"	A2697-20R
5767M		2 1/4"	2 1/4"	2 5/16"	1 25/64"	A3184-8R
5769M		3 1/4"	3 1/4"	2 3/4"	1 15/16"	A3194-8R

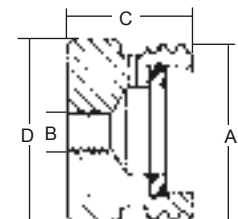


Gasket (Furnished with adapter)

ACME x ACME

Item Number	Material	A M. ACME	B F. NPT	C Overall Length	D Diameter	For Spare Gasket Order Part Number
A5764W	Steel	1 3/4"	3/8"	1 1/4"	1 3/4"	2697-20
5764W	Brass					

* 3/8" -16 UNC Thread.

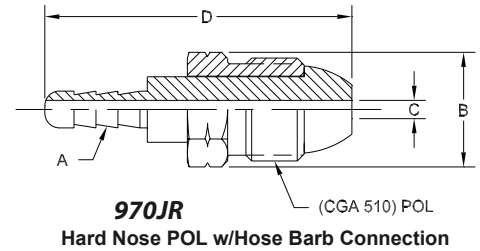
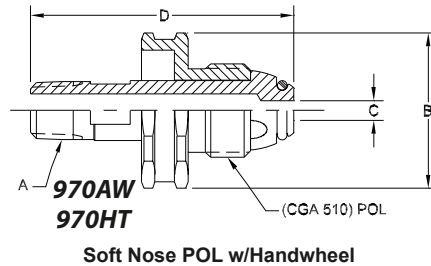
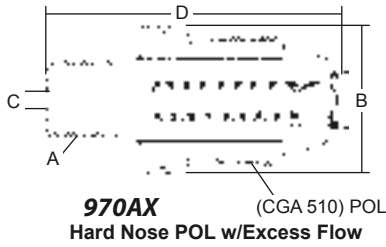
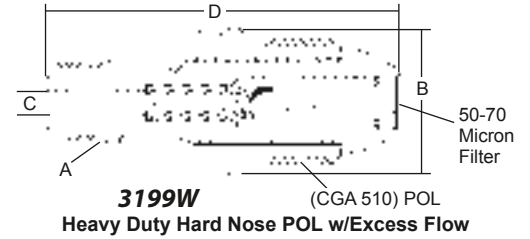
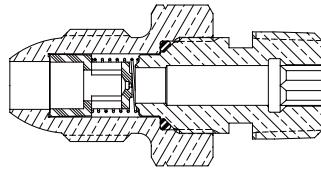
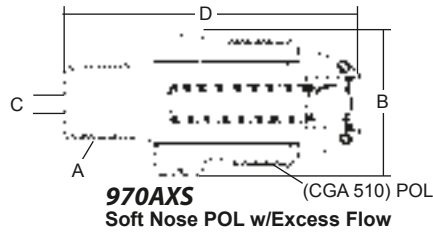
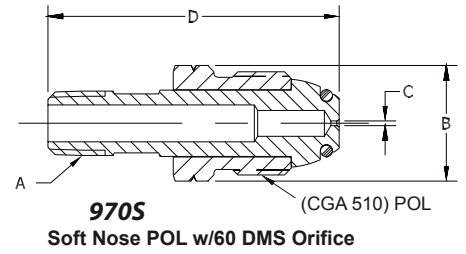
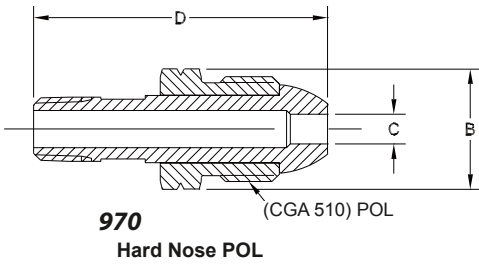


ACME x Miscellaneous

(Recommended for securing hose-end valve when not in use.)

HOSE: COUPLINGS & ADAPTERS

Male POL Swivel Adapters

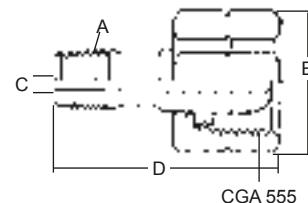


Item Number	Material	A Outlet Thread	B Hex	C Drill	D Overall Length	Vapor at 100 PSIG Inlet (SCFH)	Liquid (GPM)			
970	Brass	1/4" M. NPT	7/8"	1/4"	2 1/2"	-	-			
970S				.040" orifice						
970AX				1/8"						
970AXS				5/32"				2 7/16"	450	0.95
970AWXS				3/16"						
3199W				1 3/8"				2 1/2"	-	-
970AW			1/4" Hose Barb	7/8"	5/32"	2 5/8"	350	.95		
970HT					.040" orifice					
970JR					1/2" M. NPT	1 1/8"			3/32"	2 1/2"
3188A			1180	2.9						
3188B										
3188C										

Note: All nipples incorporate wrench hex section.

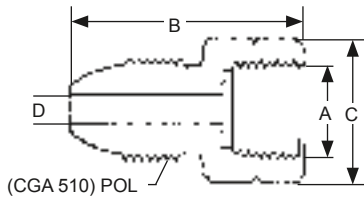
CGA 555 Swivel Adapters

Item Number	Material	A Outlet Thread	B Hex	C Drill	D Overall Length
12982	Brass	1/4" M. NPT	1 1/8"	3/16"	1 7/8"



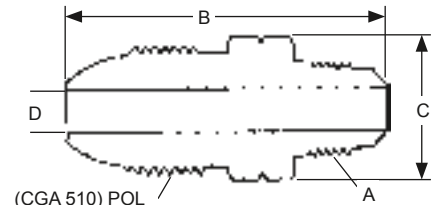
HOSE: COUPLINGS & ADAPTERS

POL Adapters



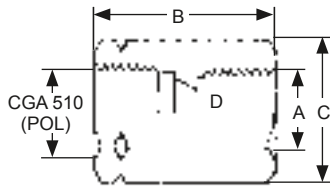
Male POL x Female NPT

Item Number	Material	A M. ACME	B	C Hex	D Diameter
2906A	Brass	1/4"	1 1/2"	7/8"	3/32"
2906G		1/2"	2"	1 1/8"	
2906D		3/8" M. NPT	2 3/4"	7/8"	



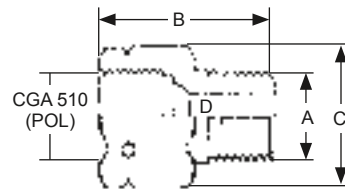
Male POL x Male NPT and SAE Flare

Item Number	Material	A	B	C Hex	D Diameter
2906D	Brass	3/8" M. NPT	2 3/4"	7/8"	1 1/2"
2906F		3/8" SAE Flare	2 3/2"	7/8"	3/32"
2906E		1/2" SAE Flare	2 3/2"	7/8"	3/32"



Female POL x Female NPT and Female POL

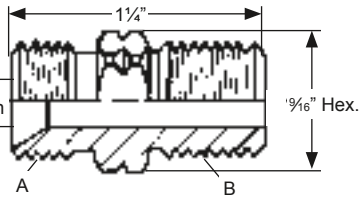
Item Number	Material	A	B	C Hex	D Diameter
5760A	Brass	1/4" F. NPT	1 5/8"	1 1/8"	1 3/32"
5760B		3/8" F. NPT			1 3/32"
5760C		1/2" F. NPT	7/16"		
5760D		3/4" F. NPT	1 7/8"	1 3/8"	1 3/32"
5760S		POL (CGA 510)	2 1/8"	1 1/8"	1 3/32"



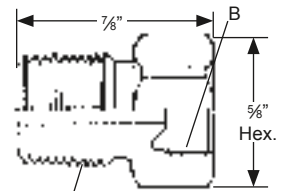
Female POL x Male NPT

Item Number	Material	A	B	C Hex	D Diameter
5761A	Brass	1/4" M. NPT	1 5/8"	1 1/8"	3/16"
5761B		3/8" M. NPT			1 3/32"
5761C		1/2" M. NPT	7/16"		
5761D		3/4" M. NPT	7/16"		

Hose Adapter
For use with fuel gases (LP-Gas, Acetylene).



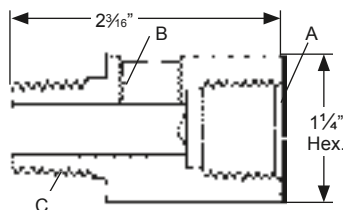
Item Number	Material	A	B
15774-1	Brass	1/4" M. NPT	1/4" Female Inverted Flare



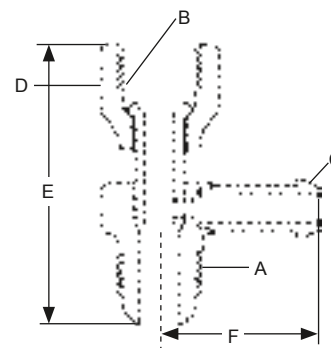
Female Inverted Flare x Male NPT

Item Number	Material	A	B
1300	Brass	9/16"-18UNF (L.H.)	1/4" M. NPT

Pressure Gauge Adapter



Test Adapter



Item Number	Material	A	B	C
1494-1	Brass	1/2" F. NPT	1/4" F. NPT	1/2" M. NPT

Item Number	Material	A	B	C	D	E	F
1328	Brass	3/8" SAE Male Flare	3/8" SAE Female Flare	3/8"	1 3/16"	2"	1 1/8"
1331		1/2" SAE Male Flare	1/2" SAE Female Flare		Hose Barb	1"	2 1/8"
1332		5/8" SAE Male Flare	5/8" SAE Female Flare		1 1/8"	2 1/2"	

HOSE: COUPLINGS & ADAPTERS

Lock Caps

An economical, safe method to lock LP gas valves. Hinged lock caps are made of durable cast aluminum and designed to be used with a padlock.

Item Number	Description
LC1	Encloses Acme thread & cap on filler valves. Has 1-1/2" shaft opening.



Valve Lock

Secures POL valves from unauthorized hookups and eliminates the need for padlocks. Each valve lock comes complete with brass POL plug and O-ring plated steel lock collar and a seal plug. Key included with order of 12.

Item Number	Description
510 SAF-T-LOCK	POL Valve Lock
510-K	Key



Hose Reel Swivel Connectors

UL listed swivel connector for LP Gas.

Item Number	Description	Color
SMAC 112 LN	Full Circle	1-1/2" NPT 90°
SMAC 200 LN	Full Circle	2" NPT 90°



Filler Hose End Swivels

Enables filler hose end valve to swivel 360°.

Item Number	Inlet	Outlet	Description	Manufacturer
JO-1	1" F. NPT	1" M. NPT	Swivel Connector	Full Circle



Swivel Hose Adapter Unions

Tapered nose in swivel end makes up a tight metal-to-metal ground joint union with standard female pipe hose couplings.

Item Number	Female Pipe	Female Pipe Swivel
H9255X4X4	1/4" NPT	1/4" NPS
H9255X8X8	1/2" NPT	1/2" NPS
H9255X12X12	3/4" NPT	3/4" NPS
H9255X16X16	1" NPT	1" NPS
H9255X20X20	1-1/4" NPT	1-1/4" NPS
H9255X24X24	1-1/2" NPT	1-1/2" NPS



Swivel Hose Adapter Unions

Tapered nose in swivel end makes up a tight metal-to-metal ground joint union with standard male pipe hose couplings.

Item Number	Male Pipe	Female Pipe Swivel
H9205X4X4	1/4" NPT	1/4" NPS
H9205X8X8	1/2" NPT	1/2" NPS
H9205X12X12	3/4" NPT	3/4" NPS
H9205X16X16	1" NPT	1" NPS
H9205X20X20	1-1/4" NPT	1-1/4" NPS
H9205X24X24	1-1/2" NPT	1-1/2" NPS



HOSE: CONNECTORS-ADAPTER HOSES

Adapter Hose

Adapts portable appliances to larger cylinders.



Item Number	Description
73701	Soft-nose Handwheel P.O.L. x 1"-20 Male Swivel, 60" long, 1/4" high pressure hose
73702	Soft-nose Handwheel P.O.L. x 1"-20 Male Swivel, 144" long, 1/4" high pressure hose

High Pressure Thermoplastic Pigtail



Item Number	Length	Hose Fitting
71142-15	15"	P.O.L. x 1/4" Inverted Flare
71142-20	20"	P.O.L. x 1/4" Inverted Flare
71142-24	24"	P.O.L. x 1/4" Inverted Flare
71142-30	30"	P.O.L. x 1/4" Inverted Flare
71142-36	36"	P.O.L. x 1/4" Inverted Flare
71142-48	48"	P.O.L. x 1/4" Inverted Flare
71142-60	60"	P.O.L. x 1/4" Inverted Flare
71158-15	15"	QCC x 1/4" Inverted Male Flare
71158-30	30"	QCC x 1/4" Inverted Male Flare

NOTE: U.L. and C.G.A. listed assemblies.

Gas Box

Utilizes standard LP Gas outdoor appliance regulator and connector. Both models provide full capacity operation at 10 PSI or higher inlet pressures for all outdoor appliances without modification or the hassles of a 20 LB cylinder. Simply thread the Type I QCC or POL connector onto the MEC Gas Box, turn on the shutoff valve and enjoy continuous LP Gas flow.

Item Number	Description	Color
ME951BLK	Single 1-15/16" M. Acme/F. POL with 1/2" FNPT Inlet	Black
ME951GRY	Single 1-15/16" M. Acme/F. POL with 1/2" FNPT Inlet	Gray
ME951IVY	Single 1-15/16" M. Acme/F. POL with 1/2" FNPT Inlet	Ivory
ME952BLK	Single 1-15/16" M. Acme/F. POL with 1/2" FNPT Inlet	Black
ME952GRY	Single 1-15/16" M. Acme/F. POL with 1/2" FNPT Inlet	Gray
ME952IVY	Single 1-15/16" M. Acme/F. POL with 1/2" FNPT Inlet	Ivory

Extend-A-Flow Hose



Item Number	Description
73710	1"-20 Male Swivel x 1"-20 Female, 60" long, 1/4" high pressure hose
73711	1"-20 Male Swivel x 1"-20 Female, 144" long, 1/4" high pressure hose

Hose End Conversion Fitting



Item Number	Description
F173729	1/4" Female Inverted Flare x 1/4" MPT

High Pressure Thermoplastic Pigtail



Item Number	Length	Hose Fitting
71163-48	48"	3/8" MPT x 3/8" FE, FL

NOTE: U.L. and C.G.A. listed assemblies.



HOSE: CONNECTORS-HOSE BARBS

Hose Barb to MPT



Item Number	MPT	Hose Barb
BG30AC	1/8"	1/4"
BG30AD	1/8"	5/16"
BG30CC	1/4"	1/4"
BG30CE	1/4"	3/8"
BG30EC	3/8"	1/4"
BG30EE	3/8"	3/8"
BG30EF	3/8"	1/2"
BG30FE	1/2"	3/8"
BG30KF*	3/4"	1/2"
BG30KK*	3/4"	3/4"

Hose Barb to FIP



Item Number	FIP	Hose Barb
BG32CC	1/4"	1/4"
BG32CE	1/4"	3/8"
BG32EC	3/8"	1/4"
BG32EE	3/8"	3/8"
BG32FE	1/2"	3/8"

Hose Barb to Female Flare Swivel



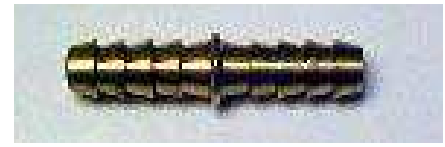
Item Number	Description
HC4334	1/4" Hose Barb Only
HC4335	1/4" Hose Barb & NS4E
HC4336	3/8" Hose Barb & NS4E

Hose Barb & Nut



Item Number	Description
BG23C	1/4" Hose Barb & 9/16" L.H. Nut
BG23E	3/8" Hose Barb & 9/16" L.H. Nut

I.D. Hose Coupler



Item Number	Hose Barbs
BG27C	1/4" x 1/4"
BG27D*	5/16" x 5/16"
BG27E	3/8" x 3/8"

Flare to Hose Barb Adapter



Item Number	Description
HC4835	1/4" Hose Barb x 3/8" O.D. Male Flare

Brass Hose Ferrules



Item Number	Description
7327	1/4" Hose
7332	3/8" Hose

Hose Barb



Item Number	Description
HC5133	1/4" I.D. Hose Barb x 1/4" Inverted Flare

Hand Crimping Tool



To be used with 3/16", 1/4" and 3/8" ID hose ferrules. Strike with hammer or press in vise, then turn 90° and press or strike again.

Item Number	Description
BG-3	Hand Crimping Tool

Heavy Duty Hand Crimping Tool

Handles 1/4" ID single braid hose thru 3/8" ID double braid hose. Comes with 5 dies.

Item Number	Description
855	Crimps ferrules on 3/16", 1/4", 5/16" & 3/8" ID hose



* Special Order Only - Minimum Quantities Required.

HOSE: CONNECTORS-STAINLESS STEEL CONNECTORS



1/2" FIP x 1/2" FIP

5/8" O.D. (1/2" I.D.) SS Tubing.
15/16" Flare Nuts. AGA Listed.

Item Number	Length (inches)
30-3232-18*	18
30-3232-24	24
30-3232-30*	30
30-3232-36	36
30-3232-48	48
30-3232-60	60



3/4" FIP x 3/4" FIP

5/8" O.D. (1/2" I.D.) SS Tubing.
15/16" Flare Nuts. AGA Listed.

Item Number	Length (inches)
30-4242-24*	24
30-4242-30*	30
30-4242-36*	36
30-4242-48*	48
30-4242-60*	60



3/4" MIP x 3/4" FIP Elbow

5/8" O.D. (1/2" I.D.) SS Tubing.
15/16" Flare Nuts. AGA Listed.

Item Number	Length (inches)
30-4144-24*	24
30-4144-48*	48
30-4144-60*	60

1/2" FIP x 1/2" FIP

1/2" O.D. (3/8" I.D.) SS Tubing. 1/2" Flare Nuts. AGA Listed.

Item Number	Length (inches)
20-3232-12	12
20-3232-18	18
20-3232-24	24

Item Number	Length (inches)
20-3232-36	36
20-3232-48	48
20-3232-60	60



1/2" MIP x 1/2" MIP

1/2" O.D. (3/8" I.D.) SS Tubing.
1/2" Flare Nuts. AGA Listed.

Item Number	Length (inches)
20-3131-18*	18
20-3131-24	24



1/2" MIP x 1/2" FIP

1/2" O.D. (3/8" I.D.) SS Tubing.
1/2" Flare Nuts. AGA Listed.

Item Number	Length (inches)
20-3132-18	18
20-3132-24	24
20-3132-36	36
20-3132-48	48



3/8" MIP x 1/2" FIP

3/8" O.D. (1/4" I.D.) SS Tubing.
3/8" Flare Nuts. AGA Listed.

Item Number	Length (inches)
10-2132-12	12
10-2132-24	24
10-2132-30*	30
10-2132-36	36
10-2132-60	60



1/2" MIP x 3/8" FIP

3/8" O.D. (1/4" I.D.) SS Tubing. 3/8" Flare Nuts.

Item Number	Length (inches)
10-3122-36	36



SnapFast Quick Disconnect

Push to connect design feature. Includes nipple and coupling.

Item Number	Length (inches)
A100	1" Quick Disconnect
A50	1/2" Quick Disconnect
A75	3/4" Quick Disconnect
B37	3/8" Quick Disconnect



103291-120



103219-120

Gas Connector Kits

Item Number	Inlet / Outlet
103219-120	3/8" Gas Connector Kit
103291-120	1/2" Gas Connector Kit

HOSE: CONNECTORS-LP GAS HOSE

LP Gas Hose with Assembled Ends

LP Gas Hose is designed for delivery, supply and transfer of propane in commercial and industrial applications to 140°F and 350 psi, Series 7132

Item Number	I.D.	Minimum O.D.	Maximum Bend Radius	Rec. PSI
7132-.25	1/4	19/32	3"	350
7132-.375	3/8	3/4	4"	350
7132-.50	1/2	15/16	6"	350
7132-.75	3/4	1-1/4	8"	350
7132-1.0	1	1-1/2	10"	350
7232-1.25	1-1/4	1-7/8	12"	350
7232-1.50	1-1/2	2-5/32	14"	350
7232-2.0	2	2-3/4	16"	350



LP Gas Hose with Assembled Ends

LP Gas hoses with M. NPT ends assembled. For use in temporary installations, transferring gas, filling cylinders and other uses.

1/4"-2" LP hose with ends. Any length available.

IPS Equipment, Inc. is a Parker LP Gas Hose Distributor. We can assemble any length hose and ship the same day.



LP Gas Hose Assembly

Parker X-TREME™ Low Temperature LP Gas Delivery Hose

X-treme™ Low Temperature LP Gas Hose is designed for delivery, supply and transfer of propane in commercial and industrial applications to -65°F and 350 psi, Series 7132XTC

Item Number	Description
7132XT-125'	1" x 125' Xtreme™
7132XT-150'	1" x 150' Xtreme™



X-treme LP Gas Delivery Hose

ENERCO LPG Delivery Hose

High pressure rubber hose designed to meet UL21, CGA, Type1, EN, British-BS and ASTM Standards. Constructed from high grade aerospace rubber compounds. Resists wear 50% more than other leading brands. Superior cold weather flexibility to -65°F. Excellent for LPG transportation, vapor lines, plant use, and most other applications

Item Number	Description
F965002	1" x 150' LP Delivery Hose



HOSE: CONNECTORS-LP GAS HOSE

Smart-Hose™

It makes sense to incorporate the added safety of the Smart-Hose™ safety system to all of your LP Gas transfer applications. Smart-Hose™ features an internal coated cable connected to normally unseated valves located on each end of the hose, internal to the coupling. In the event of coupling ejection, hose stretching to the point of an unsafe condition or hose severance, the valves are released and instantly seat, stopping the flow in both directions.

The Smart-Hose™ Safety System is combined with a heavy duty LP Gas transfer hose designed to meet the most rugged applications found in the LP Gas Industry. All hose through 3" ID meets UL 21, 4" & 6" are built to BS 4089:1989. To achieve lower operating cost, return used Smart-Hose™ couplings for attachment to new hose!

Why should you use Smart-Hose™?

- 316 S/S ends are REUSABLE
- No New Maintenance Requirements
- Available for both Transport Vehicles and Facility Applications
- Eliminate cost associated with environmental damage and remediation
- Reduce legal insurance costs
- US-DOT Special Permits have been issued to provide relaxed attendance requirements for Railcar Offloading and Cargo Tank Motor Vehicles



Smart-Hose™

Item	Description
Smart-Hose™	2" x 18 FT. LP Gas Coupled Female x Female

Carburetion Hose

For carburetor applications and wherever a strong, corrosion resistant LP Gas hose is desired. Handles propane, butane or natural gas in liquid and gas form. U.L. 21 listed; 1750 PSI minimum burst. Tube is black neoprene; cover is rubber with textile braid impregnated and contains one S.S. wire braid for reinforcement.

Item Number	I.D.	Minimum Bend Radius	Maximum Rec. PSI
SS25UL-8	13/32	2"	350
SS25UL-6	5/16	4"	350



Hose Couplings for Braided Cloth Hose

For use with carburetion hose used to transfer liquid or vapor.

Item Number	Female Pipe	Female Pipe Swivel
20820-6-6	5/16"	Female 3/8" O.D.
20820-8-8	13/32"	Female 1/2" O.D.
27920-6-6	5/16"	Female 3/8" O.D. 90° Flare



Flexible Gas Piping CSST

CounterStrike® Flexible Gas Tubing



Description	Item Number	Size	Reel Length	Lb/Reel
CounterStrike 3/8"	FGP-CS-375-250*	3/8"	250 ft/reel	37
CounterStrike 3/8"	FGP-CS-375-100*	3/8"	100 ft/reel	17
CounterStrike 1/2"	FGP-CS-500-500*	1/2"	500 ft/reel	98
CounterStrike 1/2"	FGP-CS-500-250*	1/2"	250 ft/reel	52
CounterStrike 1/2"	FGP-CS-500-100	1/2"	100 ft/reel	24
CounterStrike 1/2"	FGP-CS-500-50*	1/2"	50 ft/reel	14
CounterStrike 3/4"	FGP-CS-750-250*	3/4"	250 ft/reel	70
CounterStrike 3/4"	FGP-CS-750-100	3/4"	100 ft/reel	31
CounterStrike 3/4"	FGP-CS-750-50*	3/4"	50 ft/reel	18

AutoFlare® Fittings and Accessories

Self-Flaring Fitting

AutoFlare® is the self-piloting fitting that attaches TracPipe® CounterStrike® to traditional gas fittings and appliances. No special tools or additional parts required.

AutoFlare® Fittings and Accessories

Straight Mechanical Fitting
Brass



Reducing Fitting
Brass



Split Rings
Brass



Female Straight Fitting
Brass



Description	Item Number	Size	Pkg. Qty	Lb.
AutoFlare Straight 3/8"	FGP-FST-375N*	3/8"(3/8"NPT)	24/box	.3
AutoFlare Straight 3/8"	FGP-FST-375*	3/8"(1/2"NPT)	24/box	.4
AutoFlare Straight 1/2"	FGP-FST-500	1/2"	24/box	.4
AutoFlare Reducing 1/2"	FGP-RST500-750*	1/2"-3/4"NPT	24/box	.4
AutoFlare Straight 3/4"	FGP-FST-750	3/4"	16/box	.5
AutoFlare Reducing 3/4"	FGP-RST750-500*	3/4"-1/2"NPT	16/box	.5

Spare Split Rings	FGP-RING-375*	3/8"	10/pack	.06
Spare Split Rings	FGP-RING-500	1/2"	10/pack	.06
Spare Split Rings	FGP-RING-750	3/4"	10/pack	.06

AutoFlare Female Straight 3/8"	FGP-FSTF-375*	3/8"-1/2"NPT	24/box	.25
AutoFlare Female Straight 1/2"	FGP-FSTF-500	1/2"	24/box	.33
AutoFlare Female Straight 3/4"	FGP-FSTF-750	3/4"	16/box	.49

HOSE: CONNECTORS-TRACPIPE

AutoFlare® Fittings *continued*

Coupling Insert
Brass



Description	Item Number	Size	Pkg. Qty	Lb.
Coupling 3/8"	FGP-CPLG-375*	3/8"	24/box	.3
Coupling 1/2"	FGP-CPLG-500	1/2"	24/box	.5
Coupling 3/4"	FGP-CPLG-750*	3/4"	16/box	.7

Flange Mount Fittings
Brass



AutoFlare Flange Fitting 3/8"	FGP-BFF-375*	3/8"	12/box	.7
AutoFlare Flange Fitting 1/2"	FGP-BFF-500	1/2"	12/box	.7
AutoFlare Flange Fitting 3/4"	FGP-BFF-750	3/4"	8/box	1.3

Flange Mount Fittings
Brass



AutoFlare Flange L Bracket	FGP-TERM-BRAC*	All	1 each	.3
90° Flange Fitting 3/8"	FGP-ELLB-375*	3/8"	8/box	1.1
90° Flange Fitting 1/2"	FGP-ELLB-500*	1/2"	8/box	1.0
90° Flange Valve 3/8"	FGP-BF90V-375*	3/8"	6/box	1.2
90° Flange Valve 1/2"	FGP-BF90V-500*	1/2"	6/box	1.2
90° Flange Valve 3/4"	FGP-BF90V-750*	3/4"	6/box	1.7
Termination Mount 3/8"	FGP-TM-375*	3/8"	12/box	.9
Termination Mount 1/2"	FGP-TM-500*	1/2"	12/box	1
Termination Mount 3/4"	FGP-TM-750*	3/4"	8/box	1.1
Termination Mount 3/4" x 1/2"	FGP-TM-750-500*	3/4" x 1/2"	12/box	1.1
Termination Mount 1"	FGP-TM-1000*	1"	8/box	1.3
90° Termination Mount 3/8"	FGP-90TM-375*	3/8"	8/box	1.2
90° Termination Mount 1/2"	FGP-90TM-500*	1/2"	8/box	1.2
90° Termination Valve 3/8"	FGP-TM90V-375*	3/8"	12/box	1.3
90° Termination Valve 1/2"	FGP-TM90V-500*	1/2"	12/box	1.3
90° Termination Valve 3/4"	FGP-TM90V-750*	3/4"	12/box	1.7

Termination Mount
Brass and Stainless Steel



BRASS FITTINGS



Standard Forged Nut (Long)

Item Number	O.D. Tube Size
N4E*	3/8"



Extra Heavy Pattern Nut

Item Number	O.D. Tube Size
RN4C*	1/4"
RN4E	3/8"
RN4F	1/2"



Copper Seal Bonnet

Item Number	O.D. Tube Size
B1C*	1/4"
B1E	3/8"
B1F	1/2"
B1I*	5/8"



Short Forged Nut

Item Number	O.D. Tube Size
NS4C	1/4"
NS4D*	5/16"
NS4E	3/8"
NS4F	1/2"
NS4I	5/8"
NS4K*	3/4"



Swivel Nut

Item Number	O.D. Tube Size
US4C*	1/4"
US4E	3/8"
US4F	1/2"
US4I	5/8"
US4EC*	3/8" x 1/4"
US4FE	1/2" x 3/8"
US4IF	5/8" x 1/2"



Copper Gasket

Item Number	O.D. Tube Size
B2C*	1/4"
B2E*	3/8"
B2F*	1/2"



Short Forged Reducing Nut

Item Number	O.D. Tube Size
NRS4EC*	3/8" x 1/4"
NRS4FE	1/2" x 3/8"
NRS4IF	5/8" x 1/2"



Flare Cap

Item Number	O.D. Tube Size
N5C*	1/4"
N5E	3/8"
N5F	1/2"
N5I	5/8"



Flare Cross

Item Number	O.D. Tube Size
C1E	3/8"
C1F	1/2"
C1I*	5/8"
C1EEEE*	3/8" x 3/8" x 3/8" x 1/2"

* Special Order Only - Minimum Quantities Required.

BRASS FITTINGS



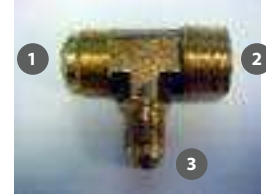
2-Way Tee

Item Number	O.D. Tube Size		
	OD 1	OD 2	Pipe 3
45CCA*	1/4"	1/4"	1/8"
45CCC*	1/4"	1/4"	1/4"
45EEC*	3/8"	3/8"	1/4"
45EEE	3/8"	3/8"	3/8"
45EEF	3/8"	3/8"	1/2"
45FFE*	1/2"	1/2"	3/8"
45FFF	1/2"	1/2"	1/2"
45IIF	5/8"	5/8"	1/2"



3-Way Reducing Tee

Item Number	O.D. Tube Size		
	1	2	3
44EEC*	3/8"	3/8"	1/4"
44EEF	3/8"	3/8"	1/2"
44EEI*	3/8"	3/8"	5/8"
44FEE	1/2"	3/8"	3/8"
44FEF	1/2"	3/8"	1/2"
44FFE	1/2"	1/2"	3/8"
44FFI	1/2"	1/2"	5/8"
44IEE*	5/8"	3/8"	3/8"
44IEI*	5/8"	3/8"	5/8"
44IFE*	5/8"	1/2"	3/8"
44IFF*	5/8"	1/2"	1/2"
44IFI*	5/8"	1/2"	5/8"
44IIE	5/8"	5/8"	3/8"



Item Number	O.D. Tube Size		
	1	2	3
44IIF	5/8"	5/8"	1/2"

2-Way Tee

Item Number	O.D.	Pipe	O.D.
	1	2	3
51FFE*	1/2"	1/2"	3/8"
51FFF*	1/2"	1/2"	1/2"



2-Way Tee

Item Number	O.D. Tube Size		
	OD 1	OD 2	Pipe 3
52EEC*	3/8"	3/8"	1/4"
52EEF*	3/8"	3/8"	1/2"
52FFF*	1/2"	1/2"	1/2"



3-Way Tee

Item Number	O.D. Tube Size
44C*	1/4"
44D*	5/16"
44E	3/8"
44F	1/2"
44I	5/8"



2-Way Tee

Item Number	O.D.	Pipe	O.D.
	1	2	3
53EFE*	3/8"	1/2"	3/8"
53EFF*	3/8"	1/2"	1/2"



3-Way Take-Off Cross

Item Number	O.D. Tube Size			
	OD 1	OD 2	OD 3	Pipe 4
C4EEEF*	3/8"	3/8"	3/8"	1/2"



45° Elbow

Item Number	O.D. Tube Size	Pipe Size
47EC	3/8"	1/4"
47FE*	1/2"	3/8"
47FF*	1/2"	1/2"



Flare Plug

Item Number	O.D. Tube Size
P2C*	1/4"
P2E	3/8"
P2F	1/2"
P2I	5/8"

* Special Order Only - Minimum Quantities Required.

BRASS FITTINGS



Male Elbow

Item Number	O.D. Tube Size	Pipe Size
49BA*	3/16"	1/8"
49CA*	1/4"	1/8"
49CC*	1/4"	1/4"
49CE*	1/4"	3/8"
49CF*	1/4"	1/2"
49EA*	3/8"	1/8"
49EC	3/8"	1/4"
49EE	3/8"	3/8"
49EF	3/8"	1/2"
49EK	3/8"	3/4"
49FE	1/2"	3/8"
49FF	1/2"	1/2"
49FK	1/2"	3/4"
49IF	5/8"	1/2"
49IK	5/8"	3/4"



Male Connector

Item Number	O.D. Tube Size	Pipe Size
48BA*	3/16"	1/8"
48CA*	1/4"	1/8"
48CC*	1/4"	1/4"
48CE	1/4"	3/8"
48DA*	5/16"	1/8"
48DC*	5/16"	1/4"
48EA	3/8"	1/8"
48EC	3/8"	1/4"
48EE	3/8"	3/8"
**48EF	3/8"	1/2"
48EK	3/8"	3/4"
48FC	1/2"	1/4"
**48FF	1/2"	1/2"
**48FK	1/2"	3/4"
48IC	5/8"	1/4"
48IE	5/8"	3/8"
48IK	5/8"	3/4"
48KK*	3/4"	3/4"
48LK*	7/8"	3/4"

** Available with longer threads. Specify "R".



Female Elbow

Item Number	O.D. Tube Size	Pipe Size
50EC*	3/8"	1/4"
54EE	3/8"	3/8"
54EF	3/8"	1/2"
54EK	3/8"	3/4"
54FE	1/2"	3/8"
54FF	1/2"	1/2"
54FK	1/2"	3/4"
54IE*	5/8"	3/8"
54IF	5/8"	1/2"
54IK	5/8"	3/4"



Female Connector

Item Number	O.D. Tube Size	Pipe Size
46CA*	1/4"	1/8"
46CC	1/4"	1/4"
46CE	1/4"	3/8"
46EA	3/8"	1/8"
46EC	3/8"	1/4"
46EE	3/8"	3/8"
46EF	3/8"	1/2"
46EK	3/8"	3/4"
46FC	1/2"	1/4"
46FE	1/2"	3/8"
46FF	1/2"	1/2"
46FK	1/2"	3/4"
46IE*	5/8"	3/8"
46IF	5/8"	1/2"
46IK	5/8"	3/4"
46KK*	3/4"	3/4"

* Special Order Only - Minimum Quantities Required.



2-Way Elbow

Item Number	O.D. Tube Size
55C*	1/4"
55E	3/8"
55F	1/2"
55I	5/8"
55FE	1/2" x 3/8"
55IF*	5/8" x 1/2"



Full Union

Item Number	O.D. Tube Size
42C*	1/4"
42D*	5/16"
42E	3/8"
42F	1/2"
42I	5/8"
42K*	3/4"



Reducing Union

Item Number	O.D. Tube Size
42FE	1/2" x 3/8"
42IE	5/8" x 3/8"
42IF	5/8" x 1/2"

BRASS FITTINGS



FPT to FPT Elbow

Item Number	Pipe Size
B100A*	1/8"
B100C	1/4"
B100F*	1/2"
B100K*	3/4"
B100M*	1"
B100Q*	1-1/4"
B100R*	1-1/2"



Tee, FPT All Ends

Item Number	Pipe Size
B101A*	1/8"
B101C	1/4"
B101E	3/8"
B101F*	1/2"
B101K*	3/4"
B101M*	1"



Cross, FPT All Ends

Item Number	Pipe Size
B102C	1/4"
B102F*	1/2"
B102K*	3/4"
B102M*	1"



Coupling, FPT to FPT

Item Number	Pipe Size
B103A	1/8"
B103C	1/4"
B103E	3/8"
B103F*	1/2"
B103K*	3/4"
B103M*	1"



Ground Joint Union, FPT to FPT

Item Number	Pipe Size
B104C*	1/4"
B104E*	3/8"
B104F*	1/2"
B104K*	3/4"
B104M*	1"



Cap

Item Number	Pipe Size
B108A*	1/8"
B108C*	1/4"
B108E	3/8"
B108F*	1/2"
B108K*	3/4"
B108M*	1"



Square Head Plug, Solid

Item Number	Pipe Size
B109A*	1/8"
B109C	1/4"
B109F*	1/2"
B109K*	3/4"
B109M*	1"



Close Nipple

Item Number	Pipe Size
B112A	1/8"
B112C	1/4"
B112E	3/8"
B112F*	1/2"
B112K*	3/4"
B112M*	1"



Outlet Bushing

Item Number	Description
BG24C	1/4" MPT x 9/16"-18 L.H. Thread
BG24E	3/8" MPT x 9/16"-18 L.H. Thread
BG26C	9/16" L.H. Thread x 9/16"-18 L.H. Thread

* Special Order Only - Minimum Quantities Required.

BRASS FITTINGS



Bushing

Item Number	Pipe Size
B110CA	1/4" x 1/8"
B110EA	3/8" x 1/8"
B110EC	3/8" x 1/4"
B110FA	1/2" x 1/8"
B110FC	1/2" x 1/4"
B110FE	1/2" x 3/8"
B110KC*	3/4" x 1/4"
B110KE	3/4" x 3/8"
B110KF	3/4" x 1/2"
B110ME*	1" x 1/2"
B110MK*	1" x 3/4"
B110QM*	1-1/4" x 1"



Male Flare x P.O.L. Adapter

Item Number	Description
BG20I	5/8" Male Flare x P.O.L.



QCC Connectors

Item Number	Description
76495	1/4" M. NPT x F.QCC
G1850	QCC Purge Adapter
76497	QCC Purge Adapter - Large Capacity



Long Nipple

Item Number	Pipe Size
B113A11/2*	1/8" x 1-1/2"
B113AX2	1/8" x 2"
B113A21/2*	1/8" x 2-1/2"
B113AX3	1/8" x 3"
B113AX4*	1/8" x 4"
B113AX5*	1/8" x 5"
B113AX6*	1/8" x 6"
B113C11/2*	1/4" x 1-1/2"
B113CX2	1/4" x 2"
B113C21/2*	1/4" x 2-1/2"
B113CX3	1/4" x 3"



Male Plug

Item Number	Description
A2014	Solid P.O.L. Male Plug



QCC x Hose Barb

Item Number	Description
ME518-25H	1 5/16" Female Acme x 1/4" Hose Barb



P.O.L. Cap

Item Number	Description
115	Forged P.O.L. Cap



P.O.L. Adapter

Item Number	Description
HC5930	P.O.L. x 1/4" Barb, 7/8" Hex
G1683	Excess Flow P.O.L. x 1/4" Barb, 7/8" Hex



P.O.L. Adapter

Item Number	Description
G1656	Soft Nose P.O.L. with Handwheel x 1/4" Hose (7) Barb
73795	Excess Flow Soft Nose P.O.L. with Handwheel x 1/4" Hose (7) Barb

* Special Order Only - Minimum Quantities Required.

BRASS FITTINGS



Quick-Connect Brass Plug for Grill Quick-Connects

Item Number	Description
5LPA-7	For use with Sturgis Quick-Connect Sockets Only
5LPA-8C*	For use with Hansen Quick-Connect Sockets Only

Brass Dielectric Unions

Item Number	Description
701-102*	1/2"MNPT x 3/8" Male Flare
704-102	3/4"MNPT x 3/8" Male Flare
701-103*	1/2"MNPT x 1/2" Male Flare
704-103	3/4"MNPT x 1/2" Male Flare



Filling Adapters

Item Number	Description
5LPA-FP	Filling Adapter for New Grill Quick-Connect Couplers. Female P.O.L. has plug nipple for filling into the new 5LPN grill quick-connect coupling.



High Pressure Brass Connection Fittings

Item Number	Description
73755	1/4" MPT x 1"-20 Female
76140	1/4" Female Pipe Thread x 1"-20 Male Thread with O-ring
G-494*	Same as G493 less Check Valve and O-ring
73754	1/4" MPT x 1"-20 Male Thread with Check Valve and O-ring



Extend-A-Stay

Item Number	Description
73752	Listed for O.E.M. Use



Extend-A-Flow Tee

Item Number	Description
73751	Extend-A-Flow Kit allows for use of existing L.P. supply to fuel high pressure appliances such as campstoves and table top grills. Listed for O.E.M. use.



P.O.L. Adapter

Item Number	Description
73758	1"-20 Male x 60 Orifice Soft Nose Handwheel P.O.L.



Cap-A-Tee

Item Number	Description
76400	1"-20 female thread with gasket to protect and seal male fittings. Knurled finish eliminates need for tools to tighten securely.



Female Swivel Adapter

Item Number	Description
73764	Female 1"-20 Swivel x 1/4" Hose (5) Barb



Male Swivel Adapter

Item Number	Description
73765P	Male 1"-20 Swivel x 1/4" Hose (5) Barb

When Ordering, specify (ST) for Standard or (FS) for Forged Steel Products



90° Elbow

Item Number	Size
.25-ELL-90	1/4" F. NPT x F. NPT
.375-ELL-90	3/8" F. NPT x F. NPT
.50-ELL-90	1/2" F. NPT x F. NPT
.75-ELL-90	3/4" F. NPT x F. NPT
1-ELL-90	1" F. NPT x F. NPT
1.25-ELL-90	1-1/4" F. NPT x F. NPT
1.5-ELL-90	1-1/2" F. NPT x F. NPT
2-ELL-90	2" F. NPT x F. NPT
3-ELL-90*	3" F. NPT x F. NPT



45° Elbow

Item Number	Size
.25-ELL-45	1/4" F. NPT x F. NPT
.375-ELL-45	3/8" F. NPT x F. NPT
.50-ELL-45	1/2" F. NPT x F. NPT
.75-ELL-45	3/4" F. NPT x F. NPT
1-ELL-45	1" F. NPT x F. NPT
1.25-ELL-45	1-1/4" F. NPT x F. NPT
1.5-ELL-45	1-1/2" F. NPT x F. NPT
2-ELL-45	2" F. NPT x F. NPT
3-ELL-45*	3" F. NPT x F. NPT



3-Way Tees

Item Number	Size
.25-TEE	1/4" F. NPT
.375-TEE	3/8" F. NPT
.50-TEE	1/2" F. NPT
.75-TEE	3/4" F. NPT
1-TEE	1" F. NPT
1.25-TEE	1-1/4" F. NPT
1.5-TEE	1-1/2" F. NPT
2-TEE	2" F. NPT
3-TEE*	3" F. NPT



Plugs

Item Number	Size
.25-PLUG	1/4" M. NPT
.375-PLUG	3/8" M. NPT
.50-PLUG	1/2" M. NPT
.75-PLUG	3/4" M. NPT
1-PLUG	1" M. NPT
1.25-PLUG	1-1/4" M. NPT
1.5-PLUG	1-1/2" M. NPT
2-PLUG	2" M. NPT
3-PLUG*	3" M. NPT



Unions

Item Number	Size
.25-UNION	1/4" M. NPT
.375-UNION	3/8" M. NPT
.50-UNION	1/2" M. NPT
.75-UNION	3/4" M. NPT
1-UNION	1" M. NPT
1.25-UNION	1-1/4" M. NPT
1.5-UNION	1-1/2" M. NPT
2-UNION	2" M. NPT
3-UNION*	3" M. NPT



90° Street Ells

Item Number	Size
SE.25	1/4" F. NPT x 1/4" M. NPT
SE.375	3/8" F. NPT x 3/8" M. NPT
SE.50	1/2" F. NPT x 1/2" M. NPT
SE.75	3/4" F. NPT x 3/4" M. NPT
SE1	1" F. NPT x 1" M. NPT
SE1.25	1-1/4" F. NPT x 1-1/4" M. NPT
SE1.5	1-1/2" F. NPT x 1-1/2" M. NPT
SE2	2" F. NPT x 2" M. NPT



Ball Valves

Item Number	Description
100-701	1/4" Ball Valve
100-702	3/8" Ball Valve
100-703	1/2" Ball Valve
100-704	3/4" Ball Valve
100-705	1" Ball Valve
100-706	1-1/4" Ball Valve
100-707	1-1/2" Ball Valve
100-708	2" Ball Valve
500-310	3" SS Ball Valve



Stainless Steel Flexes

Item Number	Pipe Size	O.A.L.
SSF.50X18*	1/2" M. NPT	18"
SSF.75X18*	3/4" M. NPT	18"
SSF1.0X18*	1" M. NPT	18"
SSF1.25X18	1-1/4" M. NPT	18"
SSF1.50X18*	1-1/2" M. NPT	18"
SSF2.0X18*	2" M. NPT	18"
SSF3.0X18*	3" M. NPT	18"

O.P.P. Approved. Call IPS for Special Order Lengths.

PIPE FITTINGS

When Ordering, specify (ST) for Standard or (FS) for Forged Steel Products



Ductile Iron "Y" Strainers

Item Number	Size
YS.25	1/4" F. NPT
YS.50	1/2" F. NPT
YS.75	3/4" F. NPT
YS1	1" F. NPT
YS1.25	1-1/4" F. NPT
YS1.5	1-1/2" F. NPT
YS2	2" F. NPT
YS3	3" F. NPT



Couplings

Item Number	Size
.25-COUP	1/4" f. npt
.375-COUP	3/8" f. npt
.50-COUP	1/2" f. npt
.75-COUP	3/4" f. npt
1-COUP	1" f. npt
1.25-COUP	1-1/4" f. npt
1.5-COUP	1-1/2" f. npt
2-COUP	2" f. npt
3-COUP	3" f. npt



Caps

Item Number	Size
.25-CAP	1/4" f. npt
.375-CAP	3/8" f. npt
.50-CAP	1/2" f. npt
.75-CAP	3/4" f. npt
1-CAP	1" f. npt
1.25-CAP	1-1/4" f. npt
1.5-CAP	1-1/2" f. npt
2-CAP	2" f. npt
3-CAP	3" f. npt



Nipple Kit

Application

66 Piece Packs - Kit contains 6 each of: close, 1-1/2", 2", 2-1/2", 3", 3-1/2", 4", 4-1/2", 5", 5-1/2", & 6".

Item Number	Size
4010108	1/2" Nipple Kit STD
4010112	3/4" Nipple Kit STD



Nipple Caddy

Application

Will not rust or corrode or cause nipples to rust.

1/2" Caddy holds 77 Nipples.
3/4" Caddy holds 66 Nipples.

Item Number	Size
801161	1/2" Nipple Caddy
801162	3/4" Nipple Caddy



Reducing Couplings

Item Number	Size
.375X.25RC	3/8" x 1/4"
.50X.25RC	1/2" x 1/4"
.50X.375RC	1/2" x 3/8"
.75X.25RC	3/4" x 1/4"
.75X.375RC	3/4" x 3/8"
.75X.50RC	3/4" x 1/2"
1X.25RC	1" x 1/4"
1X.375RC	1" x 3/8"
1X.50RC	1" x 1/2"
1X.75RC	1" x 3/4"
1.25X.50RC	1-1/4" x 1/2"
1.25X.75RC	1-1/4" x 3/4"
1.25X1RC	1-1/4" x 1"
1.5X.50RC	1-1/2" x 1/2"
1.5X.75RC	1-1/2" x 3/4"
1.5X1RC	1-1/2" x 1"
1.5X1.25RC	1-1/2" x 1-1/4"
2X.50RC	2" x 1/2"
2X.75RC	2" x 3/4"
2X1RC	2" x 1"
2X1.25RC	2" x 1-1/4"
2X1.5RC	2" x 1-1/2"
3X1RC	3" x 1"
3X1.25RC	3" x 1-1/4"
3X1.5RC	3" x 1-1/2"
3X2.RC	3" x 2"
3X2.5RC	3" x 2-1/2"



Pipe

Item Number	Size
.25	1/4" Pipe
.375	3/8" Pipe
.50	1/2" Pipe
.75	3/4" Pipe
1.0	1" Pipe
1.25	1-1/4" Pipe
1.5	1-1/2" Pipe
2.0	2" Pipe
2.5	2-1/2" Pipe
3.0	3" Pipe
4.0	4" Pipe
GAL .50	1/2 Gal. Pipe
GAL3	3' Gal. Pipe
GAL4	4' Gal. Pipe

Specify XH for extra heavy, XT for X-True Coat, or ST for standard thread and coupled.



Concentric Swage Nipples

Item Number	Size
.75X.50SN	3/4" x 1/2"
1X.50SN	1" x 1/2"
1X.75SN	1" x 3/4"
1.25X75SN	1-1/2" x 3/4"
1.25X1SN	1-1/4" x 1"
1.5X1SN	1-1/2" x 1"
1.5X1.25SN	1-1/2" x 1-1/4"
2X1SN	2" x 1"
2X1.25SN	2" x 1-1/4"
2X1.5SN	2" x 1-1/2"
3X1.25SN	3" x 1-1/4"
3X1.5SN	3" x 1-1/2"
3X2SN	3" x 2"

When Ordering, specify (ST) for Standard or (FS) for Forged Steel Products



Bushings

Item Number	Size
.25X.125B	1/4" x 1/8"
.375X.25B	3/8" x 1/4"
.50X.125B	1/2" x 1/8"
.50X.25B	1/2" x 1/4"
.50X.375B	1/2" x 3/8"
.75X.25B	3/4" x 1/4"
.75X.375B	3/4" x 3/8"
.75X.50B	3/4" x 1/2"
1X.25B	1" x 1/4"
1X.375B	1" x 3/8"
1X.50B	1" x 1/2"
1X.75B	1" x 3/4"
1.25X.25B	1-1/4" x 1/4"
1.25X.375B	1-1/4" x 3/8"
1.25X.50B	1-1/4" x 1/2"
1.25X.75B	1-1/4" x 3/4"
1.25X1B	1-1/4" x 1"
1.5X.25B	1-1/2" x 1/4"
1.5X.375B	1-1/2" x 3/8"
1.5X.50B	1-1/2" x 1/2"
1.5X.75B	1-1/2" x 3/4"
1.5X1B	1-1/2" x 1"
1.5X1.25B	1-1/2" x 1-1/4"
2X.25B	2" x 1/4"
2X.375B	2" x 3/8"
2X.50B	2" x 1/2"
2X.75B	2" x 3/4"
2X1B	2" x 1"
2X1.25B	2" x 1-1/4"
2X1.5B	2" x 1-1/2"
3X.25B	3" x 1/4"
3X.375B	3" x 3/8"
3X.50B	3" x 1/2"
3X.75B	3" x 3/4"
3X1B	3" x 1"
3X1.25B	3" x 1-1/4"
3X1.5B	3" x 1-1/2"
3X2B	3" x 2"
3X2.5B	3" x 2-1/2"

Thread Cutting Oil

Item Number	Size
WN28	Dark Thread Cutting Oil (gallon)



3/8" M. NPT Nipples

Item Number	Length
.375XCL.NIP	Close
.375X1.5NIP	1-1/2"
.375X2NIP	2"
.375X2.5NIP	2-1/2"
.375X3NIP	3"
.375X3.5NIP	3-1/2"
.375X4NIP	4"
.375X4.5NIP	4-1/2"
.375X5NIP	5"
.375X5.5NIP	5-1/2"
.375X6NIP	6"
.375X7NIP	7"
.375X8NIP	8"
.375X9NIP	9"
.375X10NIP	10"
.375X11NIP	11"
.375X12NIP	12"



1/2" M. NPT Nipples

Item Number	Length
.50XCL.NIP	Close
.50X1.5NIP	1-1/2"
.50X2NIP	2"
.50X2.5NIP	2-1/2"
.50X3NIP	3"
.50X3.5NIP	3-1/2"
.50X4NIP	4"
.50X4.5NIP	4-1/2"
.50X5NIP	5"
.50X5.5NIP	5-1/2"
.50X6NIP	6"
.50X7NIP	7"
.50X8NIP	8"
.50X9NIP	9"
.50X10NIP	10"
.50X11NIP	11"
.50X12NIP	12"



1/4" M. NPT Nipples

Item Number	Length
.25XCLNIP	Close
.25X1.5NIP	1-1/2"
.25X2NIP	2"
.25X2.5NIP	2-1/2"
.25X3NIP	3"
.25X3.5NIP	3-1/2"
.25X4NIP	4"
.25X4.5NIP	4-1/2"
.25X5NIP	5"
.25X5.5NIP	5-1/2"
.25X6NIP	6"
.25X7NIP	7"
.25X8NIP	8"
.25X9NIP	9"
.25X10NIP	10"
.25X11NIP	11"
.25X12NIP	12"

PIPE FITTINGS

When Ordering, specify (ST) for Standard or (FS) for Forged Steel Products



3/4" M. NPT Nipples

Item Number	Length
.75XCLNIP	Close
.75X1.5NIP	1-1/2"
.75X2NIP	2"
.75X2.5NIP	2-1/2"
.75X3NIP	3"
.75X3.5NIP	3-1/2"
.75X4NIP	4"
.75X4.5NIP	4-1/2"
.75X5NIP	5"
.75X5.5NIP	5-1/2"
.75X6NIP	6"
.75X7NIP	7"
.75X8NIP	8"
.75X9NIP	9"
.75X10NIP	10"
.75X11NIP	11"
.75X12NIP	12"



1" M. NPT Nipples

Item Number	Length
1XCLNIP	Close
1X2NIP	2"
1X2.5NIP	2-1/2"
1X3NIP	3"
1X3.5NIP	3-1/2"
1X4NIP	4"
1X4.5NIP	4-1/2"
1X5NIP	5"
1X5.5NIP	5-1/2"
1X6NIP	6"
1X7NIP	7"
1X8NIP	8"
1X9NIP	9"
1X10NIP	10"
1X11NIP	11"
1X12NIP	12"



1-1/4" M. NPT Nipples

Item Number	Length
1.25XCLNIP	Close
1.25X2NIP	2"
1.25X2.5NIP	2-1/2"
1.25X3NIP	3"
1.25X3.5NIP	3-1/2"
1.25X4NIP	4"
1.25X4.5NIP	4-1/2"
1.25X5NIP	5"
1.25X5.5NIP	5-1/2"
1.25X6NIP	6"
1.25X7NIP	7"
1.25X8NIP	8"
1.25X9NIP	9"
1.25X10NIP	10"
1.25X11NIP	11"
1.25X12NIP	12"



1-1/2" M. NPT Nipples

Item Number	Length
1.5XCLNIP	Close
1.5X2NIP	2"
1.5X2.5NIP	2-1/2"
1.5X3NIP	3"
1.5X3.5NIP	3-1/2"
1.5X4NIP	4"
1.5X4.5NIP	4-1/2"
1.5X5NIP	5"
1.5X5.5NIP	5-1/2"
1.5X6NIP	6"
1.5X7NIP	7"
1.5X8NIP	8"
1.5X9NIP	9"
1.5X10NIP	10"
1.5X11NIP	11"
1.5X12NIP	12"



2" M. NPT Nipples

Item Number	Length
2XCLNIP	Close
2X2.5NIP	2-1/2"
2X3NIP	3"
2X3.5NIP	3-1/2"
2X4NIP	4"
2X4.5NIP	4-1/2"
2X5NIP	5"
2X5.5NIP	5-1/2"
2X6NIP	6"
2X7NIP	7"
2X8NIP	8"
2X9NIP	9"
2X10NIP	10"
2X11NIP	11"
2X12NIP	12"



3" M. NPT Nipples

Item Number	Length
3XCLNIP	Close
3X3NIP	3"
3X3.5NIP	3-1/2"
3X4NIP	4"
3X4.5NIP	4-1/2"
3X5NIP	5"
3X5.5NIP	5-1/2"
3X6NIP	6"
3X7NIP	7"
3X8NIP	8"
3X9NIP	9"
3X10NIP	10"
3X11NIP	11"
3X12NIP	12"

COPPER TUBING & ACCESSORIES

Soft Refrigeration Copper



.50R

Item Number	O.D., Actual	Feet in Roll
.375R	3/8"	100'
.50R	1/2"	100'
.625R	5/8"	50'

Soft Refrigeration Copper – Coated



Coated

Item Number	O.D., Actual	Feet in Roll
38R100P	3/8"	100'
12R50P	1/2"	50'
12R100P	1/2"	100'
12L100P	1/2"	100'

Soft Type "L" Copper

Item Number	O.D., Actual	Feet in Roll
.25L	3/8"	100'
.375L	1/2"	100'
.50L	5/8"	100'

Soft Type "K" Copper

Item Number	O.D., Actual	Feet in Roll
.25K	3/8"	100'
.375K	1/2"	100'
.50K	5/8"	100'



Polypropylene 1/2" Tubing Hanger

Tube hanger. Allows tube to expand and contract without loosening. Tube is not damaged if nail is overdriven.

Item Number	Description
552L	1/2" Tubing Hanger



J-Clip Steel Copper Coated

Used for securing tubing to structures.

Item Number	Size	Qty per Pkg.
4193812	3/8" x 1/2"	500



Tube Benders

Bend tubing, even irregular bends, without kinking or collapsing tube.

Item Number	Description
TB-3/8	For 3/8" Diameter Tube
TB-1/2	For 1/2" Diameter Tube
TB-5/8	For 5/8" Diameter Tube



Flaring-Burnishing Tool

Rolo-Flair® – The one flaring-burnishing tool that flares nine popular sizes of tubing. Features include:

- Patented rotary type clamping dies with nine popular sizes – 1/8, 3/16, 1/4, 5/16, 3/8, 7/16, 1/2, 5/8, & 3/4" O.D. tubing

Item Number	Description
945TH	Flaring-Burnishing Tool



Tube Cutting Tool

Features telescopic enclosed feed mechanism, wide rollers with flare cut-off groove, fold away reamer and spare cutting wheel attached inside body.

Item Number	Description
PAPCO 512	Tube Cutting Tool



Item Number	Description
51212	Cutting Wheel



Flaring Tool

One piece Rothenberger flaring tools for use on 3/16" thru 5/8" tubing. Quick operating, fast release for perfect flares.

Item Number	Description
ROTH420	Flaring Tool

PLASTIC: SIZING

Natural Gas Underground Plastic Piping

Standard Pressure: 6-7" W.C. Maximum capacity in CFH (1000BTU per cubic foot) at 6-7" W.C. and 1/2" W.C. drop.

Tubing Size	Tubing Length (ft.)													
	10	20	30	40	50	60	70	80	90	100	125	150	175	200
1/2" CTS	56	38	31	26	23	21	19	18	17	16	14	13	12	11
3/4" IPS	360	250	200	170	151	138	125	118	110	103	93	84	77	72
1" IPS	680	465	375	320	285	260	240	220	205	195	175	160	145	135
1-1/4" IPS	1400	950	770	660	580	530	490	460	430	400	360	325	300	280
2" IPS	3950	2750	2200	1900	1680	1520	1400	1300	1220	1150	1020	950	850	800

Based on 0.60 Specific Gravity Gas

Note: CTS-Copper Tube Size, 1/2" only, (taken from table 10-4, National Fuel Gas Code manual)

IPS-Nominal Iron Pipe Size, (taken from Table 10-2, National Fuel Gas Code Manual.

Remember to de-rate the capacities where heat content is less than 1000 BTU per cubic foot.

Liquefied Petroleum Gas Underground Plastic Piping

Tubing Size	Tubing Length (ft.)														
	5	10	15	20	25	30	40	50	60	70	80	90	100	125	150
1/2" CTS	2476	1662	1316	1116	981	884	749	659	593	543	503	470	442	389	350
3/4" IPS	14234	9555	7568	6414	5642	5080	4306	3787	3410	3121	2890	2701	2542	2236	2014
1" CTS	18455	12388	9812	8316	7315	6587	5583	4910	4422	4047	3747	3502	3296	2899	2611
1" IPS	26296	17652	13981	11849	10423	9385	7954	6997	6300	5756	5340	4990	4697	4131	3720
1-1/4" IPS	47252	31720	25123	21293	18729	16865	14294	12572	11321	10361	9595	8967	8440	7423	6685
2" IPS	133476	89601	70967	60148	52905	47640	40376	35514	31980	29267	27104	25329	23840	20970	18882

Tubing Size	Tubing Length (ft.)														
	200	250	300	400	500	600	700	800	900	1000	1100	1200	1300	1400	1500
1/2" CTS	297	261	235	199	175	158	144	134	125	118	111	106	101	97	93
3/4" IPS	1707	1501	1352	1146	1008	907	830	769	719	675	640	609	582	557	536
1" CTS	2213	1946	1753	1485	1306	1176	1077	997	932	877	830	790	754	723	695
1" IPS	3153	2773	2497	2116	1862	1676	1534	1421	1328	1250	1183	1125	1075	1030	990
1-1/4" IPS	5665	4983	4487	3803	3345	3012	2757	2553	2386	2246	2126	2022	1931	1851	1779
2" IPS	16004	14077	12676	10743	9449	8509	7787	7212	6739	6343	6005	5712	5455	5227	5024

Maximum Capacity of PE Pipe in thousands of BTU per Hour of Liquefied Petroleum Gas with a Gas Pressure of 10.0 psi and a Pressure Drop of 1.0 psi (based on a 1.52 specific gravity gas)

Based on information provided by Oil Creek Plastic

PLASTIC: TUBING & RISERS

Plastic Tubing

Item Number	Description	Length
.50CTS150	1/2" CTS Plastic	150'
.50CTS500	1/2" CTS Plastic	500'
.75IPS150	3/4" IPS Plastic	150'
.75IPS500	3/4" IPS Plastic	500'
1.0IPS150	1" ISP Plastic	150'
1.0IPS500	1" IPS Plastic	500'
1.25IPS150	1-1/4" IPS Plastic	150'
1.25IPS500	1-1/4" IPS Plastic	500'
2.0IPS100*	2" IPS Plastic	100'
2.0IPS500*	2" IPS Plastic	500'

*Call for Availability.



Flexible Riser System for Plastic Pipe

Item Number	Description
1253-92-1004-36	1/2" x 1/2" CTS 3' Flex Riser
9953-99-0511-36	1/2" x 1/2" CTS 3' Flex Riser with 1/2" Female Flare Nut
1253-92-1004-72	1/2" x 1/2" CTS 6' Flex Riser
9953-99-0511-72	1/2" x 6' CTS Flex Riser with 1/2" Female Flare Nut
1353-92-1013-36	3/4" x 3/4" IPS 3' Flex Riser
1353-92-1013-60	3/4" x 3/4" IPS 6' Flex Riser



1353-92-1013-36

- Dependable, simplified compression style anodized service head
- Integral swivel for easy installation
- Complete with poly liner and lower moisture seal

Anodeless Service Risers

Item Number	Description
1353-04-11*	3/4" M. NPT x 1/2" CTS 30" Riser
1353-91-4613-25	3/4" M. NPT x 3/4" IPS 30" Riser
1453-91-4614-25	1" M. NPT x 1" IPS 30" Riser
1553-91-4615-0A	1 1/4" M. NPT x 1 1/4" IPS 30" Riser



1353-91-4613-25

PLASTIC: FITTINGS & ACCESSORIES

Copper to Plastic Transition Fitting

Item Number	Description
COPO	1/2" CTS x 3/8" F. NPT



COPO

Con-Stab Plastic Elbows

Item Number	Description
3259-51-1004-00	1/2" CTS Elbow
3259-51-1008-00*	1" CTS Elbow
3259-51-1014-00	1" IPS Elbow
3259-51-1013-00	3/4" IPS Elbow
3259-51-1015-AA	1-1/4" IPS Elbow



3259-51-1004-00

Con-Stab Plastic Couplings

Item Number	Description
3259-52-1004-00	1/2" CTS Coupling
3259-52-1013-00	3/4" IPS Coupling
3259-52-1014-00	1" IPS Coupling
3259-54-1413-00	1" IPS x 3/4" IPS Reducing Coupling



3259-52-1004-00

Transition Fittings (must order coupling with this fitting to connect plastic)

Item Number	Description
4646-00-1904-00	1/2" MPT x 1/2" CTS Transition Fitting
4646-00-1913-00	3/4" MPT x 3/4" IPS Transition Fitting
4646-00-1914-00	1" NPT x 1" IPS Transition Fitting



4646-00-1904-00

PLASTIC: FITTINGS & ACCESSORIES



3259-50-1008-00

Con-Stab Plastic Tees

Item Number	Description
3259-50-1004-00	1/2" CTS Tee 3-Way
3259-50-1008-00	1" CTS Tee 3-Way
3259-50-1013-00	3/4" IPS Tee 3-Way
3259-50-1014-00	1" IPS Tee 3-Way
3259-49-1304-00	3/4" IPS x 1/2" CTS Reducing Tee



SC1

Plastic Cutters

Item Number	Description
SC1	Plastic Cutter - Up To 1"
2CVH7	Plastic Cutter - Up To 1-1/4"



33-6580-17



Chamfering Tool

Item Number	Description
33-5481-00	3/4" IPS x 1/2" CTS
33-5516-00	1" IPS x 3.4" IPS Chamfering Tool
33-6580-10	1-1/4" IPS Chamfering Tool
33-6580-17	2" IPS Chamfering Tool



744110211

Tracer Wire

14 AWG bare copper high molecular weight polyethylene insulate conductor. 500' Spool.

Item Number	Description
744110211	500' Spool

Cable Hound DSP

The Cable Hound is an electronic device designed to accurately locate and determine depth of buried cable or metallic pipe.

- Improved depth and distance capabilities
- New receiver w/Digital Signal Processing
- Auto-off switch saves battery life
- Quality padded headphones included
- Carrying case



Item Number	Description
Cable Hound DSP	Underground Cable Locator



Marking Flag

Item Number	Description
Marking Flag	30" Steel Wire Flags for Marking Gas Lines (Sold per 100)

Marking Tape

Item Number	Description
MT1000	2" x 1000' Marking Tape



MT1000

CATHODIC PROTECTION

Anodes

Magnesium anodes are the most widely used material for the application of cathodic protection on underground tanks and pipelines. Each anode is protected by backfill material consisting of 75% gypsum, 20% bentonite and 5% sodium sulfate.

Item Number	Description	Length	Width	Shipping Wt.
H-1	17# Anode with 10' Lead	43"	6"	55#



Dielectric Unions

Isolates underground tank to complete cathodic protection.

Item Number	Description
701-403	1/2"
701-404	3/4"



Electrodes and Accessories

This copper-sulphate reference electrode is a low cost, easy-to-use device for measuring current on a cathodic protection system. Simply attach one lead from a digital multimeter to the tank or pipe, the other lead to the electrode and take readings at different points on the ground around the tank or pipe.

Item Number	Description
15210	RE-5C Copper Sulfate Electrode
16906	3/4 lb. Copper Sulfate
17105	8 oz. Anti-Freeze
34903	6' Test Lead - Black
34007	6' Test Lead - Orange
TPIODMM133	Electrical Tester



15210



16906



17105



34903



34007

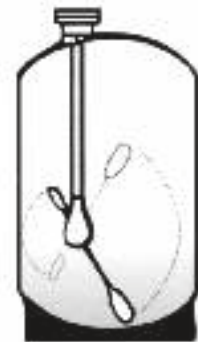
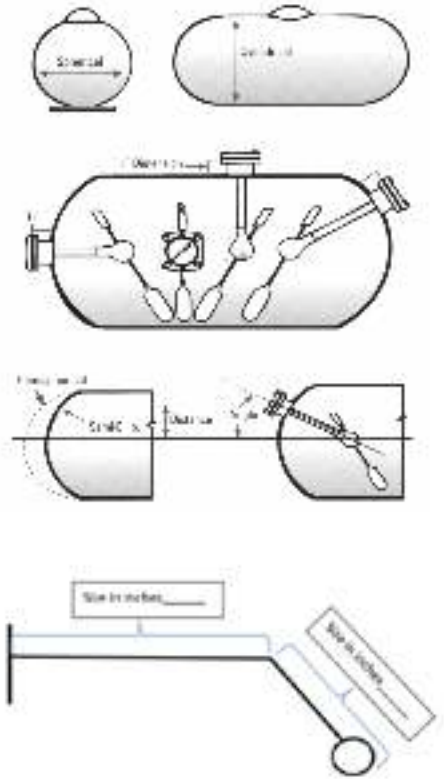


TPIODMM133

GAUGES: FLOAT GAUGES

Special Order Gauges for ASME Horizontal Cylindrical Tanks for Above-Ground Service

1	Determine gauge head size and material. The following choices exist: <ol style="list-style-type: none"> Junior aluminum bolted head, 2 1/32" (51.6mm) bolt circle Senior aluminum bolted head, 2 1/2" (63.5mm) bolt circle 1 1/4" NPTF threaded Junior brass head 1" NPTF threaded Junior brass head 	Gauge head size: _____
2	Specify tank diameter (on the tank nameplate, or measure the circumference of the tank, from which the diameter can be calculated).	Tank diameter: _____
3	Specify gauge mounting location: <ol style="list-style-type: none"> Top End or side at centerline Angle 	Mounting location: _____
4	If on the tank end, specify head shape (hemispherical or semi-ellipsoidal).	Head Shape: _____
5	If the gauge is angle mounted: <ol style="list-style-type: none"> Specify the degree of the angle from the horizontal centerline or; Specify the distance in inches from the horizontal centerline vertically to the center of the gauge opening. 	Degree of angle: _____ Distance in inches: _____
6	Specify "H" dimension (riser height). This is the distance in inches from the top of the coupling or flange to the outside surface of the tank.	Riser height dimension: _____



Special Order Gauges for Vertical DOT Cylinders

- Determine gauge head size and material.
- Specify tank diameter (on the tank nameplate, or measure the circumference of the cylinder)
- Specify height of cylinder (not including footing)
- Specify the distance from the center of the gauge opening to the outside wall of the cylinder
- Specify "H" dimension, the measurement from the highest point of the cylinder head to the top of the coupling or flange
- Specify the tank capacity: 200# (90kg), 300# (136kg) or 420# (190kg)
- Furnish the name of the cylinder manufacturer

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.

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



HA130A

GAUGES: REPLACEMENT GAUGES & DIALS

Junior Gauges

Application	Tank Diameter	Item Number		
		Top	45 Angle	Side or End
Domestic Tanks	24"	JA124I	JC124B*	JD080A*
	30"	JA154I	JC154B*	JD100F*
	37"	JA192J	JC190B*	JD120D*
	41"	JA206I	JC210B*	JD0140D*

Senior Gauges

Application	Tank Diameter	Item Number		
		Top	45 Angle	Side or End
Domestic Tanks	24"	SA130A	SC130B*	SD080D*
	30"	SA160A	SC160A*	SD100C*
	37"	SA194A	SC194D*	SD120G*
	41"	SA214A	SC214C*	SD140A*



Replacement Dials for Rochester and Squibb Gauges

Item Number	Gauge Type	Style	Description
5323S1848	Rochester	Jr. Dial/Direct Reading	5-95% Dial for NH3 Service A/G Tanks
5343S01791	Rochester	Jr. Dial/Direct Reading	Universal % Dial for 33.5# F/L Cylinder (Screw-on)
5002S00002	Rochester	Sr. Dial/Direct Reading	5-95% Dial for NH3 Service
130012	Squibb	Jr. Dial or Sr. Dial	5-95% Dial for ASME A/G Tank
5323S01789	Mobile 4-Bolt	Jr. Dial/Direct Reading	Junior Mobile Dial-Fractional for Horizontal Cylinder
5714S02591	Rochester	Jr. Dial/Direct Reading	¾" NPT Junior Snap-On Dial for 7384-4021, 10-8290 A/G Vertical Tank
5364S01951	Rochester	Jr. Dial/Direct Reading	Junior Snap-On Dial for 8981 Series Gauges
5909S02733	Rochester	Jr. Dial/Direct Reading	5-95% Dial for ASME A/G Horizontal Tank (Remote Ready)
5909S02772	Rochester	Jr. Dial/Direct Reading	10-80% Dial for DOT A/G Vertical Tanks (Remote Ready)
5909S02799	Rochester	Jr. Dial/Direct Reading	5-95% Dial for ASME U/G Horizontal Tank (Remote Ready)
5986S02733	Rochester	Sr. Dial/Direct Reading	5-95% Dial for ASME A/G Horizontal Tank (Remote Ready)
130022	Squibb	Jr. Dial	Dial for ASME A/G Tank 1" or 1¼" (Remote Ready)
130011	Squibb	Jr. Dial or Sr. Dial	Dial for ASME U/G Tank (Trinity, American, Thompson)
5AAAS02772	Rochester	Jr. Dial	10-80% Dial for DOT A/G Vertical Tanks (Remote Ready)
403582	Squibb	Jr. Dial	Snap-On Dial for 33.5# F/L Cylinder



Dial Repair Kits

Item Number	Gauge Type	Style	Description
3180-17001**	Rochester	Sr. Dial	Conversion Dial Kit
130005**	Squibb	Jr. Dial	Repair Kit
130010**	Squibb	Sr. Dial	Repair Kit - 2 Eared
72-71-731	Rochester	Jr. Dial	Adapter
72-71-730	Rochester	Sr. Dial	Adapter

** Repair Kits do not include glue.



GAUGES: LIQUID LEVEL GAUGES

Magnetel Liquid Level Gauges

The 6300 Series Magnetel Liquid Level Gauges are designed to accurately determine the percentage of tank volume for most liquids in stationary storage applications. Gauges are U.L. listed for LP Gas and NH3 service.

Item Number	Description
C6342-11-108	Magnetel Gauge for 108" Diameter Tank
C6342-11-130	Magnetel Gauge for 130" Diameter Tank



Mounting Adapters

Forged Steel with 3½" bolt circle, ½"-13NC-2 threads.

Item Number	Description	Material
ME931	2½" M. NPT	Forged Steel
22-30*	Welding Flange	Forged Steel



Replacement Parts

Item Number	Description
0003-00433	Lexan Polycarbonate, for 8" Dial
0003-00404	Lexan Polycarbonate, for 4" Dial
15-10	Gasket under 8" Crystal (2 req'd.)
130040	Gasket under 4" Crystal
15-19	Mounting Gasket, Spiral-wound, SS, Teflon filled
44-403	Hex Nut, ½"-13NC-2
56-404	Stud Bolt, ½"-13NC-2
93-403	8" Dial, Mounting Bracket (Uses 40-413 screws sold separately) (3 req'd)
93S1	4" Dial Mounting Bracket (Uses 40-413 screws sold separately) (2 req'd)
40-413	Stainless Steel Dial Screw, 10-32
130035	Squibb, 10" Replacement Dial
5015S03044	8" Dial, LPG & NH3, 3-97%
5137S03047**	4" Dial, LPG & NH3, 5-95%

** Standard for Rough Rider Gauges.



0003-00433



130040



44-403



56-404



93-403



93S1



40-413



130035

GAUGES: LIQUID LEVEL GAUGES

Rough Rider Liquid Level Gauges

The M6300 Rough Rider Series of Magnetel liquid level gauges are designed to withstand the vibration and shock inherent in mobile service. They provide unsurpassed service life in over-the-road and off-road transport of liquids ranging from LP Gas to crude oil. The M6300 Series allows continuous reading of tank contents in percentage of tank capacity. Rough Rider gauges are available for either end or side mounting. Gauges are U.L. listed for LP Gas and NH3 Service.

Item Number	Description
CM6339-11-72	Rough Rider for 72" Diameter Tank
CM6339-11-78*	Rough Rider for 78" Diameter Tank
CM6339-11-79	Rough Rider for 79" Diameter Tank



CM6339-11-79

LP Gas Thermometers

These 2" bi-metallic thermometers are commonly used on LP Gas storage tanks, bobtails and transports. Recommended for use only with thermowells.

Item Number	Description
1250-04000-4"	4" Thermometer
1250-04000-6"	6" Thermometer



1250-04000-6"

GAUGES & ACCESSORIES

Lift Truck Cylinder Gauges

Liquid level gauges available in 4-bolt pattern or M. NPT.

Item Number	Gauge Type	Style	Designed For
131512	Squibb	Jr. 4-bolt	Universal 33.5# Forklift Cylinder
7284-34	Rochester	1¼" NPTF	Universal 33.5# Forklift Cylinder
131513	Squibb	¾" NPTF	Jr. 33.5# Forklift Cylinder



131512



131513

Accessories for Rochester Gauges

Item Number	Description
40-414	Screw, Junior Gauge Head
40-415	Screw, Senior Gauge Head
40-416*	Screw, Junior or Senior Dial, S.S.
130122	Gasket, Senior Gauge, Flat
130121	Gasket, Junior Gauge, Flat
130040	Gasket for Magnetel Gauge
15-21*	O-Ring, Junior Gauge
15-22*	O-Ring, Senior Gauge



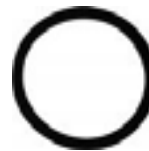
40-414



40-415



130122



130121



130040

GAUGES: PRESSURE GAUGES

Pressure Gauges

Item Number	Service	Mount	Case Material	Max. Pressure	Case Size
A8400	NH3	Bottom	Stainless Steel	400#	2½"
SG2-15	LPG	Bottom	Steel	15#	2"
SG2-30	LPG	Bottom	Steel	30#	2"
SG2-60	LPG	Bottom	Steel	60#	2"
SG2-100	LPG	Bottom	Steel	100#	2"
SG2-300	LPG	Bottom	Steel	300#	2"
SG2.5-35"WC	LPG	Bottom	Steel	35 w.c./20 oz.	2½"
SG4-300	LPG	Bottom	Steel	300#	4"
SGC2-300	LPG	Back	Steel	300#	2"
SGCL2.5-30**	LPG	Back	Steel	30#	2½"
SGCL2.5-300**	LPG	Back	Steel	300#	2½"
SGCL2.5-400**	LPG	Back	Steel	400#	2½"
SGL2.5-15**	LPG	Bottom	Steel	15#	2½"
SGL2.5-30**	LPG	Bottom	Steel	30#	2½"
SGL2.5-300**	LPG	Bottom	Steel	300#	2½"
SGL2.5-400**	LPG	Bottom	Steel	400#	2½"
SGL2.5-600**	LPG	Bottom	Steel	600#	2½"

** Liquid Filled



SG2-15



SG2-100



SG4-300



SGCL2.5-30**



SGL2.5-15**



SGL2.5-400**



SG2-30



SG2-300



SGCL2.5-300**



SGL2.5-30**



SGL2.5-600**



SG2-60



SG2.5-35"WC



SGC2-300



SGCL2.5-400**



SGL2.5-300**



LISTED

1" Rotogages® for Large Mobile and Stationary Containers A9090 Series

Rotogages® are designed to provide an accurate determination of LP-Gas or anhydrous ammonia container contents. They mount in a standard 1" NPT coupling on large mobile or stationary containers.

To operate the Rotogages®, the vent valve is opened and the dip tube rotated slowly from the container vapor space to the liquid space. The difference in appearance of the discharge indicates when the liquid level is reached. Dial readings then indicate the percentage of product in the container.

Tubes for use with A9090 Series Rotogages Cut to length required.

Service	Part Number
Up to 48"	A9091-M24.0
Up to 72"	A9091-M36.0
Up to 96"	A9091-M48.0
Up to 120"	A9091-M60.0
Up to 144"	A9091-M72.0



Rotogage® Dials

Item Number	Service	Container Size
A9091-18L	LP-Gas	All Sizes
A9091-18LX*	LP-Gas	Over 1200 U.S. gallons
A9091-18N	NH3	All Sizes

* Dial permits higher filling level, per NFPA 58,

1" Rotogages® for Large Mobile and Stationary Containers

For Small Mobile or Stationary Containers
A9091R and A9092R Series

Item Number		For Container Inside Diameter			
		Ellipsoidal Heads		Hemispherical Heads	
For Mobile or Stationary Containers	For Stationary Containers Only	Side Mounted	End Mounted	Side Mounted	End Mounted
A9091R	-	30" - 45"	30" - 75"	30" - 45"	30" - 45"
A9092R	-	46" - 61"	76" - 108"	46" - 61"	46" - 61"
A9093TS*	A9093RS	62" - 79"	109" - 147"	62" - 79"	62" - 79"
A9094TS*	A9094RS	80" - 99"	-	80" - 99"	80" - 99"
A9095TS*	A9095RS	100" - 147"	-	100" - 147"	100" - 147"

* Supported Design

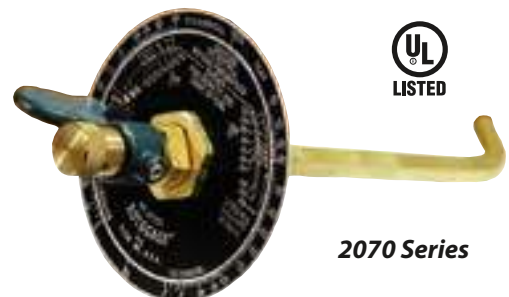
NOTE: The dip tube must be cut to the required length($\frac{1}{2}$ " of container inside diameter minus $5\frac{3}{4}$ ").

$\frac{3}{4}$ " Rotogages® for Small Stationary and Mobile LP-Gas Containers 2070 Series

Rotogages® are designed to provide accurate determination of LP-Gas container contents. They may be end or side mounted in a standard $\frac{3}{4}$ " NPT coupling on stationary or mobile containers. To guarantee accurate measurement, they should not be used on stationary containers that exceed 60" I.D. or on mobile containers, subject to vibration, with an I.D. of more than 24".

Item Number		For Containers with Inside Diameter	Tank Connection	Valve Seat Orifice
Rotogage®	Dip Tube			
2070C0	2071-L25.7	Up to 40"	$\frac{3}{4}$ M. NPT	No. 54 Drill Size
	2071-L39.7	Up to 60"		

NOTE: The dip tube must be cut to the required length ($\frac{1}{2}$ of container inside diameter minus $\frac{1}{2}$ "), when mounted on center line of tank.



MANOMETERS & ACCESSORIES

Kuhlman 2000 A

This instrument is capable of high pressure readings for stress tests and low pressure for leak detection. Complete with a valve installed at the top – in the open position the 2000 A is a precision water manometer. Close the valve and an air spring is formed allowing pressure readings in ounces and pounds.

Ideal for gas service technicians because it eliminates the need for additional instruments when extended range is needed and ideal for servicing gas appliances and furnaces, refrigeration, air conditioning, storage tank and pipeline inspection, repair and installation. Can be used to check regulator input and output pressure in the field.

Measurements of: • 0-16 inches water • 0-200 lbs. pressure

Item Number	Description	Fluid
2000-A	Manometer complete with valve on top, metal case and operating instructions	1/2 PTK Fluid



2000-A

Accessories

Item Number	Description
#11	Kuhlman Quick Disconnect (Male)
#12	Kuhlman Quick Disconnect (Female)
1/2PTK Fluid	Instrument Fluid (1/2 pint)
1GALK FLUID	Instrument Fluid (Gallon)



#12



#11



1GALK FLUID

Hand Pump

Item Number	Description
B-25	Hand Pump with aspirator bulb type action for pressures up to 16 PSI



B-25

U-Tube Manometer

Item Number	Description	Fluid
1222-16WM	U-tube Manometer	A126 Green

Tube in Tube Manometer

Item Number	Description	Fluid
1213-15	15" Direct Reading Manometer	A126 Green



1222-16WM

1213-15

Dual Range Manometer

Item Number	Description	Fluid
1227	Dual Range Flex-Tube® U-inclined Manometer	A102 Red Gauge Oil



1227

MANOMETERS & ACCESSORIES



1212 Kit

Water Manometer Kit

The water manometer kit is especially suited for use with low pressure LP-Gas systems. It is ideal for pressure checks downstream of the low pressure regulator and at the appliance.

Item Number	Description
1212 KIT	Flexible Tube Water Manometer Kit



Gauge Tubing

Rubber tubing has less tendency to kink in storage and occupies less space, thus is best for portable work.

Item Number	Description
A202	Rubber Tubing 3/16" I.D., Length to 50'



Plastic Connector

Item Number	Description
A-319	Flexible Red PVL Connector for 1221, 1222, 1227 Manometer



Serviceman's Friend

For use with flow meter and other applications.

Item Number	Description
TL-051	One end of fitting has 1/8" pipe thread, 1/4" pipe thread and special 5/16" x 32 thread. Opposite end has hose fitting and 1/8" pipe thread. Hose can be used on either end.



Adapter

Item Number	Description
A-339	Brass adapter, 1/8" NPT to 3/16" rubber and 1/8" I.D. plastic tubing



Gauge Fluids

For use in vertical manometers.

Item Number	Description
A126	Fluorescein Green Color Concentrate. Add 3/4 oz. to one quart distilled water. Contains a wetting agent to improve the meniscus characteristics. Do not use full strength.
A-120	3/4. oz. Violet Gauge Anti-freeze. Good to -40°F. Use full strength.



Red Gauge Oil

The standard fluid for use in inclined manometers, "D" type vertical manometers and all Dwyer gauges using red oil.

Item Number	Description
A102	4 oz. bottle

MANOMETERS & ACCESSORIES

Low Temperature Magnehelic Gauge & Accessories

Consistently accurate, 0-20" W.C. gauge. Direct reading pressure, vacuum or differential. Can take an over pressure surge of up to 25 psi. Lasts for years.



2020-LT

Lo-Temp Gauge

Item Number	Description
2020-LT	Low Temperature Magnehelic Gauge



A-349

Accessories

Item Number	Description
A-349	Brass Adapter 1/8" M. NPT x 1/4" F. NPT



Carrying Case

Item Number	Description
A-432	Gauge & Accessory Carrying Case



Out-1

TJ-1

High Pressure Test Set

Item Number	Contents
TJ-1	High-Pressure Test Block
Out-1	Out of Gas Leak Test



Low Pressure Test Set

This kit provides the equipment necessary for checking regulator delivery pressure (low pressure) at the appliance. The basic set contains a 2424A-2 low pressure gauge and a 3 foot — 3/16" O.D. flexible synthetic rubber tube. Adapters are also available.

Item Number	Contents
LPTK	Low Pressure Test Kit

MANOMETERS & ACCESSORIES

High Pressure Gauge Adapter

Designed for testing high pressure lines. Adapter has a 0 to 300 PSIG gauge. A bleeder valve allows you to bleed down to correct pressure during pressure tests.

Item Number	Inlet Connection	Outlet Connection	Pressure Gauge Range (PSIG)
2962	Soft Nose M. POL	F. POL	0 to 300



2962



Press-Chek™ Adapter

Item Number	Description
85PC-02	1/8" Pressure Check Adapter



00-SLA

Spin Lok™ Adapter

Built for fast, easy operation, the Spin Lok™ Adapter links the testing device to Item Number: 85PC-02 Press-Chek™ and activates the check valve mechanism. Spin Lok™ can be attached to any gauge or manometer.

Item Number	Description
00-SLA	1/8" Spin Lok™ Adapter



RV



RV/QA-90



RV/QA



RV/QA Gasket

Presto Tap® Fittings

The patented Presto-Tap® LDS2000RV is designed to obtain pressure readings and perform system leak testing using tank pressure without ever breaking the system. Meets NFPA 54 & 58 requirements regarding excess flow. Compatible with all Presto-Tap® gauge products when used at correct locations.

Patented Tank Pressure Fitting

Item Number	Thread	Core	Body Wrench Flat	Cap Wrench Flat Hex	#54 Orifice	Application
RV	1/8 NPT	Viton	7/16	9/16	YES	Tank Pressure

Item Number	Description
RV/QA	Quick Couple Adapter (straight)
RV/QA-90	Quick Couple Adapter (90° degree)
RV/QA Gasket	Replacement Gasket for RV/QA

ORIFICE KITS & TOOLS



Hex Cap

1/2" Hex Cap, 3/8 x 27 Thread. Length 22/32". Drill Size*: LP-72; Nat-56

Item Number	Description
CO400-72	1/2" Hex Cap

* Recommended orifice sizes listed will be furnished unless specified otherwise at time of order. (All caps have variable threads to compensate for large and small threads on valves.)



Hex Cap

1/2" Hex Cap, 3/8 x 40 Thread. Length 11/16". Drill Size*: LP-72; Nat-56

Item Number	Description
CO402-72	1/2" Hex Cap

* Recommended orifice sizes listed will be furnished unless specified otherwise at time of order. (All caps have variable threads to compensate for large and small threads on valves.)



Counter Bored Cap

1/2" Hex Counter Bored Cap, 3/8 x 27 Thread. Length 3/4". Counter bore helps keep orifice clean. For about 95% of domestic ranges. Drill Size*: LP-80; Nat-77

Item Number	Description
CO403-72	1/2" Hex Counter Bored Cap

* Recommended orifice sizes listed will be furnished unless specified otherwise at time of order.



Pilot Orifice

Insert orifice for Honeywell Q-308, Q-314, 390686-4 (Nat. Gas) & 390686-1 (LP). Aluminum. Drill Size*: LP-.010"; Nat-.018".

Item Number	Description
MH858-010	Pilot Orifice

* Recommended orifice sizes listed will be furnished unless specified otherwise at time of order.



Pilot Orifice

Aluminum, 1/4 compression connection. Replacement orifice for Robertshaw pilots A-1820 & A-1830. Drill Size*: LP-.010"; Nat-.018".

Item Number	Description
RS813-010	Pilot Orifice

* Recommended orifice sizes listed will be furnished unless specified otherwise at time of order.



Pilot Orifice

Aluminum, 1/4 Tube Size. Replacement for A-1820 & A-1830 pilots. Drill Size*: LP-.010"; Nat-.018".

Item Number	Description
RS821-010	Pilot Orifice

* Recommended orifice sizes listed will be furnished unless specified otherwise at time of order.



IPSE Orifice Kit

Designed by IPS Professionals exclusively for our customers with the Serviceman's needs in mind.

Includes:

- (1) RS820-011
- (1) RS819-016
- (2) MH854-010
- (1) BA721-007
- (2) BA718-010/011/012
- (2) BA715-010/012
- (5) CF642
- (5) CF643
- (10) RS821-010
- (10) MH858-010
- (1) RS800-009
- (2) RS813-010
- (10) CF502
- (1) M100-72
- (5) PO508-72
- (5) PO511-72
- (5) PO518-72
- (5) PO501-72
- (5) PO529-72
- (1) GE753-011

Item Number	Description
LP Orifice Kit	Orifice Kit



Hex Plug

9/16 Hex Plug, 1/2 x 24 Thread. For Standard and Sunbeam equipment. Drill Size*: LP-72; Nat-56.

Item Number	Description
PO554-72	9/16 Hex Plug

* Recommended orifice sizes listed will be furnished unless specified otherwise at time of order.



Hex Plug

5/8 Hex Plug, 9/16 x 18 Thread. Drill Size*: LP-72; Nat-56.

Item Number	Description
PO557-72	5/8 Hex Plug

* Recommended orifice sizes listed will be furnished unless specified otherwise at time of order.

Gauging Drills

Gauging drills and handles are pressure bonded together for long life and trouble-free operation. Handle marked with size for easy identification.



Item Number	Size	Item Number	Size	Item Number	Size	Item Number	Size
GD0019	#19	GD0035*	#35	GD0051	#51	GD0066*	#66
GD0020	#20	GD0036*	#36	GD0052	#52	GD0067*	#67
GD0021	#21	GD0037*	#37	GD0053	#53	GD0068*	#68
GD0022	#22	GD0038*	#38	GD0054	#54	GD0069	#69
GD0023	#23	GD0039*	#39	GD0055*	#55	GD0070	#70
GD0024*	#24	GD0040*	#40	GD0056	#56	GD0071	#71
GD0025*	#25	GD0041*	#41	GD0057*	#57	GD0072	#72
GD0026*	#26	GD0042*	#42	GD0058*	#58	GD0073	#73
GD0027*	#27	GD0043	#43	GD0059	#59	GD0074	#74
GD0028*	#28	GD0044*	#44	GD0060	#60	GD0075	#75
GD0029*	#29	GD0045*	#45	GD0061	#61	GD0076	#76
GD0030*	#30	GD0046*	#46	GD0062	#62	GD0077	#77
GD0031*	#31	GD0047*	#47	GD0063	#63	GD0078	#78
GD0032*	#32	GD0048	#48	GD0064	#64	GD0079	#79
GD0033*	#33	GD0049	#49	GD0065	#65	GD0080	#80
GD0034*	#34	GD0050	#50				

Gauging Drill Sets

GDK-4080 - durable, heavy gauge plastic case, contains 41 gauging drills, sizes 40 thru 80 and (1) G-3020 taper broach.

GDK1939 - 21 drills, sizes 19 thru 39. Plastic case.

GDK-6080 - same as G-1939, 21 drills, sizes 60 thru 80. Plastic case.



G-4080



G-6080

Item Number	Description
G-4080	41 Drills, Taper Broach and Case
GDK1939	21 Drills, Taper Broach and Case
G-6080	21 Drills and Case



GDK1939



Adapter

Can be used on 80 to 90% of all orifices, enabling them to use higher BTU gas. #72 drill size supplied unless other is requested.

Item Number	Description
MI-100	Adapter

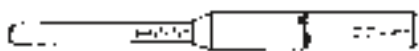
Adapter Kit

Kit contains all tools needed to assemble MI-100 adapter. (100) MI-100 adapters are included along with (1) each of TL-061, TL-062, TL-063, TL-064, TL-070, and TL-074. Plastic case.

Item Number	Description
MIK-100*	Adapter Kit



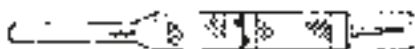
ORIFICE KITS & TOOLS



For easy setting, tool shank is marked with drill sizes.



To adjust, rotate handle to unlock, slide to desired diameter mark, then rotate to lock position.



One tool replaces 13-pc drill kit - never lost or misplaced sizes.



HC

"H" Series Jet Cleaners

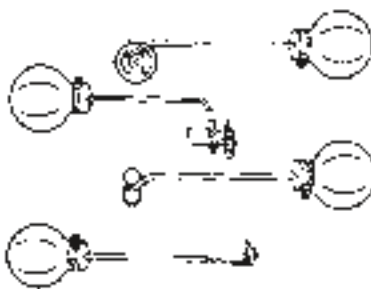
Adjustable size "H" Series Jet Cleaners are used to clean, scrape, size or measure LP or natural gas orifices. Provides positive oversize protection with absolute control of the orifice size. Assures burr-free and smooth passageways. All aluminum and steel construction - no plastic. Number drill size marking is standard; decimal marking available on request at no additional charge (add "D" to item number).

For easy setting, tool shank is marked with drill sizes.

To adjust, rotate handle to unlock, slide to desired diameter mark, then rotate to lock position.

One tool replaces 13-pc drill kit - never lost or misplaced sizes.

Item Number	Description
HR	Adjusts for Orifice Sizes - 50, 51, 52, 53, 55, 56, 60, 64, 68, 72, 76, 80, & .008"
HC	Adjusts for Orifice Sizes - 125", 31, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, & 52



Service Man's Little Helper

A very simple and useful tool - made of surgical rubber bulb, stainless steel clamp and 20" aluminum tubing. It comes assembled and ready to use - to clean pilots, clean venturis, hold a match, or vacuum up oil and deposits from hard to reach cups. The Service Man's Little Helper solves most service call problems that concern pilot outages.

Care should be taken when using on single burner units, such as water heaters. The fire can be blown off the burner or pilot - this can be a dangerous situation.

Item Number	Description
SMLH	Little Helper



750 Millivolt Generator

- Replaceable Generator Cartridge
- 32" Armored Leads
- AGA Certified

Replacement power cartridge for 750 millivolt self-generating heating control systems. Screw-in type with adapter for use with various types of pilots. Has 32" long armored cable leads with split-spade terminals.

Item Number	Description
R942	Generator



Reamers

GRK5000 - Reamer Kit containing one each of reamers listed in chart below, with case.

Item Number	Size
G-5000	#10
GR5020*	#20
GR5030*	#30
GR5040*	#40
GR5050*	#50
GR5060*	#60
GR5070*	#70
GR5080*	#80
GR5090	#90
SC5000*	Empty Case Only

Sold in quantities only of 5 pieces per pack.



2E166



2E140



2E141



2E142



2E337

Thermocouples

• For Any Pilot System
• Stainless Steel Tip Construction
Replacement thermocouples for 30 millivolt systems with adapters for virtually any pilot and provide positive "on-target" positioning.

Item Number	Length
2E166	18"
2E140	24"
2E141	30"
2E142	36"
2E337	48"

THREAD SEALANTS & COMPOUNDS



PB04

Thread & Gasket Sealant

Multipurpose compound for sealing pipe joints, plugs, screwed fittings and gasketed connections. 1/4 pint, brush top container.

Item Number	Description
PB04	Thread Sealant



SS08



JC04

Thread Sealant

Soft-set thread sealant with teflon.

Item Number	Description
SS08	Thread Sealant (1/2 pint)
JC04	Thread Sealant (High Fill) (1/4 pint)

Anti-Seize Compound

General purpose anti-seize and lubricating compound. One pint, brush top container.

Item Number	Description
TG16	Anti-Seize



TG16



ZT21



ZT13

Thread Tape

Teflon tape for use on low pressure threads.

Item Number	Description
ZT21	1/2" x 520" Teflon Tape (-400 to +500 °F)
ZT13	3/4" x 500" Teflon Tape (-400 to +500 °F)

Pipe Compound

General purpose, non-hardening, non-seizing compound used on threaded connections in gas lines.

Item Number	Description
5-1/4PT	4 oz. Rector Seal
5-1/2PT	8 oz. Rector Seal



5-1/4PT



5-1/2PT

Tub O Towels

- Heavy duty pre-moistend disposable towels
- Removes grease, sealants, adhesives, oils and more from hands and tools
- Contains glycerine, jojoba, vitamin and aloe vera
- Pop-up tub contains 90 towels

Item Number	Description
TW90	Tub O Towels



TW90



AGTG-4



AGTG-16



AGTG-2

Gimme the Green Stuff

Slow dry, soft set thread sealant recommended for use with LP gas.

Item Number	Description
AGTG-4	4 oz. Gimme the Green Stuff
AGTG-16	16 oz. Gimme the Green Stuff
AGTG-2	2 oz. Tube Gimme the Green Stuff



A11175

PipeTite Stik

Item Number	Description
A11175	PipeTite Stik Pipe Dope

FIRST AID KITS

Bulk First Aid Kit

Bulk first aid kit is equipped with the necessary items such as bandages, gauze pads, antiseptic, cold pack, eyewash, iodine wipes, alcohol prep pads, etc., to treat most minor injuries. Items are packed in quantities to serve industries with up to 25 employees. Kit dimensions - 10-1/2"L x 5"W x 2-1/2"H. Weight - 3 lbs.

Item Number	Description
4A418	Bulk First Aid Kit



Compact First Aid Kit

Ideal first aid kit for small emergencies and minor injuries. Perfect size for use in vehicles. Kit is equipped with items such as burn ointment, bandages, scissors, etc.

Item Number	Description
5T516	Compact First Aid Kit



Emergency Burn Kit

Treats minor burns.

Item Number	Description
3T956	Emergency Burn Kit, 9 1/2" L x 2 5/8" H x 9 1/2" W



Bug Barrier II

Personal insect repellent.

Item Number	Description
BUG BARRIER 2	Personal Insect Repellent, 12 oz. can, 25% Deet



Dog Repellent

Personal protection from dog attacks. 1-1/2 oz. can with belt clip.

Item Number	Description
HALT	Dog Repellent



Wasp & Hornet Killer

Use indoors and outdoors on wasp and hornet nests.

Item Number	Description
3ZH55	Wasp & Hornet Killer 12 oz.



GLOVES & GEAR

Winter Monkey Grip™

Superior cold weather protection with a tough vinyl coating that resists abrasion, oil, acids and many chemicals. Non-woven lining keeps warmth in. Raised finish provides excellent grip, either wet or dry.

Item Number	Description
23-173	Men's Size, with Gravel
23-193	Men's Size, with Safety Cuff



Brown Jersey Glove

Item Number	Description
159	Brown Jersey Gloves



Leather Driver's Gloves

Premium grain leather driving gloves.

Item Number	Size	Description
6127M	Medium	Grain Leather Driver, Keystone Thumb, Shirred Wrist
6127L	Large	Grain Leather Driver, Keystone Thumb, Shirred Wrist
6127XXL	Extra Extra Large	Grain Leather Driver, Keystone Thumb, Shirred Wrist
6127XL	Extra Large	Grain Leather Driver, Keystone Thumb, Shirred Wrist



Flashlight

Heavy duty for hazardous environments.

Item Number	Description
2V545	Heavy Duty Flashlight



DETECTORS

Combustible Gas Detector

Item Number
HS80501

Features

- Detects dangerous levels of Methane and Propane gas
- Computerized calibration helps eliminate false alarms
- Built-in self-diagnostics assures the unit is operating properly
- Easily plugs into any standard 110-120v AC electrical outlet and samples the air every 2-1/2 minutes
- Powerful 85dB alarm



Carbon Monoxide, Propane and Methane Gas Detector

Item Number
HS80504

Features

- 3-in-1 detector
- Senses dangerous levels of Carbon Monoxide, Propane and Methane Gas
- Two independent 85dB alarm sounds, one for CO, the other for methane/liquid propane
- Built-in self-diagnostics assures the unit is operating properly
- Easily plugs into any standard 110-120v AC electrical outlet and samples the air every 2-1/2 minutes



Digital Multi Tester

The DM383 Digital Multi Tester offers one of the largest LCD displays you'll find! Unique boot has built-in probe holder and adjustable tilt stand.

Item Number	Description
TPIODMM133	Digital Multi Tester



Pocket Air Check

Detects Natural Gas, Methane, CNG Propane, Butane.

Item Number	Description
Pocket Detector	Pocket Air Check



Leak Detection Fluid & Accessories

Pin-points small and large leaks better than any other soap solution. Ready mixed for immediate use – to brush on, spray on, squirt on or swab on. Use handy dispenser products listed below for added application convenience on jobs and in the field.

Item Number	Description
1-LTWJ	Winton Low Temperature Leak Detection Fluid. One Gallon Bulk Size
1-PT-EMPTY	A One Pint Dispenser with Brush, Less Fluid
BTL 16OZ	Spray Bottle for Low Temp Leak Soap – 16 oz.



1-LTWJ



BTL 16OZ.



1-PT-EMPTY

Sensit TKX Combustible Gas Leak Detector

Value Rated Combustible Gas Leak Detector. High sensitivity allows immediate leak detection. Tick rate control to pinpoint leaks.

Item Number	Description
TKX7	Gas Leak Detector

CYLINDERS & EQUIPMENT



Portable/Steel LPG Cylinders

Portable cylinders, 4.25 lb. to 40 lb., with OPD valves for commercial, industrial, recreational and home applications. 60 lb. and 100 lb. cylinders also available for commercial use without OPD valves.

Item Number	Model	Description	Skid Qty
281149	A040145WC1	4-1/4# with Type 1 OPD Valve	125
281166	A110145WC1	11# with Type 1 OPD Valve	100
281247	A200145WC160	20# with Type 1 OPD Valve	60
30813	30813	20# with Type 1 OPD Valve with Site Gauge	60
302746	302746	20# with Type 1 OPD FlameSaver	60
281278	A300145WC1	30# with Type 1 OPD Valve	64
294235	A400146WC1	40# with Type 1 OPD Valve	48
294240	A430175WC1	43# with POL 510	32
282449	M600105WC5	60# with POL CGA 510 Valve	12
282157	J100101WC1J	100# cyl. with 10% Valve and Collar (Gray)	18
282170	J100103WC1J	100# LPG with Mult-Valve (White)	18
301661	301661	100# ASME w/Multi Vapor and Fill Valve and Lid	18
303504	303504	100# ASME Squat w/Multi-Valve, Site Gauge and Lid	10



281149



281166



281247



281278



294235

Caps and Plugs

Item Number	Description
033-288S	POL Plug with Strap
033-294	Dust Cover for OPD Valve



033-288S



033-294

CYLINDERS & EQUIPMENT

Forklift Cylinders

Durable and economical cylinders designed for use on forklift trucks. 20 lb., 33.5 lb. and 43.5 lb. available in steel and aluminum. Cylinders are equipped with universal float gauge, liquid service valve, safety relief valve, fixed liquid level gauge, vapor service (plugged), liquid fill port (plugged).



282077



282098

Item Number	Model	Description	Skid Qty
281976	E200135WC3	20# Steel Forklift Cylinder with Gauge/Fully-Fit	60
282077	E330145WC3	33.5# Steel Forklift Cylinder with Gauge/Fully-Fit	36
282098	E430145WC3	43.5# Steel Forklift Cylinder with Gauge/Fully-Fit	36
287454	C200156WC3	20# Aluminum Forklift Cylinder with Gauge/Fully-Fit	60
297297	C330154WC3	33.5# Aluminum Forklift Cylinder with Gauge/Fully-Fit	36
297317	C430154WC3	43.5# Aluminum Forklift Cylinder with Gauge/Fully-Fit	36
281989	—	20# Steel Buffer w/GA, SV, FLL, SC, FV, RD – Non-OPD	60
301372	—	20# Steel Buffer w/GA, SV, SC, RD – w/OPD	60
297340	—	20# Aluminum Buffer w/GA, SV, FLL, SC, FV, RD – Non-OPD	60
281831	—	20# Aluminum Buffer w/GA, SV, SC, RD – w/OPD	60

Equipped with Fixed Liquid Level (10% valve), Safety Relief Valve, Float Gauge, Quick Fill Valve and Liquid Service Valve with Safety Coupler attached.

200# & 420# DOT & ASME

Item Number	Model	Description	Skid Qty
282227	J200113WC5V	200# DOT LPG with Multi-Valve and Gauge (White)	16
282298	J420124WC5V	420# LPG with Service Valve, Safety Relief, 3/4" Fill-Valve, Gauge, Painted Powder-coat White	9
294590	L200133WC5V	200# ASME LPG with Service Valve, Safety Relief, 3/4" Fill-Valve, Gauge, Painted Powder-coat White	16
282371	L420140WC5V	420# ASME LPG with Service Valve, Safety Relief, 3/4" Fill-Valve, Gauge, Painted Powder-coat White	9



282371

Cylinder Dolly

Functionally designed for hauling 100 pound LP gas cylinders. The handles are set wide and angled outward, making it easy to push or pull. Heavy gauge square steel tube frame, two-ply pneumatic tires mounted on steel rims with roller bearings and a 1" diameter axle provides years of dependable service. Tires are removable for easy replacement. With cylinder securing chain. Wt. – 37.2 lbs.

Item Number	Description
CD-505	Cylinder Cart



CYLINDERS & EQUIPMENT

Ratchet Straps

Item Number	Hook Style	Load Capacity	Length
2W726	Flat	5000 lb.	27'
2W726S	Snap	5000 lb.	27'
2W726E	E-Track Fittings	5000 lb.	16'
M6402A RATCHET	Grab Hook	5000 lb.	15'

Note: Custom straps may be ordered – including D-Ring lifting straps



2W726



2W726S



2W726E



M6402

Lifting Straps

For loading/unloading tanks.

Item Number	Description
EEL-90316	3" x 16' Sling with 6' Cordura Sleeve (sold per pair)
20H2-901	Lifting Strap



EEL-90316



20H2-901

Cylinder Vise

For use with 4-1/4 lb.-100 lb. cylinders. Easily strap down cylinders for service with polyester ratchet strap.

Item Number	Description
BR CYLWISE	Cylinder Vise

NOTE: Shipped Direct.



BR CYLWISE

Valve Wrenches

Easily remove cylinder valves with these economical wrenches and vise.

Item Number	Description
20-1	Plug
20-2	Wrench



20-1



20-2

Methanol

Used to eliminate moisture in LP-Gas systems.

Item Number	Description
55 METH	55 Gallon Drum Methanol

NOTE: Must be shipped truck freight, hazardous material.



Methanol Injector

Gravity feed methanol injector with T-handle for easy to use, inexpensive manual operation.

Item Number	Description
MI-1	1 Qt. Methanol Gravity Feed Injector



Automatic Additive Injection System

Our easy, emission-free, automatic additive injector helps you add products such as methanol, Pro2000, Vapo-Kleen or CGX4 into your system. Our injector is made with quality products such as:

- Hydra-Cell additive pump with a 1 HP explosion-proof motor capable of up to 3 gpm
- GPI G2 Digital flow meter powered with lithium batteries for service up to 9,000 hours
- Hydra-Cell C46 pressure regulating valve
- Explosion-proof start/stop switch
- 6' pump inlet and bypass hose
- 10' pump outlet hose
- Liquid-filled pressure gauges

Item Number	Description
AAIS*	Injection System



CYLINDERS & EQUIPMENT

OPD Cylinder Wrench

Two-piece design allows you to remove and install gas valves quickly without damaging the base of the valve.

Item Number	Description
TW-3	OPD Valve Wrench



Cylinder Valve Wrenches

Wrenches designed to remove and install standard cylinder valves easily and economically.

Item Number	Description
500115	Standard Cylinder - 1-5/16" Opening
500116	Lift Truck Cylinder - 1-1/8" Opening
500117	M.POL Cylinder Valve Wrench
500137	M.POL Nut for 500117
500137P	Pin for POL Nut



500116



500137



500137P

Cylinder Caps and Collars

Protective collars and caps for 60# and 100# cylinders used to protect shut-off valves.

Item Number	Description
MSC5	3-1/2"-11 Cylinder Cap
MSC6	3-1/8"-11 Cylinder Cap
312C	3-1/2"-11 Cylinder Collar
318	3-1/8"-11 Cylinder Collar



MSC5



312C

Fisher Cylinder Filling Control

Fisher Type N201 automatic cylinder filling valve provides an accurate and economical means of filling cylinders. 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 top of the Type N201 each time a cylinder is filled to the desired weight. Operated by air pressure, it is designed for beam type scales and requires no electrical or mechanical power.

Item Number	Inlet	Outlet	Scale Type	Capacity
N201	1/2" F. NTP	1/2" F. NPT (2)	Beam	112 lb/minute at 30# differential

NOTE: Rebuilt units available. Call for details.



CYLINDERS & EQUIPMENT

Steel Stamp Set

Heavy duty set of numbers (0-9 with six doubling as a nine) plus the letters A-Z. Used to stamp cylinders on dome that pass requalification by the external inspection method, where the retest date must be stamped with the letter "E" following the month and year. Example – 11 02 E

Item Number	Description
0-9	Stamp Set Kit Includes Numbers 0-9 and Letters A-Z



Cylinder Dip Tube Repair Kit

The easy, fast method to get gas cylinders back in service with the screw-in dip tube repair kit for either steel or aluminum cylinders.

Kit Features

- Dip tubes - (4) LT 33 tubes and (2) LT 43 tubes
- 11/16" - 18 tap
- 5/8" drill bit for aluminum cylinders
- 41/64" drill bit for steel cylinders
- Laco seal/teflon paste
- Guide fixture for drilling out and removing old tube
- Wrench

Item Number	Description
CDTRK	Cylinder Dip Tube Repair Kit
#33	Repair Dip Tube 33"
#43	Repair Dip Tube 43"



#33



#43

Pit Gauge

Measure the depth of corrosion on cylinders when recertifying.

Item Number	Description
PG1	Pit Gauge



PG1

Sparkproof Hammer

For use with 0-9 stamp kit when recertifying cylinders.

Item Number	Description
Model D	Sparkproof Hammer



Model D

Scales

Item Number	Description
1124	Single Beam Scale



Cylinder Exchange Cabinets

Ruggedly constructed cabinets meet OSHA and NFPA No. 58 standards. All cabinets include locking handles with key. Accommodate 20 lb. cylinders used for gas grill cylinder exchange programs. Five sizes are available from 8 to 24 cylinder storage capacity.

Construction

- Frame 1-1/2" angle
- Shelves 1" angle
- Roof 16-gauge steel
- Doors and side 1/2" 16-gauge expanded metal
- Door frame 1" x 2"
- All-steel welded construction
- Set up, ready to use
- Lockable "T" handle latch and place to padlock

Features

- Place for three safety placards
- Heavy-duty tubular hinge, welded to frame and door
- Stores 8, 12, 16, 18, 24, or 36 20# cylinders
- 24 and 36 cylinder cabinets have double doors
- Can be fastened to floor
- Primed and painted, your choice of color with acrylic paint

Motor Fuel Cylinder Cabinets

Accommodate 20, 30 or 43 lb. cylinders used for motor fuel service. Six sizes are available from 4 to 24 cylinder storage capacity.

Construction

- Frame 1-1/2" angle
- Shelves 1" angle
- Roof 16-gauge steel
- Painted with safety yellow rust inhibitor
- Doors and sidewalls covered with 16-gauge expanded metal
- All-steel welded construction

Features

- Three safety decals
- Tapered shelf front
- Heavy-duty tubular hinge, welded to frame and door
- Lockable "T" handle latch and place to padlock
- 16 and 24 cylinder cabinets have two doors
- Stores motor fuel cylinders
- Meets all safety requirements
- Set up and ready to use



IPS-M-6

Item Number	Service	Number of Cylinders	Approximate Ship. Weight Lbs.	Dimensions		
				Deep	Wide	High
IPS-X-8	20# Cylinder Storage	8	225	27"	30"	50"
IPS-X-12	20# Cylinder Storage	12	250	27"	43"	50"
IPS-X-16	20# Cylinder Storage	16	300	27"	60"	50"
IPS-X-18	20# Cylinder Storage	18	310	27"	43"	72"
IPS-X-24	20# Cylinder Storage	24	400	27"	60"	72"
IPS-X-24-L	20# Cylinder Storage	24 (Low Profile)	400	27"	85"	50"
IPS-X-36	20# Cylinder Storage	36	450	39"	60"	72"
IPS-M-4	33# Cylinder Storage	4	140	37"	30"	40"
IPS-M-6	33# Cylinder Storage	6	225	37"	30"	55"
IPS-M-8	33# Cylinder Storage	8	260	37"	30"	70"
IPS-M-12	33# Cylinder Storage	12	320	37"	43"	70"
IPS-M-16	33# Cylinder Storage	16	420	37"	60"	70"
IPS-M-24	33# Cylinder Storage	24	500	37"	85"	70"

BLUE MOON® FILTERS

Blue Moon® Filters

Blue Moon® offers an affordable multi-stage filter/coalescer/trap that exceeds the requirements of excellence in filtration needed to protect today's fuel injectors and precision components, vital to the safe efficient vehicle operation of alternative fuel systems. This multi-patented process ensures the removal of damaging aerosol contamination as small as 0.3 to 0.6 micron with an efficiency of 99.5%.

Item Number	Description
FST-634	Premium Vessel, 1 inch In/Out port size, 35 GPM flow rate, Vertical Use, Hydrostatic Relief Valve, 1/4" bottom & top vent & drain ports
FST-RF6NS	Replaceable Filter for FST-634 (life span: approx. 250,000 gallons)



Item Number	Description
FST-418*	Single Manifold, 3 inch In/Out port size, 85 GPM flow rate, Vertical Use, Hydrostatic Relief Valve, 1/4" drain & vent ports
FST-RF8	Replaceable Filter for FST-418 (life span: approx. 500,000-800,000 gallons)



Item Number	Description
FST-124NS	2" Manifold with replaceable filter



Item Number	Description
FST-42NS*	4-stage filtration, 3/8" manifold with replaceable filter



Item Number	Description
FST-26	Premium 4-stage Filtration, 3/8 inch In/Out port size, 15 GPM, Vertical or Horizontal Use, Throw away model, (life span: approx. 1000 gallons)



Item Number	Description
FST-63	Premium 4-stage Filtration, 1 inch In/Out port size, 35 GPM, Vertical or Horizontal Use, Throw away model, (life span: approx. 150,000 gallons)





Underground Tank



Above Ground Tank



Features & Benefits

Tanks - General	
All Tanks Made in the USA	USA Made Steel
All RegO® Valves	Preferred valve in the industry
Squibb Taylor Gauges	Remote Ready dials standard
All Tanks Vacuum Purged	Standard Industry Feature
Quality Assurance – welding process	99.997% defect free
Quality Assurance – threads	99.998% defect free
X-Ray	Long Seam on all tanks & head weld per ASME code. Long Seam to 2T view
Paint	Epoxy primer with urethane top coat
Domes	Primed with e-kote system (auto industry). Top coat Sherwin Williams Polane
Tanks – AG	
Warranty – AG	5-year written including paint
Standardized Leg Spacing @ 60" with one piece design	Easier to set and easier leveling
Tanks – AG/UG	
Warranty – AG/UG	5-year AG application; 1-year UG
Dome	Heaviest in industry. Easy access from top.
Paint	Epoxy primer with urethane top coat or Epoxy primer w/ready to bury coating
Tanks – UG	
Warranty – UG	1-year
Dome	Poly Dome is largest in industry providing for easier access by service personnel
Valves	RegO brass multi valve – eliminates rust
Lifting Lugs	Double lift lugs for easier transporting
Quick Connect Bolt System	Easy anode attachment
Standpipe	Flange free, welded

TANKS

Tank Specifications

Tank Size - Gallons	Dimensions	Approx Weight	Shell Thickness	Head Thickness	Leg Width	Shell Width	Leg Distance from Edge of Shell	Leg Distance from Center to Center
120	24x67	260	0.140	0.138	2.5	50	6.5	34.5
150	24x82	380	0.140	0.138	2.5	67	2.75	59
250	30x92	480	0.175	0.148	2.5	64	1.75	60
320	30x114	620	0.175	0.148	2.5	87	6	60
475	37x113	920	0.218	0.184	3	75	4	60
500	37x120	940	0.218	0.184	3	81	4	60
1000	41x190	1800	0.238	0.201	3	149	4	138

All dimensions are in inches
These calculations are theoretical and may vary by (+/-) .50"

Dome Specs

Height from Top of Tank to Dome Top

AG	7.5
AG/UG	10.75
AG/UG Long	14.75
UG (SNR)	14.75
UG (LNR)	26.75

Propane Tank Lifting Jack

The Tank-Jak is designed to provide a portable means of lifting propane tanks for leveling, painting, resetting, etc. Sturdy construction and adjustable leveling chains allow it to be used on most 500 or 1,000 gallon tanks. The rounded foot allows the jack base to rotate slightly on the ground or support as the tank rotates upon raising. The two pads on the jack extension contact the tank surface to make the lift while the chains keep it in position.

Item Number	Lifting Capacity	Jack Travel	Weight (Net)	Shipping Weight	Shipping Dimensions
Tank-Jak	3,000 lbs.	13"	42 lbs.	49 lbs.	24 x 24 x 14"



T.J. Sidewind Repair Kit

- Consists of 2 gears, 2 pins, 1 handle

IPS Bi-Pod Tank Jack

Level 120-1000 gallon tanks economically and easily! Legs retract for easy storage. Lifting apparatus sold separately.

Item Number	Description
Bi-Pod	Tank Leveling Jack



ProDomeSeal

The ProDomeSeal is an inexpensive, easy to install (10 seconds or less) solution that fits most propane tank lids with an opening of 3" wide x 4" high. The ProDomeSeal is proudly made in the U.S.A. from a flexible PVC rubber that is UV resistant for long life.

Item Number	Description
PDS-105	Prodome Seal



DECALS, SIGNS & PLACARDS

FLAMMABLE GAS

10-V-24BB 3"
(4" x 22")
(Vinyl)

NO SMOKING

11-V-23BB 3"
11-V-23B 4"
11-V-23A 6"
(Vinyl)



08-NFPA-704-1
(100' visibility)
Hazardous Diamond
(7½" x 7½")

08-NFPA-704-3
(300' visibility)
Hazardous Diamond
(15" x 15")

FLAMMABLE GAS

10-V-17B 4" (6" x 24")
04-V-17A 6" (8" x 30")
(Vinyl)

LIQUEFIED PETROLEUM GAS

04-V-302C 2" (3" x 24")
04-V-302BB 3" (4" x 26")
(Vinyl)



D59G (12" x 30")
(Poly)

**NO SMOKING
SHUT OFF MOTOR
WHILE FUELING**

15-V-26A
12" x 18"
(Vinyl)



04-V-58
(Vinyl)

PROPANE GAS

04-V-288BB* 3" (4" x 22")
(Vinyl)



05-C-86
Custom Visual
Re-Inspection Decal



5-C87*
Multiple Visual
Re-inspection Decal

PROPANE

11-V-28C 2" (3" x 12")
05-V-28BB 3" (4" x 14")
11-V-28B 4" (5" x 18")
11-V-28A 6" (6¾" x 27¼")
(Vinyl)



10-V-123
(Vinyl)



10-V-121
(Vinyl)



10-V-122
(Vinyl)



BL108
(4" x 12")

DECALS, SIGNS & PLACARDS

WT. OF WATER	WT. OF PROPANE	WT. OF WATER	WT. OF PROPANE
2.50	1	50.0	1.0
4.75	2	50.0	1.0
7.17	3	50.0	1.0
9.69	4	50.0	1.0
12.3	5	50.0	1.0
14.9	6	50.0	1.0
17.7	7	50.0	1.0
20.5	8	50.0	1.0
23.4	9	50.0	1.0
26.3	10	50.0	1.0
29.3	11	50.0	1.0
32.3	12	50.0	1.0
35.4	13	50.0	1.0
38.4	14	50.0	1.0
41.5	15	50.0	1.0
44.6	16	50.0	1.0
47.7	17	50.0	1.0
50.8	18	50.0	1.0
53.9	19	50.0	1.0
57.0	20	50.0	1.0
60.1	21	50.0	1.0
63.2	22	50.0	1.0
66.3	23	50.0	1.0
69.4	24	50.0	1.0
72.5	25	50.0	1.0
75.6	26	50.0	1.0
78.7	27	50.0	1.0
81.8	28	50.0	1.0
84.9	29	50.0	1.0
88.0	30	50.0	1.0
91.1	31	50.0	1.0
94.2	32	50.0	1.0
97.3	33	50.0	1.0
100.4	34	50.0	1.0
103.5	35	50.0	1.0
106.6	36	50.0	1.0
109.7	37	50.0	1.0
112.8	38	50.0	1.0
115.9	39	50.0	1.0
119.0	40	50.0	1.0
122.1	41	50.0	1.0
125.2	42	50.0	1.0
128.3	43	50.0	1.0
131.4	44	50.0	1.0
134.5	45	50.0	1.0
137.6	46	50.0	1.0
140.7	47	50.0	1.0
143.8	48	50.0	1.0
146.9	49	50.0	1.0
150.0	50	50.0	1.0

09-P-101
(12 1/4" x 12")
(Poly)



09-V-26B
12"x18" (Vinyl)
09-M-26B
12"x18" (Metal)



09-V-39B
12"x18" (Vinyl)



04-P-102
(12" x 12 1/4")
(Poly)



11-P-111
16" x 20"
(Poly)

Year	Model	APR	APR	APR	APR
2008	2008	100	100	100	100
2007	2007	100	100	100	100
2006	2006	100	100	100	100
2005	2005	100	100	100	100
2004	2004	100	100	100	100
2003	2003	100	100	100	100
2002	2002	100	100	100	100
2001	2001	100	100	100	100
2000	2000	100	100	100	100
1999	1999	100	100	100	100
1998	1998	100	100	100	100
1997	1997	100	100	100	100
1996	1996	100	100	100	100
1995	1995	100	100	100	100
1994	1994	100	100	100	100
1993	1993	100	100	100	100
1992	1992	100	100	100	100
1991	1991	100	100	100	100
1990	1990	100	100	100	100
1989	1989	100	100	100	100
1988	1988	100	100	100	100
1987	1987	100	100	100	100
1986	1986	100	100	100	100
1985	1985	100	100	100	100
1984	1984	100	100	100	100
1983	1983	100	100	100	100
1982	1982	100	100	100	100
1981	1981	100	100	100	100
1980	1980	100	100	100	100

11-P-114
18" x 24"
(Poly)



PS-030
12" x 18"
(Poly)



14-M-97AD
Double Sided Station Sign
2' x 4'



14-M-97-A*
Single Sided Station Sign
2' x 4'



14-V-14
12" x 16"
(Vinyl)



Stand is separate.
14-M-97FR



11A-P201
(Poly)

DECALS, SIGNS & PLACARDS



17-P-81 (Poly)
17-V-81 (Vinyl)
12" x 10" Pull to close



11-P-82 (Poly)
17-V-82 (Vinyl)
12" x 10" Push to close



08-V-56R
3 3/8" x 10"
(Vinyl)



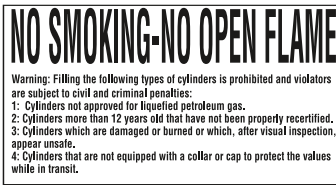
13-V-44R
4.75" x 6.75" (Vinyl)
*Customized Label
Minimum Order 500 Pieces



17-V-90-5
1" Liquid Vinyl



17-V-91-5
1" Vapor Vinyl



MI-P-CYL (Poly)
MI-V-CYL (Vinyl)



11-V-128
3 3/4" x 4"
(Vinyl)



13-HZ-116
2 1/2" x 5"



IPSMFCYLTAG
Defective LP
Gas Forklift Tag



08-SP-53R
4" x 9"



OPD-1



UN1075*
(Minimum order
2000 pieces)



12-CS-33



18-AA-16



AA16
(500 per roll)

DECALS, SIGNS & PLACARDS



13-V-1075 (Vinyl)
13-P-1075 (Poly)
07-S-1075 (Reflective)



12-MPH-69
Placard Holder



126FO
Flip Placard



1075PSS
Placard System



06-P-83
Snipping Paper
One Truckload
(7" x 8½")



06-P-83CYL
Shipping Paper
Cylinder Trucks



06-P-83TANK
Shipping Papers
One Tank



10-V-45
10" x 10"
(1" x 3" each)



05-V-66



05-V-65



S-5498
Job ticket holder
8½" x 11"



10-V-92
Bulk Truck



05-V-31 Annual Inspection



05-V-32 5-year Inspection



15-S-500
3" x 4½"
(Vinyl)



09-S-22B
4" x 36"
(Reflective)



Klinger produces durable and economical paint is ideal for cylinders and storage tanks.

Tank Enamels

A good coating formulated to have excellent gloss, color retention and durability for an economical price.

Item Number	Description
11017	Bright White
11017 MR*	Bright White Mildew Resistant
Black	Black Tank
Dark Blue	Dark Blue
#31 GRAY	Gray Tank
18300	Green Tank
Coast Green	Coast Green
18303	Forrest Green
18202	Orange Tank
18200	Red Tank
11709	Light Tan Tank
#2 TAN	Tan
18201	Yellow Tank
18700	Dark Brown
Arcadian Blue	Arcadian Blue
Arcadian Blue MR	Arcadian Blue Mildew Resistant
Intense Blue	Intense Blue

Some paints offered in 55 gallon agitator drum. Color charts available.



**Bright White
Mildew Resistant**



11017



18200



Industrial Tank Primer

Good corrosion protection, may be brushed, rolled or sprayed.

Item Number	Description
12520	Light Gray Primer (Slow Dry)
14022	Light Gray Primer (Fast Dry)



Silicone Enamels

An excellent paint designed to maintain its gloss 50-100% longer than conventional tank enamels. Mildew resistant.

Item Number	Description
62017	White Silicone
62502	Light Gray Silicone



Aluminum Enamels

Designed to reflect sunlight, aluminum coatings offer good protection for storage tanks.

Item Number	Description
130	Aluminum

Underground Tank Coatings

Item Number	Description
MS	MS Urethane Tar
BA	Black Asphaltum

High Performance Enamels

Item Number	Description
Quora	White Enamel
Quora	Gray Enamel

PAINT & ACCESSORIES

Supplies

Item Number	Description
Penetrol*	(1 gallon only)
Rustroyer*	Rust conversion coating
Mineral Spirits*	(1 gallon or 5 gallon)
Rust Arrestor*	(Penetrol equivalent)
9" Roller Frame	9" Roller Frame
R-205	9" PRO Roller Cover 3/8" Nap (Silicone)
R-049	4ft Wooden Extension Handle
1642	Wire Brush w/ Scraper
1" Brush*	Short Handle Throw Away 1" Brush
1-1/2" Brush*	Short Handle Throw Away 1-1/2" Brush
2" Brush*	Short Handle Throw Away 2" Brush
2-1/2" Brush*	Short Handle Throw Away 2-1/2" Brush
3" Brush*	Short Handle Throw Away 3" Brush
LH2PB	Long Handle 2" Paint Brush
Bucket Bonnet	Bucket Bonnet (5-gallon pail)
5 GALLON PAIL	Empty 5-gallon Pail w/ Lid
R-001*	Bucket Roller Grid



Penetrol



Rustroyer



Rust Arrestor



Roller Frame



R-205



R-001

Approximate Coverage

Tank Size, Gallons	Square Feet	Gallons Required*
30,000	2,000	8
18,000	1,250	6
12,000	1,150	5
1,000	225	1
500	115	2 Tanks/Gal
250	60	4 Tanks/Gal

* For maximum durability – two coats each of primer and topcoat recommended at 1.2 mil thickness per coat.

VAPOR COMPRESSORS

Krug Vapor Compressors

For efficient transfer of butane, propane or anhydrous ammonia. Capacities from 18 to 50 GPM.

Compressor Specifications:

- Two-Cylinder
- 10.7 cubic in. Displacement
- 1.811 in. Stroke
- 1.875 in. Bore
- 5/8 Pint Oil (SAE 40 nondetergent)
- 1/2" Pipe Swivel (suction)
- 1/2" Pipe Swivel (discharge)
- Preset Rotation @ 1000 RPM

General Specifications:

- 9" x 18" x 11 Gauge Steel Base
- Expanded Metal Belt Guard
- 38" A/B Vee Belt Drive
- Carrying Handle
- 70 lb. Shipping Weight

Engine Specifications:

- 4 HP Overhead Valve
- Shaft Lauson Engine
- Spark Arresting Muffler
- Shielded Electronic Ignition
- On/Off Switch
- Rotation Preset @ 2800 RPM



H50GH



H50LPH

Item Number	Description
H50GH	Gasoline Fueled Engine
H50LPH	Propane Fueled Engine

Compressor Parts

Item Number	Description
16771	Bare Compressor Only
3X927	8" Vee Pulley
4L-390	Vee Belt
6X-072*	Direct Drive Coupling (2 required)
1X-407*	Direct Drive Spider
488-21138*	Compressor Shaft Seal Kit
488-16319*	Compressor Valve Plate Assembly
488-16317*	Compressor Gasket Kit
388-16351*	Compressor Connecting Rod Kit (2 required)
K-COMP-HK*	Hose Kit (See accompanying chart for components)



16771



3X927



4L-390

Compressor Hose Kit

Item Number	Quantity	Description - Liquid Line
7132-.75 x 15'	1 (15')	3/4" LP Hose
7572C-14A	1	Chek-Lok® Adapter
7550P	1	3/4" Valve
3125L	1	1/4" Hyd. Relief
7705P	1	3/4" Globe Valve
3175	2	Hose Coupling
5765D	1	Acme Adapter
FS.75-COUP	1	3/4" FS Coupling
5776	1	Acme Adapter

Compressor Hose Kit

Item Number	Quantity	Description - Vapor Line
7132-.50 x 10'	2 (10')	1/2" LP Hose
FS.50-COUP	2	1/2" FS Coupling
3171A	2	Hose Coupling
3175	1	Hose Coupling
5763D	1	Acme Adapter
FS.75-COUP	1	3/4" FS Coupling
7590U-10	1	Chek-Lok® Adapter

Krug Vapor Compressors

How It Works

The suction side of the compressor draws vapor from the applicator tank into the discharge side of the compressor. This causes a pressure drop in the applicator tank. A pressure drop of 5 to 10 PSI will cause liquid to flow from the field nurse tank into the applicator tank. Care should be taken that the applicator tank is not overfilled, as this could cause oil to flow from the compressor crankcase.



Cross-Section

HAND PUMPS



Krug Piston-Type Hand Pump

Can be used for filling engine fuel tanks, 20 lb. to 100 lb. cylinders, camping and trailer cylinders, flame throwers or farm outbuilding heater tanks. It's easy to connect, easy to operate and economical. Built to last.

Specifications:

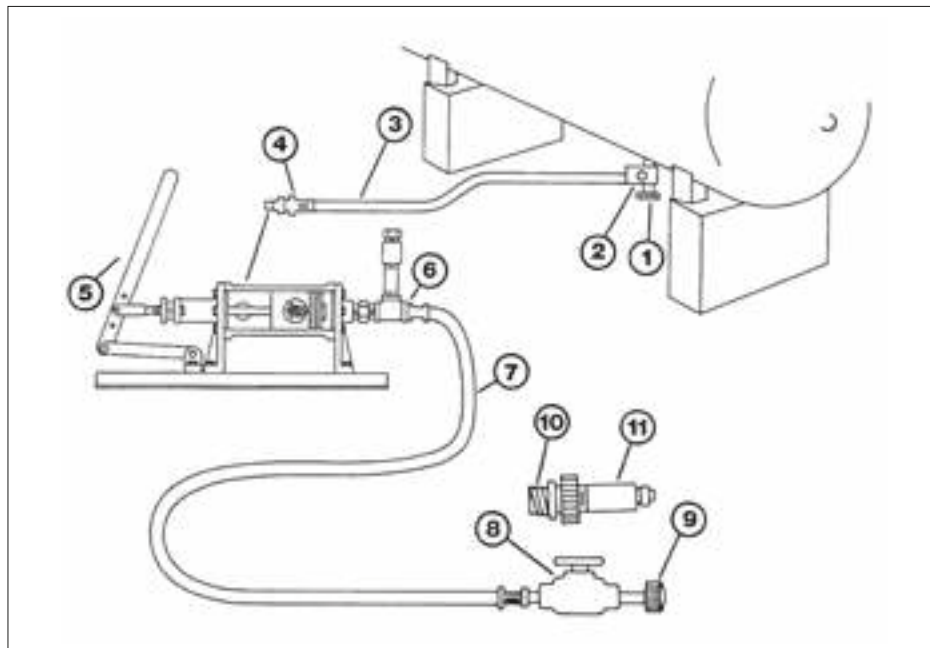
- 1" inlet; 3/4" outlet
- Base" 8 x 24 x 3/16" steel plate
- 9" long cylinder, cast alloy
- 4.50" stroke x 3.125 bore – over 34 cu. in. per stroke
- (2) automotive-type 1/8 x 3-1/8" compression rings
- Capacity of 6 GPM at 40 strokes per minute
- High carbon polished steel connecting rod
- Popet style valve in piston
- High pressure check valve
- 5/16" special "V" packing, (7) rings within gland
- Handle length of 2 feet, with 2 foot extension
- Weighs approximately 54 lbs.
- Shipping weight approximately 62 lbs.



Item Number	Description
KRUG-HP	Krug Hand Pump

Hand Pump Components

Item Number	Dwg. Ref. #	Description
7550PX	1	Transfer Valve w/Excess Flow
3125L	2	Relief
7132-.75 x 15'	3	15' of 3/4" L.P. Hose w/3/4" Ends
FS1X.75B	4	1 x 3/4" Reducing Bushing
KRUG-HP	5	Krug Hand Pump
FS.75X.50B	6	3/4 x 1/2" Reducing Bushing
7132-.50x18'	7	18' of 1/2" L.P. Hose w/1/2" Ends
7704P	8	1/2" Globe Valve
3175B	9	Hose Coupling Adapter
5764A	10	Adapter
7193D-10	11	POL Fill Adapter



Direct Fired LPG Vaporizer

Vaporization Type:	Direct Fired / Feed-out							
Electrical Data:	None Required							
Model Number:	40/40	80/40	120/60	160H	320H	480H	640H	800H
¹ Design Pressure	290 PSIG / 20.0 Barg							
Relief Valve Set Point	250 PSIG / 17.2 Barg							
Hydrostatic Pressure	435 PSIG / 29.9 Barg							
Vaporizer Approvals:								
ASME, UL (US and Canada)	●	●	●	●	●	●	●	●
CE, PED (DNV)	●	●	●					
Liquid Inlet (FNPT)	¾"	¾"	¾"	¾"	2"	2"	2"	2"
Vapor Outlet (FNPT)	1"	1"	1"	1"	2"	2"	2"	2"
Vaporization Capacity:								
Kg/h	80	160	240	320	640	960	1280	1535
(Nominal) ² US Gal/h	40	80	120	160	320	480	640	800
MMBTU/h	3.6	7.2	10.9	14.6	29.1	43.7	58.2	72.8
Burner Input:								
(,000) Kcal/h	13.0	25.9	38.8	45.4	90.8	136.2	181.6	227.6
(,000) BTU/h	51.3	102.7	154.1	180.0	360.0	540.0	720.0	900.0
Burner Ignition:	9vdc Re-ignitor standard on all units							
Shipping Weight:	170 lbs 78 kg	250 lbs 113 kg	275 lbs 125 kg	450 lbs 205 kg	1050 lbs 477 kg	1490 lbs 676 kg	1910 lbs 867 kg	2360 lbs 1071 kg
Shipping Dimensions:								
Length	21" 534 mm	21" 534 mm	21" 534 mm	36" 915 mm	43" 1092 mm	43" 1092 mm	86" 2184 mm	43" 1092 mm
Width	22" 559 mm	35" 889 mm	35" 889 mm	36" 915 mm	48" 1219 mm	68" 1727 mm	39" 991 mm	108" 2743 mm
Height	42" 1067 mm	42" 1067 mm	52" 1321 mm	69" 1752 mm	72" 1829 mm	72" 1827 mm	72" 1829 mm	76" 1931 mm



Optional Accessories:

- Economy Operation Kit
- Filtaire for Heavy Ends
- Relief Valve "Pipe Away" Adapter
- Auto Ignition Kit-110VAC

¹ Max Allowable Working Pressure (MAWP)

² Vaporizer capacity shown as nominal. Actual capacity is affected by LPG composition and pressure.

Second Sun Tank Heater

Vaporization Type	No Flame (Catalytic Heater)	
¹Start-up Electrical	12 VDC (Only for Start-up)	
²Operating Electrical	Self-generated	
Electrical Class	Hazardous Locations (Zone 1)	
Environmental Range	-40° F to 120° F (-40° C to 49° C)	
Fuel Type	Propane, Butane or Any LPG Blend	
Inlet Fuel Connection	¼" NPT	
Max. Inlet Pressure	Regulated: 10 – 11" wc; (254 – 279mm H2O) Unregulated: 10 – 250 PSIG; (0.7 – 17.2 barg)	
On/Off Activation <i>Factory Settings</i>	Via Tank Pressure (Adjustable Set Point) ON @ <70 PSIG (4.82 barg) OFF @ >80 PSIG (5.51 barg)	
	MODEL SS-30	MODEL SS-10
Heat Input	30,000 BTU/h (7560 kcal/h)	10,000 BTU/h (2520 kcal/h)
³Added Vaporization to Tank	2.2MMBTU/h @ -20°F (550,000 kcal/h @ -28°C)	0.5MMBTU/h @ -20°F (126,000 kcal/h @ -28°C)
Mounts To	1,000–12,000 US Gal. Tanks (3,785-45,425 liters)	500–3,900 US Gal. Tanks (946–14,742 liters)
Tank Diameters	41" – 84" (1,041 – 2,134mm)	37" – 41" (940 – 1,041mm)
Unit Weight	155 lbs. (70 kg)	65 lbs. (30 kg)
Unit Dimensions	65" L x 18.5" W x 9" H (1,651mm L x 470mm W x 227mm H)	25" L x 18.5" W x 9" H (635mm L x 470mm W x 228mm H)
Shipping Weight	175 lbs. (75 kg)	70 lbs. (32 kg)
Shipping Dimensions	76" L x 26" W x 19" H (1,931mm L x 661mm W x 483mm H)	32" L x 23" W x 20" H (839mm L x 585mm W x 381mm H)

Safety Monitoring (Per NFPA 58)

Tank Pressure: >160 PSIG (11.03 barg)	OFF — Manual Restart Required
Tank Surface Temperature (2): >125° F (51.7° C)	Upper Sensor: Reverts to Standby Mode Lower Sensor: OFF — Manual Restart Required
Below Minimum Pilot Temperature:	OFF — Manual Restart Required

¹ Use vehicle battery and "jumper cables"

² Thermoelectric device creates voltage based on ΔT

³ Second Sun **adds** vaporization capability to the ambient vaporization capability of the tank itself. **Total vaporization** becomes the sum of the "natural" + "added" vaporization.



VAPORIZERS

Zimmer Electric LPG Vaporizer



VAPORIZERS

Vaporizer Type/Model*	Indirect Dry-Electric Feed Out					
	Model	Z25	Z40	Z50	Z100	Z150
Hazardous Area Classification	Class I, Division 1, Group D, T3; Ex d IIA T3 Gb					
Approvals	UL/ULc, CE (ATEX & IECEx), PED (SEP)					
Vaporization Capacity**	Kg/hr	25	40	50	100	150
	US Gal/hr	12.5	20	25	50	75
	MMBTU/hr	1.1	1.8	2.2	4.5	6.8
Liquid Inlet Connection	1/2" FNPT		1/2" FNPT		3/4" FNPT	
Vapor Outlet Connection	1/2" FNPT		1/2" FNPT		3/4" FNPT	
Design Pressure (MAWP)	250 psig - 17.2 barg					
Relief Valve Set Point	250 psig - 17.2 barg					
Hydrostatic Test Pressure	375 psig - 25.9 barg					
Unit Dimensions	26.7" L x 9.5" H x 8.3" W			67.2" L x 9.5" H x 8.3" W		
	677 mm L x 241 mm H x 210 mm W			1706 mm L x 241 mm H x 210 mm W		
Shipping Dimensions	34" L x 11" H x 14" W			75" L x 11" H x 14" W		
	863 mm L x 280 mm H x 356 mm W			1905 mm L x 280 mm H x 356 mm W		
Shipping Weight	55 lb / 25 Kg			145 lb / 66 Kg		
Optional Accessories	Tank Mount Kit; Tank Mount Piping Kit; Wall Mount Kit; Strainer and Piping Kit for Wall Mount; Regulator/Gauge for Wall Mount; Drain Valve Kit			Floor Mount Kit; Wall Mount Kit; Strainer and Piping Kit; Regulator/Gauge Kit; Drain Valve Kit		

* Not all sizes available in all markets **Capacity rating may vary with ambient conditions

Torrex LPG Electric Vaporizer

Torrex™ Specifications

Vaporization Type	Indirect dry electric															
	MODEL		TX25		TX50		TX100		TX160		TX240		TX320			
Electrical Data	VOLTAGE	PHASE	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS	KW	AMPS		
	Electrical Data	120	1	3.9	32.4	5.8	28.1	11.7	56.2	16.2	45					
208		1	2.9	14.1	16.2											17.1
		3	3.3	14.9	6.5	29.7	13.1	59.5	34.3	47.6						
3																
220		1	3.9	16.2	7.8	32.4	13	54.1	21.5	51.9						
		3														
240		1	3.9	16.2	7.8	18.7	15.5	37.4	21.5	51.9						
3																
380		3	7.2	10.4	14.4	20.8	28.9	27.8	40.1	36.6	52.8					
400		3														
415		3	7.8	10.8	15.5	21.6	21.5	30	29.9	41.6	39.3					54.8
440		3														
440		3	15.5	18.7	21.5	26	29.9	36	39.4	47.4						
480		3														
575	3	39.2	39.4													
Electrical Class	Hazardous Area Classification — Class I, Division 1, Group D / ATEX Zone 1, EEx d IIB T3 94/9EC															
Vaporizer Approvals	FM (U.S. and Canada), NEMKO, CE, ¹ PED Marked, designed per ASME															
Liquid Inlet Connection	All vaporizers have a 3/4" FNPT threaded inlet connection															
Vapor Outlet Connection	All vaporizers have a 1" FNPT threaded outlet connection															
²Vaporization Capacity	TX25	TX50	TX100	TX160	TX240	TX320										
	Kg/h	25	50	100	160	240	320									
	US Gal/h	12.5	25	50	80	120	160									
	MMBTU/h	1.1	2.2	4.5	7.2	10.9	14.5									
Design Pressure	← 250 PSIG 17.2 Barg →															
Relief Valve Set Point	← 250 PSIG 17.2 Barg →															
Hydrostatic Test Pressure	← 375 PSIG 25.9 Barg →															
Shipping Weight	130 lbs	130 lbs	135 lbs	145 lbs	170 lbs	180 lbs										
	59 kg	59 kg	61 kg	66 kg	77 kg	82 kg										
Shipping Dimensions	— See Note B —															
	Height	54"	54"	54"	54"	66"	66"									
		1372 mm	1372 mm	1372 mm	1372 mm	1676 mm	1676 mm									
	Width	19"	19"	19"	19"	19"	19"	19"								
		483 mm	483 mm	483 mm	483 mm	483 mm	483 mm	483 mm								
Length	19"	19"	19"	19"	24"	24"										
	483 mm	483 mm	483 mm	483 mm	610 mm	610 mm										

Optional Economy Operation Valve:
Activates vaporizer based on tank pressure. Requires no electricity; easily field installed on TX25 – TX320.

¹ PED is per 'Module "H"
² Vaporization capacity shown is nominal. Actual is impacted by LPG composition and pressure.

Note A: Electrical Connection

FM version: 1" FNPT with 11 1/2" pitch threads
NEMKO version: Requires transition from 1" FNPT to M32 female threads

External Explosion Proof Box version: 1 1/4" FNPT

Note B: Hermetic Relay Version

TX240 and TX320 using an external Explosion Proof Box, add 6" (153mm) to W and 7" (178mm) to L dimensions. Add 100 lbs (46kg) to each unit.



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Guide to Blackmer Liquefied Gas Equipment

Product	Description / Application
LGF1 LGF1P LGB1 LGB1P	Motor speed pumps for cylinder filling, low volume motor fueling and small vaporizers. Capacities to 15 U.S. gpm(57 lpm).
LGRL(F)1.25 LGL(F)1.25 LGL(F)1.5 LGL156 LGL158	Motor speed pumps for multi-station cylinder filling, motor-fueling, low volume transfer and vaporizers.
LGLD2 LGLD3 LGLD4 LGLH2 LGL3021	Foot-mounted pumps for bulk plants, terminals, vaporizers, bobtails and transports. Capacities to 350 U.S. gpm (1,325 lpm).
TLGLF3 TLGLF4	Flange-mounted pumps for bobtails and transports. Capacities to 350 U.S. gpm (1,325 lpm).
LB081 LB161/LB162 LB361/LB362 LB601/LB602 LB942/LB943	Oil-free gas compressors for liquid transfer and vapor recovery. Capacities to 125 cfm (212 m ³ /h).
BV0.75 BV1 BV1.25 BV1.5 BV2	Bypass valves for in-line system protection. Capacities to 250 U.S. gpm (946 lpm).



LGF1/LGF1P

LGF1 & LGB1 Pumps Motor Speed Pumps for Cylinder Filling

Assembled Pump Units		Pump and Motor Speed rpm	Approximate Delivery of Propane at Differential Pressures and Pump Speeds Shown ¹				Maximum Differential Pressure		Maximum Working Pressure ³		Normal Time To Fill LP Gas Cylinders in Minutes		Standard Motor ²	Motor Size For Mounting on Standard Base ²		
Model	Factory Relief Valve Setting		50 PSI (3.45 Bar)		100 PSI (6.89 Bar)		psi	Bar	psi	Bar	20 lb. (9 kg) Cylinder	100 lb. (45 kg) Cylinder		hp	Minimum Frame Size	Maximum Frame Size
			gpm	L/min	gpm	L/min										
LGF1	105 psi (7.24 bar)	1,750	8.0	30.3	6.0	22.7	125	8.62	350	24.13	3/4	3	1	56C	184C ⁴	
LGF1P	120 psi (8.27 Bar)	1,750	13.0	49.2	10.0	37.9	125	8.62	350	24.13	1/2	2	1½	56C	184C ⁴	

1. Check the pump's delivery and brake horsepower requirements in the performance curves below. See footnote with the curves which explains the factors that can cause delivery to vary.
2. Motors may be specified from Electric Motor Price List No. 10-MTRG-01 (explosion-proof manual start switch for 1 & 1-1/2 horsepower single-phase motors also available).
3. Maximum rated working pressure is 350 psi (24.13 Bar) for LPG and NH₃ (limited by U.L. and N.F.P.A. 58).
4. Motor adaptors are available for NEMA C-face or IEC flanged-face motors. Pump flange will not accept 182TC/184TC frames.



LGRL1.25, LGL1.25 & LGL1.5 Pumps

Motor Speed Pumps for Motor Fueling and Multi-Cylinder Filling

Assembled Pump Units		Pump and Motor Speed rpm	Approximate Delivery of Propane at Differential Pressures and Pump Speeds Shown ¹				Maximum Differential Pressure		Maximum Working Pressure ²		Motor Size For Mounting on Standard Base ³	
Model	Factory Relief Valve Settings		50 psi (3.45 Bar)		100 psi (6.89 Bar)		psi	Bar	psi	Bar	Minimum Frame Size	Maximum Frame Size
			gpm	L/min	gpm	L/min						
LGRLF1.25	150 psi (10.34 Bar)	1,750	16.0	60.6	14.0	53.0	150	10.34	350	24.13	56C	215C ⁴
LGLF1.25	150 psi (10.34 Bar)	1,750	21.0	79.5	18.0	68.1	150	10.34	350	24.13	56C	215C ⁴
		1,150	13.0	49.2	10.0	37.9	150	10.34	350	24.13	56C	215C ⁴
LGLF1.5	150 psi (10.34 Bar)	1,750	33.0	124.9	29.0	109.8	150	10.34	350	24.13	56C	215C
		1,150	20.0	75.7	17.0	64.4	150	10.34	350	24.13	56C	215C

1. Check the pump's delivery and brake horsepower requirements in the performance curves. See footnote with the curves which explains the factors that can cause delivery to vary.
2. Maximum rated working pressure is 350 psi (24.13 Bar) for LPG and NH₃ (limited by U.L. and N.F.P.A. 58).
3. Motors may be specified from Electric Motor Price List No. 10-MTRG-01 (explosion-proof manual start switch for 1 & 1-1/2 horsepower single-phase motors also available).
4. Motor adaptors are available for NEMA C-face or IEC flanged-face motors. Pump flange will not accept 213TC/215TC frames.



LGL1.25/LGL1.5

LGL150 Series Motor Speed High Differential Pressure Pumps

Pump Model	Maximum Speed	GPM (L/min)	HP (kW)	Maximum Differential Pressure	Recommended Bypass Valve Setting	Relief Valve Setting	Maximum Working Pressure
LGL156	1,750	21 (79.5)	4.9 (3.6)	160 PSI (11.0 bar)	160 PSI (11.0 bar)	225 PSI (15.5 bar)	425 PSI (29.3 bar)
LGL158	1,750	32.3 (122)	6.5 (4.8)	200 PSI (13.8 bar)	200 PSI (13.8 bar)	225 PSI (15.5 bar)	425 PSI (29.3 bar)



LGL 150 Series with 4-bolt flange

Ebsray RC Series – Models RC20 & RC25

Regenerative Turbine Pump for LPG Applications

Pump Model	Flow Rate (at 3,500 rpm)		Differential Pressure (at 3,500 rpm)		Hydrostatic Test Pressure		Power		Pump Speed	Weight	
	gpm	L/min	psi	bar	psi	bar	HP	kW	rpm	lbs	kg
RC20	15.9	60	200	14	1,015	70	3.2	2.4	3,500	43	19.5
RC25	27.7	150	200	14	1,015	70	4.8	3.6	3,500	43	19.5

Porting:

Inlet: NPT 1" 90° and/or 180°
 Discharge: NPT 1" 90° and/or 180°



Model RC25



LGLD2, LGLD3 & LGLD4 Pumps Multi-Purpose Pumps for Bulk Plants, Terminals and Truck Systems

Companion Flanges



LGLD4 cutaway

Pump Model	Standard or Optional	Intake	Discharge
LGLD2	Standard	2" NPT	2" NPT
	Optional	2" Weld	2" Weld
LGLD3	Standard	3" NPT	3" NPT
	Optional	3" Weld	3" Weld
LGLD4	Standard	4" Weld	3" Weld
	Optional	4" Weld	4" Weld

Assembled Pump Units		Pump Speed rpm (Using 1,750 rpm Motor)	Approximate Delivery of Propane at Differential Pressures and Pump Speeds Shown ¹				Maximum Differential Pressure psi (Bar)	Maximum Working Pressure ² psi (Bar)	Drive Rating (Maximum Horsepower Drive Will Transmit) ³			Motor Size For Mounting on Standard Base ⁴	
Model	Factory Relief Valve Setting		50 psi (3.45 Bar)		100 psi (6.89 Bar)				0-3 Hour Duty	3-4 Hour Duty	8-24 Hour Duty	Minimum Frame Size	Maximum Frame Size
			gpm	L/min	gpm	L/min							
LGLD2-VB	150 psi (10.34 Bar)	660	67	254	57	216	150 (10.34 Bar)	350 (24.13 Bar)	9.2	9.2	7.8	184T	213T
		520	50	189	41	155			6.4	6.4	5.4	182T	184T
		420	40	151	30	114			4.8	4.8	4.0	182T	184T
		330	30	114	23	87			3.1	3.1	2.6	182T	182T
LGLD3-VB	150 psi (10.34 Bar)	640	133	503	112	424	150 (10.34 Bar)	350 (24.13 Bar)	12.1	12.1	10.2	215T	254T
		520	108	409	84	318			8.9	8.9	7.5	213T	215T
		420	80	303	60	227			7.3	7.3	6.1	213T	215T
		340	59	223	42	159			5.4	5.4	4.5	184T	184T
LGLD4-VB	150 psi (10.34 Bar)	640	270	1,022	220	833	125 (8.62 Bar)	350 (24.13 Bar)	26.9	26.9	22.8	254T	284T
		520	220	833	180	681			19.6	19.6	16.6	254T	256T
		420	170	644	130	492			15.8	15.8	13.4	215T	256T
		340	130	492	90	341			11.4	11.4	9.8	213T	215T

- 1 Check the pump's delivery and brake horsepower requirements in the performance curves on opposite page. See footnote with the curves which explains the factors that can cause delivery to vary.
- 2 Maximum rated working pressure is 350 psi (24.13 Bar) for LPG and NH3 (limited by U.L. and N.F.P.A. 58).
- 3 Maximum horsepower that standard drive (V-belt/gearbox and base) will transmit.
- 4 Motors may be specified from Electric Motor Price List No. 10-MTRG-01

LGL 3021 Series Multi-Purpose LPG Pump for Bulk Plants & Terminals

Pump Model	Maximum Speed	GPM (L/min)	HP (kW)	Maximum Differential Pressure	Recommended Bypass Valve Setting	Relief Valve Setting	Maximum Working Pressure
LGL3021	800 rpm	155 (586)*	14.2 (10.6)	150 psi (10.34 bar)	125 psi (8.6 bar)	150 psi (10.34 bar)	350 psi (24.13 bar)

* Approximate delivery of propane at 800 rpm at 100 psi (6.89 bar) differential pressure.





LGLH2 High Differential Pressure Pump

Performance at 145 psid (10 Bar) differential pressure			Maximum Differential Pressure	Relief Valve Setting	Maximum Working Pressure
780 rpm	640 rpm	520 rpm			
61 gpm / 11.7 hp	47 gpm / 9.2 hp	32.6 gpm / 7.1 hp	165 psi	190 psi	390 psi
231 L/min / 8.7 kw	178 L/min / 6.9 kw	123 L/min / 5.3 kw	11.4 Bar	13.1 Bar	26.7 Bar



TLGLF3 cutaway

TLGLF3 & TLGLF4 Pumps Flange Mounted Pumps for Bobtails and Transports

Pump delivery and brake horsepower requirements are listed in the table below for various differential pressures. The same data for all pressures is provided in the performance curves below.

Standard Pump		Pump Speed rpm	Approximate Delivery of Propane at Differential Pressures and Pump Speeds Shown ¹												Maximum Differential Pressure		Maximum Working Pressure ²	
Model	Factory Relief Valve Setting		50 psi (3.45 Bar)						100 psi (6.89 Bar)						psi	Bar	psi	Bar
			gpm	L/min	bhp	kw	Torque		gpm	L/min	bhp	kw	Torque					
						ft-lb	kg-m					ft-lb	kg-m					
TLGLF3	150 psi (10.34 Bar)	870	129	488	6.5	4.8	45.9	6.3	119	450	10.9	8.1	72.5	10	125	8.62	350	24.13
		800	118	446	5.1	3.8	44.2	6.1	107	405	8.7	6.5	69.7	9.6	125	8.62	350	24.13
		650	93	352	4.3	3.2	40.4	5.6	83	314	7.9	5.9	63.7	8.8	125	8.62	350	24.13
		600	85	322	4	3	39.3	5.4	75	284	7.1	5.3	62.2	8.6	125	8.62	350	24.13
		500	70	265	3.6	2.7	37.4	5.2	68	257	6	4.5	61.5	8.5	125	8.62	350	24.13
		400	52	197	2.8	2.1	36.2	5	40	151	4.8	3.6	60.8	8.4	125	8.62	350	24.13
TLGLF4	150 PSI (10.34 Bar)	800	350	1,325	22	16	143	20	306	1,158	34	25	223	31	125	8.62	350	24.13
		650	280	1,060	15.5	11.6	125.2	17.3	245	927	25.0	18.6	201.9	27.9	125	8.62	350	24.13
		600	260	984	14.3	10.7	125.1	17.3	220	833	23.0	17.2	201.3	27.8	125	8.62	350	24.13
		500	210	795	11.9	8.9	125.0	17.3	170	644	19.0	14.2	199.5	27.6	125	8.62	350	24.13
		400	160	606	9.5	7.1	124.7	17.2	120	454	15.2	11.3	199.5	27.6	125	8.62	350	24.13

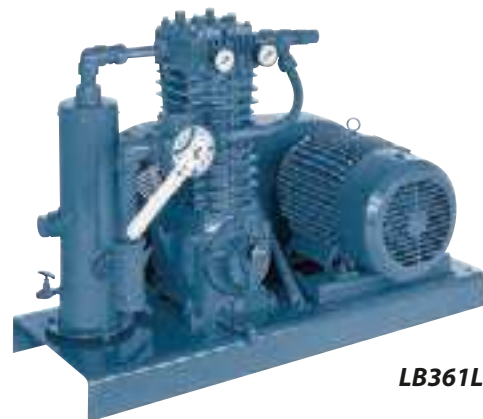
1. Check the pump's delivery and brake horsepower requirements in the performance curves below. See footnote with the curves which explains the factors that can cause delivery to vary.
 2. Maximum rated working pressure is 350 psi (24.13 Bar) for LPG and NH3 (limited by U.L. and NFPA 58).



Compressor Selection Data: Propane and Anhydrous Ammonia

Model	Speed	Approximate Liquid Transfer Delivery ¹		Piston Displacement		Driver Size ²		Pipe Diameter ³			
								Vapor		Liquid	
								RPM	U.S. GPM	L/min	CFM
LB081	425	25	93	4.2	7.2	1.5	1.1	0.75	19	1.5	38
	560	32	123	5.6	9.5	3	2				
	715	41	157	7.2	12.2	3	2				
	780	45	171	7.8	13.3	5	4				
	810	46	174	8.1	13.8	5	4				
LB161 LB162	425	49	186	8.5	14.4	3	2	1	25	2	50
	560	65	246	11.2	19.0	5	4				
	715	83	314	14.3	24.3	5	4				
	780	90	341	15.6	26.5	7.5	6				
	810	92	348	16.2	27.5	7.5	6				
LB361 LB362	495	123	466	21.3	36.2	7.5	6	1/4	32	2 1/2	65
	540	134	507	23.2	39.5	10	7				
	650	161	609	28.0	47.5	10	7				
	780	194	734	33.5	57.0	15	11				
	810	201	761	34.8	59.1	15	11				
LB601 LB602	545	242	916	42.0	72.0	15	11	1 1/2 - 2	38-50	3	80
	655	288	1,090	50.6	85.9	20	15				
	755	335	1,268	58.7	99.8	25	19				
	800	355	1,344	62.2	105.7	30	22				
LB942 LB943	470	400	1,514	70	119	25	19	2 - 2 1/2	50-65	4	100
	565	480	1,817	84	143	30	22				
	750	640	2,422	112	190	40	30				
	800	680	2,575	119	202	50	37				

1. Delivery will depend on proper system design, pipe sizing and valve capacity.
2. Horsepower is for liquid transfer and vapor recovery in moderate climates. For liquid transfer without vapor recovery, horsepower will be lower. For severe climates, contact your Blackmer representative for horsepower required.
3. Use next larger pipe size if piping exceeds 100 feet (30 meters).



LB361LU

BYPASS VALVES



Bypass Valves Precise, On-Line Pressure Protection

Maximum flow through valve

Model	Maximum Rated Flow - gpm (L/min) @				
	20 psi (1.38 Bar)	50 psi (3.45 Bar)	80 psi (5.52 Bar)	120 psi (8.27 Bar)	152 psi
BV0.75 / BV1	25 (95)	40 (151)	50 (189)	60 (227)	-
BV1.25 / BV1.5	60 (227)	80 (303)	100 (379)	125 (473)	-
BV2	150 (568)	180 (681)	220 (833)	250 (946)	-
EBSRV18CBS2	-	-	-	-	53 gpm



BV.075 / BV1

BV2

Selection Guide

Model BV0.75 (ports are 3/4-inch NPT tapped)

Model BV1 (ports are 1-inch NPT tapped)

These models are commonly used for cylinder-filling system. Either valve can be used with 1.25 or 1.5-inch Blackmer pump models.

Model BV1.25 (ports are 1-1/4-inch NPT tapped)

Model BV1.5 (ports are 1-1/2-inch NPT tapped)

These models are normally used for bobtail trucks and smaller bulk plant systems. Either valve can be used with 2 or 3-inch Blackmer pump models. Both valves are available with optional springs for use with the LGL 158 or LGLH2.

Model BV2 (ports have 2-inch NPT companion flanges, 1-1/4-inch and 1-1/2-inch NPT and WELD bolt-on flanges are available)

The BV2 model is widely used for transports or larger bulk plant systems.

It is recommended for use with 3 and 4-inch Blackmer pump models. The BV2 is factory set at 125 psi.

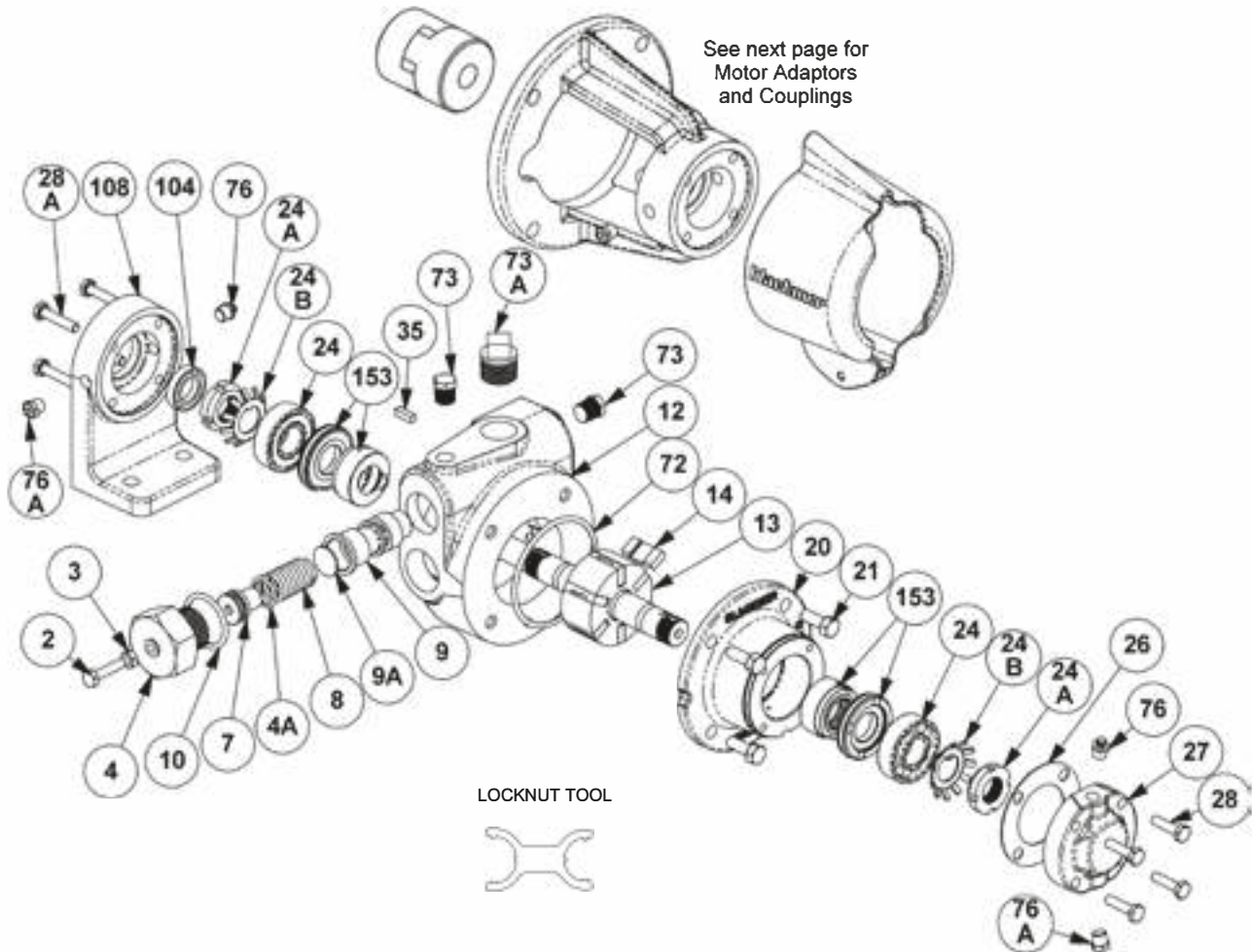
PUMPS: REPAIR PARTS & KITS

BLACKMER PARTS LIST

PUMP MODELS: LGF1E, LGB1E, LGF1PE, LGB1PE



PUMPS: REPAIR PARTS & KITS



Ref. No.	Description	Parts per Pump	Item Number	Ref. No.	Description	Parts per Pump	Item Number
2	Adjusting Screw – Relief Valve (R/V)	1	² 432901	24A	Locknut – Bearing	2	903531
3	Locknut – Adjusting Screw	1	² 922811	24B	Lockwasher – Bearing	2	¹ 903532
4	Cover – R/V	1	412901	26	Gasket – Bearing Cover	1	¹ 383075
4A	O-Ring – Spring Guide	1	^{1, 2} 711940	27	Bearing Cover	1	043071
7	Spring Guide – R/V	1	² 422901	28	Capscrews – Bearing Cover	4	920080
8	Spring – R/V	1	² 472901	28A	Bracket Mounting Screws	4	920090
9	Valve – R/V	1	² 452901	35	Key – Shaft, Square	1	^{1, 4} 909152
9A	Disc – R/V	1	² 442901	72	O-Ring – Head	1	¹ 711941
10	O-Ring – R/V Cover	1	^{1, 2} 701965	73	Gage Plug (1/4")	2	908198
12	Cylinder – LGF1, LGB1	1	022914	73A	Gage Plug (3/4")	1	908225
	Cylinder – LGF1P, LGB1P		022915	76	Grease Fitting	2	317815
13	Rotor & Shaft Assembly, Six Vane (Includes Ref. Nos. 24A & 24B)	1	262907	76A	Grease Relief Fitting	2	701992
14	Vane – Duravane	6	^{1, 3} 092913	104	Grease Seal	1	¹ 331934
20	Head	1	032905	108	Mounting Foot - LGB1(P)E	1	832913
21	Capscrews – Head	4	920178		Tool - Locknut		903090
24	Ball Bearing	2	¹ 903405		Kit – RV Maintenance		899094
					Kit – Maintenance (6-Vane)		898994

¹ Included in Maintenance Kit.

² Included in RV Kit

³ Install the vanes with the slot facing the direction of rotation.

⁴ Maintenance Kit also includes Woodruff Key 909126 used previously

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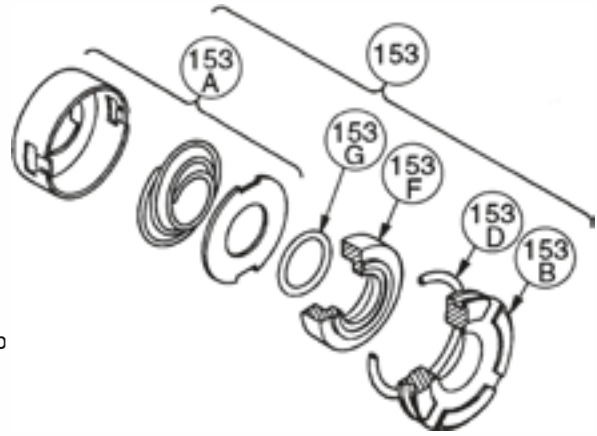
PUMPS: REPAIR PARTS & KITS

MECHANICAL SEAL

Ref. No.	Part Name	Parts Per Pump	Item Number
153	Mechanical Seal Assembly	2	¹ 332920
153A**	Jacket Assembly – Seal	2	**
153B**	Stationary Seat (Steel)	2	**
153D	O-Ring – Stationary Seat (Buna-N)	2	711916
153F**	Seal Face (Carbon)	2	**
153G	O-ring – Rotating (Buna-N)	2	711939

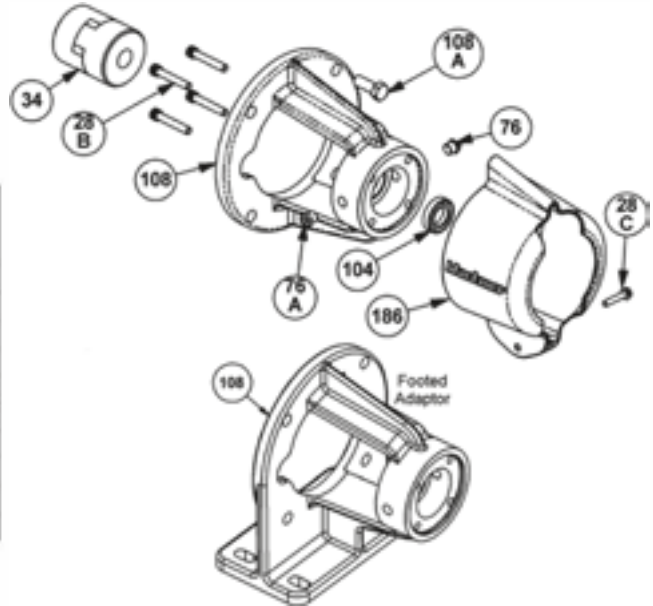
¹ Included in Maintenance Kit

** Ref. Nos. 153A, 153B & 153F are not available as separate repair p



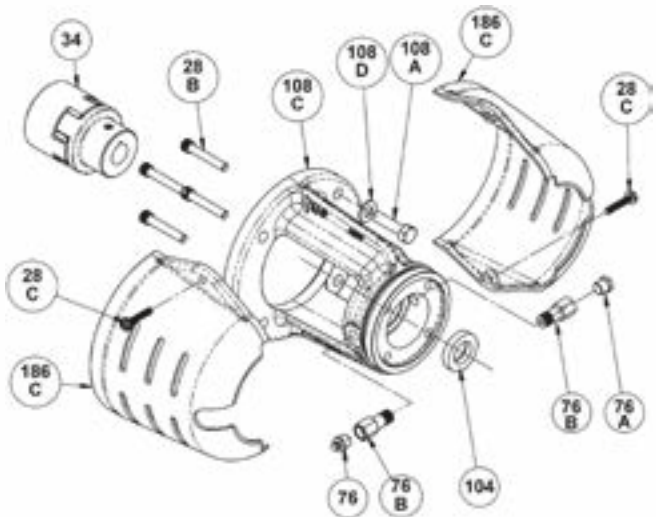
NEMA C-Faced Motor Adaptors – LGF Models

Ref. No.	Part Name	Parts Per Pump	Item Number
28B**	Motor Adaptor Mounting Screws	4	920101
28C	Guard Screw	1	920026
34	Coupling Half – Pump	1	906150
	Coupling Half – Motor 56C		906151
	Coupling Half – Motor 143/145TC, 184C		906147
	Coupling Spider		906155
108	Motor Adaptor – Unfooted	1	832912
	Motor Adaptor- Footed		833000
108A	Capscrew – Motor Adaptor	4	920331
186	Guard	1	804120



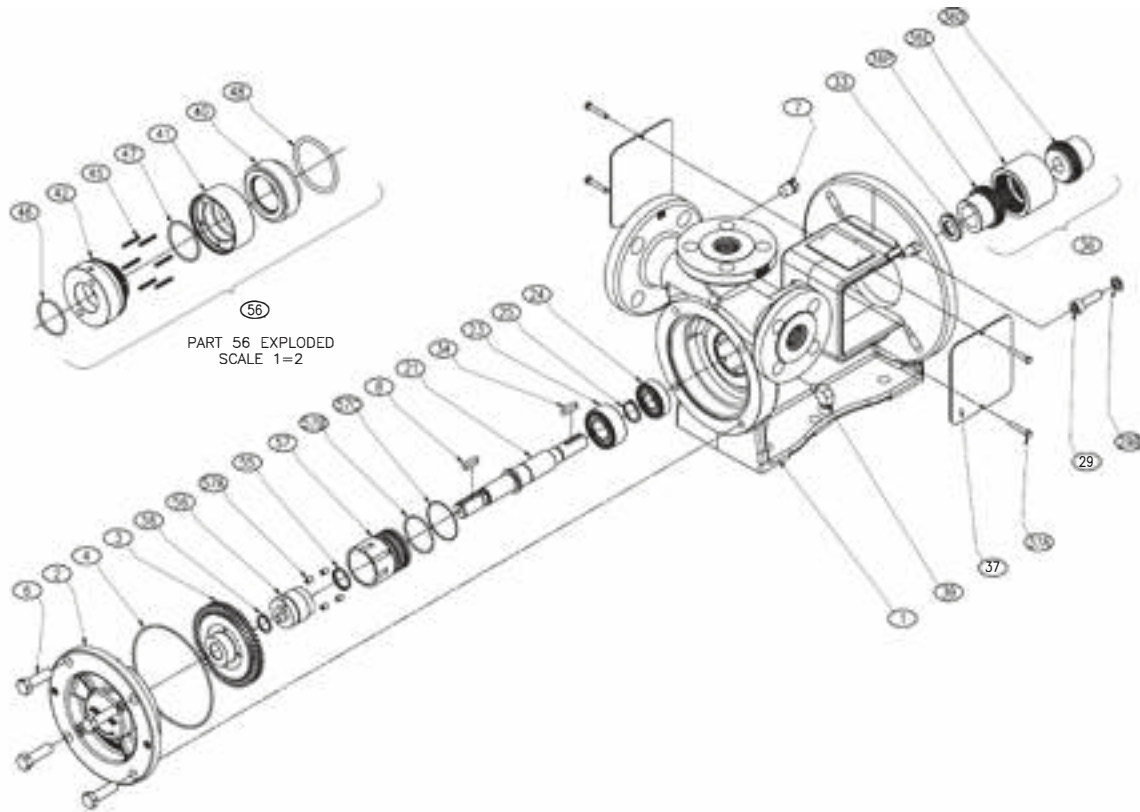
IEC Motor Adaptors – LGF Models

Ref. No.	Description	Parts per Pump	Item Number
28B	Motor Adaptor Mounting Screws	4	920101
28C	Guard Screw	2	920026
34	Coupling Half – Pump	1	906183
	Coupling Spider		906176
	Coupling Half – Motor (IEC 90)		906186
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
76B	Extension Coupling	2	701905
104	Grease Seal	1	331934
108A	Capscrew – Motor Adaptor to Motor	4	920043
108C	Motor Adaptor (IEC90 B14A) Includes Ref. Nos. 76, 76A & 76B	1	832920
108D	Washer	4	792094
186C	Guard Half	2	804196



PUMPS: REPAIR PARTS & KITS

PARTS LIST – EBSRAY MODELS: RC20, RC25 & RC40



PARTS LIST – EBSRAY MODELS: RC20, RC25 & RC40

Cat #	Description	Qty	RC20	RC25	RC40	
1	Body - NEMA	1	EBSC317002-1031	EBSC316003-1031	EBSC319001-1037	
2	Cover	1	EBSC317200-1031	EBSC316200-1031	EBSC319200-1037	
3	Impeller	1	EBSC317300-3012	EBSC316300-3012	EBSC319300-3012	
4	O-Ring – Cover	1	1 EBSD249-4029		1 EBSD252-4029	
6	Hex Head Capscrew, M12-1.75x40	4				
7	Plug –Gauge Tap	2	BLK908198			
8	Key – Impeller, Steel 6x6x20	1				
21	Shaft	1	2 EBSC316350-2152		2 EBSC319350-2152	
23	Ball Bearing – Impeller End	1	2 EBSB072			
24	Ball Bearing – Motor End	1	2 EBSB073			
25	Circlip – Bearing	1	2 EBS8177-025S			
33	Dust Seal - Bearing	1	EBSZ044-4011			
34	Key – Pump Shaft, Steel 6x6x20	1				
36	Coupling Assembly - 0.875 Motor Shaft, NEMA 140TC, 184C	1	EBSL575-028-019-087			
	Coupling Assembly - 1.125 Motor Shaft, NEMA 180TC, 215C	1	EBSL575-028-019-306		EBSL575-038-019-306	
	Coupling Assembly - 1.375 Motor Shaft, NEMA 213TC, 215TC	1				EBSL575-038-019-297
	#36D Half Coupling – 0.875 Motor Shaft	0-1				
	#36D Half Coupling – 1.125 Motor Shaft	0-1				
	#36D Half Coupling – 1.375 Motor Shaft	0-1				
	#36E Coupling Element	1				
#36P Half Coupling – Pump	1					

PUMPS: REPAIR PARTS & KITS

Cat #	Description	Qty	RC20	RC25	RC40
37	Coupling Guard	2	EBSC316700-3081		EBSC319700-3081
37A	Hex Head Capscrew – Coupling Guard, M5-0.8x30	4			
39	Seal Drain Elbow	1	EBS-8312-012S		
55	Lip Seal - Secondary Seal	1	² EBSZ043-4015		
56	Mechanical Seal Assembly	1	^{1,2} EBSL751-25-096-05		
40	Seal Seat	1	EBSC310009-4035		
41	Rotating Seal Face	1	EBSC316625-1043		
42	Seal Sleeve	1	EBSC316650-2162		
45	Seal Spring	6	EBSC753001-2223		
46	O-Ring – Shaft	1	EBSD020-4029		
47	O-Ring – Seal Sleeve	1	EBSD020-4029		
48	O-Ring – Seal Seat	1	EBSD218-4029		
57	Cartridge - Mechanical Seal	1	² EBSC316676-1035		
57A	Oval Point Setscrew, 1/4-28x0.375	4			
57B	O-Ring – Cartridge Primary	1	^{1,2} EBSD224-4029		
57C	O-Ring – Cartridge Secondary	1	^{1,2} EBSD032-4029		
58	Circlip - Mechanical Seal	1	² EBS8177-020S		
	Mechanical Seal Kit, Repair (Marked by ¹)	1	EBSK751-25-096		
	Quill Assembly, (Marked by ²)	1	EBSL316376		EBSL319376

RC20/RC25

Motor Attachment - NEMA 140TC, 184C		
29	Hex Head Capscrew - 0.375-16 x 1.50	4
29B	Spring Lock Washer - 0.375	4
Motor Attachment - NEMA 180TC, 215C		
29	Hex Head Capscrew - 0.500-13 x 2.00	4
29B	Spring Lock Washer - 0.500	4

RC40

Motor Attachment – NEMA 213TC/215TC		
29	Hex Head Capscrew – 0.500-13 x 2.00	4
29B	Spring Washer – 3/8" UNC	4

SPARE PARTS

1. When ordering spare parts, **ALWAYS** quote the pump Serial Number located on the nameplate of the pump.

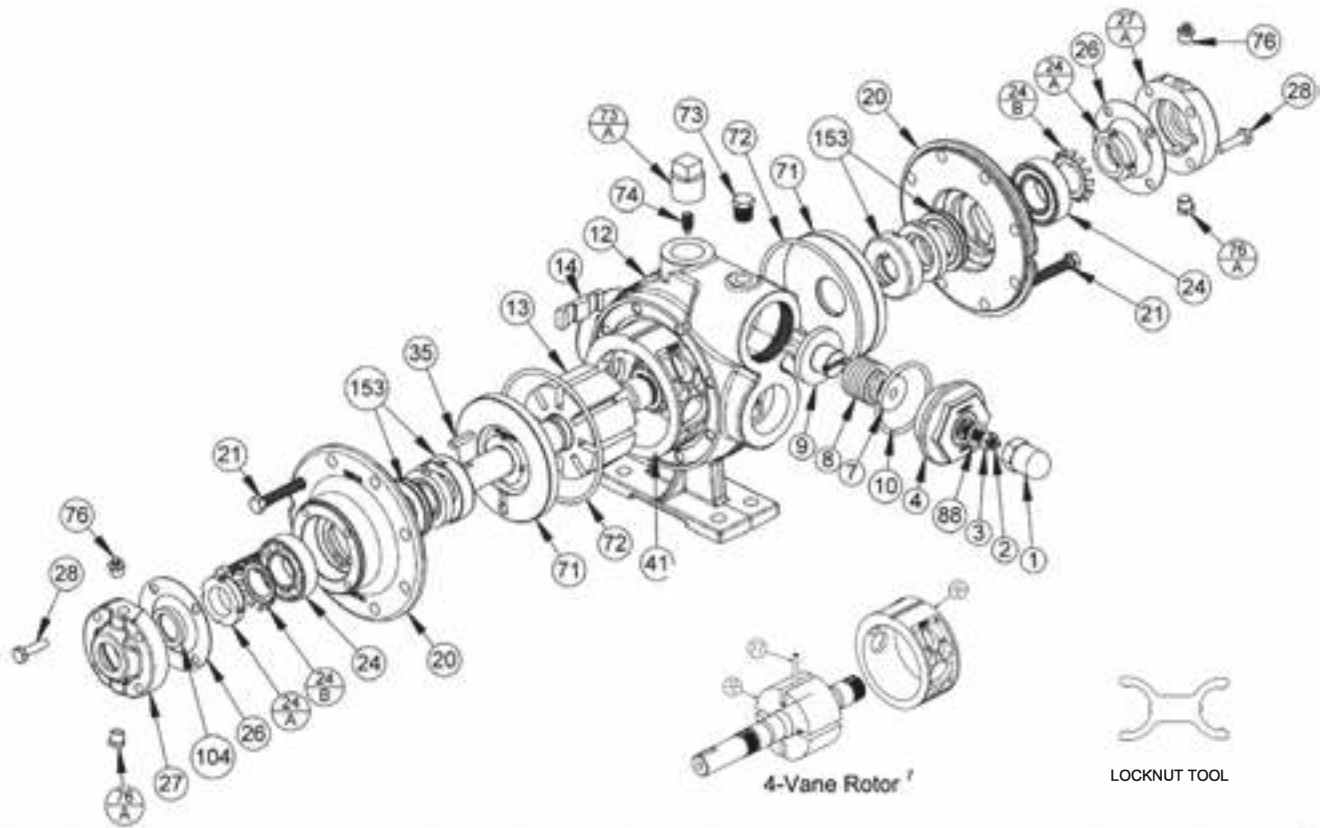




PUMPS: REPAIR PARTS & KITS

BLACKMER PARTS LIST

PUMP MODELS: LGRL1.25, LGL1.25, LGL1.5
LGRLF1.25A, LGLF1.25A, LGLF1.5A



Ref. No.	Description	Parts per Pump	Item Number	Ref. No.	Description	Parts per Pump	Item Number
1	Cap – Relief Valve (R/V)	1	413200	27A	Bearing Cover – Outboard	1	043071
2	Adjusting Screw – R/V	1	433909	28	Capscrews – Bearing Cover	8	920080
3	Locknut – Adjusting Screw	1	922923	35	Shaft Key ⁶	1	¹ 909152
4	Cover – R/V	1	413076	41	Liner – LGRL(F)1.25 [8 - Vane Only]	1	² 183019
7	Spring Guide – R/V	1	423955		Liner – LGL(F)1.25 [8 - Vane Only]		² 183020
8	Spring – R/V (81 – 150 psi)	1	471428		Liner – LGL(F)1.5 [8 - Vane Only]		² 183310
9	Valve - R/V	1	453077	71	Disc	2	¹ 063075
10	O-Ring – R/V Cover	1	¹ 711924	72	O-Ring – Head	2	¹ 701918
12	Casing with feet (1.25)	1	013075	73	Gage Plug (1/4")	1	908198
	Casing with feet (1.5)		013376	73A	Gage Plug (3/4")	1	⁶ 908225
13	Rotor & Shaft Assembly, Eight Vane (with Ref. Nos. 24A & 24B)	1	² 262300	74	Setscrew – Liner	1	922088
14	Vane – Duravane	8	¹ 093088	76	Grease Fitting	2	317815
20	Head	2	033073	76A	Grease Relief Fitting	2	701992
21	Capscrews – Head	16	920276	88	O-Ring – R/V Cap	1	¹ 701949
24	Ball Bearing	2	¹ 903114	104	Grease Seal	1	¹ 331927
24A	Locknut – Bearing	2	² 903534	—	Tool - Locknut	—	903090
24B	Lockwasher – Bearing	2	¹ 903533	—	Kit - Maintenance [8 Vane]	—	898976
26	Gasket - Bearing Cover	2	¹ 383075	—	Kit - Rebuild LGRL(F)1.25(A) [8 Vane]	—	899076
27	Bearing Cover – Inboard	0-1	043070	—	Kit - Rebuild LGL(F)1.25(A) [8 Vane]	—	899077
				—	Kit - Rebuild LGL(F)1.5(A) [8 Vane]	—	899078

¹ Included in Maintenance Kits and Rebuild Kits ² Included in Rebuild Kits.

⁶ Ref. No. 73A: Older pumps may use a 1/4" plug (pn 908198) or 1/2" plug (pn 908215).

⁷ See page 4 re parts for older pumps fitted with a 4-vane rotor.

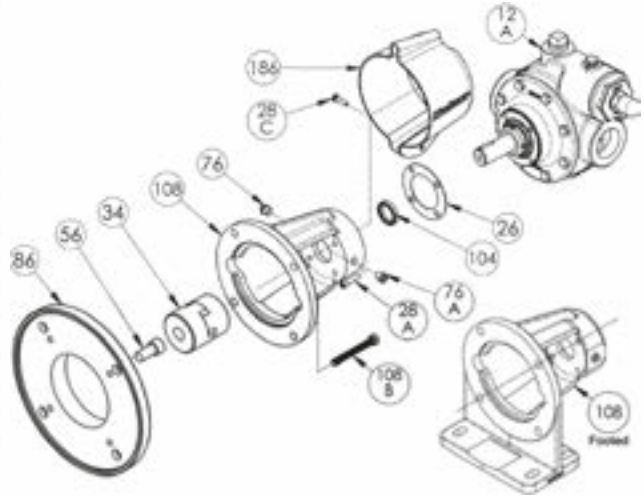
⁸ Ref. No. 35: Early pumps used Woodruff Key 909125

PUMPS: REPAIR PARTS & KITS

NEMA C-Face Motor Adaptors

Models: LGRLF1.25A, LGLF1.25A, LGLF1.5A

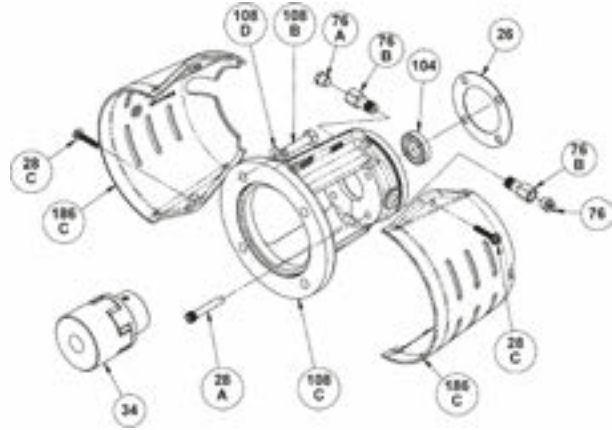
Ref. No.	Description	Parts per Pump	Item Number
12A	Casing without Feet – LG(R)LF1.25	1	013077
	Casing without Feet – LGLF1.5		013377
26	Gasket - Bearing Cover	1	383075
28A	Motor Adaptor Mounting Screws	4	920101
28C	Guard Screw	1	920026
34	Coupling Half – Pump	1	906147
	Coupling Spider		906155
	Coupling Half – Motor (56C)		906151
	Coupling Half – Motor (143TC,145TC,184C)		906147
	Coupling Half – Motor (182TC,184TC,215C)		906146
56	Capscrews – Adapter Ring Mounting	4	920480
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
86	Motor Adapter Ring - 182TC,184TC,215C	1	832914
104	Grease Seal	1	331927
108	Motor Adaptor – Unfooted	1	832912
	Motor Adaptor – Footed (Both include Ref. 76 & 76A)		833000
108B	Capscrews - Motor Adaptor	4	920331
186	Guard	1	804120



IEC Flanged Face Motor Adaptor

Models: LGRLF1.25A, LGLF1.25A, LGLF1.5A

Ref. No.	Description	Parts per Pump	Item Number
26	Gasket - Bearing Cover	1	383075
28A	Motor Adaptor Mounting Screws	4	920101
28C	Guard Screw	2	920026
34	Coupling Half – Pump (for IEC100/112)	1	906182
	Coupling Spider (for IEC100/112)		906178
	Coupling Half – Motor (IEC100/112)		906180
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
76B	Extension Coupling	2	701905
104	Grease Seal	1	331927
108B	Capscrew – Motor Adaptor to Motor	4	920044
108C	Motor Adaptor (IEC 100/112 B14A) Includes Ref. Nos. 76, 76A & 76B	1	832930
108D	Washer	4	792094
186C	Guard Half	2	804198



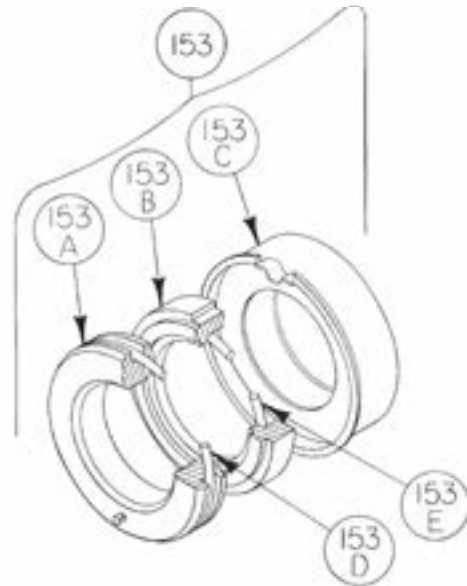
PUMPS: REPAIR PARTS & KITS

MECHANICAL SEAL

Ref. No.	Part Name	Parts Per Pump	Item Number
153	Mechanical Seal Assembly	2	¹ 333045
153A	Stationary Seat (Hardened Steel)	2	**
153B	Seal Face (Carbon)	2	**
153C	Jacket Assembly	2	**
153D	O-Ring – Stationary (Buna-N)	2	711916
153E	O-Ring – Rotating (Buna-N)	2	711915

¹ Included in Maintenance Kits and Rebuild Kits

** Not available as separate replacement parts.



4-VANE ROTOR/SHAFT PARTS

Ref. No.	Part Name	Parts Per Pump	Item Number
13A	Rotor & Shaft Assembly, Four Vane (Includes Ref. Nos. 24A & 24B)	1	² 263076
14	Vane – Duravane	4	¹ 093088
41A	Liner – LGRL(F)1.25 [4 - Vane Only]	1	² 183003
	Liner – LGL(F)1.25 [4 - Vane Only]		² 183004
	Liner – LGL(F)1.5 [4 - Vane Only]		² 183301
77	Push Rod – LGRL(F)1.25	2	¹ 123004
	Push Rod – LGL(F)1.25		¹ 123076
	Push Rod LGL(F)1.5		¹ 123401

Part Name	Item Number
Kit – Maint LGRL(F)1.25A [4 Vane]	898917
Kit - Maint LGL(F)1.25(A) [4 Vane]	898918
Kit - Maint LGL(F)1.5(A) [4 Vane]	898919
Kit - Rebuild LGRL(F)1.25A [4 Vane]	899017
Kit - Rebuild LGL(F)1.25(A) [4 Vane]	899018
Kit - Rebuild LGL(F)1.5(A) [4 Vane]	899019



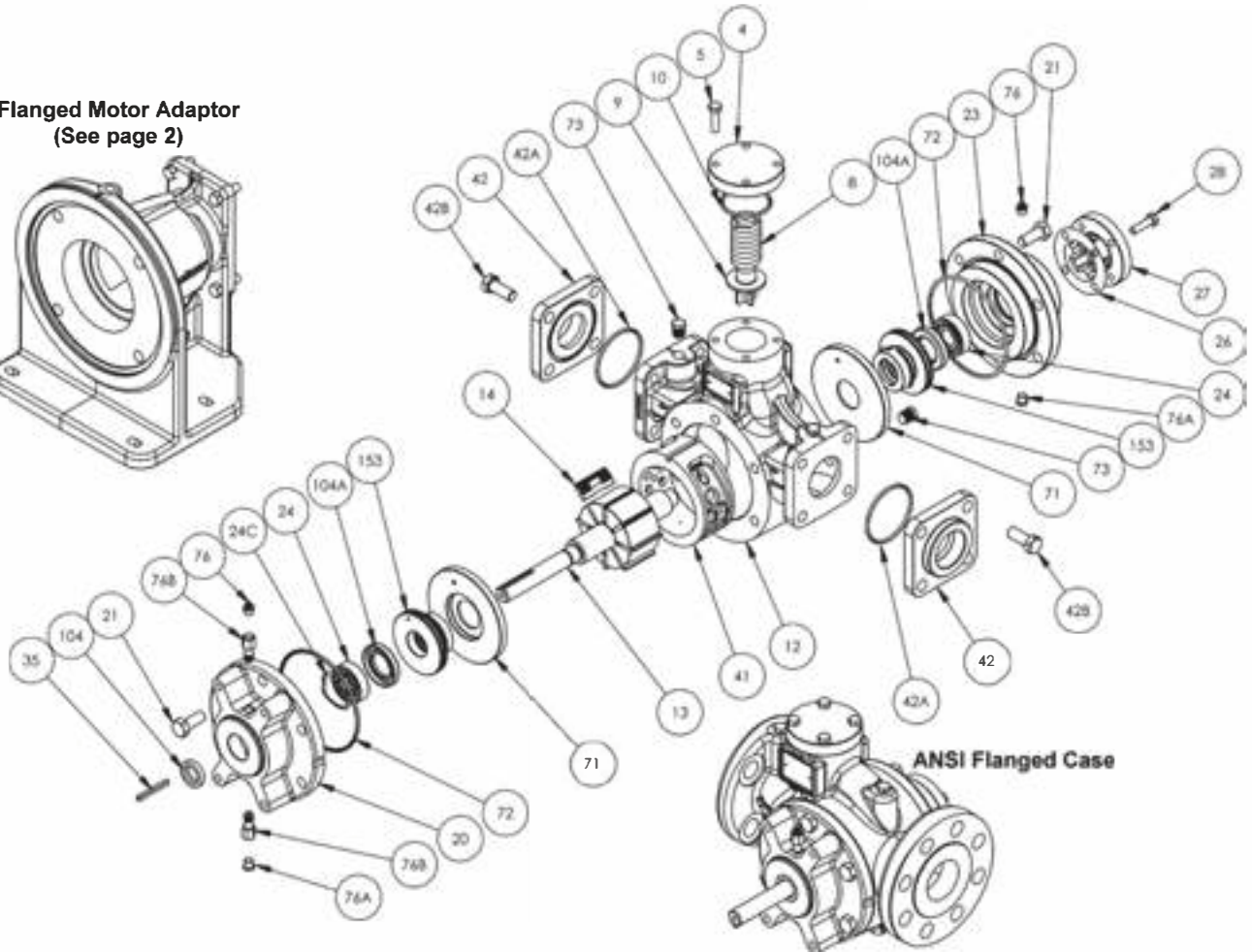
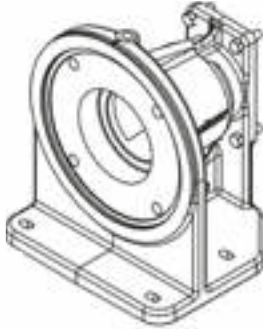
PUMPS: REPAIR PARTS & KITS

BLACKMER PARTS LIST

Pump Models: LGL156C, LGL158C
and Discontinued LGL154C



Flanged Motor Adaptor
(See page 2)



ANSI Flanged Case

Ref. No.	Description	Parts Per Pump	Item Number	Ref. No.	Description	Parts Per Pump	Item Number
4	Cover - Relief Valve (R/V)	1	415701	35	Key - Shaft	1	1909153
5	Capscrews - R/V Cover	4	920122	41	Liner (LGL158)	1	185701
8	Spring - R/V (225 psi)	1	471400		Liner (LGL156)		185710
9	Valve - R/V	1	455701		Liner (LGL154)		185711
10	O-Ring - R/V Cover	1	¹ 711924	42	Flanges		See page 3
12	Casing - 4 Bolt Flange	1	015705	71	Disc	2	¹ 065701
	Casing - ANSI Flange		015702	72	O-Ring - Head	2	¹ 702169
13	Rotor & Shaft Asy.	1	265703	73	Gage Plug	2-4	908198
14	Vane - Duravane	8	¹ 094860	74	Key - Liner	1	909177
20	Head Inboard	1	035705	76	Grease Fitting	2	317815
21	Capscrews - Head	12	920468	76A	Grease Relief Fitting	2	701992
23	Head Outboard	1	035703	76B	Grease Fitting Extension	2	701905
24	Ball Bearing	2	¹ 903148	104	Grease Seal - Outer	1	¹ 331921
24C	Bearing Spring	1	¹ 903187	104A	Grease Seal - Inner	2	¹ 335702
26	Shim Kit (6 ea: .002", .005" & .010")	Varies	¹ 905172	—	Kit - Maintenance	—	899222
27	Bearing Cover	1	045701	—	Priming Valve	—	455750
28	Capscrews - Bearing Cover	4	920122		(for Underground Tank Installations)		

¹ Included in Maintenance Kit.

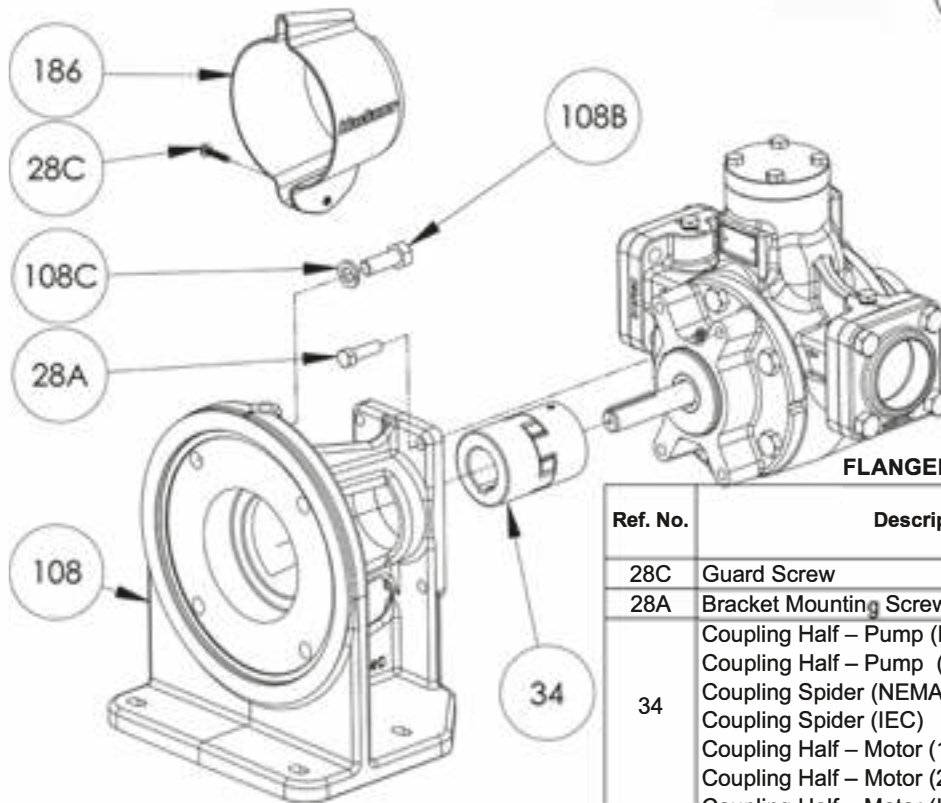
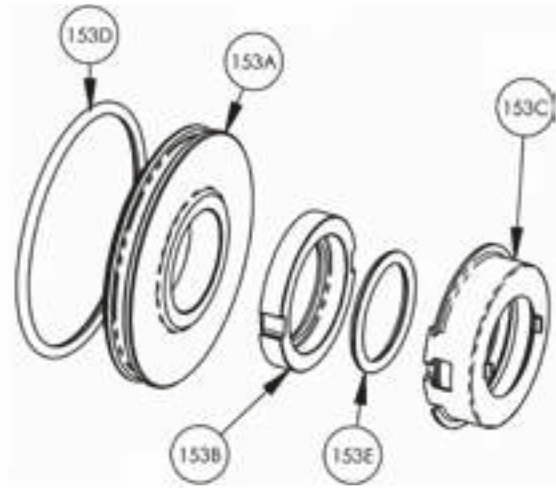
PUMPS: REPAIR PARTS & KITS

MECHANICAL SEAL – LPG

Ref. No.	Description	Parts Per Pump	Item Number
153	Mechanical Seal Assembly - SNCN	2	¹ 335703
153A	Stationary Seat (Steel)	2	**
153B	Seal Face (Carbon)	2	**
153C	Jacket Assembly	2	**
153D	O-Ring - Stationary (Buna-N)	2	701934
153E	O-Ring Rotating (Buna-N)	2	711917

¹ Included in Maintenance Kit and Rebuild Kit

** Mechanical Seal Ref. No. 153 is only sold as a complete assembly. Ref. Nos. 153A, 153B & 153C are not available as separate replacement parts.



FLANGED MOTOR ADAPTOR

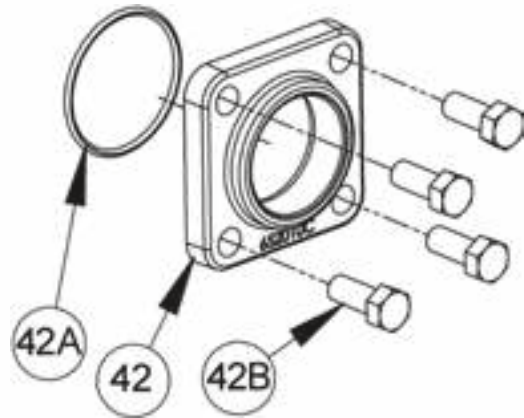
Ref. No.	Description	Parts per Pump	Item Number
28C	Guard Screw	1	920026
28A	Bracket Mounting Screws	4	920359
34	Coupling Half – Pump (NEMA)	1	906033
	Coupling Half – Pump (IEC)	1	906181
	Coupling Spider (NEMA)	1	906034
	Coupling Spider (IEC)	1	906178
	Coupling Half – Motor (182TC,184TC,215C)	1	906164
	Coupling Half – Motor (213TC, 215TC)	1	906032
	Coupling Half – Motor (IEC 112)	1	906180
	Coupling Half - Motor (IEC 132)	1	906179
108	Mounting Bracket – NEMA	1	833004
	Mounting Bracket – IEC 100/112 B5	1	833005
	Mounting Bracket – IEC 132 B14	1	833006
108B	Motor Mounting Screw (NEMA)	4	098277
	Motor Mounting Screw (IEC 100/112)	4	920055
	Motor Mounting Screw (IEC 132)	4	920050
108C	Lockwasher (NEMA)	4	909706
	Lockwasher (IEC 100/112)	4	909707
	Lockwasher (IEC132)	4	793095
186	Guard	1	804120



PUMPS: REPAIR PARTS & KITS

FLANGE OPTIONS (4 Bolt flange cases)

Ref. No.	Description	Parts per Pump	Item Number
42	Flange – 2" NPT	0 2	652010
	Flange – 2" Slip-on Weld		652024
	Flange – 2" Socket Weld El		655109
	Flange – 1.5" NPT		652028
	Flange – 1.5" Slip-on Weld		652026
	Flange – 1.25" NPT		652029
	Flange – 1.25" Slip-on Weld		652027
42A	O-Ring – Flange (Buna-N)	2	702004
42B	Capscrews – Flange	8	920491

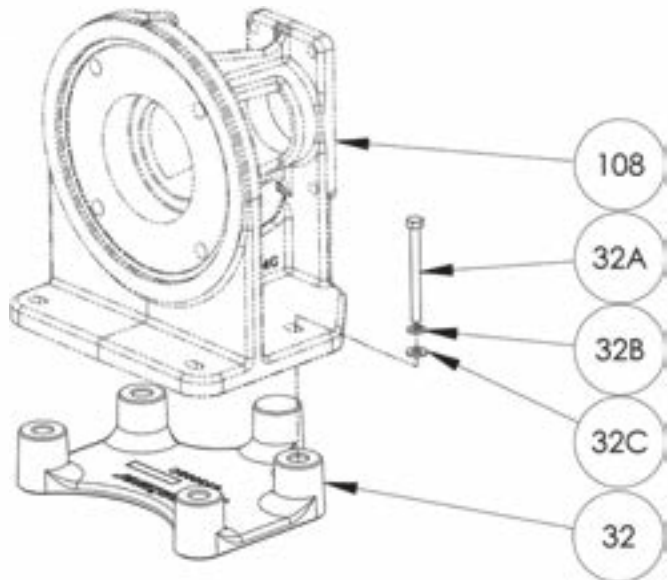


ANSI Flange Kit Part Number 655701 with:

Description	Qty	Description	Qty
Flange, 2" NPS, ANSI 300# RF Threaded	1	Flange, 1.5" NPS, ANSI 300# RF Threaded	1
Gasket 2", 600#	1	Gasket 1.5", 600#	1
Stud 5/8-11 x 3 1/2	8	Stud 3/4-10 x 3 3/4	4
Heavy Hex Nut 5/8-11	8	Heavy Hex Nut 3/4-10	4

OPTIONAL RISER SPACER

Ref. No.	Description	Qty	Item Number
32	Bracket Riser	1	833008
32A	Capscrews - Bracket	4	920246
32B	Mounting Lockwashers	4	909613
32C	Mounting Washers	4	790494



PUMPS: REPAIR PARTS & KITS

BLACKMER PARTS LIST

PUMP MODELS: LGLD2E, LGL2E, LGLD3F, LGL3F
and discontinued LGLD3E, LGL3E



Ref. No.	Description	Parts Per Pump	Size 2 Item Number	Size 3 Item Number	Ref. No.	Description	Parts Per Pump	Size 2 Item Number	Size 3 Item Number
4	Cover - Relief Valve (R/V)	1	414401	415113	35	Key - Shaft, 1/4" Square	1	^{1,7} 909209	^{1,7} 909209
5	Capscrews - R/V Cover	6	920331	920331	41	Liner	1	² 184405	² 185111
8	Spring - R/V	1	471423	475135	42	Flange - NPT	2	654401	655112
9	Valve - R/V	1	454405	455129		Flange - Weld		654405	655102
10	O-Ring - R/V Cover	1	701919	701925	42A	O-Ring - Flange	2	¹ 702004	¹ 702002
12	Casing	1	014405	015127	42B	Capscrew - NPT Flange	8	920384	920547
13	Rotor & Shaft Asy. - LGL (Includes Ref. Nos. 24A & 24B)	1	264443	265149		Capscrew - Weld Flange		920351	920510
13A	Rotor & Shaft Asy. - LGLD ⁵ (Includes Ref. Nos. 24A & 24B)	1	² 264445 ^{1,2}	265148	71	Disc	2	¹ 064412	¹ 065112
14	Vane - Duravane (Std.)	6	091419	095131	72	O-Ring - Head	2	¹ 702022	¹ 702041
20	Head	2	034416	035128	73	Gage Plug	2	908198	908198
21	Capscrews - Head (Size 2)	32	920351	N/A	74	Key - Liner	1	^{2,5} 183991	² 185191
	Capscrews - Head (Size 3)	40	N/A	920369	76	Grease Fitting	2	317815	317815
24	Ball Bearing	2	903156	903166	76A	Grease Relief Fitting	2	701992	701992
24A	Locknut - Bearing	2	² 903521 ^{1,2}	903523	77	Push Rod	3	^{1,5} 123905	^{1,5} 125110
24B	Lockwasher - Bearing	2	903522	903524	104	Grease Seal	1	^{1,3} 331918	^{1,3} 331908
26	Gasket - Bearing Cover	2	383940	385125	123A	Dirt Shield	1	^{1,3} 701480	N/A
27	Bearing Cover (Inboard) ³	1	041431	041815	186	Shaft Protector (LGLD Models Only)	1	341601	341801
27A	Bearing Cover (Outboard) ⁴	1	041433	041817		Tool - Locknut		903091	903091
28	Capscrews - Bearing Cover	8 - 12	920285	920285		Kit - Maintenance		898979	898981
						Kit - Rebuild		899079	899081

¹ Included in Maintenance Kit and Rebuild Kit ² Included in Rebuild Kit
The following applies to double end shaft pumps (LGLD): ³ Use Two ⁴ Use None
⁵ Double-Ended Rotor & Shaft. ⁶ 2" pushrod is metal, 3" is composite.
⁷ Pumps before April 2008 used Woodruff key 909130, included in Maintenance kits. ⁸ Pump before 1995 require liner key 184407.

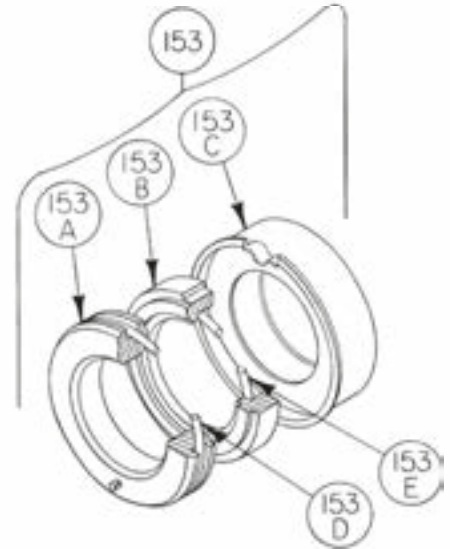
PUMPS: REPAIR PARTS & KITS

MECHANICAL SEAL – NH₃ OR DUAL SERVICE – SNCN (ID Code = QA)

Ref. No.	Description	Parts Per Pump	Size 2 Item Number	Size 3 Item Number
153	Mechanical Seal Assembly	2	¹ 334439	¹ 335225
153A	Stationary Seat (Steel)	2	**	**
153B	Seal Face (Carbon)	2	**	**
153C	Jacket Assembly	2	**	**
153D	O-Ring - Stationary (Buna-N)	2	711924	702025
153E	O-Ring Rotating (Buna-N)	2	711918	711912

¹ Included in Maintenance Kit and Rebuild Kit

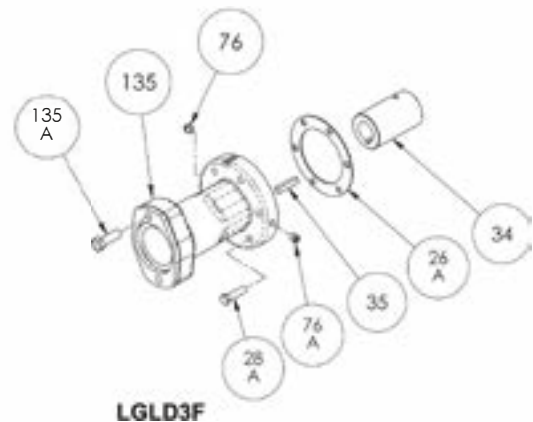
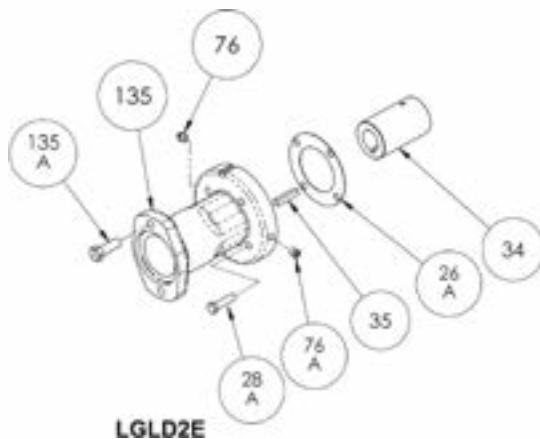
** NOTE: Mechanical Seal Ref. No. 153 is only sold as a complete assembly. Ref. Nos. 153A, 153B & 153C are not available as separate replacement parts.



OPTIONAL HYDRAULIC MOTOR ADAPTER PARTS

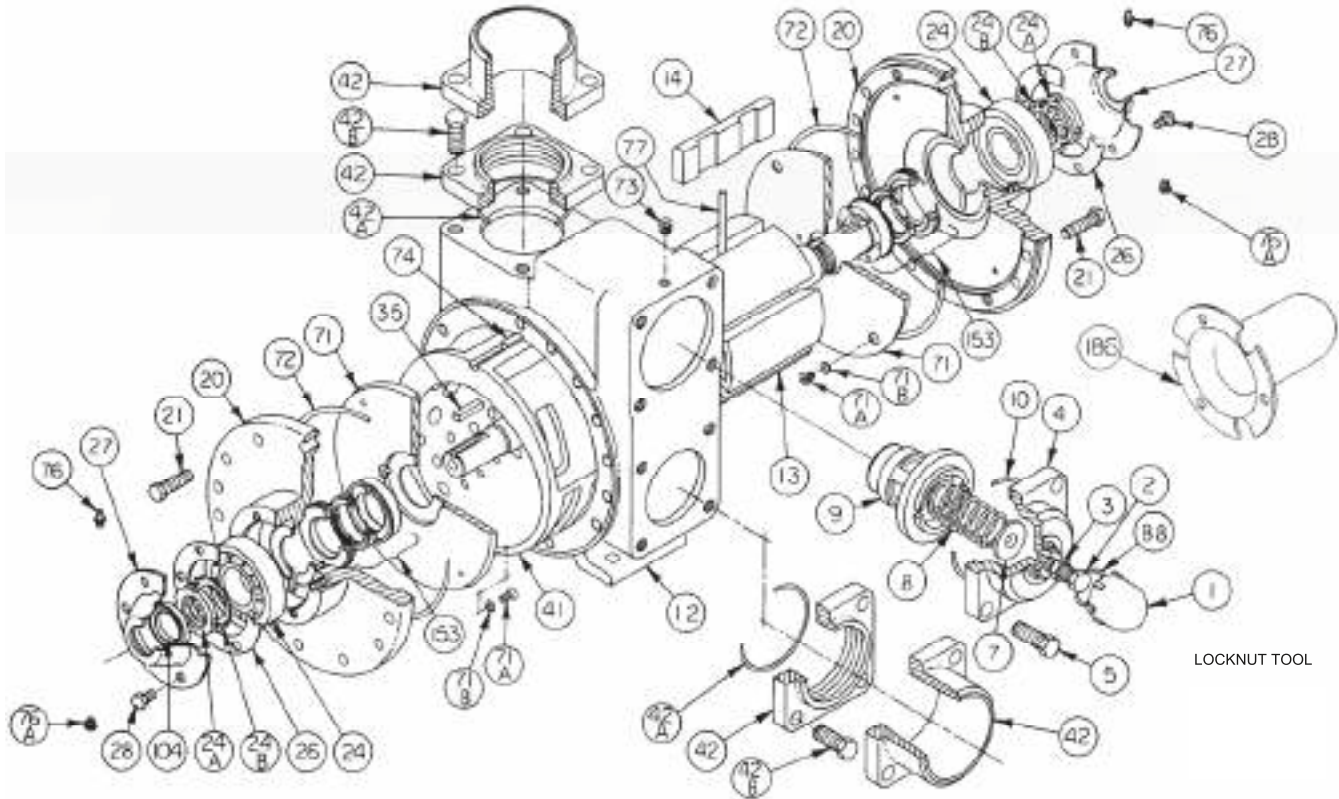
Ref. No.	Description	Parts Per Pump	Size 2 Item Number 1-1/4" Hyd Motor Shaft	Size 2 Item Number 1-1/4" Hyd Motor Shaft	Size 3 Item Number 1" Hyd Motor Shaft
See Below	Hydraulic Motor Adapter Kit *	See Below	894425	895140	895143
26A	Gasket- Hydraulic Motor Adapter	1	383940	381817	381817
28A	Capscrew – Hydraulic Motor Adapter / Head	4 / 6	920369	920369	920369
34	Coupling w/ Setscrew – straight key hydraulic motor shaft	1	906967	906967	906990
35	Key – Coupling	1	909184	909184	909184
76	Grease Fitting	1	317815	317815	317815
76A	Grease Relief Fitting	1	701992	701992	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041827	041831	041831
135A	Capscrew – Adapter / Motor	2	920510	920510	920510

* Hydraulic Motor Adapter Kits shipped prior to Spring 2002 were of a two piece design – refer to page 206-C00.



PUMPS: REPAIR PARTS & KITS

BLACKMER PARTS LIST PUMP MODEL: LGLD4B



Ref. No.	Description	Parts Per Pump	Item Number	Ref. No.	Description	Parts Per Pump	Item Number
1	Cap - Relief Valve (R/V)	1	413957	41	Liner	1	² 182000
2	Adjusting Screw - R/V	1	436310	42	Flange - 3" NPT	1 - 2	652012
3	Locknut - Adjusting Screw	1	432039		Flange - 3" Weld		652007
4	Cover - R/V	1	412001		Flange - 4" Weld		652005
5	Capscrew - R/V Cover	4	920663	42A	O-Ring - NPT, Weld Flange	2	¹ 701937
7	Spring Guide - R/V	1	426355	42B	Capscrew - NPT Flange	8	920663
8	Spring - R/V	1	¹ 472039		Capscrew - Weld Flange		920640
9	Valve - R/V	1	452001	71	Disc	2	¹ 062039
10	O-Ring - R/V Cover	1	¹ 701946	71A	Machine Screw - Disc	8	² 920015
12	Casing	1	012019	71B	Lockwasher - Machine Screw	8	² 909634
13	Rotor & Shaft Asy, Dbl. End (Includes Ref. No. 24A & 24B)	1	² 262041	72	O-Ring - Head	2	¹ 702039
14	Vane - Duravane	6	¹ 092019	73	Gage Plug	2	908198
20	Head	2	032041	74	Key - Liner	1	² 182040
21	Capscrews - Head	28	920532	76	Grease Fitting	2	317815
24	Ball Bearing	2	¹ 903166	76A	Grease Relief Fitting	2	701992
24A	Locknut - Bearing	2	² 903541	77	Push Rod - composite - LGLD4B	3	¹ 122009
24B	Lockwasher - Bearing	2	¹ 903542	88	O-Ring - R/V Cap	1	¹ 701926
26	Gasket - Bearing Cover	2	¹ 385125	104	Grease Seal - LGLD4B	2	¹ 331908
27	Bearing Cover - LGLD4B	2	041815	186	Shaft Protector	1	341801
28	Capscrews - Bearing Cover	12	920285		Tool - Locknut		903092
35	Key - Shaft	1	¹ 909183		Kit - Maintenance		898922
					Kit - Rebuild -LGLD4B		899022

¹ Included in Maintenance Kit and Rebuild Kit ² Included in Rebuild Kit only

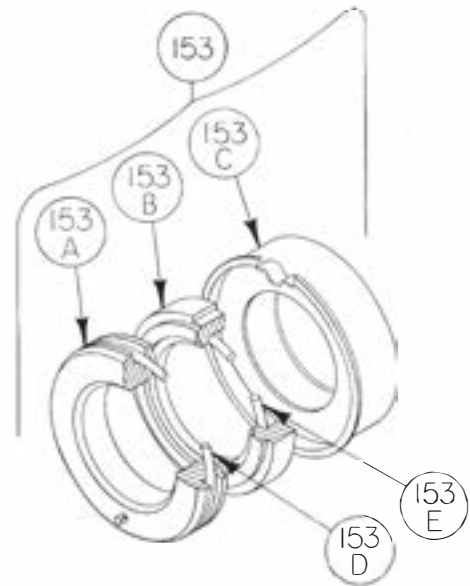
PUMPS: REPAIR PARTS & KITS

MECHANICAL SEAL - STANDARD

Ref. No.	Description	Parts Per Pump	Item Number
153	Mechanical Seal Assembly	2	¹ 332050
153A	Stationary Seat (Hardened Steel)	2	**
153B	Seal Face (Carbon)	2	**
153C	Jacket Assembly	2	**
153D	O-Ring - Stationary (Buna-N)	2	701934
153E	O-Ring - Rotating (Buna-N)	2	711912

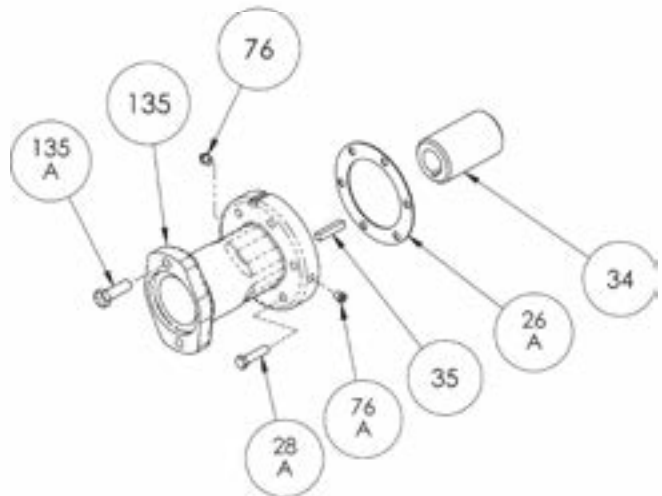
¹ Included in Maintenance Kit and Rebuild Kits

** NOTE: Mechanical Seal Ref. No. 153 is only sold as a complete assembly.
Ref. Nos. 153A, 153B & 153C are not available as separate replacement parts.



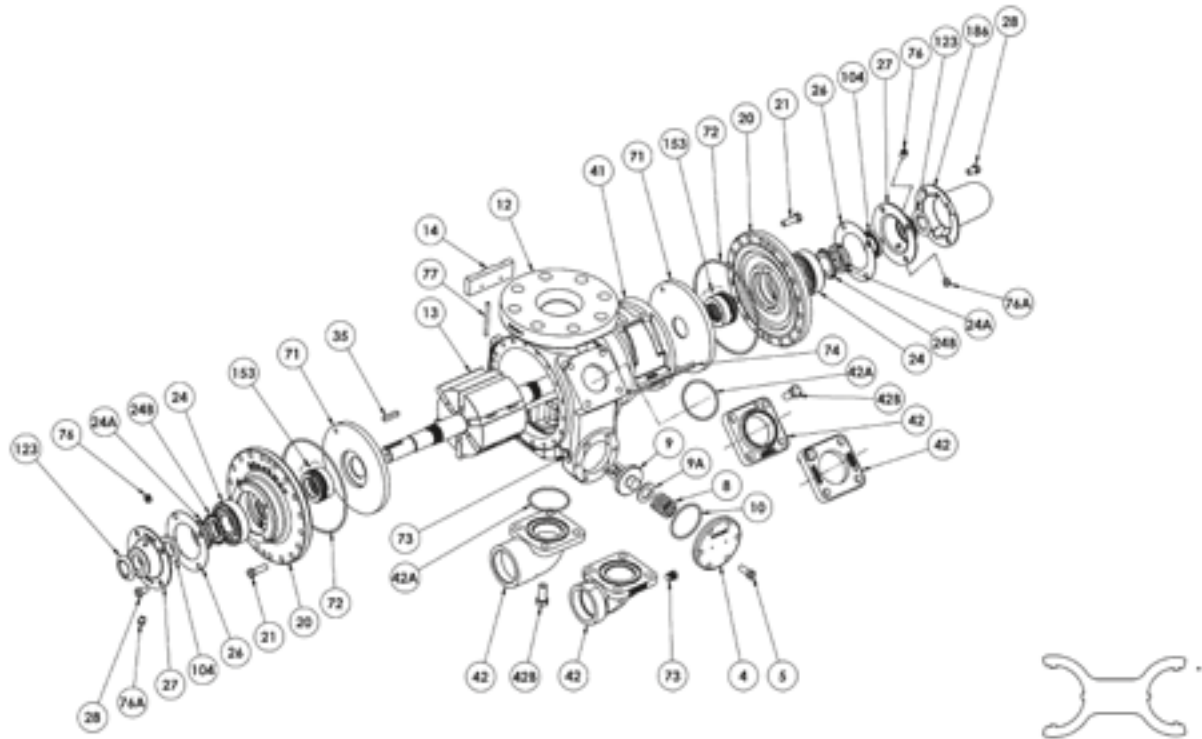
HYDRAULIC MOTOR ADAPTER PARTS

Ref. No.	Description	Parts Per Pump	Item Number
See Below	Hydraulic Motor Adapter Kit *	See Below	892037
26A	Gasket – Hydraulic Motor Adapter	1	381817
28A	Capscrew – Hydraulic Motor Adapter / Head	6	920369
34	Coupling w/ Setscrew – 1.25" straight key hyd. motor shaft	1	906970
35	Key – Coupling	1	909184
76	Grease Fitting	1	317815
76A	Grease Relief Fitting	1	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041829
135A	Capscrew – Adapter / Motor	2	920510



PUMPS: REPAIR PARTS & KITS

BLACKMER PARTS LIST PUMP MODEL: TLGLF3C



Ref. No.	Description	Parts Per Pump	Item Number	Ref. No.	Description	Parts Per Pump	Item Number	
4	Cover - Relief Valve (R/V)	1	415108	42	Flange - 2" NPT	1-2	652010	
5	Capscrew - R/V Cover	6	920331		Flange - 2" Slip-on Weld		652024	
8	Spring - R/V	1	¹ 471428		Flanged Elbow - 2" NPT		655100	
9	Valve - R/V	1	⁴ 451460		Flanged El - 2" Socket Weld		655109	
9A	Relief Valve Shim, .035"	0-1	332907		Blank Flange for Auxiliary Inlet		652036	
	Relief Valve Shim, .075"		332937		Flange - 2" NPT Stainless		655200	
10	O-Ring - R/V Cover	1	¹ 701919		Flange - 2" Slip-on Weld Stainless		655209	
12	Casing	1	015128		Flange - 2" Socket Weld El Stainless		655224	
13	Rotor & Shaft Assembly ⁵	1	² 265147		42A		O-Ring - Flange 2 5/8" x 2 7/8" (current)	^{1,3} 702004
14	Vane - Duravane	6	¹ 095132				O-Ring - Flange 2 1/2" x 2 3/4" (older pumps)	¹ 701919
20	Head	2	035132	42B	Capscrew - Flanges	8	920491	
21	Capscrews - Head	36	920351	71	Disc	2	¹ 065121	
24	Ball Bearing	2	¹ 903156	72	O-Ring - Head	2	¹ 711923	
24A	Locknut - Bearing	2	² 903521	73	Gage Plug	2	908198	
24B	Lockwasher - Bearing	2	¹ 903522	74	Key - Liner	1	² 185193	
26	Gasket - Bearing Cover	2	¹ 383940	76	Grease Fitting	2	317815	
27	Bearing Cover	2	041431	76A	Grease Relief Fitting	2	701992	
28	Capscrews - Bearing Cover	8	920285	77	Push Rod	3	¹ 121607	
35	Key - Shaft Current, .25 Sq.	1	¹ 909209	104	Grease Seal	2	¹ 331918	
	Key - Shaft OBS, Woodruff		¹ 909130	123	Dirt Shield	2	¹ 701480	
41	Liner	1	² 185101	186	Shaft Protector	1	341601	
				—	Tool - Locknut	—	903091	
				—	Kit - Maintenance	—	898980	
				—	Kit - Maintenance with R/V	—	899225	
				—	Kit - Rebuild	—	899080	
				—	Kit - Rebuild with R/V	—	899125	

¹ Included in Maintenance Kit and Rebuild Kit

² Included in Rebuild Kit

³ Larger O-Ring introduced October 2002

⁴ Additional parts Included in Kits with R/V

⁵ Includes Ref. No. 24A & 24B

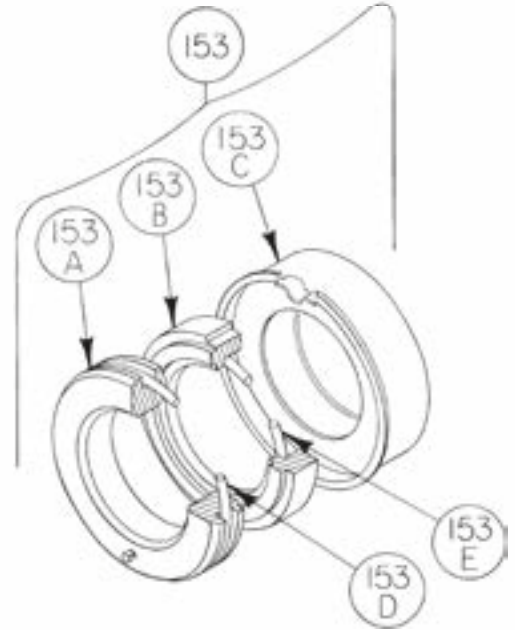
PUMPS: REPAIR PARTS & KITS

MECHANICAL SEAL – NH₃ OR DUAL SERVICE – SNCN (ID Code = QA)

Ref. No.	Description	Parts Per Pump	Item Number
153	Mechanical Seal Assembly	2	¹ 334439
153A	Stationary Seat (Steel)	2	**
153B	Seal Face (Carbon)	2	**
153C	Jacket Assembly	2	**
153D	O-Ring - Stationary (Buna-N)	2	711924
153E	O-Ring - Rotating (Buna-N)	2	711918

¹ Included in Maintenance Kit and Rebuild Kit

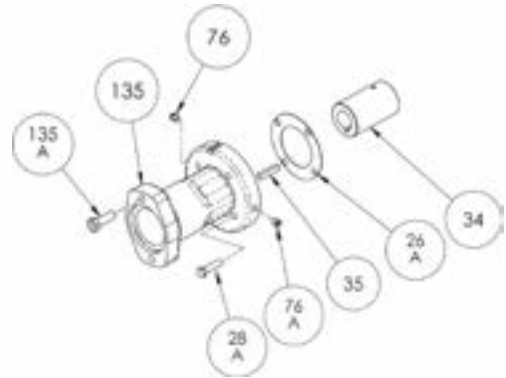
** NOTE: Mechanical Seal Ref. No. 153 is only sold as a complete assembly. Ref. Nos. 153A, 153B & 153C are not available as separate replacement parts.



OPTIONAL HYDRAULIC MOTOR ADAPTER PARTS

Ref. No.	Description	Parts Per Pump	Item Number 1-1/4" Hyd Motor Shaft	Item Number 1" Hyd Motor Shaft
See Below	Hydraulic Motor Adapter Kit *	See Below	891458	891205
26A	Gasket – Hydraulic Motor Adapter	1	383940	383940
28A	Capscrew – Hydraulic Motor Adapter / Head	4	920369	920369
34	Coupling w/ Setscrew – straight key hyd. motor shaft	1	906967	906966
35	Key – Coupling	1	909184	N/A
76	Grease Fitting	1	317815	317815
76A	Grease Relief Fitting	1	701992	701992
135	Hydraulic Motor Adapter – SAE A Flange	1	041828	041827
135A	Capscrew – Adapter / Motor	2	920510	920510

* Hydraulic Motor Adapter Kits shipped prior to Spring 2002 were a two piece design.



CORKEN PUMP REPAIR KITS

Corken Pump Repair Parts

Pump	Seal Assembly	Impeller
F9	113-CXA	1003-09
C10/F10	113-CXA	1003-0
C12/F12	113-CXA	1003-2
C13/F13	113-CXA	1003-3
C14/F14	113-CXA	1003-4
F15	113-CXA	1003-5



Turbine Pumps

Corken Pump Repair Parts

Pump Models	Repair Kit	Seal Assembly	Rotor & Shaft	Liner
521E, 522E T522E TR522E	2904-X2	1769-XRA	1166-1X12R	1162-2
T522G TR522G	3109-X1	1769-XRA	1166-1X8R	1162-2Z
T722G TR722G	2905-X5	1769-XRA	3983-X2R	4060
1021E 1022E F1021E F1022E	2906-X2	1769-XRA	1208-1X2R	1201-2
F1521F F1522F T1522F TR1522F	2907-X3	1769-XRA	3350-X1R	1792-1
Z3200	3195-X1	4431-XA2	4495-X2R	4242



Sliding Vane Pumps

MOTORS & ACCESSORIES

Explosion Proof Motors

Single Phase

Manufacturer	Item No.	H.P.	RPM	Frame	Volts	Ship. Wt.
Marathon	G870	1	1725	56C	115/230	57 lbs.
Marathon	605SP	1-1/2	1725	56C	115/230	73 lbs.
Baldor	L5020*	5	1725	215	230	164 lbs.



605SP

Three Phase

Item No.	H.P.	RPM	Frame	Volts	Ship. Wt.
U058*	1-1/2	3600	143T	230/460	42 lbs.
U004*	3	1725	182TC	230/460	70 lbs.
U005*	5	1725	184T	230/460	99 lbs.
U061*	5	3600	184T	230/460	85 lbs.
U006*	7-1/2	1725	213T	230/460	169 lbs.
U007	10	1725	215T	230/460	163 lbs.
U008*	15	1800	254T	230/460	319 lbs.



Explosion Proof Motor

Variable Frequency Drive (VFD)

IP65 Frequency Inverter

- Can be used in place of a 3-phase motor starter. The RPM's on the motor can be changed & controlled by VFD.
- Can be used at a site that has a single phase power. The VFD will convert the current to 3 phase for the propane motor/pump.



VFD



Browning Two-Groove Sheaves

Item Number	O.D.	Bushing	Sheave #
1A380*	3.75"	P1 Series	27B34
1A010*	4.15"	P1 Series	27B38
1A011*	4.55"	P1 Series	27B42
1A381*	4.95"	P1 Series	27B46
1A012*	5.15"	P1 Series	27B48
1A013	5.35"	P1 Series	27B50
1A382*	5.75"	P1 Series	27B54
1A014*	6.15"	P1 Series	27B58
1A390	12.75"	Q1 Series	27B124
1A391*	13.95"	Q1 Series	27B136

V-Belts

Item Number	Description
6X874	B52
3X613	B62
3X614*	B64
3X642*	B71
3X615*	B72
3X643*	B75



Lovejoy Coupling Half Bodies

Item Number	Description
4X188*	7/8" L090 Coupling
4X192*	7/8" L095 Coupling
6X075*	7/8" L100 Coupling
6X076*	1" L100 Coupling
4X194*	1-1/8" L100 Coupling
4X183*	7/8" L075 Coupling
4X186*	5/8" L090 Coupling
4X195*	1-1/4" L100 Coupling
6X073*	1-1/8" L095 Coupling



Spider Couplings

Item Number	Description
1X407*	Buna, for L090 & L095 Couplings
1X406*	Buna, for L100 Couplings
1A414*	Hytrel, for L150 Couplings



Adjustable Motor Bases

Item Number	Description
3M278*	145T
3M280*	184T, 184
3M281*	213T, 213
3M282	215T, 215



Browning Malleable Split Taper Bushings

Item Number	Shaft Dia.	Series
3X483*	1-1/8	P1
3X482	1-3/8	P1
3X465	1-1/8	Q1
3A154*	1-1/4	Q1
3X467*	1-3/8	Q1
3X480*	1-1/8	P2



ELECTRICAL EQUIPMENT

XS Series Tumbler Switch

Features

- Class I, Groups C, D
 - Class II, Groups E, F, G
 - Class III NEMA 7 C D, 9 E F G
- 2-pole 120/277 VAC, 10/ switch rated at 20A.

Item Number	Description
XS-2C	Cover with Device



SWB Series Device Bodies

Features

- Single Hub – SWB 1, 2, 3
- Class I, Groups C, D
- Class III NEMA 7 C D, 9 E F G
- Dual Hub – SWB 4, 5, 6
- Class II, Groups E, F, G

For use with XCS, XS, & XT Series Covers

Ext. Dimensions: 5-7/8L x 3W x 2-1/4"D

Mounting: 5-1/4 Vertical, 2-1/4 Horizontal

Item Number	Hub Information
SWB-1*	½ Single
SWB-2*	¾ Single
SWB-4	½ Double



Truck meters

For custody transfer applications requiring Weights and Measures-approved accuracy, Liquid Controls M and MA Series truck meters provide the industry's most time-proven and respected records of superior value and performance. LC truck meter accessories include air eliminators, strainers, valves, and a choice of mechanical or electronic registers and printers for presetting, totalizing deliveries, and printing tickets.

Common truck meter model numbers

Application	Description	Model
LPG	2", 100-GPM aluminum-body meter with strainer/air eliminator, backcheck valve, preset valve, electronic register, and printer	M-7-CLI-1/LCR-II



***M-7 with electronic registration
(with E-7 valve, optical air eliminator,
and high-capacity air eliminator)***

LPG autogas dispenser meter

The MA-4 meter is specially designed for LPG autogas dispensers. It is available in two configurations: a single meter design for dispensers with one delivery hose, and a dual meter design for dispensers with two delivery hoses. The efficient, dual meter unit economizes space by utilizing a single strainer/vapor eliminator for both meters, and incorporates an integrally mounted differential valve on top of each meter. Meters are available with electronic temperature-volume compensation. The flow range for the MA-4 LPG dispenser meter is 2.5 to 40 GPM. Regulatory approvals include NTEP, NFPA 58, and UL 25. Hazardous Location Rating is Class I, Division 1, Group D (LPG).

Common dispenser meter model numbers

Application	Description	Model
LPG autogas dispenser	1", 40 GPM LPG dispenser meter (single)	MA-4
	1", 40 GPM LPG dispenser meter (dual) [†]	MA-4

[†] Maximum flowrate for both meters (combined) is 40 GPM



MA-4 LPG dispenser meter, single



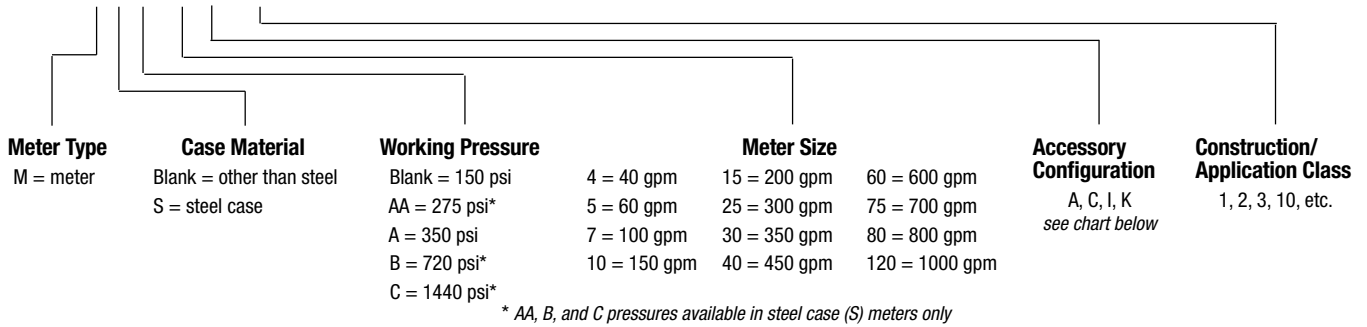
MA-4 LPG dispenser meter, dual

METERS: LC Meters

Ordering Information

Model number coding description

MSA-7-A-10



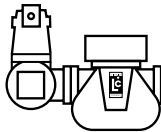
Standard accessory configurations

A Meter with counter



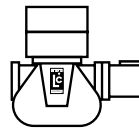
Optional Accessories: Printer, Strainer

C Meter with counter, strainer and air eliminator



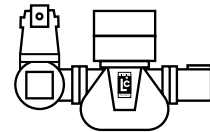
Optional Accessories: Printer

I Meter with counter, preset counter and preset valve



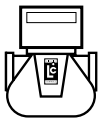
Optional Accessories: Printer, Strainer

K Meter with counter, preset counter, preset valve, strainer and air eliminator



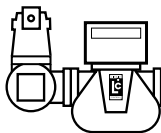
Optional Accessories: Printer

ALI Meter with electronic register



Optional Accessories: Printer, Strainer, Valve, ETVC

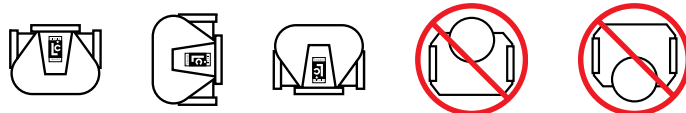
CLI Meter with electronic register, strainer, and air eliminator



Optional Accessories: Printer, Valve, ETVC

Mounting arrangements

LC meters may be mounted in a variety of configurations, as shown below. Do not position the meter on its side, i.e., with cover plate face down or up.



Regardless of meter mounting configurations, accessories such as the air/vapor eliminator must always be mounted in a vertical orientation to permit proper operation of the float-actuated apparatus.

LectroCount® LCR-II™

Features

- Simple 'Pump & Print' delivery system
- Weights & Measures custody transfer (product delivery and ticket generation)
- Metrological data collection
- Four product calibrations
- Multi-point and Single-point Calibration
- Printed delivery, shift, and diagnostic tickets
- Security settings
- Two auxiliary programmable outputs
- No-flow timer
- Electronic temperature volume compensation (ETVC) optional
- Electronic presetting by volume
- Electronic valve control
- Electronic air or vapor elimination
- 10-digit totalizer
- NEMA 4X enclosure
- Available in Class I, Div 1 or Div 2 enclosure, Groups C & D



LectroCount® LCR 600™

Features

- Point-of-Sale (POS) and FlightConnect upgrades optional
- Customized pricing, taxes, discounts, and miscellaneous charges with POS upgrade
- Simple 'Pump & Print' delivery system
- Weights & Measures custody transfer (product delivery and ticket generation)
- 16 product calibrations POS only
- Multi-point and Single-point Calibration
- Four delivery screens
- Volume, flow rate, and other key values visible during delivery
- Printed shift and diagnostic tickets
- In-field configuration and setup
- Two auxiliary programmable outputs
- No-flow timer
- Electronic temperature volume compensation (ETVC)
- Electronic presetting by volume and price price presetting with POS upgrade
- Electronic valve control
- Electronic air or vapor elimination
- NEMA 4X enclosure



- Proven long service life
- Increased accuracy with multi-point calibration
- Reliable in harsh environments
- Reduced delivery times and billing errors with priced and taxed delivery tickets with POS
- Reduce time to post and shorten cash cycle with POS
- Industry-specific applications: POS and FlightConnect

METERS: LectroCount®

DMS™

Features

- Simultaneously manage deliveries from up to three meter systems
- Two auxiliary ports for custom devices
- Three programmable outputs for injectors, warning lamps, and other devices
- Software designed to specific applications available: customer-direct fueling, fleet fueling, and aviation refueling
- Rugged construction provides longevity and operation in extreme environments
- Data transfer via RF, cellular, or USB
- Two support software programs preinstalled
- Controls all LectroCount® register functions and settings



LectroCount® Systems: Features Table



LCR-II



LCR 600



DMS & LCR-II

Weights & Measures Approval	✓	✓	✓
Weights & Measures Security	✓	✓	✓
Pump & Print	✓	✓	✓
POS (Point of Sale)		✓	✓
DMS Delivery			✓
EZConnect			✓
FlightConnect		✓	✓
Diagnostics	✓	✓	✓
Shift Tickets	✓	✓	✓
Single-point Calibration	✓	✓	✓
Multi-point Calibration	✓	✓	✓
4 Product Calibrations	✓		✓
16 Product Calibrations		✓	
Volumetric Presetting	✓	✓	✓
Price Presetting		✓	✓
Valve Control	✓	✓	✓
Wireless Communication		✓	✓
Electronic Air and Vapor Elimination	✓	✓	✓
Differential Pressure Shutdown	✓	✓	✓
Low Flow Auxiliary Output	✓	✓	✓
No-flow Timer	✓	✓	✓
Integrated Keypad Controls		✓	

Electronic Accessories

POD (Pulse Output Device)

The POD converts the rotary motion of Liquid Controls flowmeters into a high resolution, unscaled pulse stream. The POD's pulse stream is accepted by LectroCount® registers and a wide variety of other electronic monitoring devices and control equipment.



XL LED Remote Display

Perfect for aviation refuelers, load racks, and other applications in vast spaces where long-distance viewing is necessary, the six 2¼" high digits, each consisting of 18 red LED lights, are discernible from up to 250 feet away.



Differential Pressure (ΔP) Transducer

The ΔP transducer is a safety shutdown device and a maintenance tool for aviation refueling systems. The ΔP transducer, in conjunction with a LectroCount® register and a solenoid operated valve, stops deliveries when the differential pressure (ΔP = pressure drop) across a full flow fuel monitor or filter separator meets a preprogrammed differential pressure shutdown value, eliminating the risk of tainted fuel deliveries and meter damage. Maximum differential pressure (across the full flow fuel monitor or filter separator) and the corresponding flow rate are printed on the ticket.



Printers

Epson slip printers and Epson roll printers are industry standards for mobile and stationary flowmeter systems. Epson printers provide multiple copies of delivery tickets, diagnostic tickets, calibration reports, and shift tickets.



Epson Roll Printer



Epson Slip Printer

EZCommand™

EZCommand™ is a user-friendly Windows®-based interface that saves and distributes LectroCount® register settings and updates. It is a simple way to coordinate configurations and setups across your entire fleet.



METERS: LectroCount®

Electronic Accessories

Electronic Temperature Volume Compensation (ETVC)

The ETVC kit all but eliminates the effect of product temperature change on the delivered volume. The platinum RTD probe sends two temperature readings per second back to the LectroCount® register. It is accurate to 0.45 °F over the operating temperature range of -40 to 158 °F. Features include field programming for base temperature and a coefficient of expansion (or API) table.



Electronic Valves

LectroCount® registers can control a number of different types of solenoid control valves. Ask your Liquid Controls representative which valve is right for your application.



E-7 Valve



Block Valve



500 Series Valve

Optical Air and Vapor Eliminators

Optical air and vapor eliminators detect and eliminate air or vapor from the system before it reaches the flowmeter's measuring chamber. Optical air and vapor eliminators have no internal moving parts, so maintenance costs and downtime are minimal.



Optical Vapor Eliminator



Optical Air Eliminator

Dual Meter Module (cab mounted)

The dual meter module permits sequential operation and control of two flowmeter systems with LectroCount® registers. The dual meter module reduces the size and cost of dual meter installations.



Lap Pad (cab mounted)

The lap pad is a valuable tool for the set up and calibration LectroCount® registers, especially the LCR-II. It has a large, tactile, alpha-numeric keyboard and a dual line, backlit display.



SCAMP™

SCAMP™ is an advanced electronic flowmeter signal conditioner that converts the output signal from the flowmeter into a volumetric unit of measure. Features include temperature correction to delivered volume measurements (API standard or programmable coefficient of expansion) and multi-point calibration.





At the center of the **CENTRLOGIQ®** platform is the **LCR.iQ®**, built from the ground up by Liquid Controls' Research & Development team and close collaboration with customers who will benefit from it! Ease of use, process configurability, and data security were the highest priorities in the design and foundation of the **LCR.iQ®**.

HIGH-RESOLUTION DISPLAY WITH DAY/NIGHT MODES

7" ultra bright video display designed for extreme climates and rigorous fueling environments.

LARGE SCALABLE DIGITS FOR EASY VIEWING

Large digits provide easy viewing, day or night, up to 100 feet (30 m) away.

CONFIGURABLE FUELING DATA

The **LCR.iQ®** allows users complete control over the fueling data fields displayed on the detailed delivery screen.

SMART KEYS FOR GUIDED OPERATION

Smart keys guide the operator through the next available steps in the operation to minimize risk of error.

LARGE KEYS FOR EASY OPERATION

Large, petroleum and UV resistant elastomeric keys provide confident feel and consistent operation.

METER MOUNT BASE

Liquid Controls standard meter-mount base with integrated pulser allows easy mount-and-connect retrofit.



PANEL MOUNT ENCLOSURE OPTION

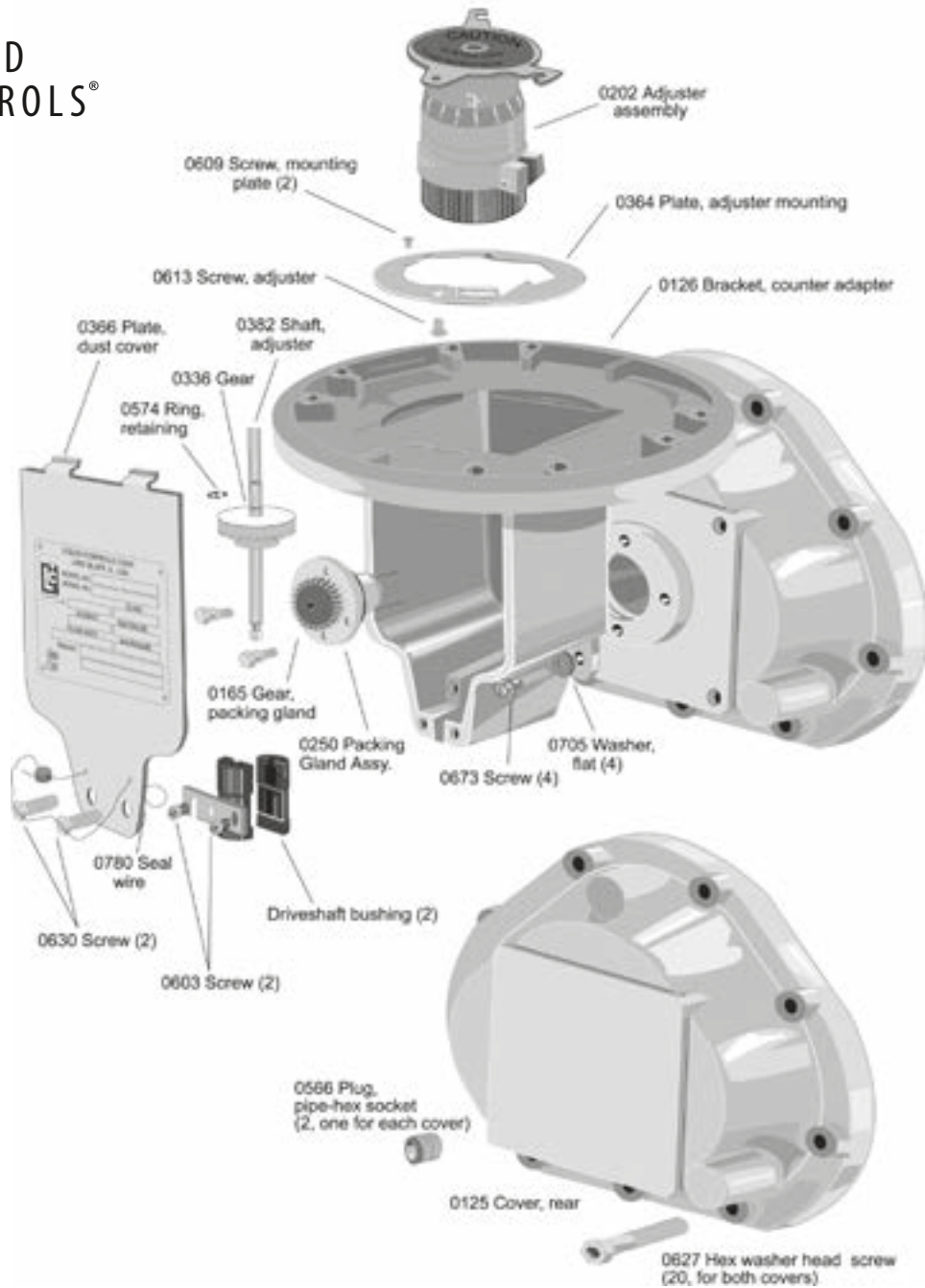
New panel mount design allows convenient remote mounting, providing OEMs greater design flexibility.

ACTIVE FUELING FULL SCREEN MODE

Yellow background indicates active fueling mode to improving safety and fueling status awareness of operators,

METERS: LC COVERS

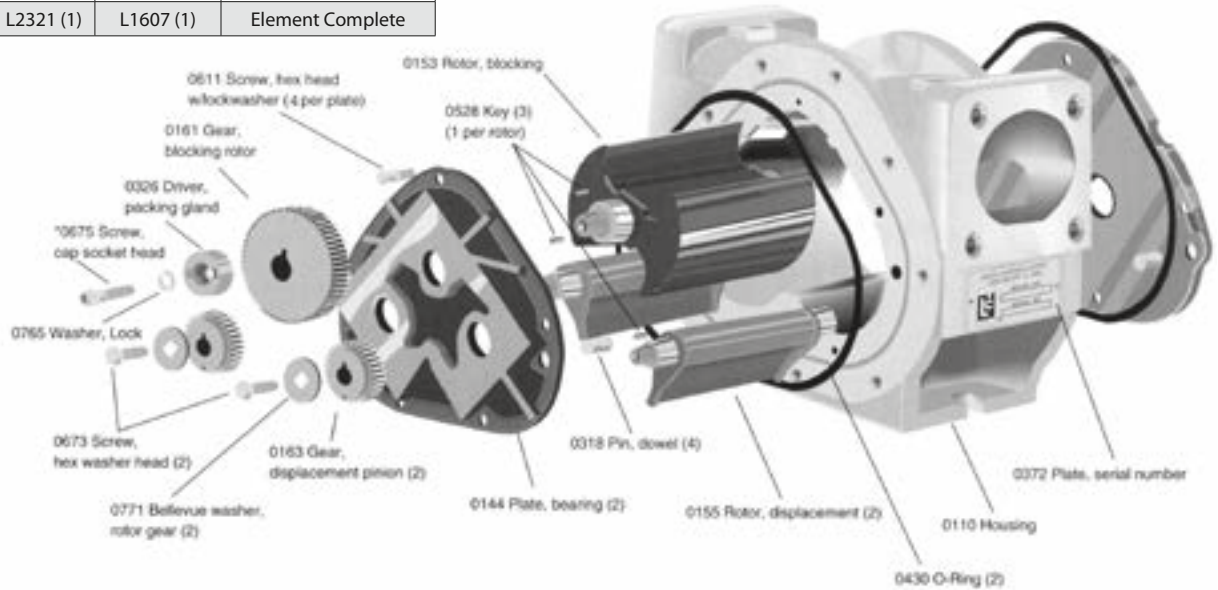
MA-4, MA-5 and MA-7 Meter Covers



Reference No.	MA-7	MA-4, MA-5	Quantity	Description
0202	49403	49043	1	Adjuster
0126	49434	49434	1	Bracket, Counter Adapter
0382	48287	48287	1	Shaft Adjuster
0574	2188	2188	1	Retaining Ring
0336	40122	40122	1	Gear
0250	49561	49561	1	Packing Gland Assy
0382	41786	41786	2	Driveshaft Bushing - Half

Liquid Controls® MA-4, MA-5 and MA-7 Meter Housing

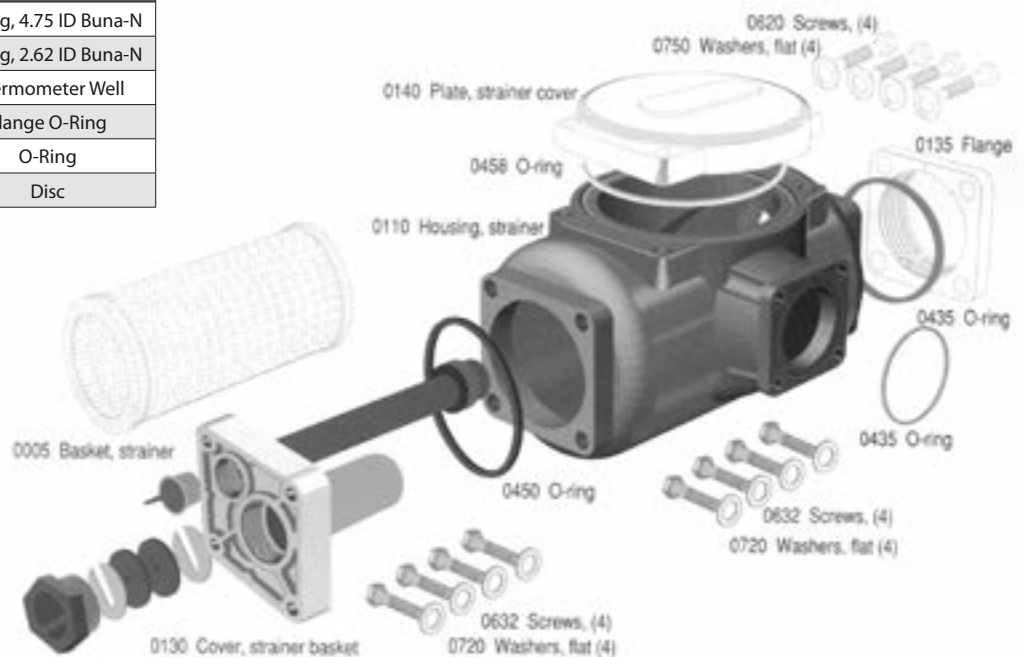
Reference No.	MA-7	MA-4, MA-5	Description
0153	48306	48079	Blocking Rotor Assy
0155	48366	48078 (2)	Displacement Rotor
0144	47667	47670	Bearing Plate
0771	48348 (2)	48319 (2)	Washer Rotor Gear
0673	9027 (2)	9110 (4)	Screw Hex Head
0675	7483 (1)	09336 (1)	Screw Socket Head
0528	48332 (3)	48345 (3)	Key
0611	9079 (6)	09079 (8)	Screw Hex Head
0430	9258 (2)	09278 (2)	O-Ring
—	L2321 (1)	L1607 (1)	Element Complete



METERS: LC STRAINERS

FA 7 Strainer Assembly

Reference No.	Item Number	Quantity	Description
0458	9335	1	O-Ring, 4.75 ID Buna-N
0450	6844	1	O-Ring, 2.62 ID Buna-N
0130	45420	1	Thermometer Well
0135	A2241	1	Flange O-Ring
0435	06854	2	O-Ring
—	42418	1	Disc



METERS: LC BACK CHECK VALVES

Model A2885 (For LPG)

Used on meters sold AFTER December 19, 1991 beginning with Serial No. 225233

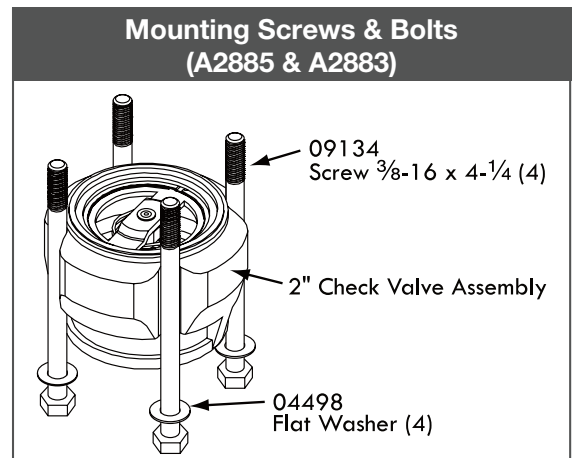
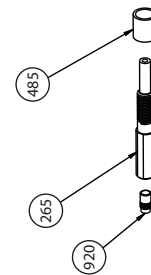
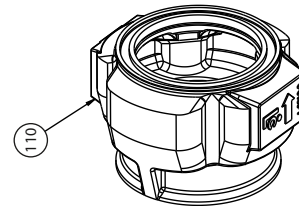
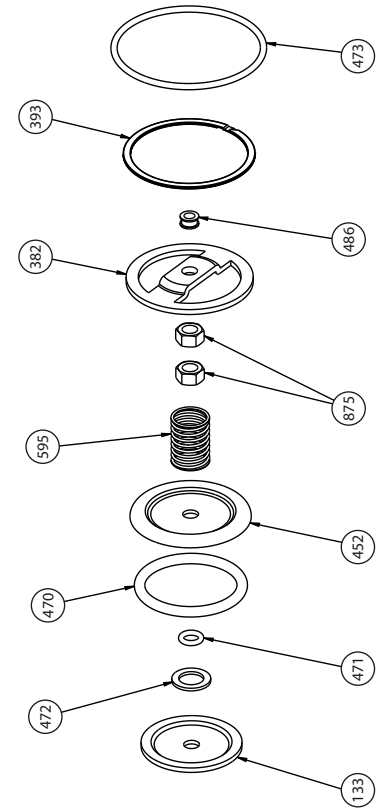
501565 2" Check Valve Assembly		
Item Number	Description	Part Number
486	Bearing	N/S*
473	Buna-N O-Ring	06854
393	Spiral Retaining Spring	09137
382	Valve Spring Holder	48337
595	Compression Spring	09138
875	Self Locking Nut (2)	09143
452	O-Ring Retainer	47974
470	Buna-N O-Ring	09131
471	Buna-N O-Ring	09140
472	Spacer	47295
133	Piston	47975
265	Valve Stem	N/S
485	Bushing	07867
110	Check Valve Housing	47973
920	Valve Core	N/S

*N/S = Not for Sale

Model A2883 (For LPG)

Used on meters sold BEFORE December 19, 1991 ending with Serial No. 225232

501566 2" Check Valve Assembly		
Item Number	Description	Part Number
486	Bearing	N/S
473	Buna-N O-Ring	06854
393	Spiral Retaining Spring	09137
382	Valve Spring Holder	48337
595	Compression Spring	09138
875	Self Locking Nut (2)	09143
452	O-Ring Retainer	47974
470	Buna-N O-Ring	09131
471	Buna-N O-Ring	09140
472	Spacer	47295
133	Piston	47975
265	Valve Stem	N/S
485	Bushing	07867
110	Check Valve Housing	47994
920	Valve Core	N/S



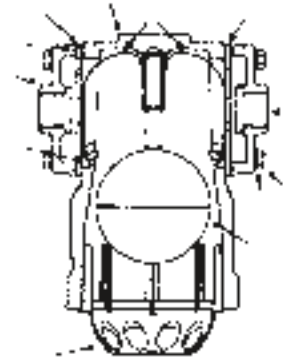
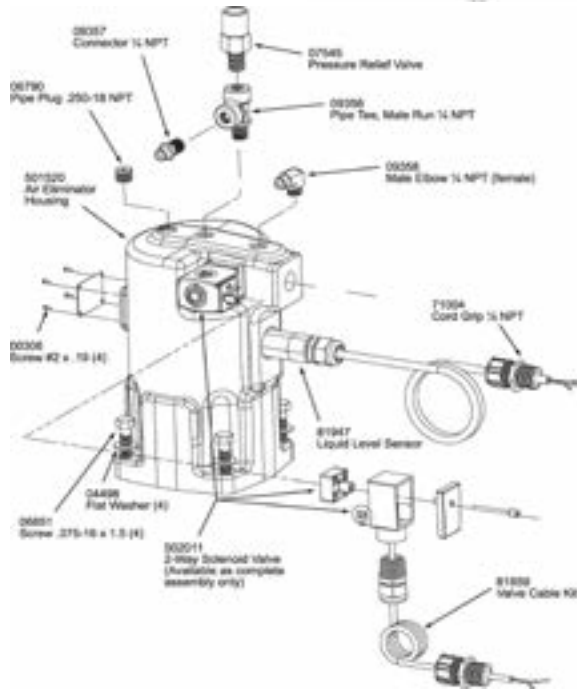


A8340A Vapor Eliminator

Reference No.	Item Number	Quantity	Description
0230	501040	1	Float and Reed Assembly
0136	42824	1	Valve Plate, Limited Bleed
0134	42822	1	Valve Plate
0434	42823	2	O-Ring Gasket

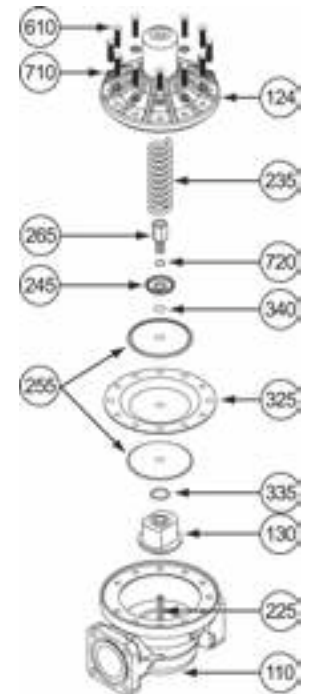


A8302 Optical Vapor Eliminator



A2843 Differential Valve Replacement Parts

Reference No.	Item Number	Description	Qty.
610	04655	Screw, .312-18 X 1.25 HEX HD CAP, GR 5	12
720	06070	Lock Washer, .531 Spring	1
335	06856	O-Ring, .88 ID BUNA-N; UL 1.12 OD X .12 DIA WALL	1
340	07900	O-Ring, .50 ID BUNA-N .69 OD X .09 DIA WALL	1
124	47302	Cover, Valve 2" Diaphragm Differential	1
235	47305	Spring, Compression Spring Diaphragm	1
325	502078	Diaphragm Diaphragm LPG	1
245	47307	Retainer, Spring Retainer-Spring V7	1
255	47308	Plate, Back-Up Plate Back Up V7 S	2
265	47309	Stand-Off, Male to Female 1/2-13 UNC to 3/8-16 UNC	1
130	49947	Piston, Overmolded; BUNA 2" Diff & Block Valves	1
110	47096	Housing, Valve; Machined 2" Block Valve	1
710	09360	Flat Washer, .344 ID .688 OD, .063 THK, HRDND	12



METERS: REGISTER HEADS

Register Heads

Item Number	Make	Printer
D1111	LC	No
P9930REBRH or P9930REBLH	Rebuilt Veeder Root	Yes
833	Neptune	Yes
833REB*	Rebuilt Neptune	Yes
433REB*	Rebuilt Neptune (Old Style)	Yes

*Call for detail on Rebuilts



D1111



P9930REB



833



833REB

Gear Plates

Item Number	Meter
G2146	MA7

Temperature Volume Compensator for Liquid Controls MA Meters

Item Number	Description
D5120	TVC for MA-4, MA-5, MA-7, MA-15



VR-1 Adapter

Kit to adapt a Neptune register to a Liquid Controls meter.

Item Number	Description
VR-1	Neptune Adapter
G5.51	Gear Plate
81369	Shaft for LC Meter



81369

4D

The Red Seal 1¼" and 1½" Type 4D meters, with double case design, have been specifically designed for the custody transfer of Liquefied Propane (LPG) & Butane Gas. These meters utilize the oscillating piston principle positive displacement measuring chamber technology. The standard meter includes a base meter with a register, differential control valve, combination vapor eliminator/strainer, inlet check valve, pressure relief valve, vapor check valve, and tubing kit. Options include: automatic temperature compensator (ATC) and ticket printing register.



OPERATING SPECIFICATIONS

Model/Size	1¼" 4D	1½" 4D
Flow Rate		
Q Max	114 lpm (30 usg)	227 lpm (60 usg)
Q Min	19 lpm (5 usg)	45 lpm (12 usg)
Pressure		
P Max	24.13 bars (350 PSI)	24.13 bars (350 PSI)
P Min	Note 1	
Temperature		
T Max	60°C (140°F)	60°C (140°F)
T Min	Note 2	
A.T.C. Effective Range *Compensates to basepoint of 15°C or (60°F)		
Max	52 (+125)	52 (+125)
Min	-23 (-10)	-23 (-10)
Connections: Inlet check valve and differential valve have 1½" internal N.P.T. (pipe threads) for connection to external piping.		
Note 1: Minimum of 1.034 Bars (15 PSI) is required to open differential control valve, plus pressure loss (P) in system and through dispensing hose and nozzle.		
Note 2: Operation below -23°C (-10°F) is not recommended for mechanical A.T.C.		

4D-MD

The Red Seal 1" Type 4D-MD meter, with double case design has been specifically designed for the custody transfer of liquefied propane (LPG) and butane gas. This meter utilizes the oscillating piston positive displacement measuring chamber technology. The 1" Type 4D-MD is particularly suited for filling portable gas bottles and fuel containers for portable burners, pavement heaters, weed burners, fork lift trucks and motor fuel tanks.

The standard unit includes the base meter with the choice of either a 600 Series totalizing register with a resettable counter or an 800 Series printer register. A differential control valve, combination vapor eliminator/strainer, continuous bleed pressure relief valve and tubing kit are also included. An optional automatic temperature compensator (ATC) is available. The ATC senses product temperature and adjusts the readout to result in registration that is compensated to 15°C (60°F).



1" 4D-MD with 600 Series Register

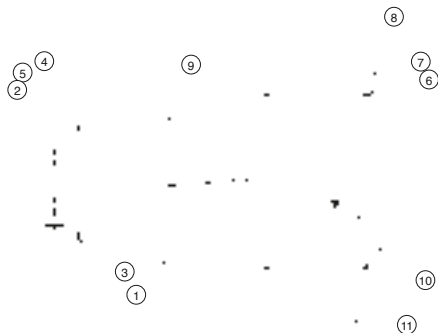
OPERATING SPECIFICATIONS

Flow Rate Maximum Minimum	US Gal./Min. 18 3
Operating Pressure Maximum Minimum	PSI 350 See Note
Operating Temperature (without ATC) Maximum Minimum	°F 140 -10
Temperature Compensation (ATC) Compensates to a basepoint of 15°C (60°F) Range: -23°C to 52°C (-10°F to 125°F)	
Connections Ductile iron companion flange tapped for ¾" std. pipe Optional ductile iron companion flange tapped for 1" std. pipe	

Note: A minimum of 1.034 bars (15 psi) is needed to open the differential control valve, plus pressure loss in the system.

METERS: RED SEAL MEASUREMENT

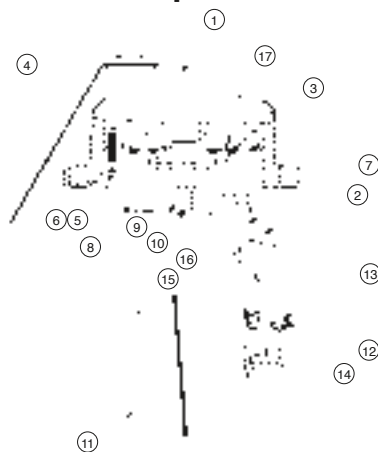
Type 4D-MT Vapor Release and Strainer



Part Number 400076-701

Index	Description	Part No.
1	Main Body Assembly - 4D-MT Vapor Release Bolt, 5/8 11x1 3/4 (Not Shown) Washer Pipe Plug 3/8" Square Head	400086-701 100085-048 041395-000 100075-010
2	Cover Complete - 2" 4D-MT Vapor Release	400078-001
3	O-Ring 1/8 Dia. x 4-1/2 ID BUNA	100139-022
4	Washer, 3/8 Lock - Hel Spring Hi-Collar	100440-001
5	Screw, 3/8-16 x 1 Soc. Head Cap	008325-014
6	O-Ring 1/8 Dia. x 3-3/4 ID BUNA	100139-018
7	Washer, Lock 7/16 Bolt St. Stl.	041012-002
8	Bolt, 7/16-14 x1 3/8 HRX	000795-003
9	Cover Complete - 2" Type 4D-MT Strainer	400074-001
10	Strainer Complete 80 Mesh 2" Type 4D	101405-004
11	Valve, ASM Inlet Check 2" Type 4D	084813-702
12	O-Ring Outlet Flange (Not Shown)	100139-013

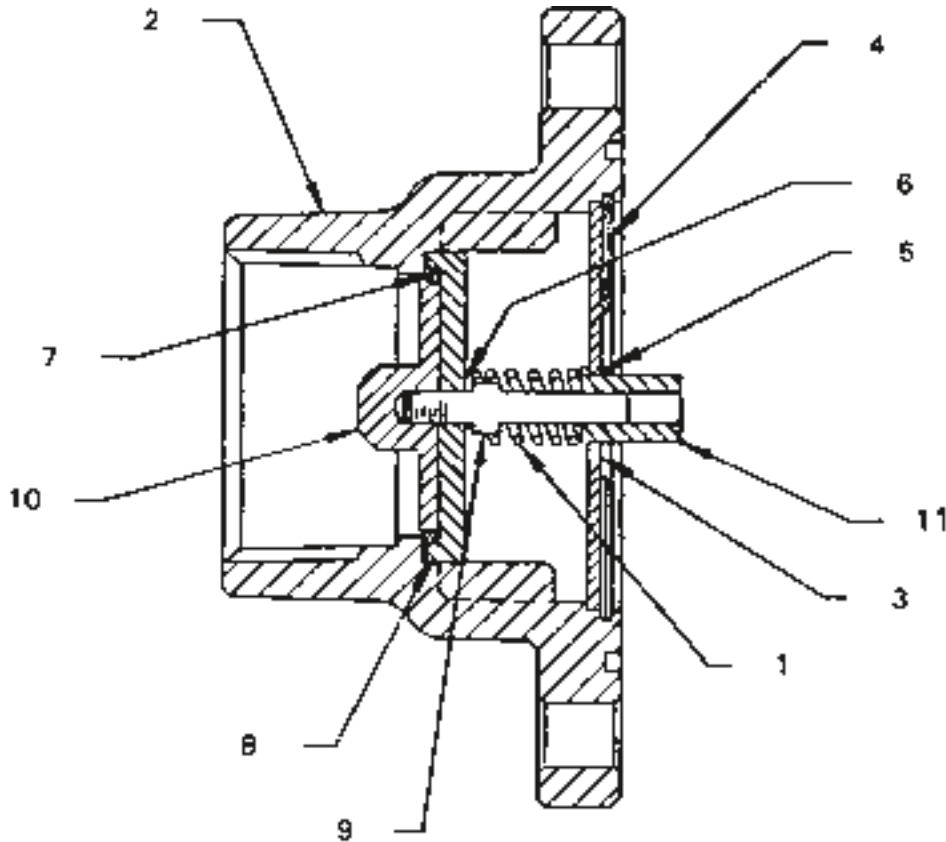
Type 4D-MT Vapor Release Cover



Part Number 400078-001

Index	Description	Part No.
1	2" 4D-MT Vapor Release Cover Assembly: Screw, 5/8 - 18 Hex Hd. Retainer Spring, Compression O-Ring, 1/16 Sect. x 11/16 ID BUNA N Valve Assembly, Bypass Aluminum with BUNA N Seat Tag, Precaution	400077-701 004853-008 100024-003 100138-006 100237-001 100322-001
2	Housing, ASM Low Volume & Extended	083457-000
3	Sleeve, Air Release, Aluminum	082446-005
4	Valve Assembly, Main A/R (BRZ-BUNA N)	089274-006
5	Screw, 10-32 x 5/8 Fil. Hd. 303 SST	041221-002
6	Washer, Lock No. 10 Spring Steel	041211-000
7	Link Assy., Connect. Stl.	080002-002
8	Pin, 0.187 ODS 21/32 LG	040819-002
9	Stem, Valve PST Type A/Rel. BRZ	083127-001
10	Pin, Valve Lever & Stem Air Release	042941-000
11	Float Complete	082476-001
12	Spacer Drive Gear Hub VSB Reg. Brass	040491-000
13	Pin, Cotter 1/16 Dia. x 1/2 Lg.	041402-000
14	Pin, Float Lever - A/R Valve	040820-003
15	Pin, V Connection 3/16 OD x 11/16 LG., BRZ	082633-000
16	Washer No. 10 Screw	041989-000
17	Seal, Piston Air Release Units	083179-000

“Soft Seat” Inlet Check Valve
Type 4D-MT

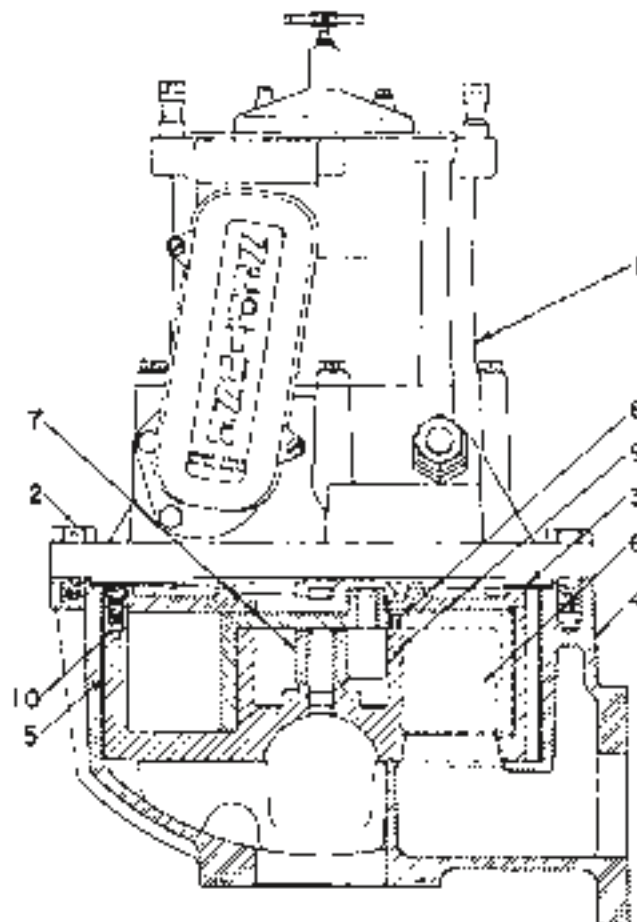


Part Number 084813-702

Index	Description	Part No.
1	Spring	83492-000
2	Flange, Inlet	84814-003
3	Strap, Inlet	84816-001
4	Ring, Retaining	84817-000
5	Ring, Retaining, Truarc	86071-000
6	Washer, Lock	041117-000
7	“O” Ring	100139-032
8	Holder	100374-002
9	Shaft	100896-001
10	Retainer	100898-001
11	Bearing	100899-001

METERS: RED SEAL MEASUREMENT

Flowmeter with Temperature Compensator Type 4D-MT



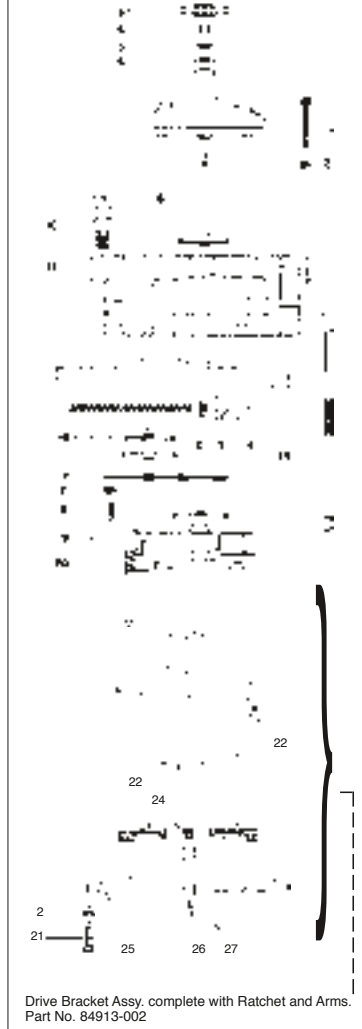
Index	Description	Part No.
1	LP-Gas Temperature Compensator	
2	Cap Screw, Main Case	795-003
	Cap Screw, Main Case (with seal hole)	795-011
3	Gasket	84806-000
4	Main Casing with Locating Pin	400072-701
5	Measuring Chamber Complete	C45806-101
6	Diaphragm	42312-001
7	Roller, Control	42316-001
8	Pin Seal	42546-000
9	Dowel Stud Seal Pin	5211-001
10	Screw, Measuring Chamber	88638-000

METERS: RED SEAL MEASUREMENT

Temperature Compensator, Type 1 Style 2



Temperature Compensator
Adapter Unit Complete
Part No. 86602-705



Drive Bracket Assy. complete with Ratchet and Arms.
Part No. 84913-002

Temperature Compensator, Type 1 Style 2

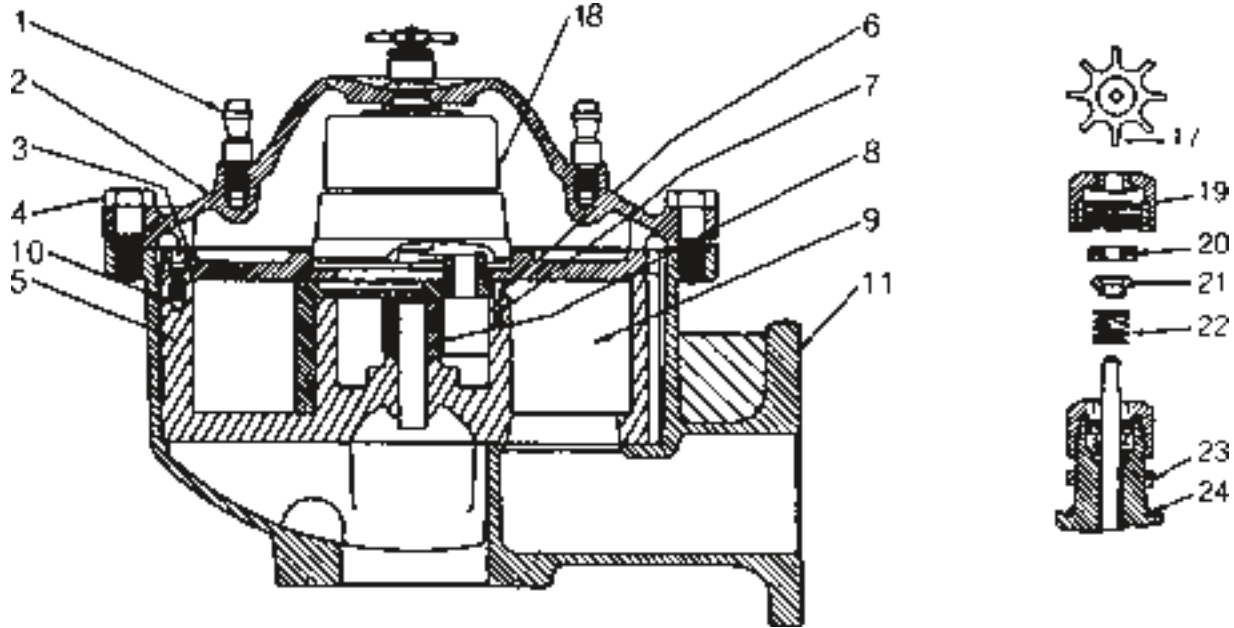
Index	Description	Part No.
1	Screw, Cover (10-32 special)	9287-003
2	Cover, Lever Arm Mounting Plate	86665-000
3	Screw, 10-32 x 5/8, fil hd steel	41221-002
4	Lockwasher, No. 10 steel	41211-000
5	Mounting Plate & Lever Arm Assy.	86649-003
6	Pin, Lever Arm Lock	86661-001
7	Cotter Pin, 1/16 dia. x 3/8, brass	86973-000
8	Pin, Thermostat	86648-000
9	Screw, 1/4 dia. x 3/8, brass	83784-000
10	Lockwasher, 1/4 steel	88721-000
11	Cover, Thermostat	400010-701
12	Thermostat (Bellows)	86646-000
13	Gasket, O-ring, Thermostat Cover	100139-005
14	Thermometer Well complete	1001906
15	Cover, Thermometer Well	600443-001
16	Screw, 1/4-20- x 2-1/2, fil hd steel	8302-107
17	Lockwasher, 1/4 steel, small	88721-000
18	Adapter Unit Complete	86602-705
19	Driving Arm with Setscrew	82976-001
21	Gear Train Complete	
	3.75 Reduction US Gal	83502-000
	9.93 Reduction Litres	80862-055
22	Nut and Bushing Assy., Stuffing Box	83536-000
23	Seal U-cup Shaft	100025-002
24	Expander, Seal	83539-000
25	Spring, Stuffing Box	83540-000
26	Gasket, O-ring	100138-003
27	Nut, Clamp	34-000
29	Main Case Cover with Locking Pin	400081-002
30	Spacer	1002043
31	Screw, 1/4-20x1-1/8 socket hex hd steel	1002044

Temperature Compensator Adapter

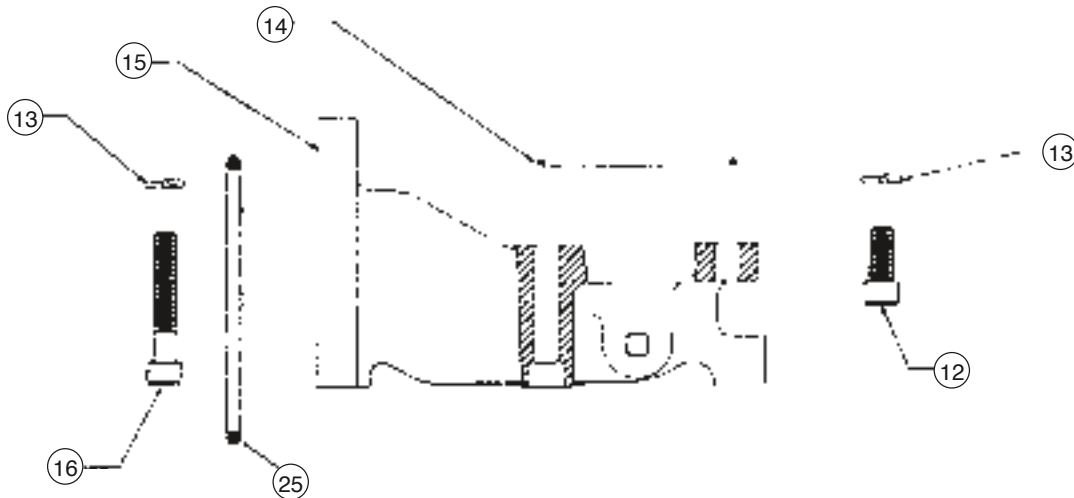
Index	Description	Part No.
1	Screw, 10-32 x 1-1/4, fil hd steel	89073-000
2	Lockwasher, No. 10 steel	41211-000
	Register Drive Bracket Complete	84890-004
3	Star Connection w/Setscrew	82976-001
	Setscrew, 8-32 x 3/16 hollow hd	8538-027
4	Ring, Retaining (Truarc, Type E)	88462-000
5	Washer, Drive Shaft	8571-014
6	Shim, Drive Shaft	46652-001
9	Gear Complete, Intermediate (41 tooth)	86554-001
10	Stud, Register Mounting	84435-000
11	Adapter with Plug and Bushing	84921-003
12	Spring, Push Rod	84888-000
13	Washer, Spring Retaining	88286-003
14	Swivel Block Assembled	86612-000
15	Push Rod	86611-001
16	Gears & Shaft Assembly (41 and 35 teeth)	84907-001
17	Plate and Bushing Assembly, Idler Gear	
	Retaining	86609-000
18	Screw, 10-32 x 3/8, fil hd steel	88524-000
19	Arm Complete, Offset Spider	
	(with 31-tooth gear)	84910-003
20	Spring, Offset Spider Arm	86645-000
21	Screw, 10-32 x 5/8, fil hd steel	41221-002
22	Arm Assembly, No. 1, 2 reg.	100922-001
22	Arm Assembly, No. 2, 2 reg.	100922-002
23	Spring, Ratchet Pawl (not shown)	86063-000
24	Ratchet and Shaft, Assembly	100914-002
25	Drive Bracket Assembled	
	(with Bushings)	84914-000
26	Rollpin, 1/16 dia x 3/8, steel	100370-003
27	Drive Fork	84192-006
	Kit - Replacement, Metal w/Plastic	101732-001
	Conversion Kit - Metal to Plastic	101732-001

METERS: RED SEAL MEASUREMENT

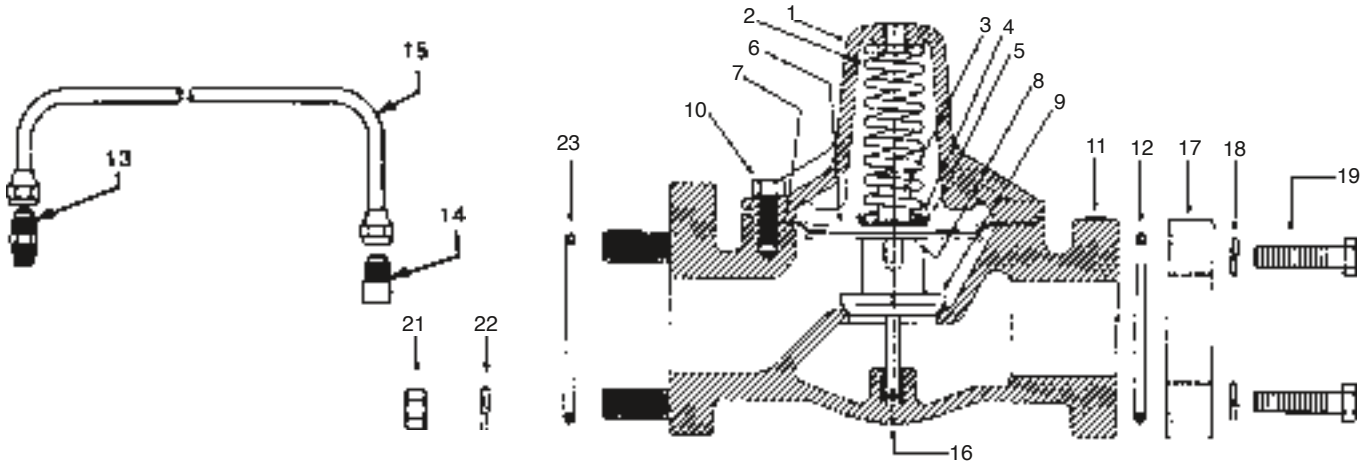
Flowmeter without Temperature Compensator Type 4-MT and Type 4D-MT



Index	Description	Part No.	Index	Description	Part No.
1	Stud Register Mounting	84435-000	14	Gasket, Connector	100139-018
2	Cover, Main Case	400071-001	15	Connector with plug, Meter-to-Vapor Release	400079-001
3	Gasket, Main Case	84806-000	16	Screw, Cap Skt Hd. 7/16-14x3"	8325-040
4	Screw Cap, Main Case	795-003	17	Star Connection with Setscrew	82976-001
	Screw Cap, Main Case (with Seal Hole)	795-011	18	Gear Train Complete	
5	Measuring Chamber Complete	C45806-101		3.75 Reduction US Gal	83502-000
6	Pin Seal	42546-000		9.93 Reduction Litres	80862-055
7	Dowel Stud, Seal Pin	5211-001	19	Stuffing Box Nut with Bushing	83536-000
8	Roller Control	42316-001	20	Seal, U-Cup Shaft	100025-002
9	Diaphragm	42312-001	21	Expander Seal	83539-000
10	Screw, Measuring Chamber	88638-000	22	Spring, Stuffing Box	83540-000
11	Main Case with Locating Pin	400072-701	23	Nut Clamp	34-000
12	Screw, 7/16-14 x 1 1/2" Cap Skt Hd	8325-041	24	Gasket, O-ring, Gear Train	100138-003
13	Lockwasher, 7/16 steel	41012-002	25	O-Ring, 1/8 Dia. x 3-3/8 ID BUNA	100139-013



Differential Valve - Type 4D-MT



Part Number: 400070-701 w/2" Companion Flange
 400070-702 w/1-1/2" Companion Flange

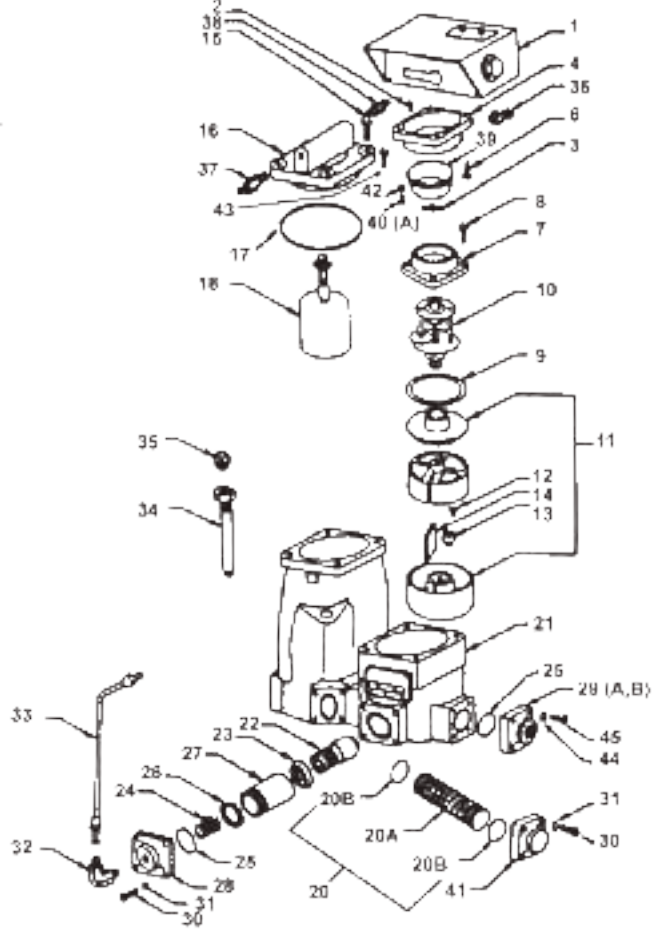
Index	Description	Part No.
1	Cover	400000-001
2	Spring, Valve	83775-000
	Diaphragm Complete	1001569
3	Screw, Diaphragm	83774-002
4	Lockwasher, 7/16 steel	41012-002
5	Retainer, Spring	83773-000
6	Retainer, Diaphragm	83772-002
7	Diaphragm	1000624
8	Gasket, O-ring	100139-001
9	Valve Stem Assembled	83927-002
10	Screw, 3/8 - 16 x 1-1/4, hex hd steel	100067-051
	Screw, 3/8 - 16 x 1-1/4, hex hd steel (with seal hole)	100068-050
10A	Lockwasher, 3/8 steel (not shown)	45828-001
11	Body (stud)	400013-703 1931-000
12	Gasket, O-Ring 1/8 x 3-3/4	100139-018
13	Fitting, Straight, 3/8 flared tube (male half)	84826-000
14	Fitting, Elbow, 3/8 flared tube (male half)	84825-001
15	Tube, Connecting, with Nuts	84823-000
	Tube, Connecting, with Nuts (Angle configuration)	84821-000
16	Bushing	8343-001
17	Flange, 2" NPT	86814-001
	Flange, 1-1/2" NPT	86814-002
18	Lockwasher	41012-002
19	Screw	100071-101
20	Ventline Check Valve (not shown)	84828-000
21	Nut 5/8-11	41224-000
22	Lockwasher	41395-000
23	Gasket, O-Ring	100139-013



METERS: RED SEAL MEASUREMENT

1" Type 4D-MD with 600 Series Register

Index	Description	Part No.
1	Register Complete, 600 Series, Gallons W/ATC	100498-018
	Register Complete, 600 Series, Gallons Non/ATC	100498-016
	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
3	Star Conn W/set screw	82976-001
4	Adapter, 600 Series Register	100729-001
6	Bolt, 1/4-28 x 1/2 hex hd	
	drilled	100062-023
	undrilled	100061-023
7	Main Case Cover Assembly	400024-701
8	Cap Screw, 7/16-14 x 1-3/16	
	drilled	40237-005
	undrilled	40237-004
9	Gasket, Main Case	4861-016
10	Gear Train Complete	
	116.87 reduction (600; 10 liter)	80905-013
	43.5 reduction (600; US gal) - Large Spindle	80905-017
11	Measuring Chamber Complete with Piston	101748-001
12	Pin, Seal	42792-000
13	Roller, Control	42086-000
14	Diaphragm	42791-000
15	Cap Screw, 3/8-016 x 1 hex hd	
	drilled	100071-025
	undrilled	100071-024
16	Cover, Vapor Release (See Note 1)	400021-701
17	Gasket, O-Ring	100139-012
18	Vapor Release Float Assembly (See Note 1)	87188-001
20	Strainer Kit, 88mm	101752-701
20A	Strainer, 14 x 88 mesh	101738-001
20B	"O" Ring, 1/8 x 1" Buna	100139-041
21	Main Case Assembly	400027-701
	Pin, Measuring Chamber Locating	100370-022
--	Kit, Valve	100028-001
22	Piston, Differential Valve	601342-001
22B	O-Ring (Not Shown, See Note 3)	100139-044
23	U Cup, Valve	100025-009
24	Spring	100024-001
25	O-Ring, Cover	100139-007
26	O-Ring, Sleeve Sealing	100139-006
27	Sleeve, Valve	100027-003
28	Cover, Differential Valve	400020-702
29A	Flange, Inlet or Outlet, 3/4" NPT	600057-000
28B	Flange, Inlet or Outlet, 1" NPT	600057-001
30	Screw, 5/16 18 x 7/8 hex hd steel	
	drilled	8325-046
	undrilled	8325-044
31	Lockwasher, 5/16	41482-000
-	Tubing Kit, Vapor Release	100017-011
32	Elbow, Male 14-90° (Flared tube fitting)	87195-001
33	Tube assy, Vapor Release	87196-001
34	Thermometer Well	1001906
35	Cover, Thermometer Well	600443-001
36	Change Gears (give dia. and number of teeth)	(See Note 2)
37	Connector, Male 1/4 (flared tube fitting)	100135-002
38	Connector, Male 3/8 Flared	84826-000
39	Register CUP	138-031
40	Screw, 1/4-20 Hex Head	100059-024
40A	Screw, 1/4-20 with Seal Hole	100060-090
41	Strainer Cover Assy	400025-701
42	Sleeve, Screw	100737-001
43	Screw, 10-32 x 3/8 fil hd.	733-001
44	Lockwasher, 5/16 Hi Collar	41482-000
45	Screw 5/16 - 18 x 1 Hex. Soc. Head	8325-044



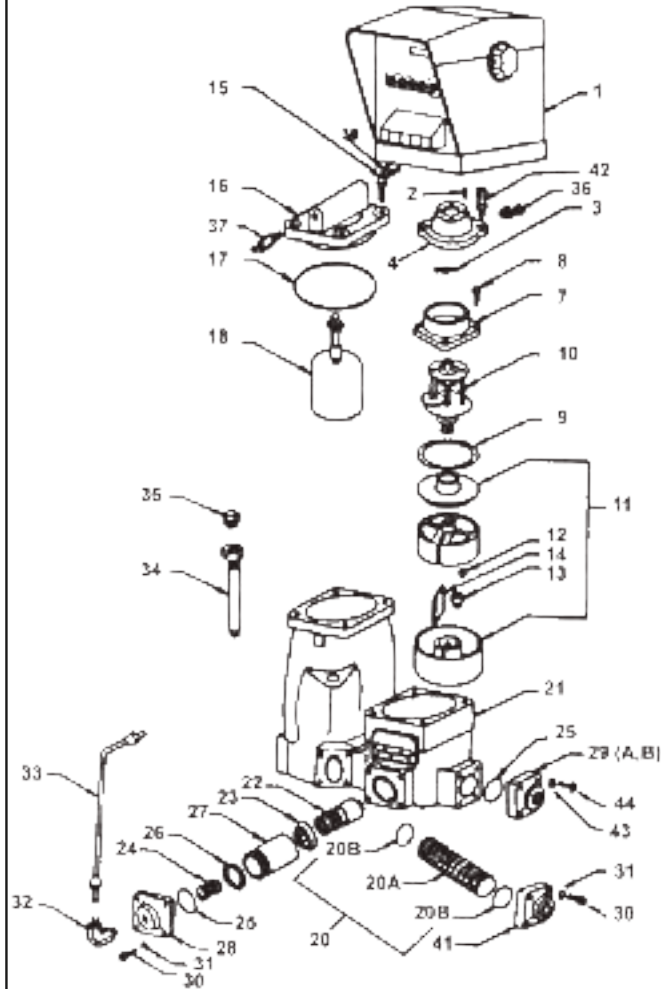
Note 1: Index numbers 16 & 18 can be purchased as one item under cover assembly part number 400026-701.
 Note 2: See Form TSG-310
 Note 3: Item number 22B goes in new O-Ring groove in part number 601342-001 in meters shipped after March 2013.



METERS: RED SEAL MEASUREMENT

1" Type 4D-MD with 800 Series Register

Index	Description	Part No.
1	Register Complete, 800 Series, Gallons W/Printer	880030-000
	Register Complete, 800 Series Liters W/Printer	880130-158
2	Screw, 10-32 x 3/8 fil hd	733-001
3	Sar Conn W/set screw	82976-001
4	Adapter, 800 Series Register	101779-001
7	Main Case Cover Assembly	400024-701
8	Cap Scrw, 7/16-14 x 1-3/16 drilled	40237-005
	undrilled	40237-004
9	Gasket, Main Case	4861-016
10	Gear Train Complete	
	116.87 reduction (600; 10 liter)	80905-013
	43.5 reduction (600; US gal) - Large Spindle	80905-017
11	Measuring Chamber Complete with Piston	101748-001
12	Pin, Seal	42792-000
13	Roller, Control	42086-000
14	Diaphragm	42791-000
15	Cap Screw, 7/16-14 x 1 hex hd drilled	100071-025
	undrilled	100071-024
16	Cover, Vapor Release (See Note 1)	400021-701
17	Gasket, O-Ring	100139-012
18	Vapor Release Float Assembly (See Note 1)	87188-001
20	Strainer Kit, 88mm	101752-701
20A	Strainer, 14 x 88 mesh	101738-001
20B	"O" Ring, 1/8 x 1" Buna	100139-041
21	Main Case Assembly	400027-701
	Pin, Measuring Chamber Locating	100370-022
	Kit, Valve100028-001	
22	Piston, Differential Valve	601342-001
22B	O-Ring (Not Shown, See Note 3)	100139-044
23	U Cup, Valve	100025-009
24	Spring	100024-001
25	O-Ring, Cover	100139-007
26	O-Ring, Sleeve Sealing	100139-006
27	Sleeve, Valve	100027-003
28	Cover, Differential Valve	400020-702
29A	Flange, Inlet or Outlet, 3/4" NPT	600057-000
29B	Flange, Inlet or Outlet, 1" NPT	600057-001
30	Screw, 5/16-18 x 7/8 hex hd steel drilled	8325-046
	undrilled	8325-044
31	Lockwasher, 5/16	41482-000
	Tubing Kit, Vapor Release	100017-011
32	Elbow, Male 1/4-90° (Flared tube fitting)	87195-001
33	Tube Assy, Vapor Release	87196-001
34	Thermometer Well	1001906
35	Cover, Thermometer Well	83732-000
36	Change Gears (give dia. and number of teeth)	(See Note 2)
37	Connector, Male 1/4 (flared tube fitting)	100135-002
38	Connector, Male 3/8 Flared	84826-000
41	Strainer Cover Assy	400025-701
42	Register, Stud	84435-000
43	Lockwasher, 5/16 Hi Collar	41482-000
44	Screw 5/16 - 18 x 1 Hex. Soc. Head	8325-044



Note 1: Index numbers 16 & 18 can be purchased as one item under cover assembly part number 400026-701.

Note 2: See Form TSG-310.

Note 3: Item number 22B goes in new O-Ring groove in part number 601342-001 in meters shipped after March 2013.



METERS: RED SEAL MEASUREMENT

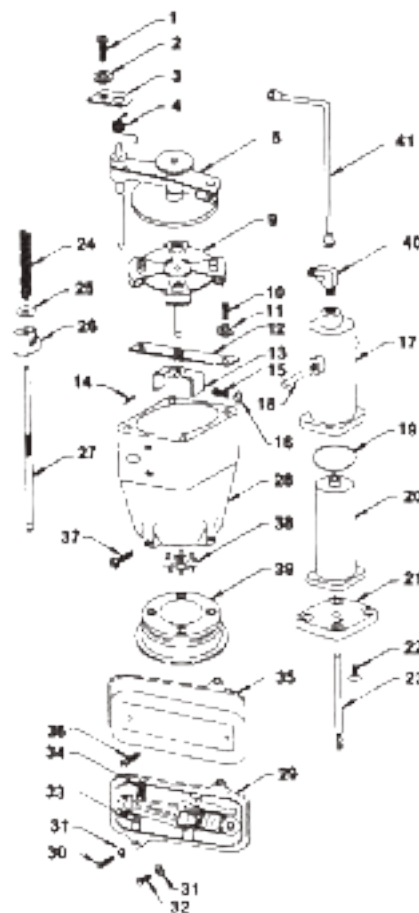
Stuffing Box - 100 and 600 Series

Index	Description	Part No.
1	Stuffing Box Nut with Bushing	83536-000
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

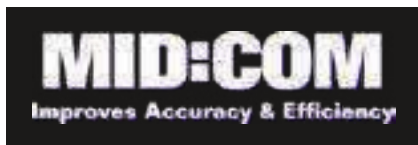


ATC

Index	Description	Part No.
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	101053-001
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 Lg.	8349-015
19	Gasket O-Ring	100139-005
20	Thermostat (Bellows)	86646-000
21	Cover, Thermostat	400020-003
22	Screw, 1/4-20 x 5/8 Lg. Socket Flat hd	8325-401
23	Pin, Thermostat	86648-006
24	Spring, Pushrod	8488-001
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 sPlate 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	000733-001
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	Connector Tube Assembly	101065-002
42	Screw, 10-32 x 3/4 Lg. fil hd, drilled	41750-002



METERS: ELECTRONIC REGISTRATION



MID:COM 8000

MID:COM 8000 is the ultimate, rugged, easy-to-use cab mounted computer, printer and data transfer system. Using a SD data card, the driver has access to 50,000 complete customer records. An easy to follow menu guides the driver through the delivery process. The most popular software providers offer an interface that provides automatic posting from the data card to your accounts receivables.



XCELL:LINK 8000

Xcell:LINK 8000 has all of the standard features of the original 8000 except data cards. Priced about 20% less than the original makes it a cost-effective choice when combined with other data transfer alternatives. XCELL:LINK 8000 can be used as a stand-alone system, producing tickets with price extensions, multiple taxes and cash discounts.



E-Count

E:Count is a standalone register for propane bobtails. E:Count will improve the accuracy and efficiency of any mechanical meter by replacing hundreds of moving parts with a very low maintenance, solid state electronic counter.

Features Include:

- Easy mounting and use on any brand or type of meter
- Large easy to read alpha numeric display
- Easy to follow legends for all operations
- Self contained calibration and setup functions
- Accepts any type of pulse input
- Built in Enduro Switch® control keys (for harsh environments)
- Sealed connectors including power, valve control and remote readout
- Field programmable for custom applications
- Eliminate change gears, adjusters, linkages and other mechanical parts



E-Count LT

The E:Count LT replaces hundreds of moving parts with a very low maintenance, solid state electronic counter. The E:Count LT is a 12 Volt, single product counter designed for stationary applications such as flammable liquid dispensers, bulk plants and industrial applications including batching, blending and inventory control. The standard features allow this product to be used for many demanding applications.



METERS: VAPOR METERS

Vapor Meter

This L.P.-Gas Meter is constructed of die-cast aluminum and is compact, lightweight and highly resistant to impact damage. It has adequate capacity to handle domestic loads including heating. This meter is designed to give accurate measurement from pilot burner load to full rated capacity. Temperature compensation accurately and automatically provides index readings in standard units of measurement at 60°F base temperature for ambient temperatures from -30° to +140°F. The compensator will adjust to a base temperature of 50° to 70°F. Includes mounting bracket.

Item Number	Index Units	Connection	CFH	BTU/hr	Max. Reading
S275	Cubic Feet	3/4 F. NPT	160	404,000	9999.9



To convert the cubic feet reading on the S275 vapor meters to gallons use the following formula:
Take the reading from the meter divided by 36.2 = gallons

Series PB/DPM

To handle single 1" through 1-1/2" I.D. hose.

- Standard hose reel is steel construction; painted graphite. Aluminum or stainless steel construction is available.
- "SB" prefix denotes polished aluminum construction, offering both reduced weight and superior corrosion resistance compared to standard steel construction.
- Series PB are explosion-proof reels.
- Series DPB reel is direct hydraulic drive, eliminating the use of chain and sprockets.
- Choose gear-driven crank rewind, #40 chain and sprocket drive powered by an electric, hydraulic or compressed air motor or direct drive hydraulic rewind motor.
- Crank rewind reels and direct drive reels supplied with pinion brake.
- Power rewind reels (chain and sprocket driven) supplied with a strap brake. Other brake and locking devices may be specified.
- Standard inlet: 90° ball bearing swivel joint, 1-1/2" female NPT threads.
- Standard outlet: flanged riser, 1" female NPT threads. Standard inlet, outlet riser, and hub assembly are steel.
- Other sizes and/or threads can be furnished and must be specified.
- Pressures to 350 psi (24 bar).
- Temperatures from -40°F to +350°F (-40°C to +177°C).
- Consult factory for other pressures and temperatures.
- Chain guard available upon request, must be specified.
- Rollers and roller mounting brackets are accessory items. Specify roller position.



Series PB
Electric rewind shown



Series DPB
Direct drive hydraulic rewind shown
with optional Assembly C rollers

HOSE REELS

Series PB/DPM

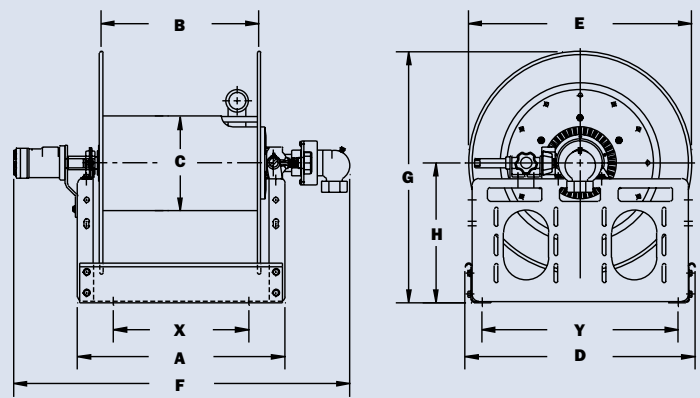
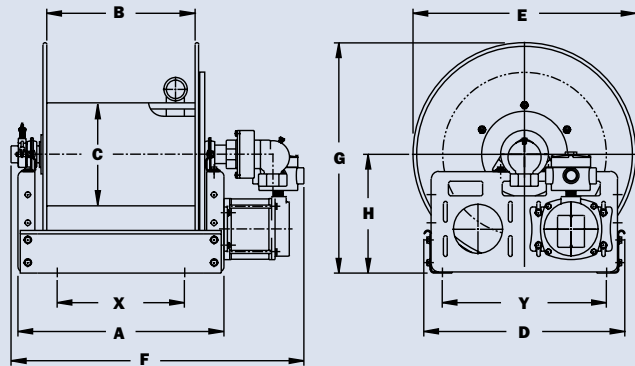
HOSE REELS

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Model Number For Power Rewind see Note 4	Hose Capacity of Reel feet m			Approx. Weight Power Rewind lb. kg				Reel Dimensions*** in. mm										
	I.D. in. mm	1 25	1-1/2 38	Steel		Alum.		A	B	C	D	E	F POWER	F DIRECT DRIVE HYD	G	H	X	Y
		O.D. in. mm	1.5 38	2.16 55	NET	SHIP	NET											
PB24-23-24	125	-	142	184	119	160	21	15.5	10.5	20.5	22.75	29.25	35.12	23.5	12.12	13	16.75	
	38	-	64	83	54	72	533	394	267	521	578	743	892	597	308	330	425	
PB30-23-24	150	-	155	197	124	165	27.5	22	10.5	20.5	22.75	35.75	41.62	23.5	12.12	19.5	16.75	
	46	-	70	89	56	75	699	559	267	521	578	908	1057	597	308	495	425	
PB26-25-26	150	-	155	197	137	178	23	17.5	10.5	25.5	24.75	31	37	27.88	15.5	15	21.75	
	46	-	70	89	62	81	584	445	267	648	629	787	940	708	394	381	552	
PB28-25-26	200	-	163	205	157	198	25.5	20	10.5	25.5	24.75	33.75	39.62	27.88	15.5	17.5	21.75	
	61	-	74	93	71	90	648	508	267	648	629	857	1006	708	394	445	552	
PB22-30-31	250	-	158	208	130	175	19	13.5	10.5	25.5	28.75	27.25	33.12	29.88	15.5	11	21.75	
	76	-	71	94	59	79	483	343	267	648	730	692	841	759	394	279	552	
PB18-33-34	200	-	157	207	146	194	14.5	9.5	10.5	31.5	31.75	23.75	29.12	33.62	17.75	7	27.75	
	61	-	71	94	66	89	368	241	267	800	806	603	740	854	451	178	705	
PB24-25-26-15.5	-	50	160	202	133	174	21	15.5	15.5	25.5	24.75	29.25	-	27.88	15.5	13	21.75	
	-	15	64	91	60	79	533	394	394	648	629	743	-	708	394	330	552	
PB28-25-26-15.5	-	75	173	215	159	200	25.5	20	15.5	25.5	24.75	33.75	-	27.88	15.5	17.5	21.75	
	-	23	78	97	72	91	648	508	394	648	629	857	-	708	394	445	552	
PB26-30-31-15.5	-	100	173	215	140	185	23	17.5	15.5	25.5	28.75	31.25	-	29.88	15.5	15	21.75	
	-	30	78	97	63	84	584	445	394	648	730	794	-	759	394	381	552	

Notes:

- Specifications subject to change.
- Upon request, reels can be supplied with drum lengths other than shown and with disc sizes in other diameters.
- Dimensions shown for reels up to and including 30-31 disc size reflect pressed frames. Reel sizes ending in (33-34) are built with rollform/square tubing construction.
- When ordering power rewind models, prefix model number with:
 - A** = Air Rewind—Supplied with control valve and 25" air hose.
 - E** = Explosion-Proof Electric Rewind (2/3 HP) — Supplied with explosion-proof switch, solenoid, and junction box.
 - HD** = Hydraulic Rewind—Not supplied with control valve.
 - D** = Direct Drive Hydraulic Rewind—Not supplied with control valve.
 (When ordering **A**, **HD** & **D** power rewind reels deduct 20 lbs. from ship weight).
- Be sure to check dimensions and weights prior to ordering.**
NOTICE: A flexible connector must be used between the inlet pipe and the inlet swivel joint.
 ***X, Y indicate mounting holes.



Series PBGMB/PBGMT

To handle single 1" or 1-1/2" I.D. hose.

- Standard hose reel is steel construction; painted graphite. Aluminum or stainless steel construction is available.
- "SB" prefix denotes polished aluminum construction, offering both reduced weight and superior corrosion resistance compared to standard steel construction.

Both Series

- Choose #40 chain and sprocket drive powered by an electric, hydraulic or compressed air motor or direct drive hydraulic rewind motor.
- Auxiliary crank rewind standard on Series DPB reels. Available on Series PB power rewind reels, at extra cost.
- Direct drive hydraulic rewind reels supplied with pinion brake. Electric powered rewind reels supplied with a strap brake.
- Other brake and locking devices may be specified. (See Ordering & Accessory Guide.)
- Standard inlet: 90° ball bearing swivel joint, 1-1/2" female NPT threads.
- Standard outlet: flanged riser, 1" female NPT threads.
- Standard inlet, outlet riser, hub assembly are steel.
- Other sizes and/or threads can be furnished and must be specified.
- Pressures to 350 psi (24 bar).
- Temperatures from -40°F to +350°F (-40°C to +177°C).
- Consult factory for other pressures and temperatures.
- Chain guard available upon request, must be specified.

Series PBGMB

- The Assembly B bottom wind roller is standard.

Optional Guidemaster® EPS-1 Switch Cover



Hannay Part No. 9917.0201. This cover is designed to protect against moisture and other contaminants and has a durable lanyard to keep the cover securely attached to the switch body.



Series PBGMB with Bottom-Mounted Guidemaster®
Electric rewind shown



Series PBGMT with Top-Mounted Guidemaster®
Standard configuration, electric rewind shown

HOSE REELS

Series PBGMB/PBGMT

HOSE REELS

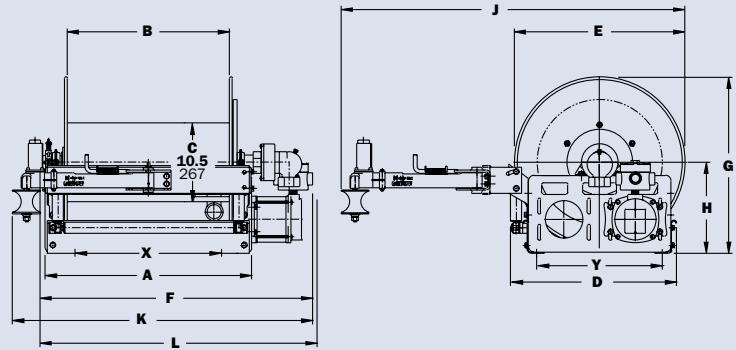
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Model Number For Power Rewind see Note 3	Hose Capacity of Reel feet m		Approx. Weight Power Rewind lb. kg		Reel Dimensions*** in. mm													
	I.D. in. mm	1 25	NET	SHIP	A	B	D	E	F POWER	F DIRECT DRIVE HYD	G	H	J	K	L	M	X	Y
	O.D. in. mm	1.5 38																
PBGM B 24-23-24	125	160	185		21	15.5	20.5	22.75	29.25	35.12	23.5	12.12	49	36.75	30	-	13	16.75
	38	73	84		533	394	521	578	743	892	597	308	1245	933	762	-	330	425
PBGM B 30-23-24	150	170	200		27.5	22	20.5	22.75	35.75	41.62	23.5	12.12	49	36.75	36.75	-	19.5	16.75
	46	77	91		699	559	521	578	908	1057	597	308	1245	933	933	-	495	425
PBGM B 26-25-26	150	185	215		23	17.5	25.5	24.75	31.25	37.12	27.88	15.5	47.75	37.75	31	-	15	21.75
	46	84	98		584	445	648	629	794	943	708	394	1213	959	787	-	381	552
PBGM B 28-25-26	200	191	221		25.5	20	25.5	24.75	33.75	39.62	27.88	15.5	47.75	39	34.75	-	17.5	21.75
	61	87	100		648	508	648	629	857	1006	708	394	1213	991	883	-	445	552
PBGM B 22-30-31	250	188	238		19	13.5	25.5	28.75	27.25	33.12	29.88	15.5	52.25	35.75	29	-	11	21.75
	76	85	108		483	343	648	730	692	841	759	394	1327	908	737	-	279	552
PBGM B 18-33-34	200	175	225		14.5	9.5	31.5	31.75	23.75	29.12	33.62	17.75	56.75	33.5	26.75	-	7	27.75
	61	79	102		368	241	800	806	603	740	854	451	1441	851	679	-	178	705
PBGM T 24-23-24	125	168	193		21	15.5	20.5	22.75	29.25	35.12	29.5	12.12	33	36.75	30	31.5	13	16.75
	38	76	88		533	394	521	578	743	892	749	308	838	933	762	800	330	425
PBGM T 30-23-24	150	178	208		27.5	22	20.5	22.75	35.75	41.62	29.5	12.12	33	40.62	36.75	31.5	19.5	16.75
	46	81	94		699	559	521	578	908	1057	749	308	838	1032	933	800	495	425
PBGM T 26-25-26	150	193	223		23	17.5	25.5	24.75	31.25	37.12	32.88	15.5	33.25	37.75	31	37.25	15	21.75
	46	88	101		584	445	648	629	794	943	835	394	845	959	787	946	381	552
PBGM T 28-25-26	200	181	211		25.5	20	25.5	24.75	33.75	39.62	33	15.5	34	39	34.75	35	17.5	21.75
	61	82	96		648	508	648	629	857	1006	838	394	864	991	883	889	445	552
PBGM T 22-30-31	250	196	246		19	13.5	25.5	28.75	27.25	33.12	36.13	15.5	35.5	35.75	29	42.5	11	21.75
	76	88	112		483	343	648	730	692	841	918	394	902	908	737	1080	279	552
PBGM T 18-33-34	200	183	233		14.5	9.5	31.5	31.75	23.75	29.12	38.375	17.75	37	38.38	26.38	44.75	7	27.75
	61	83	106		368	241	800	806	603	740	975	451	940	975	670	1137	178	705

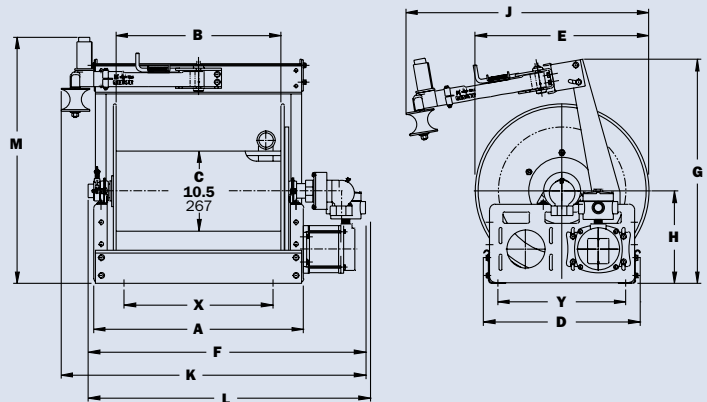
Notes:

- Specifications subject to change.
 - Upon request, reels can be supplied with drum lengths other than shown and with disc sizes in other diameters.
 - When ordering power rewind models, prefix model number with:
 - A** = Air Rewind—Supplied with control valve and 25" air hose.
 - E** = Explosion-Proof Electric Rewind (2/3 HP)—Supplied with explosion-proof switch, solenoid, and junction box.
 - HD** = Hydraulic Rewind—Not supplied with control valve.
 - D** = Direct Drive Hydraulic Rewind—Not supplied with control valve.

(When ordering **A**, **HD** & **D** power rewind reels deduct 20 lbs. from ship weight).
 - Dimension "J" is maximum, with Guidemaster® in operating position. Dimension "K" is maximum, with Guidemaster® in traveling position opposite rewind motor, as shown in dimensional drawing.
Dimension "L" is maximum, with Guidemaster® in traveling position on same side as rewind motor.
 - Guidemaster® weight is approximately 21 lbs. Guidemaster® is shipped as parts.
 - Be sure to check dimensions and weights prior to ordering.**
 - Consult factory for reels using 1-1/2" I.D. hose.
- NOTICE:** A flexible connector must be used between the inlet pipe and the inlet swivel joint.
- ***X, Y indicate mounting holes.



Series PBGMB



Series PBGMT

Accessories

GM-700 Guidemaster®

Multiposition hose guide with explosion-proof rewind control

Both models help unwind and rewind hose faster, easier, and with less damage to the hose. Five positive locking positions let the operator pull the hose out and away from sharp corners of cabinet or deck. An explosion-proof, push-button switch in the Guidemaster® handle lets the operator control the rewind motor as he guides the hose on the reel in neat, uniform coils.

Construction: Cast aluminum alloy housing, stamped steel pivot plate. Polished aluminum alloy rollers turn on ball bearings. Stainless steel spring, components, and fasteners are used in the pivot release mechanism. Six feet of wire is supplied to connect operating switch to the solenoid. Switch has Class 1 (Groups A, B, C, D) and NEMA 4X ratings.

The Guidemaster® can be ordered in 3 ways:

1. Guidemaster® only, supplied with 4 mounting bolts and ready to be attached to your mounting brackets.
2. Guidemaster® and brackets, includes steel mounting bracket, beveled spacers, and fasteners designed for your reel. Ready to install. Specify top- or bottom-wind.
3. Guidemaster® mounting brackets factory installed. Specify top- or bottom-wind.

To Order: For factory installation of mounting bracket, Guidemaster® should be ordered when you order the reel.

When purchasing Guidemaster® for installation on your present reel, give the complete model number and serial number of your reel and the complete part number of the Guidemaster®.

Circuit breaker must be used with all DC electric motors.

Note: This Guidemaster® can be used with reels up to a maximum drum width (or B dimension) of 22". Operates with up to a 2.16" O.D. hose.

GM-700 with EPS-1 switch



EPS-1 Switch Cover



Top-wind (GMT)

Bottom-wind (GMB)

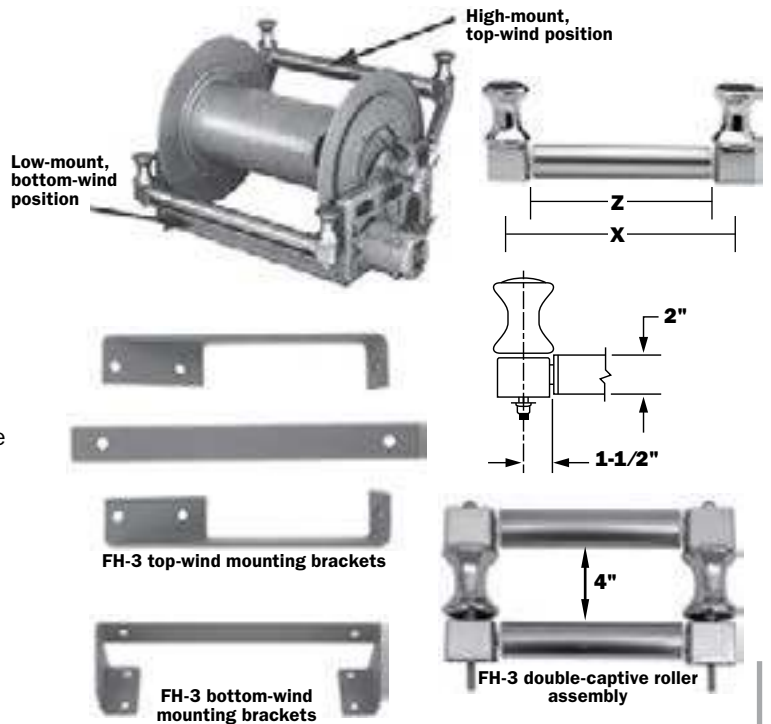
FH-3 Roller and Spool Assembly

Not recommended for hoses larger than 1-1/2" I.D.

Speeds handling and reduces hose wear. Buffed stainless steel rollers resist corrosion, pitting, and abrasion. Polished, chrome-plated spools and blocks add lasting beauty to your equipment. Delrin bearing surfaces assure quiet operation and minimum wear.

Assembly can be factory installed, when specified, or ordered for field installation on reels or other equipment.

To Order: For factory installation, specify FH-3 Assembly and indicate position on reel. As an accessory, specify FH-3 Assembly and give length of roller (Dimension Z), and distance between mounting holes (Dimension X). Mounting brackets are available.



HOSE REELS: PARTS



HOSE REELS: PARTS

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SWIVEL JOINTS, RISERS, HUB ASSEMBLIES



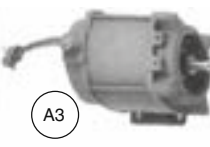

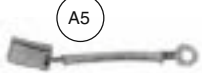
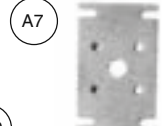




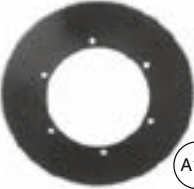




	ITEM	PART	DESCRIPTION
	C1	9927.8138	1/2" 90° MxF BP Super Swivel
	C2	9929.8538	1" 90° FxF BP Super Swivel
	C4	9927.8151	1/2" 90° MxF Super Swivel (FxF also Avail.) 9927.8551
	C5	9929.8551	1" 90° FxF Super Swivel (Buna)
	C6	Specify	Super Swivel Repair Kit (Specify Size)
	C7	9930.4210	1-1/2" 90° FxFxV Swivel (WHJ1590)
	C8	9930.4610	1-1/2" Straight FxFxV Swivel (WHJ15180)
	C9	9936.0642	1-1/2" PK-1 BUNA-N Packing (Merkel)
	C10	9930.5703	1-1/2" Straight Victaulic H-5 Joint
	C11	9936.0659	H-5C Rope Packing Seal for H-5 Joint
	C12	9929.0501	1" 90° Full Circle Swivel
	C13	9930.0531	1-1/2" 90° FxF Full-Circle Swivel
	C14	9901.1600	1" FIPT Iron Welded Hub Assembly (Specify Model)
	C15	9901.3760	1-1/2" FIPT Iron Flanged Riser
	C16	9965.0024	O-Ring for 1-1/2" Risers (2-5/8" Diam.)
	C16	9965.0025	O-Ring for 3" Risers (3-3/4" Diam.)
	C17	9901.2840	1-1/2" Hub Assy Complete (Specify Model)

BEARINGS

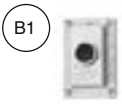








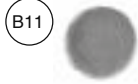



	ITEM	PART	DESCRIPTION
	E3	9902.1200	1/2" S.A. Ball Bearing Complete
	E4	9902.1300	1/2" S.A. Ball Bearing Insert
	E5	9902.1400	1" S.A. Ball Bearing Complete
	E6	9902.1500	1" S.A. Ball Bearing Insert
	E7	9902.1610	1-1/2" S.A. Bronze Bearing Complete (E-coated)
	Not Shown	9902.1620	1-1/2" S.A. Bronze Bearing Complete (304 S.S.)
	E8	9902.1700	1-1/2" S.A. Bronze Bearing Insert
	E9	9902.1730	1" S.A. Bronze Bearing insert

Note - photos shown not actual size.

MOTORS, SPROCKETS, CHAIN

		ITEM	PART	DESCRIPTION
		A1	9915.0042	12 Volt Flange Mount Non-Exp-Proof Motor
		A2	9915.0003	12 Volt Flange Mount Explosion-Proof Motor
		A3	9915.0014	12 Volt Base Mount Explosion-Proof Motor
		A5	9916.0071	Pair of Brushes for 12 Volt Non-Exp-Proof Motor (#572008)
		A6	9916.0070	Two Pairs of Brushes for 12 Volt Explosion Proof Motor (#572000)
		A7	9923.0008	Flange Mount Motor Plate for Non-Exp-Proof Motor
		A8	9923.0006	P66A-00090 Motor Mounting Plate Right Angle for Non-Exp-Proof Motor
		A9	9912.0001	10' Length #35 Chain w/Connecting Link
		A9	9912.0002	10' Length #40 Chain w/Connecting Link
		A10	9912.0010	Connecting Link for #35 Chain
		A10	9912.0009	Connecting Link for #40 Chain
		A11	9910.1423	138T35 Disc Sprocket, 16-5/8" Diameter (E-Coated)
		A12	9910.3128	146T40 Disc Sprocket, 23-1/2" Diameter (E - coated)
		Not Shown	9910.1321	112T35 Disc Sprocket, 13-3/8" Diameter (E-coated)
		A13	9910.1116	11T35 Motor Sprocket, 3/4" Long
		A14	9910.1117	11T35 Motor Sprocket, 1-1/16" Long
		A15	9910.1118	11T35 Motor Sprocket, 1-5/16" Long
		A16	9910.1119	11T35 Motor Sprocket, 1-3/4" Long
		A17	9910.2219	Disc & Sprocket for Caliper Brake (#35 Chain)
		Not Shown	9910.2100	Disc & Sprocket for Caliper Brake (#40 Chain)
		A18	Specify	Molded Chain Guard (left or right)

SWITCHES AND ELECTRICAL

		ITEM	PART	DESCRIPTION
		B1	9917.0001	Red Dot EXPB-2A Switch (12 Volt)
		B2	9917.0014	Red Dot Internal Switch
		B4	9917.0061	Red Dot 5-Port Round Junction Box/Cover
		B5	9917.0062	#6 Wire Nut (For Red Dot Junction Box)
		B6	9917.0063	Insulated "Bug" Connector
		B7	9917.0025	12 Volt Solenoid (Diode-Suppressed)
		B8	Specify	SDLM Circuit Breaker (Specify Amperage)
		B9	9917.0024	CB-2 Mounting Bracket (for Circuit Breaker)
		B10	9917.0006	Push-Button 12 Volt Switch (Less Cap)
		B11	9917.0008	Rubber Cap (For Push Button Switch)
		B12	9917.0200	EPS-1 Switch (Used with Guidemaster)
		B13	9917.0207	EPS-2 Mounting Bracket (Used with EPS-1)
		B14	9917.0208	Extension Bracket for EPS-2

HOSE REELS: PARTS

HOSE REELS: PARTS

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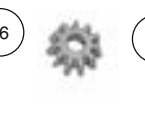


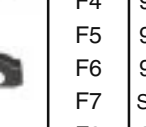
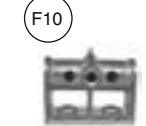



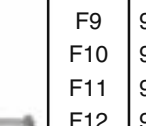

















ROLLER ASSEMBLIES, CABLE GUIDES, HOSE STOPS

ITEM	PART	DESCRIPTION
D1	Specify	Top Wind FH-3 Mtg. Brkt. (Specify Model)
D2	9939.0042	FH-3 Roller & Spool Assy. (Specify Model)
D3	9940.0012	FH-307 Delrin-Over-Steel Step Bolt
D4	9940.0002	FH-309-P Black Plastic Cap
D5	9940.0005	FH-301 Spool
D6	9940.0006	FH-302 Block
D7	9940.0007	FH-303-15 (1.5") Trunnion Bearing
D8	9940.0008	FH-303-2 (2") Trunnion Bearing
D9	9939.0062	Utility Hose Roller Assy. "C" (Spec. Model)
D10	9940.0076	EH-650 Mounting Block (Plated)
D11	9939.0003	EH-714 Roller Assembly
D12a	9922.0111	HS-3 Hose Stop (Specify OD of Hose)
D12b	9922.0200	HS-35 Hose Stop For Single Hose (Specify OD of Hose)
Not Shown	9922.0210	HS-35 Hose Stop For Twin Hoses (Specify OD of Hose)
D13	9922.0012	HS-45 Hose Stop (Specify OD of Hose)
D14	9951.0009	GR-4A Guide Arm Positioner
D15	9951.0010	GR-4 Guide Arm
D16	9951.0012	GR-5 Scoop Cable Guide
D17	Specify	"R200" Series Roller Assembly
D18	Specify	"N200" Series Roller Assembly
D19	Specify	"R300" Series Roller Assembly
D20	Specify	Roller Mounting Arm (2) per reel (For "N" Series Spring Reels)
D21	9940.0016	FH-303 1 1/2" Trunnion Bearing (New Style) (No Through Hole)
D22	9940.0010	FH-305 2" SST Roller Tubing
D23	9940.0003	1 1/2" SST Roller Tubing
D24	9940.0009	FH-304 Roller Rod
D25a	9940.0071	LEFT HAND roller mounting block (plated)
D25b	9940.0072	RIGHT HAND roller mounting block (plated)
D26	9939.1062	Assy C2 Roller with 1 1/2" Diam. Roller (Style 2) (Specify Model)

GUIDEMASTER PARTS AND BRACKETS

ITEM	PART	DESCRIPTION
G1	9945.0026	GM Ball Bearing (For GM-609 Roller)
G2	9945.0044	GM-108 Ball Bearing (For GM-109 Roller)
G3	9945.0019	GM-609 Roller w/GM Bearing
G5	9944.0040	GM-700 Guide Arm Body Assy w/Mtg. Yoke
G6	9945.0009	GM Mounting Yoke w/Bronze Bushing
G7	9945.0011	GM Oil-Impregnated Bronze Bushing
G8	9945.1001	GM Roller Body w/Mtg. Bolts
G10	9945.1005	GM Roller Mtg. Bolts
G11	9945.1003	Pinlock assy for GM 700
G12	9945.1004	GM Roller Bolt Mounting Plate
G15	9945.0035	GM Cross Member Assembly (3 Pieces) (Specify Model)
G16	9945.0036	GM Bottom-Wind Brackets (Pair)
G17	9945.0037	GM Top-Wind Brackets (Pair)
G18	9939.0069	Assy. "B" Roller for Bottom-Wind Guidemaster Reels (specify model)

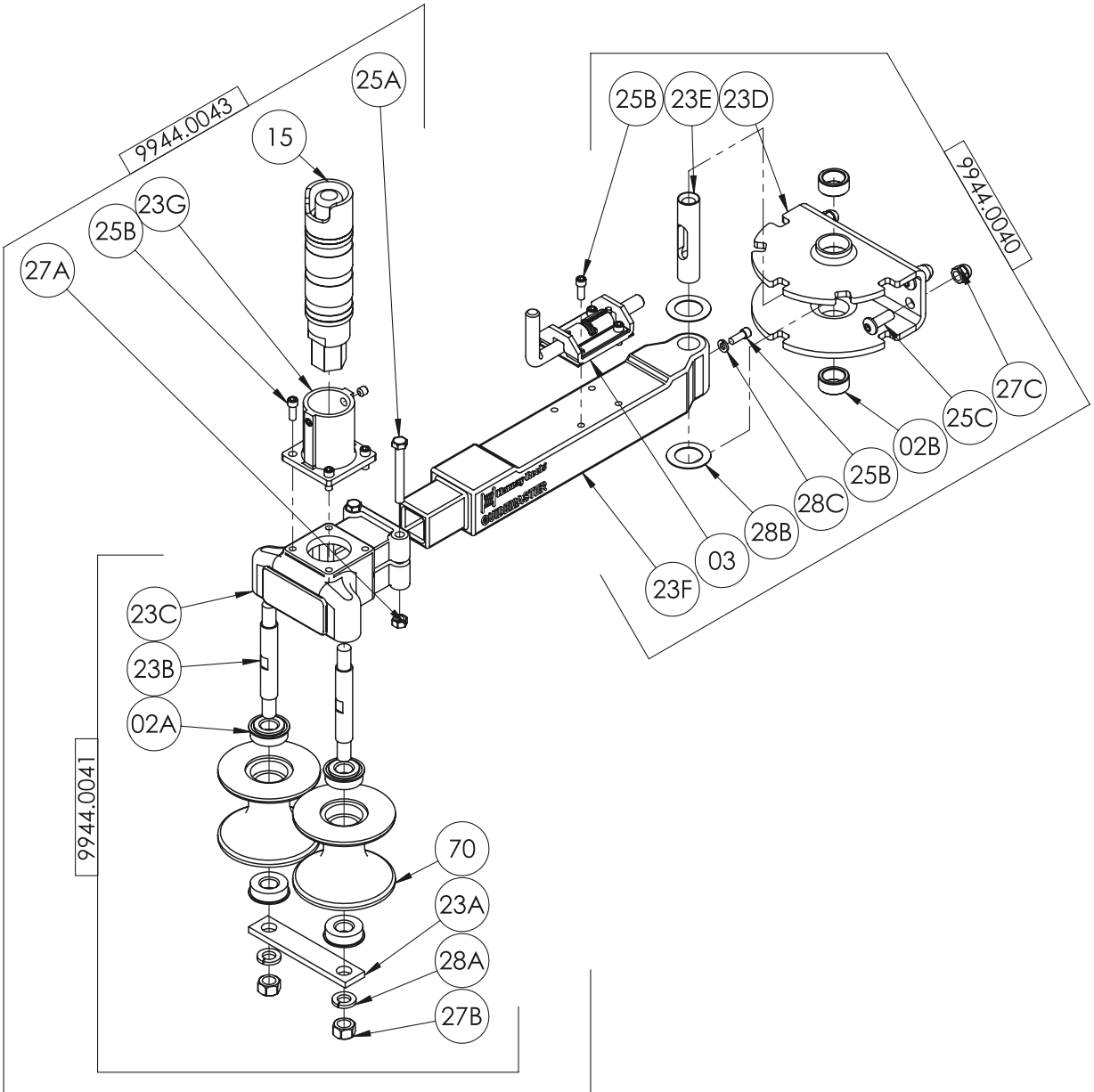
REWIND ASSEMBLIES, BRAKES, RATCHETS

	ITEM	PART	DESCRIPTION
	F1	Specify	30° Rewind Bracket (specify right or left)
	F2	9914.0233	Vertical Rewind Bracket Only
	F3	9914.0372	H-26 Ring Gear
	F4	9914.0382	H-28 Ring Gear
	F5	9914.0393	H-27 Pinion Gear
	F6	9914.0403	H-29 Pinion Gear
	F7	Spec. Model	Pinion Shaft
	F8	9914.0351	Pinion Shaft Collar
	F9	9914.0618	Pinion Gear Guard (E-Coated)
	F10	9914.0243	H-2A Pinion Shaft Bearing
	F11	9914.0413	H-30A Brake Wheel
	F12	9914.0451	H-31 Brake Spring
	F13	9914.0433	H-3 Brake Pad
	F14	9914.0011	H-18 Hand Crank
	F15	9947.0020	Air Caliper Brake
	Not Shown	9947.0001	Manual Caliper Brake
	F18	9947.0036	Comet Brake Strap Only (IV Style)
	F19	9947.0038	Comet Brake Iron Hub (IV Style)
	F21	9922.0015	Ratchet Wheel (new 2 position)
	F22	9965.0030	PL-1 Pinlock
	F23	9965.0036	PL-4 Pinlock with Extended Mounting Ears
	F24	9947.0090	Comet Brake Assembly (Bearing Mounted Style)
	Not Shown	9947.0043	Comet Brake Assembly (Bearing Mounted Style with Stub Shaft)
	F25	9947.0130	Cam Lever Drag Brake Kit 3-Position Lever (including mounting hardware)
	Not Shown	9922.0008	Ratchet Locking Spring
	F26	9922.0301	Left Hand Pawl & Pin (304 SST)
	F27	9922.0302	Right Hand Pawl & Pin (304 SST)
	F28	9922.0311	Left Hand Ratchet Locking Assy for HGR, SCR, SGCR, Reverse N-Series
	F29	9922.0312	Right Hand Ratchet Locking Assy for N-series
	F30	9922.0321	Left Hand Ratchet Locking Assy for Rollform Reels
	F31	9922.0322	Right Hand Ratchet Locking Assy for Reverse Rollform Reels

HOSE REELS: PARTS



ISO 195
PARTS LIST
MODEL GM-700
GUIDEMASTER®



**PARTS LIST
ISO 195
Model GM-700 Guidemaster®**

**When Ordering Parts
BE SURE TO SPECIFY COMPLETE MODEL NUMBER and SERIAL NUMBER OF REEL
USE PART NUMBER!**

<u>Item</u>	<u>Description</u>	<u>PART</u>	<u>Quantity</u>
2A	GM Ball Bearing (5/8" I.D.), per P02A-00510	9945.0026	4
2B	Oil-impregnated Bronze Bushing, per P02A-00500	9945.0011	2
3	Guidemaster® Pinlock Ass'y (SST), per P23A-00140.....	9945.1003	1
15	EPS-1 Explosion-Proof Switch	9917.0200	1
23A	Guidemaster® Bottom Roller Plate, per P23A-00220	9945.1004	1
23B	Guidemaster® Roller Mounting Bolt, per P23A-00270 (Stainless Steel) ..	9945.1005	2
23C	Roller Body Casting w/ 2 Item 25A, per P23A-00120.....	9945.1001	1
23D	Mounting Yoke w/ 2 Item 2A Installed, per P23A-00440	9945.0009	1
23E	SST Pivot Pin w/ Item 25B, per P23A-00060	9945.0024	1
23F	Guide Arm Casting, per P23A-00110	9945.1002	1
23G	Switch Mounting Bracket w/ Hardware, per P23A-00380.....	9917.0207	1
25A	5/16"-24 x 2-1/2" Stainless Steel Hex Bolt.....	9945.0013	2
25B	1/4"-20 x 5/8" SST Socket Head Cap Screw	9945.0055	9
25C	3/8"-16 x 7/8" Button Socket Head	9904.9201	4
27A	5/16"-24 Stainless Steel Hex Nut	9945.0027	2
27B	1/2"-13 Stainless Steel Hex Nut	9960.0018	2
27C	3/8"-16 Hex Acorn Nut.....	9904.5290	4
28A	1/2" Lock Washer	9954.0030	2
28B	SST Spacer 1" I.D. x 1-5/8" O.D. x 20 GA.....	9954.0037	2
28C	1/4" Lock Washer	9954.0028	1
70	GM (Polished) Roller w/ 2 Item 2A Installed.....	9945.0019	2

BOBTAIL EQUIPMENT



Poly Meter Cover

Protect the meter and register from the elements.

Item Number	Description
PMC-KIT	Available in Blue, Silver, White, Red or Other



Treadbright Sun Shield

Protect the hose reel from the elements. Specify C-roller or guidemaster.

Item Number	Description
IPS Sun Shield	Will Fit Hose Reel with C-Roller or Guidemaster

Fire Extinguisher

Heavy duty D.O.T. fire extinguisher designed for upright, squeeze-grip operation.

Item Number	Description
ABC20	20# Extinguisher



Fire Extinguisher Bracket

Truck mounting bracket for ABC 20# extinguisher.

Item Number	Description
TMB-20	Mounting Bracket



Hose Hook

Item Number	Description
HH-1	Sanitary tool for bobtail hose



Fire Extinguisher Cover

Fire extinguisher cover for ABC 20# extinguisher.

Item Number	Description
FEC-20	Fire Extinguisher Cover



Emergency Warning Triangles

Set of three (3) highway emergency warning triangles with storage case. Meets D.O.T. specifications.

Item Number	Description
1A493	Emergency Warning Triangles

Aluminum Chock Blocks

Item Number	Description			Wt. (lbs)
	H	W	L	
WC765	5¼	6	7	1.5
WC1267	7	6½	12	3.25
WC1588	8	8	15	7.25
ME200	7	7	10	7

Rubber Chock Blocks

Item Number	Description			Wt. (lbs)
	H	W	L	
WC1467	5	5	8	4.15
WC1468	5	8	8	5.90
WC2556A	8	7	10	11.15



Grounding Lugs

Brass grounding lug used when loading bobtails.

Item Number	Description
BGL-1	Grounding Lug



Throttle Control Cable

Throttle cable, 25' length, .375 dia. conduit.

Item Number	Description
VCGTX25*	Throttle Cable
VCGTHO*	Head Assembly Only



P.T.O. Cable

P.T.O. cable, 25' length, .375 dia. conduit.

Item Number	Description
R38D6X25*	P.T.O. Cable



Remote Control Lever

For use on bobtails to close safety valves.

Item Number	Description
20032A*	Remote Lever with Cable Clamp and Nuts



Switch Covers

Item Number	Description
MEP-GMCI	Hose Reel Control Switch cover



CARBURETION EQUIPMENT

Carburetion Equipment



Item Number	Description
VFF-30-2	Vacuum Filter Lockoff



Item Number	Description
Model 300A	Dual Fuel Mixer



Item Number	Description
2384B	Century Filter Lockoff



VH-100



RK-E-2



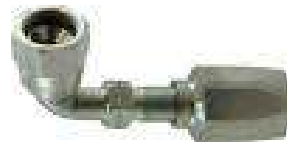
RK-J-2



RK-VFF-30-2



20820-6-6



27920-6-6



20820-8-8

Repair Kits

Item Number	Description
RK-E-2	Model E Converter
RK-J-2	Model J Converter
RK-VFF-30-2	VFF-30-2 Vacuum Filter Lock
AVI-16-2*	Air Valve Assembly CA425
ADI-28-1*	Idle Diaphragm CA425
286-1794	2384B Filter Kit
AFI-10*	Filter for VFF-30

Carburetion Hose

Item Number	Description
SS25UL-6	#6 Carb Hose - Per Foot
SS25UL-8	#8 Carb Hose - Per Foot
VH-100	1" Vapor Hose - Per 10'
20820-6-6	Hose End - 3/8" FL.
27920-6-6	Hose End - 3/8" FL. 90°
20820-8-8	Hose End - 1/2" FL.



BOBTAIL EQUIPMENT: VEHICLE LIGHTS

Clearance & Side Marker Lamps



Item # 500012
Red, Aluminum Body
(Lens # 920109)



Item # 560028
Red, Deep, Valox Body with 920413
Choke Seal Installed
(LED Item # 560228)



Item # 211205
One 1/4" NPT Rear Entrance
(Lens # 920058)(Red Polycarbonate Lens)



Item # 215201
Clearance or Side Marker
Red, Valox Body, LED



Item # 215202
Amber, Valox Body, LED



Item # 650207
Red, LED, Gray Valox Body



Item # 650208
Amber, LED, Gray Valox Body



Item # 650209
Identification Bar Lamp
(Lens # 660001)
Red LED, Gray Valox

License Lamps



Item # 242001
Silver, Aluminum Body



Item # 240009
LED, Silver, Aluminum Body, with a 920045
Choke Seal & 4' Cable
(Lens # 920055)



Item # 400041
Red, Valox Body
(Lens # 920141)

Stop, Tail, Turn Lamps



Item # 400036
Stop or Turn, Red, Valox Body



Item # 400039
Stop, Turn, Tail or Clearance, Red, Valox Body



Item # 402039
Stop, Turn, Tail or Clearance, Red LED,
Valox Body

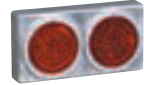
Multi Diode LED With LED Side Marker

Item # 412018
3-Lamp, Red Left Turn/Clearance,
Red Stop/Tail, Backup



Item # 412020
3-Lamp, Red Right Turn/Clearance, Red Stop/Tail, Backup

Item # 412029
2-Lamp, Red Left Turn/Clearance, Red Stop/Tail



Item # 412031
2-Lamp, Red Right Turn/Clearance, Red Stop/Tail

Cabinet/Meter/Dome Lamps

Item # 200024
Clear, Valox Body
(Lens # 920057)



LED Retrofit Lens Assemblies

Item # 221201
For 200 Series Valox Lamps
Red, LED REFLEX lens insert with (2) eyelets



Item # 710001
Red, Shallow LED lens insert with (3) eyelets



Item # 660001
Red, LED lens insert with (2) eyelets



Flood Lights



Item # 835001
Clear, Aluminum Body
LED Item #805503



Item # 315003
Clear, Aluminum Body
LED Item #325003

Circuit Box

Item # 351044
Dri-Seal Circuit Box with (4) 920413 choke seals, (1) 920402 1/2" NPT
Cable Entrance Fitting, and (1) 920412 1/2" NPT Square Head Plug



BOBTAIL: REMOTE SHUT-DOWNS & PTO EQUIPMENT

BASE ENGINEERING INC.
FUEL TRANSFER AUTOMATION

PROCONTROL³ INTEGRATED FUEL DELIVERY SYSTEM

US Patent Number RE39,249



ProControl³ Transmitter Shown

ProControl³ – **BASE Engineering's** newly engineered hand-held control center – is the first and only all-in-one handheld solution for the Oil and Gas industry.

Designed specifically for the fuel industry by the company with over 90,000 systems on fuel trucks around the world, this all-in-one controller can greatly improve delivery efficiency and reduce costly fueling mistakes.

This patented system is easily retrofitted to existing trucks or installed on new equipment.

PROCONTROL³ NEW FEATURES

- Internal GPS for accurate customer tank location capture
- Preset delivery volume before you pump, from the end of the hose
- Alpha/Numeric keypad for enhanced hose-end data entry and invoicing (requires on-board computer for invoicing)
- Communicates with multiple meters simultaneously
- Operator control of up to 12 custom remote functions and custom delivery screens specific to your operations
- Able to select up to 15 different products or compartments from display, in addition to the existing 12 functions of the handheld
- Perform pre-trip truck inspections and produce printed report (requires onboard computer interface)
- Hose-end product selection: allows the operator complete end-of-hose control of the electronic register's product selection functionality, paving the way for automatic compartment selection / fluid routing through preselected meters
- System status indicators including PTO, Throttle, Product, Preset, Meter, Compartment and Electronic Register state, along with real-time volume identification
- Brilliant 3.5" color display with heater for optimal performance regardless of climate
- In-cab charging cradle with interlock to prevent drive away without remote
- Shock, weather and explosion proof IP67 design
- Radio signal strength and low battery indicator
- Vibration and audible buzzer feedback and messaging
- Designed to work seamlessly with optional **BASEstation Android** and other in-cab automation systems
- Intuitive menu driven user interface including automated meter dedication and on-board diagnostics

BOBTAIL: REMOTE SHUT-DOWNS & PTO EQUIPMENT

STANDARD PROCONTROL FEATURES:

- 'Pump & Print' from end of hose
- Shows the exact meter reading to 1/10th of a unit in real time
- Direct serial interface with meter register shows a mirror image volume identical to the truck mounted register
- RFID 'Scan & Pump' technology helps prevent theft, tracks tank assets, and ensures the right customer gets invoiced (requires on-board computer interface)
- Kits available for all types of electronic and mechanical registers, including dual metered trucks – reads in gallons or liters
- Ideal for "will call" deliveries and monitoring delivery volume while pumping
- Hose Reel remote control allows operator to unwind or rewind delivery hose saving hose wear and tear, and possible injury
- Tank Valves can be opened with automatic "delay" feature to engage PTO/ Cargo Pumps. Allows piping to charge and prevents internal valve slugging with one button push. Saves pump wear by engaging pump only when product line is charged and nozzle is connected to tank
- Engine RPM can be remotely controlled to increase or decrease pump volume
- Emergency-Stop feature closes all tank valves and stops truck engine
- Available with 5-minute 'Query' automatic emergency shut-down feature if radio signal is lost



**ProControl³ in-cab
or Office Docking Cradle**



**Truck mounted receiver
enclosure unit**



BASE ENGINEERING INC.
FUEL TRANSFER AUTOMATION

BASEstation TRUCK-MOUNTED ON-BOARD COMPUTER



Taking a step beyond the capabilities of a stand-alone **ProControl³** system, at the center of **BASE's** Automation platform, the **BASEstation HUB** does all of the heavy lifting for the fully automated truck. The **HUB** communicates with the **ProControl³**, the chassis, the tank, the pumps, the valves, and the engine to get a thorough understanding of what's happening on the truck. All data collected and stored in the **HUB** can be transmitted real-time to the back office through a variety of methods including cellular, WiFi, and USB sticks.

WITH THE **BASEstation HUB**, THE **ProControl³** CAN:

- Show customized data entry and display screens, configured to match the “day in the life” of a truck driver
- Perform, record, print DOT pre-trip truck inspections with handheld
- Captures and displays inventory levels on truck - both initial loading and post delivery
- Displays optimized customer delivery list, will calls, and remaining deliveries
- Built-in GPS brings up customer account details automatically when in proximity
- Search by customer name, location or address, or use the built-in RFID scanner (also designed for barcode or iButton) to pull up detailed account information to scan, pump, and invoice automatically
- Preset by price or volume
- Flow rate readout
- In addition to the register's Weights & Measures block, system prints customer invoice details
- Sell additional items on same ticket
- Account for non-metered transactions, such as miscellaneous charges and packaged goods
- Produces detailed 'end of shift' reconciliation report

BASEstation HUB Truck Interface Features:

- Mounts in-cab like standard **BASE** receivers
- Two-way data communication to back office using our secure and 99.99% uptime Cloud service or directly using our cellular, WiFi, or USB connections
- Maintains detailed customer database, optimized route
- Sends, receives, updates, and stores delivery data until signal available or USB download
- Connects to any electronic register and integrates with register manufacturer file formats
- I/O to connect to in-cab printers, truck gauges, tank valves, PTO, hose reel, engine, and other accessories
- Connects via Wi-Fi to optional rugged **BASEstation Android** tablet mounted in cab

BOBTAIL: REMOTE SHUT-DOWNS & PTO EQUIPMENT

OPTIONAL **BASEstation** ANDROID TABLET FEATURES:

The **BASEstation Android** gives the operator a richer and fuller screen interface than the handheld alone. It is ideal for when truck driver input is required while inside the cab of the truck. It can also be mobile for times when data capture is required outside of the truck.

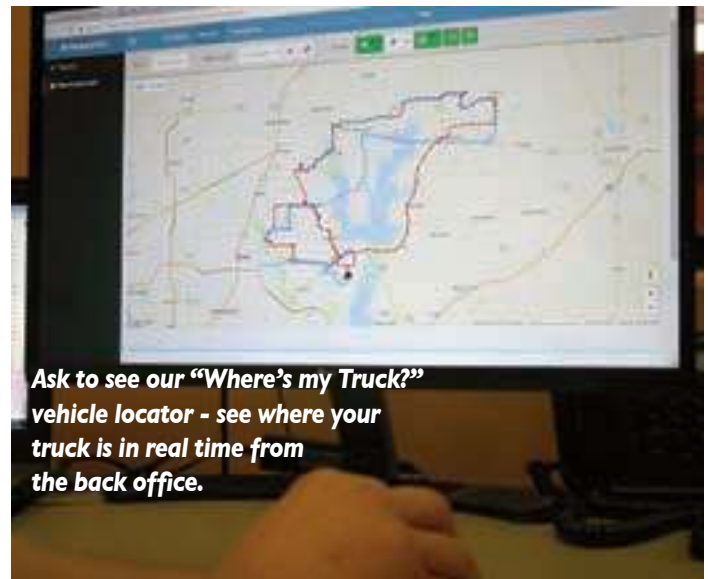
- Show customized data entry and display screens, configured to match the “day in the life” of a truck driver
- Ruggedized design for severe operating environment
- WiFi connection to **BASEstation HUB**
- Touchscreen captures driver input, such as log-in details
- Perform, record, print DOT Pre-trip truck inspections - includes built-in camera, allowing for future photographic developments
- Captures and displays inventory levels on truck - both initial loading and post delivery
- Displays optimized customer delivery list, will calls, and remaining deliveries
- Turn by turn map navigation to customer location
- Built-in GPS brings up customer account details automatically when in proximity
- Search by customer name, location, or address
- Preset by price or volume
- Complete measurement system control and real-time status indication
- Removable for customer signature if required
- In addition to the register’s Weights & Measures block, system prints customer invoice and fuel marketer’s details



See nearby customers on-screen!



ProControl[®] Integrated Fuel Delivery System. The first and only complete, all-in-one fuel delivery solution!



Ask to see our “Where’s my Truck?” vehicle locator - see where your truck is in real time from the back office.

BOBTAIL: REMOTE SHUT-DOWNS & PTO EQUIPMENT



Hose Reel Control Unit

ASKW systems are available for all makes of trucks, tanks, and chassis mounted pumping systems. Quick-connect remote wire harness can be factory ordered and pre-installed as an option from most major truck manufacturers. 12/24VDC, RS232, and J1939 CAN bus chassis interface connections are also available. All systems use state of the art encryption technology to ensure an interference-free, fail-safe signal.

BASE Engineering designs and manufactures its own proprietary radio modules to ensure quality control and optimize performance. Systems are FCC, CE, and ATEX/IECEx approved for use in Zone 0, Class I, Div 1, Group “D” Hazardous locations. Systems comply to USA DOT 49CFR, Canadian CSA B620, and International standards for “off truck” remote controls. Wire harness, drawings, and button text specific to customer’s application are included with each system.

Turn-key ‘plug & play’ systems are available with pre-wired pneumatic solenoids, relays, electric solenoids, and actuators. **BASE** supplies complete system packages to simplify conversion of existing manual truck controls or up-fit new chassis and tanks. Modular components allow for easy installation and field replacement. Air solenoids are extremely rugged and can be direct mounted to chassis allowing hose-end PTO, tank valve, and cargo pump interlock.



“F” SYSTEM

FOR REGO “FLOMATIC” INTERNAL VALVES
Stops truck engine & pump.
Automatically closes “Flomatic” Internal Valves.
Includes everything needed. Pre-wired for truck ignition kill with quick connect components.



“ACS” SYSTEM

FOR MANUAL “CABLE” INTERNAL VALVES
Eliminates costly air internal valve conversions.
Includes all required hardware to trip cable operated valves. Connects to emergency trip lever on left front corner of tank.



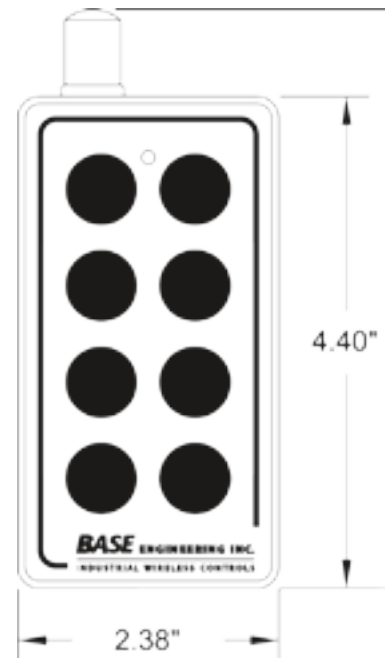
“A” SYSTEM

FOR “AIR” OPERATED INTERNAL VALVES
Works with existing or new air operated internal valves.
Includes heavy duty truck air solenoid with quick connect air & electrical fittings installed.

BOBTAIL: REMOTE SHUT-DOWNS & PTO EQUIPMENT

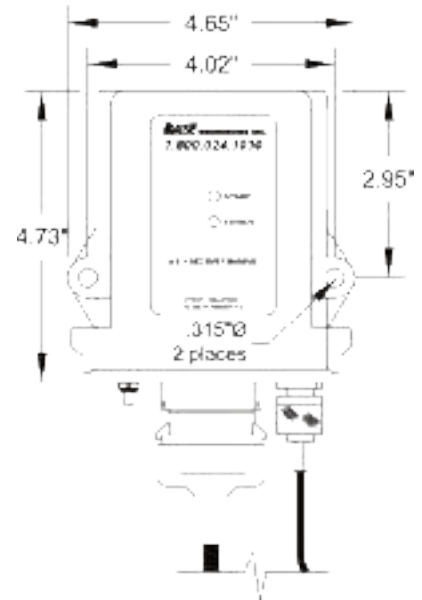
HANDHELD TRANSMITTER SPECIFICATIONS

FREQUENCY OF OPERATION	433.92MHz
METHOD OF TRANSMISSION	56 bit DES encryption key
CONSTRUCTION	Rugged weather-proof aluminum enclosure
ANTENNA	Externally mounted helical
NORMAL RANGE	Up to 1000 feet (higher power available)
TEMPERATURE SPECIFICATION	Minus 20 F to 185 F
BATTERY LIFE	300 hours of continuous use w/flashing Low Battery LED indicator
BATTERY TYPE	Common 'AA' included (rechargeable transmitter available ASKR)
DIAGNOSTICS	RF activity LED and Low Battery indicator
RADIO APPROVAL	N8KJ8T6J11 (non-licensed), CE Approved
CERTIFICATIONS	Intrinsically Safe EX Rated: ATEX: EXII 1G SIRA I IATEX2317x IECEX: EX ia IIC T4 Ga SIRI I.0148x



TRUCK MOUNTED RECEIVER SPECIFICATIONS

POWER SUPPLY	12/24VDC (Optional 120VAC systems available)
CURRENT LOAD	Up to 4 Amps @ 12VDC per channel or 8 Amps total
CONSTRUCTION	Rugged weather-proof polymer enclosure (Explosion-proof option available)
ANTENNA	Externally mounted to receiver (optional coax and remote mount antenna available)
WIRING CONNECTIONS	Pre-wired to OEM requirements, quick connect fittings supplied
DIAGNOSTICS	RF activity LED and Power On indication
SERIAL COMMUNICATION	Optional digital interface to OEM CAN bus network (ASKR series)
PROGRAMMING MODES	Up to 8 programmable channels <i>Including: Latched, Momentary, Safety Latched, Channel Interlock, Channel Delay, Query (custom OEM programming available)</i>



Hose Reel with Air Solenoid Control Unit
Inside view

BOBTAIL: REMOTE SHUT-DOWNS & PTO EQUIPMENT

Replacement Parts

Item Number	Description
ANT1000	Antenna with Bracket
SOL-1000	3-way Air Valve
SM-1C-25	Pressure Switch
LTC	Replacement Transmitter Case
C-Cable	30 ft Replacement Cable
REL-5050	Replacement Relay
Transmitter	Replacement Transmitter

PTO Equipment



End Yoke



Mid-Ship



Pillow Block

Item Number	Description
7-4-93	1" Bore End Yoke
7-4-103	1-1/8" Bore End Yoke
7-4-123	1-1/4" Bore End Yoke
MSS	Mid-Ship Stub Assembly
P-16	1" Pillow Block Bearing
6700105	NEAPCO Pump End Shaft 1-1/8"
6700112	NEAPCO PTO End Shaft 1-1/4"
68-1001	NEAPCO Shield Kit

NOTE: Other Parts Available. Call for details.

HEATING: VENT-FREE INFRARED HEATERS



Vent-Free Infrared Heaters - White

- Does not require electricity; operates in a power outage
- Made in U.S.A.

Includes:

Barrier Grid

INFRARED HEATERS	BTU	DESCRIPTION	WEIGHT
SR6WLP	6,000	Manual 1-Heat Setting, 6,000 Btu, White	18
SR6WNAT	6,000	Manual 1-Heat Setting, 6,000 Btu, White	18
SR10WLP	10,000	Manual 1-Heat Setting, 10,000 Btu, White	18
SR10WNAT	10,000	Manual 1-Heat Setting, 10,000 Btu, White	18
SR10TWLP	10,000	Hydraulic Thermostat, 10,000 Btu, White	18
SR10TWNAT	10,000	Hydraulic Thermostat, 10,000 Btu, White	18
SR18WLP	18,000	Manual 3-Heat Settings, 18,000 Btu, White	27
SR18WNAT	18,000	Manual 3-Heat Settings, 18,000 Btu, White	27
SR18TWLP	18,000	Hydraulic Thermostat, 18,000 Btu, White	27
SR18TWNAT	18,000	Hydraulic Thermostat, 18,000 Btu, White	27
SR30WLP	30,000	Manual 3-Heat Settings, 30,000 Btu, White	35
SR30WNAT	30,000	Manual 3-Heat Settings, 30,000 Btu, White	35
SR30TWLP	30,000	Hydraulic Thermostat, 30,000 Btu, White	36
SR30TWNAT	30,000	Hydraulic Thermostat, 30,000 Btu, White	36

ACCESSORIES	DESCRIPTION	WEIGHT
SRB18W	Blower, White, Fits SR18	4
SRB18TW	Blower, Auto, White, fits SR18T, BF10, BF20	4
SRB30W	Blower, White, Fits SR30	4
SRB30TW	Blower, Auto, White, fits SR30, BF30	4
SRS10W	Stand, White, Fits SR6, SR10	3
SRS18W	Stand, White, Fits SR18, BF10, BF20	3
SRS30W	Stand, White, Fits SR30, BF30	3

Note: Stands may not be used in bedroom installations.

Control Options



Thermostatic Control
SR10W, SR18TW, SR30TW, BF10W, BF20W, BF30W



Manual Control
SR6W, SR10W, SR18W, SR30W

Empire Infrared Heaters

Empire Infrared models produce a "radiant" heat that instantly adds warmth to you and objects in the room.



Automatic Blowers and Floor Stands

Increase the effectiveness of your Empire Heater – SR18W, SR30W, BF10W, BF20W and BF30W models with a blower. Empire's centralized blower design quietly circulates the warm air.

In addition, optional floor stands allow the heaters to rest safely on the floor.



Blower



Floor Stand

HEATING: VENT-FREE BLUE FLAME HEATERS



Vent-Free Blue Flame Heaters - White

- Does not require electricity; operates in a power outage
- Made in U.S.A.

Includes:

Barrier Screen



BLUE FLAME HEATERS	BTU	DESCRIPTION	WEIGHT
BF10WLP	10,000	Modulating Hydraulic Thermostat, 10,000 Btu, Barrier, White	29
BF10WNAT	10,000	Modulating Hydraulic Thermostat, 10,000 Btu, Barrier, White	29
BF20WLP	20,000	Modulating Hydraulic Thermostat, 20,000 Btu, Barrier, White	29
BF20WNAT	20,000	Modulating Hydraulic Thermostat, 20,000 Btu, Barrier, White	29
BF30WLP	30,000	Modulating Hydraulic Thermostat, 30,000 Btu, Barrier, White	38
BF30WNAT	30,000	Modulating Hydraulic Thermostat, 30,000 Btu, Barrier, White	38
ACCESSORIES		DESCRIPTION	WEIGHT
		SRB18TW Blower, Auto, White, fits SR18T, BF10, BF20	4
		SRB30TW Blower, Auto, White, fits SR30, BF30	4
		SRS18W Stand, White, Fits SR18, BF10, BF20	3
		SRS30W Stand, White, Fits SR30, BF30	3

Note: Stands may not be used in bedroom installations.

Empire Blue Flame Heaters

Our Blue-Flame heaters work by heating the air, which then surrounds people and objects with "atmospheric" warmth.



Control Options



Thermostatic Control
SR10W, SR18TW, SR30TW, BF10W, BF20W, BF30W



Manual Control
SR6W, SR10W, SR18W, SR30W

Automatic Blowers and Floor Stands

Increase the effectiveness of your Empire Heater – SR18W, SR30W, BF10W, BF20W and BF30W models with a blower. Empire's centralized blower design quietly circulates the warm air.

In addition, optional floor stands allow the heaters to rest safely on the floor.



Blower



Floor Stand

HEATING: VENT-FREE INFRARED HEATERS



HearthRite Vent-Free Infrared Heaters

- Does not require electricity; operates in a power outage
- Imported

Includes:

Barrier Grid

INFRARED HEATERS	BTU	DESCRIPTION	WEIGHT
HR06ML	6,000	Manual control, 6,000 Btu, Propane	15
HR06MN	6,000	Manual control, 6,000 Btu, Nat	15
HR10ML	10,000	Manual control, 10,000 Btu, Propane	16
HR10MN	10,000	Manual control, 10,000 Btu, Nat	16
HR10TL	10,000	Thermostat, 10,000 Btu, Propane	17
HR10TN	10,000	Thermostat, 10,000 Btu, Nat	17
HR15ML	15,000	Manual control, 15,000 Btu, Propane	25
HR15TL	15,000	Thermostat, 15,000 Btu, Propane	27
HR18MN	18,000	Manual control, 18,000 Btu, Nat	25
HR18TN	18,000	Thermostat, 18,000 Btu, Nat	27
HR25ML	25,000	Manual control, 25,000 Btu, Propane	34
HR25TL	25,000	Thermostat, 25,000 Btu, Propane	33
HR30MN	30,000	Manual control, 30,000 Btu, Nat	33
HR30TN	30,000	Thermostat, 30,000 Btu, Nat	35
ACCESSORIES		DESCRIPTION	WEIGHT
HAB01		Blower, fits HR15, HR18, HR25, HR30, HB20, HB30	5
HAS03		Stand, fits HR15, HR18, HR25, HR30, HB20, HB30	3
HAS04		Stand, fits HR06, HR10, HB06, HB10	3

Note: Stands may not be used in bedroom installations.



Choose manual or thermostat control



Blower



Floor Stand

- 99.9% efficiency – turns more gas into heat
- Available in LP or Natural gas
- Pushbutton piezo ignition and standing pilot
- Heats even when electric power fails
- Oxygen Depletion Sensor shuts off heater before oxygen drops to unsafe levels
- Every heater is test-fired at the factory to check Oxygen Depletion Sensor
- Wall-mount or floor stand
- Three-year limited warranty on parts and labor
- Imported for Empire from China

HEATING: VENT-FREE BLUE FLAME HEATERS



HearthRite Vent-Free Blue Flame Heaters

- Does not require electricity; operates in a power outage
- Imported

Includes:

Barrier Screen



BLUE FLAME HEATERS	BTU	DESCRIPTION	WEIGHT
HB06ML	6,000	Manual control, 6,000 Btu, Propane	15
HB06MN	6,000	Manual control, 6,000 Btu, Nat	15
HB10ML	10,000	Manual control, 10,000 Btu, Propane	16
HB10MN	10,000	Manual control, 10,000 Btu, Nat	16
HB10TL	10,000	Thermostat, 10,000 Btu, Propane	17
HB10TN	10,000	Thermostat, 10,000 Btu, Nat	17
HB20ML	20,000	Manual control, 20,000 Btu, Propane	25
HB20MN	20,000	Manual control, 20,000 Btu, Nat	25
HB20TL	20,000	Thermostat, 20,000 Btu, Propane	26
HB20TN	20,000	Thermostat, 20,000 Btu, Nat	25
HB30ML	30,000	Manual control, 30,000 Btu, Propane	33
HB30MN	30,000	Manual control, 30,000 Btu, Nat	33
HB30TL	30,000	Thermostat, 30,000 Btu, Propane	33
HB30TN	30,000	Thermostat, 30,000 Btu, Nat	33
ACCESSORIES		DESCRIPTION	WEIGHT
HAB01		Blower, fits HR15, HR18, HR25, HR30, HB20, HB30	5
HAS03		Stand, fits HR15, HR18, HR25, HR30, HB20, HB30	3
HAS04		Stand, fits HR06, HR10, HB06, HB10	3

Note: Stands may not be used in bedroom installations.



Choose manual or thermostat control



Blower



Floor Stand

- 99.9% efficiency – turns more gas into heat
- Available in LP or Natural gas
- Pushbutton piezo ignition and standing pilot
- Heats even when electric power fails
- Oxygen Depletion Sensor shuts off heater before oxygen drops to unsafe levels
- Every heater is test-fired at the factory to check Oxygen Depletion Sensor
- Wall-mount or floor stand
- Three-year limited warranty on parts and labor
- Imported for Empire from China

HEATING: ULTRASAVER 90 PLUS



UltraSaver90Plus

• Made in U.S.A.

Includes:

Built-in Thermostat (also works with wall thermostats below and most programmable thermostats)
Current units (-3) include the PVSA1 Air Pipe Kit

Requires:

Vents with low-cost, 2-inch PVC or Polypropelene venting

Features:

Advanced technology makes the US90 Plus wall furnace 92 percent efficient A.F.U.E. The clean, modern furnace vents with low-cost PVC and is ideal for zone heating. Made in U.S.A.

HIGH-EFFICIENT WALL FURNACE	BTU	DESCRIPTION	WEIGHT
PVS18P	17,500	Wall Furnace, 17,500 Btu	119
PVS18N	17,500	Wall Furnace, 17,500 Btu	119
PVS35P	35,000	Wall Furnace, 35,000 Btu	129
PVS35N	35,000	Wall Furnace, 35,000 Btu	129

ACCESSORIES	DESCRIPTION	WEIGHT
PVST10	Tube Extension, 10 ft	1
PVSEP1	Condensate Pump	7.5
PVSH2	Humidification Tray, fits 2015 and newer (-2 and -3 models)	7

CONTROL OPTIONS	DESCRIPTION	WEIGHT
PVSRT1	Temp Sensor relocation	1
TDV1	Wall Thermostat, Digital	1
TMV	Wall Thermostat, Reed Switch	2

INSTALLATION KITS	DESCRIPTION	WEIGHT
PVSDS1	Deep Shroud	19
PVSW1	Wall Mount Shroud	17

VENTING	DESCRIPTION	WEIGHT
PVSA1	Air Pipe Kit, Converts from single flue to direct-vent (included with -2 and -3 units)	1.5
PVSDV35A	Vent Adaptor, DV35 to PVS(18/35), includes Transition Plate, for single vent installation	1

CONVERSION KITS	DESCRIPTION	WEIGHT
32276	Nat to Propane, IP	1
32277	Propane to Nat	1

HEATING: DIRECT VENT WALL FURNANCES



High-Efficient Direct-Vent Wall Furnaces

- Intake Exhaust Extension Kits DVE1 54-inch with 2 elbows for DV20E and DV40E
- Intake Exhaust Extension Kits DVE2 54-inch for extended vent runs DV20E and DV40E
- DVT2 Extended Vent Terminal for walls up to 32-inch thick.
- Made in U.S.A.

Includes:

Standard vent terminal for walls up to 10-inch thick

Features:

Advanced technology makes these heaters more than 80 percent efficient A.F.U.E. The 20,000 BTU DV20E is ideal for heating basements, family rooms or several small rooms. The DV40E and DV55E are perfect for heating large family rooms, offices, apartments or even entire homes. Built-in thermostat included.



HIGH-EFFICIENT WALL FURNACE	BTU	DESCRIPTION	WEIGHT
DV20ELP	20,000	High Efficient, Electronic Ignition, 20,000 Btu	126
DV20ENAT	20,000	High Efficient, Electronic Ignition, 20,000 Btu	126
DV40ELP	40,000	High Efficient, Electronic Ignition, 40,000 Btu	135
DV40ENAT	40,000	High Efficient, Electronic Ignition, 40,000 Btu	135
DV55ELP	55,000	High Efficient, Electronic Ignition, 55,000 Btu	142
DV55ENAT	55,000	High Efficient, Electronic Ignition, 55,000 Btu	141

ACCESSORIES	DESCRIPTION	WEIGHT
T24V	Wall Thermostat, 24 V	1
TRW	Wall Thermostat, Wireless	2
TDV1	Wall Thermostat, Digital	1
DVE1	Intake/Exhaust Extension Kit (54-in. kit for extended vent runs), Fits DV20E, DV40E	5
DVE2	Intake/Exhaust Extension Kit (54-in. w/ 2 elbows), fits DV20E, DV40E	5
DVT2	Extended Vent Termination (for walls up to 32-in. thick), Fits DV20E, DV40E, DV55E	11
DVP1	Floor Pad, 36 x 14 inches	10

HEATING: DIRECT-VENT WALL FURNANCES



Direct-Vent Wall Furnaces

- Thermostat not included
- Does not require electricity; operates in a power outage
- Made in U.S.A.

FOR SMALLER ROOMS

Clean and cost-efficient comfort make the DV210 and DV215 the perfect heaters to warm your smaller rooms. The slim, compact design allows the heater to tuck out of the way on an outside wall. Quiet burners, a "matchless" piezo ignition, and all the safety features you expect from Empire Comfort Systems come standard.

Optional automatic blowers install easily for more even heat distribution.

Ideal for bedrooms or studies, wall furnaces add comfort and beauty to any decor.



WALL FURNACE	BTU	DESCRIPTION	WEIGHT
DV210SGXLP	10,000	MV w/o Thermostat, 10,000 Btu	40
DV210SGXNAT	10,000	MV w/o Thermostat, 10,000 Btu	40
DV215SGXLP	15,000	MV w/o Thermostat, 15,000 Btu	50
DV215SGXNAT	15,000	MV w/o Thermostat, 15,000 Btu	50

ACCESSORIES	DESCRIPTION	WEIGHT
TMV	Wall Thermostat, Reed Switch	2
TRW	Wall Thermostat, Wireless	2
TDV1	Wall Thermostat, Digital	1
DVB1	Blower, Auto	5
VSK1	Slim-Line Vent Kit for Vinyl Siding Horizontal, incl outside wall plate with vent shield, for DV210/215	2.5
DV822	Vinyl Siding Vent Kit for Empire Round Vent Kit	5
CONVERSION KIT FOR DV210SGX	DESCRIPTION	WEIGHT
17080	Nat to Propane	1
17081	Propane to Nat	1

CONVERSION KIT FOR DV215SGX	DESCRIPTION	WEIGHT
17082	Nat to Propane	1
17083	Propane to Nat	1

HEATING: DIRECT-VENT WALL FURNANCES



Direct-Vent Wall Furnaces

- Does not require electricity; operates in a power outage
- Made in U.S.A.

Includes:

Thermostat

FOR LARGER ROOMS

Heat larger areas with Empire's DV25 and DV35 Direct-Vent wall furnaces. Delivering room-filling warmth, each furnace is stylishly crafted and fits against an outside wall.

A push of the button ignites the pilot with a "matchless" piezo system. Add an optional internal blower for even greater air circulation. Includes thermostat.



WALL FURNACE	BTU	DESCRIPTION	WEIGHT
DV25SGLP	25,000	MV w/Thermostat, 25,000 Btu	93
DV25SGNAT	25,000	MV w/Thermostat, 25,000 Btu	91
DV35SGLP	35,000	MV w/Thermostat, 35,000 Btu	96
DV35SGNAT	35,000	MV w/Thermostat, 35,000 Btu	94
ACCESSORIES		DESCRIPTION	WEIGHT
TMV		Wall Thermostat, Reed Switch	2
TRW		Wall Thermostat, Wireless	2
TDV1		Wall Thermostat, Digital	1
DRB1		Blower, Auto	8
VSK2		Slim-Line Vent Kit for Vinyl Siding Horizontal, incl outside wall plate with vent shield, for DV25/35, DVC35/55	4
DV822		Vinyl Siding Vent Kit for Empire Round Vent Kit	5
CONVERSION KIT FOR DV25		DESCRIPTION	WEIGHT
17084		Nat to Propane	1
17085		Propane to Nat	1

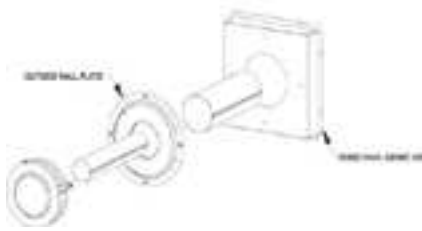
CONVERSION KIT FOR DV35		DESCRIPTION	WEIGHT
17086		Nat to Propane	1
17087		Propane to Nat	1

HEATING: VENT EXTENSION KITS



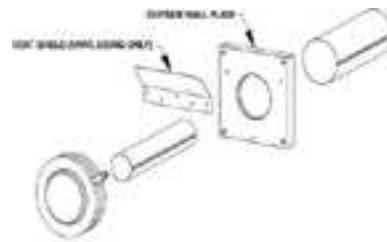
Vinyl Siding Kits and Vent Extension Kits

DV822 - Includes Siding Kit Only



Does not include vent tube, cap or wall plate. These items ship with unit.

VSK1 and VSK2 - Includes Outside



Does not include vent tube or cap

VINYL SIDING KITS	BTU	DESCRIPTION	WEIGHT
VSK1		Slim-Line Vent Kit for Vinyl Siding Horizontal, incl outside wall plate with vent shield, for DV210/215	2.5
VSK2		Slim-Line Vent Kit for Vinyl Siding Horizontal, incl outside wall plate with vent shield, for DV25/35, DVC35/55	4
DV822		Vinyl Siding Vent Kit for Empire Round Vent Kit	5

DV215SGX	DESCRIPTION	WEIGHT
* TH357	Vent Extension Kit for walls 13 to 19 in for DV215NAT	2
* TH358	Vent Extension Kit for walls 13 to 19 in for DV215LP	2

DV35SGX	DESCRIPTION	WEIGHT
DV983	Vent Extension Kit for walls 13 to 19 in for DV35NAT	1
DV984	Vent Extension Kit for walls 13 to 19 in for DV35LP	1

* For US only - not approved for Canada



Direct-Vent Counterflow Wall Furnaces

- Thermostat not included
- Made in U.S.A.

Includes:

- DVC35 models include DV1273 Vent Kit
- DVC55 models include DV600 Vent Kit (Ships in two cartons)

Features:

Counterflow wall furnaces heat large areas and use minimum floor space. Warm air exits at floor level for more even distribution. Choose standing pilot or electronic ignition. DVC35 may be recessed between standard wall studs. Larger models surface mount.



COUNTERFLOW WALL FURNACE	BTU	DESCRIPTION	WEIGHT
DVC35SPPXLP	35,000	24V System w/o Thermostat, 35,000 Btu/Standing Pilot	107
DVC35SPPXNAT	35,000	24V System w/o Thermostat, 35,000 Btu/Standing Pilot	107
DVC35IPXLP	35,000	24V System w/o Thermostat, 35,000 Btu/Electronic Pilot	107
DVC35IPXNAT	35,000	24V System w/o Thermostat, 35,000 Btu/Electronic Pilot	107
DVC55SPPXLP	55,000	24V System w/o Thermostat, 55,000 Btu/Standing Pilot	123
DVC55SPPXNAT	55,000	24V System w/o Thermostat, 55,000 Btu/Standing Pilot	123
DVC55IPXLP	55,000	24V System w/o Thermostat, 55,000 Btu/Electronic Pilot	123
DVC55IPXNAT	55,000	24V System w/o Thermostat, 55,000 Btu/Electronic Pilot	123

ACCESSORIES	DESCRIPTION	WEIGHT
TRW	Wall Thermostat, Wireless	2
TDV1	Wall Thermostat, Digital	1
T24V	Wall Thermostat, 24 V	1
SOR1	Side Outlet Register	2
SOK1	10-in. Side Outlet Kit	7
VSK2	Slim-Line Vent Kit for Vinyl Siding Horizontal, incl outside wall plate with vent shield, for DV25/35, DVC35/55	4
DV822	Vinyl Siding Vent Kit for Empire Round Vent Kit	5

CONVERSION KIT FOR DVC35SPPX	DESCRIPTION	WEIGHT
DV1344	Nat to Propane	1
DV1346	Propane to Nat	1

CONVERSION KIT FOR DVC35IPX	DESCRIPTION	WEIGHT
DV1348	Nat to Propane	1
DV1350	Propane to Nat	1

CONVERSION KIT FOR DVC55SPPX	DESCRIPTION	WEIGHT
682270	Nat to Propane	1
682161	Propane to Nat	1

CONVERSION KIT FOR DVC55IPX	DESCRIPTION	WEIGHT
682269	Nat to Propane	1
682160	Propane to Nat	1

HEATING: WALL FURNANCES



B-Vent Counterflow Wall Furnaces

- Thermostat not included
- Made in U.S.A.

Features:

Counterflow wall furnaces circulate warmth at floor level to provide comfort at a fraction of the cost of electric heat. The front panels remove easily for cleaning and servicing. Choose standing pilot or electronic ignition.

COUNTERFLOW WALL FURNACE	BTU	DESCRIPTION	WEIGHT
FAW40SPPXLP	40,000	24V System w/o Thermostat, 40,000 Btu/Standing Pilot	110
FAW40SPPXNAT	40,000	24V System w/o Thermostat, 40,000 Btu/Standing Pilot	110
FAW40IPXLP	40,000	24V System w/o Thermostat, 40,000 Btu/Electronic Pilot	110
FAW40IPXNAT	40,000	24V System w/o Thermostat, 40,000 Btu/Electronic Pilot	110
FAW55SPPXLP	55,000	24V System w/o Thermostat, 55,000 Btu/Standing Pilot	135
FAW55SPPXNAT	55,000	24V System w/o Thermostat, 55,000 Btu/Standing Pilot	135
FAW55IPXLP	55,000	24V System w/o Thermostat, 55,000 Btu/Electronic Pilot	135
FAW55IPXNAT	55,000	24V System w/o Thermostat, 55,000 Btu/Electronic Pilot	135

ACCESSORIES	DESCRIPTION	WEIGHT
TRW	Wall Thermostat, Wireless	2
TDV1	Wall Thermostat, Digital	1
T24V	Wall Thermostat, 24 V	1
SOR1	Side Outlet Register	2
SOK1	10-in. Side Outlet Kit	7
ROK1	10-in. Rear Outlet Kit	9
FVE24	Vent Enclosure, 24-in., fits FAW40	7
FVE34	Vent Enclosure, 34-in., fits FAW40	10
FVE46	Vent Enclosure, 46-in., fits FAW40	14
DV651	Vent Enclosure 14-in., fits FAW55	6
DV665	Vent Enclosure 24-in., fits FAW55	9
DV666	Vent Enclosure 36-in., fits FAW55	14
DV648	Oval-to-Round Flue Adapter	2

CONVERSION KIT FOR FAW40SPPX	DESCRIPTION	WEIGHT
DV1345	Nat to Propane	1
DV1347	Propane to Nat	1
CONVERSION KIT FOR FAW40IPX	DESCRIPTION	WEIGHT
DV1349	Nat to Propane	1
DV1351	Propane to Nat	1
CONVERSION KIT FOR FAW55SPPX	DESCRIPTION	WEIGHT
682270	Nat to Propane	1
682161	Propane to Nat	1
CONVERSION KIT FOR FAW55IPX	DESCRIPTION	WEIGHT
682269	Nat to Propane	1
682160	Propane to Nat	1



B-Vent Wall Furnaces

- Thermostat not included
- Does not require electricity; operates in a power outage
- Made in U.S.A.

Includes:

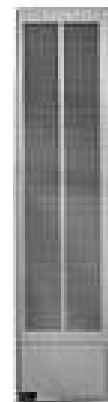
GWT25 includes GWTH2535W Header

GWT35 includes GWTH2535W Header

GWT50 includes GWTH50W Header

Features:

Gravity Vented Furnaces utilize state-of-the-art technology for the highest fuel efficiency. This furnace recesses into a wall or surface mounts with optional kit. Heat two adjoining rooms with the GWT50W.



GRAVITY WALL FURNACE	BTU	DESCRIPTION	WEIGHT
GWT25WLP	25,000	MV, 25,000 Btu, White	75
GWT25WNAT	25,000	MV, 25,000 Btu, White	75
GWT35WLP	35,000	MV, 35,000 Btu, White	81
GWT35WNAT	35,000	MV, 35,000 Btu, White	81
GWT50WLP	50,000	MV, 50,000 Btu, White	131
GWT50WNAT	50,000	MV, 50,000 Btu, White	131

ACCESSORIES	DESCRIPTION	WEIGHT
TMV	Wall Thermostat, Reed Switch	2
TRW	Wall Thermostat, Wireless	2
TDV1	Wall Thermostat, Digital	1
GWRBT	Remote Bulb Thermostat	1
GWTB2W	Blower, Auto, White	8
GWTH2535W	Header, White, (included with furnace), fits GWT25W, GWT35W	2
GWTH50W	Header, White, (included with furnace), fits GWT50W	4
GWTR1W	Rear Register Kit, White, fits GWT25W, GWT35W	5
GWTW2W	Out-of-Wall Installation Kit, White, fits GWT25W, GWT35W	23

CONVERSION KIT FOR GWT25W	DESCRIPTION	WEIGHT
17088	Nat to Propane	1
17089	Propane to Nat	1

CONVERSION KIT FOR GWT35W	DESCRIPTION	WEIGHT
17090	Nat to Propane	1
17091	Propane to Nat	1

CONVERSION KIT FOR GWT50W	DESCRIPTION	WEIGHT
17092	Nat to Propane	1
17093	Propane to Nat	1



B-Vent Room Heaters

- Does not require electricity; operates in a power outage
- Made in U.S.A.

Includes:

Hydraulic Thermostat

Features:

Console heaters feature an open design to maximize heat dispersion and a draft diverter to eliminate pilot outages. The RH25 and RH35 feature a more compact cabinet – perfect for smaller spaces – yet still allow use of the optional blower. Heaters install easily with standard B-vent pipe.



ROOM HEATER	BTU	DESCRIPTION	WEIGHT
RH25LP	25,000	Console, Hydraulic Thermostat, 25,000 Btu/Standing Pilot	88
RH25NAT	25,000	Console, Hydraulic Thermostat, 25,000 Btu/Standing Pilot	88
RH35LP	35,000	Console, Hydraulic Thermostat, 35,000 Btu/Standing Pilot	88
RH35NAT	35,000	Console, Hydraulic Thermostat, 35,000 Btu/Standing Pilot	88

ACCESSORIES			
DRB1		Blower, Auto	8
DVP1		Floor Pad, 36 x 14 inches	10

CONVERSION KIT FOR RH25			
33728		Propane to Nat	1
33730		Nat to Propane	1

CONVERSION KIT FOR RH35			
33729		Propane to Nat	1
33731		Nat to Propane	1

HEATING: VISUAL FLAME ROOM HEATERS



B-Vent Visual Flame Room Heaters

- Does not require electricity; operates in a power outage
- Made in U.S.A.

Includes:

Hydraulic Thermostat

Features:

Choose and RH50 or RH65 in closed cabinet for heat only or in visual -flame cabinet (with optional log set or ceramic radiant package) for more of a fireplace experience. Add the optional automatic blower to enhance air circulation (included on RH20B/65B)



VISUAL FLAME ROOM HEATERS WITH BLOWERS	BTU	DESCRIPTION	WEIGHT
RH50BLP	50,000	Visual Flame, Hydraulic Thermostat Blower, 50,000 Btu	124
RH50BNAT	50,000	Visual Flame, Hydraulic Thermostat Blower, 50,000 Btu	124
RH65BLP	65,000	Visual Flame, Hydraulic Thermostat, Standing Pilot, Blower, 65,000 Btu	142
RH65BNAT	65,000	Visual Flame, Hydraulic Thermostat, Standing Pilot, Blower, 65,000 Btu	142

CLOSED FRONT ROOM HEATERS	BTU	DESCRIPTION	WEIGHT
RH50CLP	50,000	Closed Front, Hydraulic Thermostat, Standing Pilot, 50,000 Btu	124
RH50CNAT	50,000	Closed Front, Hydraulic Thermostat, Standing Pilot, 50,000 Btu	124
RH65CLP	65,000	Closed Front, Hydraulic Thermostat, Standing Pilot, 65,000 Btu	142
RH65CNAT	65,000	Closed Front, Hydraulic Thermostat, Standing Pilot, 65,000 Btu	142

CLOSED FRONT ROOM HEATERS WITH BLOWERS	BTU	DESCRIPTION	WEIGHT
RH50CBLP	50,000	Closed Front w/Blower, Hydraulic Thermostat, Standing Pilot, 50,000 Btu	124
RH50CBNAT	50,000	Closed Front w/Blower, Hydraulic Thermostat, Standing Pilot, 50,000 Btu	124
RH65CBLP	65,000	Closed Front w/Blower, Hydraulic Thermostat, Standing Pilot, 65,000 Btu	142
RH65CBNAT	65,000	Closed Front w/Blower, Hydraulic Thermostat, Standing Pilot, 65,000 Btu	142

ACCESSORIES			
FRB3		Blower, Auto	10
RAD8		Radiants & Supports, Fits RH50B, RH65B	12
RHL2		Log Kit, Fits RH50B, RH65B	6.4
RH425		Floor Pad 36 x 21, Fits RH50(all); RH65(all)	10

CONVERSION KIT FOR RH50			
33724		Nat to Propane	1
33726		Propane to Nat	1

CONVERSION KIT FOR RH65			
33725		Nat to Propane	1
33727		Propane to Nat	1



B-Vent Floor Furnaces

- Thermostat not included
- Does not require electricity; operates in a power outage
- Made in U.S.A.

Includes:

- 3588X Diverter Kit (3588DIV), ships in separate carton
- 5088X Diverter Kit (5088DIV), ships in separate carton
- 7088X Diverter Kit (7088DIV), ships in separate carton



Features:

America's most popular floor furnace provides whole-house comfort for a fraction of the cost of electric heat and requires no electricity to operate.

FLOOR FURNACE	BTU	DESCRIPTION	WEIGHT
3588XLP	32,500	MV System w/o Thermostat, 32,500 Btu	103
3588XNAT	32,500	MV System w/o Thermostat, 32,500 Btu	103
5088XLP	45,000	MV System w/o Thermostat, 45,000 Btu	116
5088XNAT	45,000	MV System w/o Thermostat, 45,000 Btu	116
7088XLP	65,000	MV System w/o Thermostat, 65,000 Btu	138
7088XNAT	65,000	MV System w/o Thermostat, 65,000 Btu	138

ACCESSORIES			
TMV		Wall Thermostat, Reed Switch	2
TRW		Wall Thermostat, Wireless	2
TDV1		Wall Thermostat, Digital	1

CONVERSION KIT FOR 3588X			
17094		Nat to Propane	1
17095		Propane to Nat	1

CONVERSION KIT FOR 5088X			
17096		Nat to Propane	1
17097		Propane to Nat	1

CONVERSION KIT FOR 7088X			
17098		Nat to Propane	1
17099		Propane to Nat	1

HEATING: FORCED AIR HEATERS



TRADESMAN®	125	170	170 ULTRA	170N	170N ULTRA	400	400 ULTRA	400 ULTRA DF
BTU/H RATING	70,000-125,000	125,000-170,000	125,000-170,000	125,000-155,000	125,000-155,000	250,000-400,000	250,000-400,000	170,000-400,000*
HEATED AIR OUTPUT (CFM)	400	550	550	550	550	1,050	1,050	1,050
FUEL TYPE	LP	LP	LP	NG	NG	LP	LP	LP/NG
FUEL CONSUMPTION LP GAS MIN./MAX. (LBS./HR.)	3.2 / 5.8	5.8 / 7.9	5.8 / 7.9	-	-	11.6 / 18.6	11.6 / 18.6	11.6 / 18.6
FUEL CONSUMPTION NAT. GAS MIN./MAX. (CU.FT./HR.)	-	-	-	125 / 155	125 / 155	-	-	170 / 400
INLET GAS PRESSURE LP GAS	11.0 (IN. W.C.)	11.1 (IN. W.C.)	11.1 (IN. W.C.)	-	-	5.2 PSIG	5.2 PSIG	1.5 PSIG
INLET GAS PRESSURE NAT. GAS MIN./MAX.	-	-	-	7/13.5 (IN. W.C.)	7/13.5 (IN. W.C.)	-	-	1.5 PSIG
AMPS (STARTING/CONTINUOUS OPERATION)	2.0 / 0.70	3.7 / 1.0	3.7 / 1.0	3.7 / 1.0	3.7 / 1.0	4.0 / 1.3	4.0 / 1.3	4.0 / 1.3
SERVICE SAVER (SELF-DIAGNOSTICS)	-	-	YES	-	YES	-	YES	YES
LENGTH (IN.)	25.6	24.0	24.0	24.0	24.0	34.5	34.5	34.5
WIDTH (IN.)	11.8	9.5	9.5	9.5	9.5	12.5	12.5	12.5
HEIGHT (IN.)	16.0	16.0	16.0	16.0	16.0	21.5	21.5	21.5
SHIPPING WEIGHT (LBS.)	28.0	34.0	34.0	34.0	34.0	51.0	51.0	55.0
CASE MATERIAL	STEEL W/BAKED ENAMEL	STEEL W/ TRI-SHIELD COATING**	STEEL W/ TRI-SHIELD COATING**	STEEL W/ TRI-SHIELD COATING**	STEEL W/ TRI-SHIELD COATING**	STEEL W/ TRI-SHIELD COATING**	STEEL W/ TRI-SHIELD COATING**	STEEL W/ TRI-SHIELD COATING**
HIGH TEMP SAFETY SWITCH	YES	YES	YES	YES	YES	YES	YES	YES
AIR FLOW SAFETY SWITCH	NO	NO	YES	NO	YES	YES	YES	YES
GAS PRESSURE REGULATOR	S (W/POL)	S (W/POL)	S (W/POL)	S	S	S (W/POL)	S (W/POL)	S (W/POL)
UNIT MOUNT THERMOSTAT	***	S	S	S	S	S	S	S
GAS HOSE	S	S	S	0	0	S	S	S
CSA CERTIFICATION	US & CANADA	US & CANADA	US & CANADA	US & CANADA	US & CANADA	US & CANADA	US & CANADA	US ONLY

S=Standard O=Optional

TWO YEAR WARRANTY

*250,000 to 400,000 on LP.

** Tri-shield coating consists of 3 unique protective layers: a non-corrosive hot-dipped galvanized steel, an oven-cured epoxy primer, and a baked, thermosetting polyester.

***Thermostat not available due to configuration of gas train.

MOST COMPACT DUAL FUEL 400,000 BTU/H HEATER ON THE MARKET

L.B. WHITE

**PORTABLE FORCED AIR
TRADESMAN® 400 ULTRA DF**

Lifting Handle

Industrial Strength
Fan Motor

Industry Leading
(2) Year Warranty

3-Trial Ignition
System with
Self Diagnostics

Tri-Shield Baked
On Enamel Coating
for a Finish That Lasts

Variable Heat Control and
Thermostat for
Maximum Fuel Efficiency

Switch Between LP & NG with the
Push of a Level on the DF Unit



COMES WITH:
Regulator and Gas Hose



FEATURES

- Most compact dual fuel 400,000 BTU/H heater on the market
- Weighs only 43 pounds - half the weight of other dual fuel units
- Variable heat output - down to 170,000 BTU/H NG & 250,000 BTU/H LP

Measures 35 inches long.
One foot shorter than other dual fuel units!



HEATING: CONVECTION HEATERS



WORKMAN™	100N PLUS	225 PLUS
BTU/H RATING	100,000	45,000-225,000
FUEL TYPE	NG	LP
FUEL CONSUMPTION LP GAS MIN./MAX. (LBS./HR.)	-	2.1 / 10.4
FUEL CONSUMPTION NG MAX. (CU.FT./HR.)	100	-
INLET GAS PRESSURE LP GAS MIN./MAX. (PSIG)	-	10.2
INLET GAS PRESSURE NG MIN./MAX. (IN W.C.)	7.0/13.5	-
IGNITION TYPE	PIEZO PILOT	PIEZO
LENGTH (IN.)	16.5	17.0
WIDTH (IN.)	15.0	15.0
HEIGHT (IN.)	25.0	26.0
SHIPPING WEIGHT (LBS.)	14.0	19.0
FLAME SAFETY	THERMOCOUPLE CONTROLLED GAS VALVE	THERMOCOUPLE CONTROLLED GAS VALVE
BURNER TYPE	STAINLESS STEEL	STAINLESS STEEL
CASE MATERIAL	GALVANIZED STEEL	GALVANIZED STEEL
GAS PRESSURE REGULATOR	S	S (W/POL)
GAS HOSE (10FT U.S./15FT CANADA)	0	S
U.S./CANADIAN CERTIFICATION	YES	YES
TWO YEAR WARRANTY		

S=Standard O=Optional



HEATING: HOT DAWG™



HOT DAWG™ POWER-EXHAUSTED, GAS-FIRED UNIT HEATER (MODEL HD)

- Quiet operation allows your space to be warm without the distraction of a loud machine running in the background
- Unit can easily be rotated to allow for convenient right or left side control placement**
- Fuel type: Natural or propane gas
- Low-profile, lightweight design easily installs 1" from ceiling with only two angle brackets*
- Casing construction made of heavy gauge metal
- Full 10-year warranty on heat exchanger
- Permanently-lubricated motor for maintenance-free dependability
- Single- or two-stage controls available
- Direct spark ignition for reliable and consistent ignition
- 100% shut-off with continuous retry to allow for safe ignition in the event the unit doesn't light on the first try
- Factory installed finger proof fan guards
- Blower models (HDB) available



* Included on sizes 30-75, accessory for 100, 125
 ** For model sizes 30-75

Model #	Description
HD30A P	30,000 BTU HOT DAWG® HEATER, 1 to 1 1/2 Car Garage
HD45A P	45,000 BTU HOT DAWG® HEATER, 2 to 2 1/2 Car Garage
HD60A P	60,000 BTU HOT DAWG® HEATER, 3 to 3 1/2 Car Garage
HD75A P	75,000 BTU HOT DAWG® HEATER, Large Garage
HD100 P	100,000 BTU HOT DAWG® HEATER, Commercial / Industrial
HD125 P	125,000 BTU HOT DAWG® HEATER, Commercial / Industrial

53079	NG to LP Conversion Kit
53080	NG to LP Conversion Kit – For HD100
53081	NG to LP Conversion Kit – For HD 125
32496	Low temp thermostat



Dimensions (inches) - Model HD/HDS

Model Size	30	45	60	75	100/125
A (length)	26.8	26.8	26.8	26.8	35.5
B (height)	12.2	12.2	18.0	18.0	20.5
C (depth)	22.0	22.0	25.0	25.0	31.0
Gas Connection	1/2	1/2	1/2	1/2	1/2
Vent Connection	3	3	3	3" / 4"	3" / 4"
Approx. Shipping Weight (lbs.)	55	60	80	85	125

* HD30, HD45, HD60, HD75
 ** HD100, D125

Performance Data - Model HD/HDS

Model Size	30	45	60	75	100	125
BTU/Hr Input*	30,000	45,000	60,000	75,000	100,000	125,000
BTU/Hr Output*	24,600	36,900	49,200	61,500	82,000	102,500
Entering Airflow (CFM)**	505	720	990	1,160	1,490	1,980
Outlet Velocity (FPM)**	523	725	653	769	565	747
Air Temp. Rise (°F)	44	46	45	48	50	47
Mounting Height (Max ft.)**	10	10	12	14	12	16
Heat Throw (ft.)	25	27	36	38	42	56

* Measured at distance from unit shown.
 ** Competitor published data.

Clearances for Residentially-Certified Unit Heaters

Unit Side	Clearance To Combustible Materials	Recommended Service Clearance
Top and Bottom	1"	18"
Access Side	1"	18"
Non-Access Side	1"	18"
Rear	18"	18"
Vent Connector	3" / 4"***	—

* HD30, HD45, HD60, HD75
 ** HD100, D125

Hot Dawg Applications*

Model	BTU/Hr Input	Typical Application
HD/HDS 30	30,000	1 to 1-1/2 Car Garage
HD/HDS 45	45,000	2 to 2-1/2 Car Garage
HD/HDS 60	60,000	3 to 3-1/2 Car Garage
HD/HDS 75, 100, 125	75,000-125,000	Large Garage

* Sizing data for sample only. Consult a qualified installer for the actual requirements for your building.

HEATING: TORCHES & ACCESSORIES

Torch Kits

Red Dragon Torch Kit is ideal for burning weeds and stumps, sterilizing cages, clearing irrigation ditches, heating, thawing and drying, plus numerous other agricultural and industrial uses. Fire departments use these to create backfires.

Kit contains:

- Torch
- P-3199 W excess flow POL
- HP10 T U.L. listed LPG hose (10 ft.)
- PC2C pipe thread compound
- V-3054 P brass needle valve

Item Number	Vapor or Liquid	BTU/hr	Handle Length
VT212-24CE	Vapor	500,000	24" - Economy Model
VT 3-30C	Vapor	500,000	30"



Hand Torch Kit

Our "Shop Torch," the HT 11/2-10C is our most popular, small torch kit. Great for small jobs and detail work like removing paint and preheating metal. The 45° bend allows comfort and ease while doing close work. A very nice kit with plastic grip, preset regulator, spark lighter and torch stand.

Kit contains:

- HT 1-1/2-10 - vapor hand torch w/plastic grip
- HP-10 - 10' U.L. listed LP gas hose
- P-3200W - U.L. listed excess flow P.O.L. fitting
- V-3055 - flame adjusting needle valve
- R-700C - U.L. listed regulator
- TB-4 - torch stand
- L2001 - spark lighter w/5 flints
- Pipe thread sealant

Item Number	BTU/hr	Handle Length
HT 11/2-10C	50,000	10-1/2"



V-334



V-3055P



Model 21



S-119



Parts and Accessories

Item Number	Description
V-334	Heavy-Duty Needle Valve - 1/4 Inlet/Outlet
V-3055P	Standard Needle Valve - 1/4 Inlet/Outlet
Model 21	Piezo Igniter w/Lead Wire
S-119	12 V DC 3/4" Solenoid Valve

Match Extender

Telescopic match extender, 5-1/2" - 24" with pocket clip.

Item Number	Description
Match-1	Match Extender

Lighters

Item Number	Description
GM-3	Mechanical Match
GM3X	Mechanical Match with 15" Flexible Nozzle
GM9	Disposable, Sold 2 per pack
GM12X	Piezo Spark Igniter



GM-3



GM3X



GM9



GM12X

HEATING: REMOTE CONTROLS

On/Off Remote Controls and Wall Switches for Hearth Products

(All batteries & wire kits included)



**SKY-5001
SKY-5010**



1001TLCD



TM/R-2A



SKY-WS



**SKY-5301
SKY-5320**



3301P2



**TS/R-2-A
TS-3**

Model	Description
SKY-5001	All battery powered touch screen, backlit handheld transmitter. Includes receiver & wall cover plate.
SKY-5010	All battery powered touch screen, backlit handheld transmitter. 110 volt receiver.
SKY-1001-A	All battery powered, two-button handheld transmitter with signal light. Includes receiver & wall cover plate.
SKY-1001D-A	All battery powered, wireless wall switch with signal light. Includes receiver & wall cover plate.
1001TLCD	All battery powered, four-button velvet touch handheld transmitter with LCD screen & timer. Includes receiver & wall cover plate.
SKY-1001TX-A	Two-button transmitter only. For use with Skytech receivers with learn function.
SKY-1420-A	All battery powered two-button handheld transmitter with signal light. 110 volt receiver.
SKY-1420TLCD-A	All battery powered four-button velvet touch handheld transmitter with LCD screen & timer. 110 volt receiver.
SKY-CON	All battery powered control for latching solenoid gas valves. Two-button handheld transmitter with signal light. Includes receiver & receiver shield.
TM-R-2A	All battery powered, 30/60/120 minute wall mount four-button timer. Includes receiver & wall cover plate.
SKY-WS	Decorative UL listed white wall switch. Includes cover plate & 20' 18-2 gauge low voltage wire.
SKY-5301	All battery powered touch screen, backlit handheld transmitter. Includes receiver & wall cover plate.
SKY-5320	All battery powered touch screen, backlit handheld transmitter. 110 volt receiver.
SKY-1001TH-A	All battery powered, four-button velvet touch handheld transmitter with LCD screen. Includes receiver & wall cover plate.
SKY-1420TH-A	All battery powered, four-button velvet touch handheld transmitter with LCD screen. 110 volt receiver.
SKY-3002	All battery powered, handheld transmitter with LCD screen, timer & slide cover. Includes receiver & wall cover plate.
SKY-3301	All battery powered, five-button velvet touch handheld transmitter with LCD screen, hinged cover & timer. Includes receiver, wall cover plate & wall holder.
3301P2	All battery powered, programmable, eight-button velvet touch handheld transmitter with LCD screen with hinged cover & timer. Includes receiver, wall cover plate & wall holder.
SKY-3301PF	All battery powered programmable, nine-button velvet touch handheld transmitter, LCD screen, hinged cover, timer & fan control. Wall holder included. 110 volt receiver.
SKYCONTH	All battery powered control for latching solenoid gas valves. Four-button handheld transmitter with LCD screen. Includes receiver & receiver shield.
TS-3	Wired wall mount thermostat with LCD screen.
TS/R-2-A	All battery powered, wireless wall thermostat with LCD screen. Includes receiver & wall cover plate.

HEATING: MR. HEATER



Buddy Heaters

Item Number	Description
MH4B	Little Buddy Heater - 3,800 BTU's
MH9B	Buddy Portable Heater - 4,000-9,000 BTU's
MH18B	Big Buddy Portable Heater - 4,000-18,000 BTU's



MH4B



MH9B



MH18B

Tank Top Heaters

Item Number	Description
MH15T	8,000-14,000 BTU's
MH30T	8,000-28,000 BTU's
MH45	8,000-28,000 BTU's
MH15C	8,000-14,000 BTU's, Heater/Cooker
MH540T	30,000-45,000 BTU's - 360° Heater
MH4GC	4,000 BTU's - Golf Cart Heater



MH15T



MH30T



MH45



MH15C



MH540T



MH4GC



SunStar Patio Heaters

- Infrared patio heater provides radiant warmth in 360° circle
- No electricity required
- Portable wheel kit included
- 4 (32 oz) cup holders in base
- Sleek design comes in stainless steel or hammertone finish
- 40,000 BTU/hr

Item Number	Description
PHS40-L6	Stainless Steel Patio Heater
PHJ40-L6	Hammertone Patio Heater

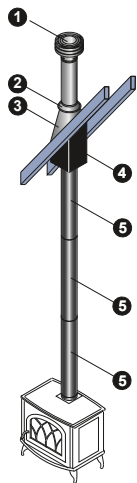


PHS40-L6

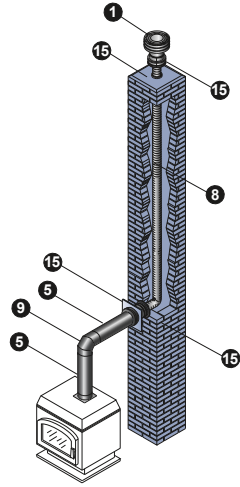


PHJ40-L6

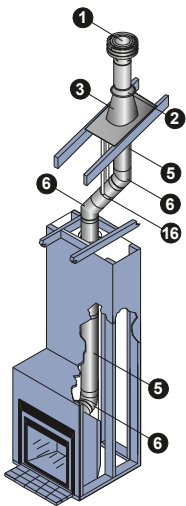
Typical Installations



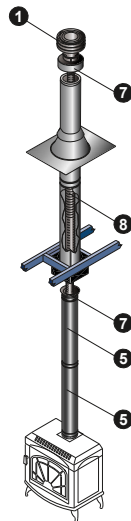
Cathedral Ceiling Stove Installation



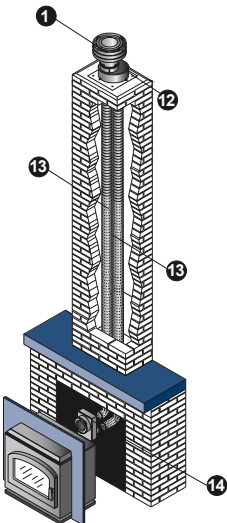
Masonry Chimney Conversion



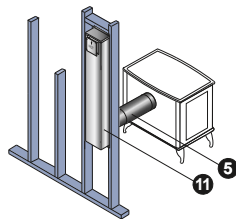
Fireplace Vertical Termination



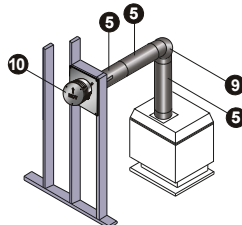
Metal Chimney Conversion



Co-Linear Insert



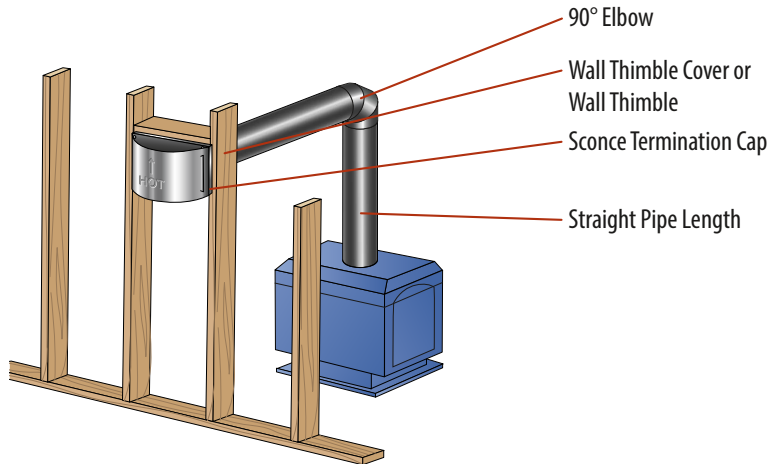
Stove with Snorkel Horizontal Termination



Stove Horizontal Termination

Installation Key			
1	Vertical Termination Cap	9	90° Elbow
2	Storm Collar	10	Horizontal Termination Cap
3	Flashing	11	Snorkel Termination Cap
4	Cathedral Ceiling Support Box	12	Co-linear Kit
5	Pipe	13	3" or 4" Flex
6	45° Elbow	14	Co-Axial to Co-Linear Connector
7	Class A Chimney Conversion Kit	15	Masonry Chimney Conversion Kit
8	4" Flex	16	Elbow Strap

• Refer to the Typical Venting Installation drawings to select the appropriate components for your installation.

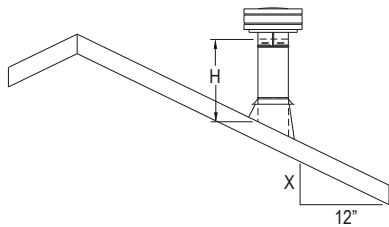


VENTING

Planning Your Installation

1	For vertical gas stove installations, measure the height from the stove outlet to the ceiling to determine the length of black pipe required. Select a ceiling support/wall thimble cover or a cathedral ceiling support box.
2	To determine the length of galvanized pipe required, measure the ceiling thickness and the vertical rise in an attic or second story. Firestops are required at each floor level beyond the first floor ceiling support/wall thimble cover or cathedral ceiling support box. If an offset is required to avoid obstructions, use a pair of 45° elbows. For proper support, use elbow straps with offsets. Use wall straps for long vertical runs. Attic Insulation Shield is required in attic.
3	Measure the roof pitch. Select the proper flashing and storm collar. Determine the minimum height above the roof.
4	For horizontal installations, check the appliance manufacturer's instructions for minimum rise and maximum horizontal run. A snorkel termination may be used if height restrictions prevent adequate rise above the appliance. Select the appropriate Horizontal Termination Cap (see appliance manufacturer installation instructions). To protect vinyl siding, select vinyl siding standoff. Check appliance manufacturer's instructions for wall thimble and firestop requirements.

Vent Termination Chart



Roof Pitch	Minimum Height	
	Feet	Meters
Flat to 7/12	1	0.30
Over 7/12 to 8/12	1.5	0.46
Over 8/12 to 9/12	2	0.61
Over 9/12 to 10/12	2.5	0.76
Over 10/12 to 11/12	3.25	0.99
Over 11/12 to 12/12	4	1.22
Over 12/12 to 14/12	5	1.52

Horizontal Termination Kit A



Kit includes: 90° black Elbow, Ceiling Support/Wall Thimble Cover, 24" black Pipe, 8 1/2" black Pipe Extension. Termination cap not included. For 4" x 6 5/8" direct vent.

Choose termination cap to complete installation.

SIZE	ORDER #	STOCK #
4" x 6 5/8"	46DVA-KHA	810001267

Horizontal Termination Kit C



Kit includes: 90° black Elbow, Wall Thimble, Ceiling Support/Wall Thimble Cover, 24" black Pipe, 8 1/2" black Pipe Extension. Termination cap not included. For 4" x 6 5/8" direct vent.

Choose termination cap to complete installation.

SIZE	ORDER #	STOCK #
4" x 6 5/8"	46DVA-KHC	810001268

Pipe Length



Designed for appliances tested and listed for direct vent. Features a fully unitized twist-lock construction in both 4" x 6 5/8" and 5" x 8" vent sizes. Use of sealant is optional, unless specified by the appliance manufacturer. To calculate install length, subtract 1 1/2" for each joint. No beads or hems. Black pipe lengths feature exterior laser-welded seams.

SIZE	A	GALVANIZED		BLACK	
		ORDER #	STOCK #	ORDER #	STOCK #
4" x 6 5/8"	6"	46DVA-06	810001281	46DVA-06B	810001282
4" x 6 5/8"	9"	46DVA-09	810001283	46DVA-09B	810001284
4" x 6 5/8"	12"	46DVA-12	810001285	46DVA-12B	810001286
4" x 6 5/8"	18"	46DVA-18	810001289	46DVA-18B	810001290
4" x 6 5/8"	24"	46DVA-24	810001291	46DVA-24B	810001292
4" x 6 5/8"	36"	46DVA-36	810001293	46DVA-36B	810001294
4" x 6 5/8"	48"	46DVA-48	810001295	46DVA-48B	810001296
4" x 6 5/8"	60"	46DVA-60	810001297	46DVA-60B	810001298
5" x 8"	6"	58DVA-06	810001369	58DVA-06B	810001370
5" x 8"	9"	58DVA-09	810001371	58DVA-09B	810001372
5" x 8"	12"	58DVA-12	810001373	58DVA-12B	810001374
5" x 8"	18"	58DVA-18	810001375	58DVA-18B	810001376
5" x 8"	24"	58DVA-24	810001377	58DVA-24B	810001378
5" x 8"	36"	58DVA-36	810001379	58DVA-36B	810001380
5" x 8"	48"	58DVA-48	810001381	58DVA-48B	810001382
5" x 8"	60"	58DVA-60	810001383	58DVA-60B	810001384

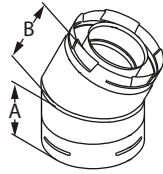
Pipe Extension



Use to add length to a straight length of DirectVent Pro. 8 1/2" pipe adds 3"- 7" of length, 16" pipe adds 3"- 14 1/2" of length, when used with rigid sections of pipe. Direct vent lengths feature a fully unitized, twist-lock construction. Use of sealant is optional, unless specified by the appliance manufacturer. Available in black or galvalume exterior (both feature laser-welded outer wall seams). Does not fit DirectVent GS pipe.

SIZE	GALVANIZED		BLACK		A	EXTENSION
	ORDER #	STOCK #	ORDER #	STOCK #		
4" x 6 5/8"	46DVA-08A	810001299	46DVA-08AB	810001300	8 1/2"	3" - 7"
4" x 6 5/8"	46DVA-16A	810001287	46DVA-16AB	810001288	16"	3" - 14 1/2"
5" x 8"	58DVA-08A	810001385	58DVA-08AB	810001386	8 1/2"	3" - 7"
5" x 8"	58DVA-16A	810001387	58DVA-16AB	810001388	16"	3" - 14 1/2"

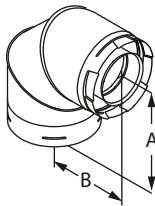
45° Elbow



Use to offset obstructions as needed. Fully unitized, twist-lock construction. Elbows swivel, allowing the lock to remain fully engaged while aligning to the desired direction. The angle will remain fixed at 45°.

SIZE	GALVANIZED		BLACK		A	B
	ORDER #	STOCK #	ORDER #	STOCK #		
4" x 6 5/8"	46DVA-E45	810001308	46DVA-E45B	810001309	5 3/4"	5 1/8"
5" x 8"	58DVA-E45	810001393	58DVA-E45B	810001394	6 5/8"	6"

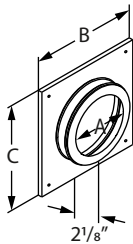
90° Elbow



Use to offset obstructions as needed. Fully unitized, twist-lock construction. Elbows swivel, allowing the lock to remain fully engaged while aligning to the desired direction. The angle will remain fixed at 90°.

SIZE	GALVANIZED		BLACK		A	B
	ORDER #	STOCK #	ORDER #	STOCK #		
4" x 6 5/8"	46DVA-E90	810001311	46DVA-E90B	810001312	6 1/2"	6 1/2"
5" x 8"	58DVA-E90	810001395	58DVA-E90B	810001396	7 3/8"	7 3/8"

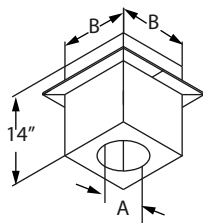
Ceiling Support/ Wall Thimble Cover



Use as a decorative cover for horizontal (through-wall) installations or for flat ceiling installations. Fits over the Wall Thimble face plate. Comes with an insulation ring to reduce air infiltration where the pipe slips through the thimble. Painted black.

SIZE	ORDER #	STOCK #	A	B	C
4" x 6 5/8"	46DVA-DC	810001314	6 7/8"	13"	13"
5" x 8"	58DVA-DC	810001398	8 1/4"	13"	13"

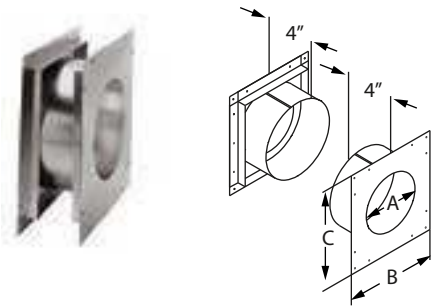
Cathedral Ceiling Support Box



Use to pass through ceiling and support pipe. May be used on vaulted or flat ceilings. Painted black. Trim and clamp included.

SIZE	ORDER #	STOCK #	A	B
4" x 6 5/8"	46DVA-CS	810001315	6 7/8"	10 5/8"
5" x 8"	58DVA-CS	810001399	8 1/4"	10 5/8"

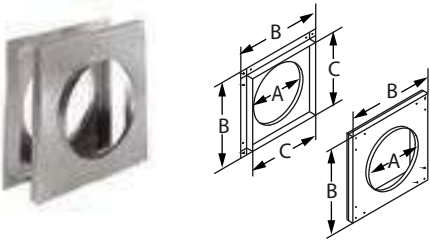
Wall Thimble



Provides a complete wall-pass-through and firestop. Use with Square Horizontal Cap only. May be required in Canada. Refer to the appliance manufacturer's installation instructions for requirements.

SIZE	ORDER #	STOCK #	A	B	C
4" x 6 5/8"	46DVA-WT	810001316	6 3/4"	11"	12"
5" x 8"	58DVA-WT	810001400	8 1/4"	12 1/2"	12 1/2"

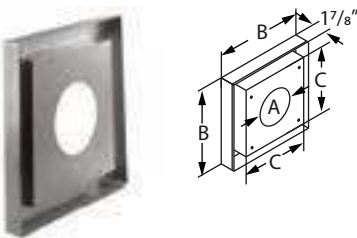
Wall Firestop



For horizontal (through-wall) installations. Refer to the appliance manufacturer's installation instructions for requirements.

SIZE	ORDER #	STOCK #	A	B	C
4" x 6 5/8"	46DVA-WFS	810001319	6 3/4"	12"	10"
5" x 8"	58DVA-WFS	810001403	8 1/4"	12"	10"

Vinyl Siding Standoff

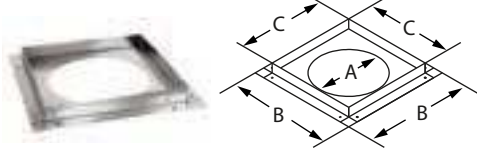


Use as a heat shield on structures with vinyl siding, or other temperature sensitive materials, to help prevent warping and or melting of the material. Use only on horizontal terminations and on any irregular surfaced siding (ie: ship lap siding, shake shingle siding) so cap is not imbedded in the siding. Sized for Square Horizontal Cap.

SIZE	ORDER #	STOCK #	A	B	C
4" x 6 5/8"	46DVA-VSS	810001320	6 3/4"	17 1/2"	13 1/2"
5" x 8"	58DVA-VSS	810001404	8 1/4"	19 7/8"	15 3/4"

VENTING

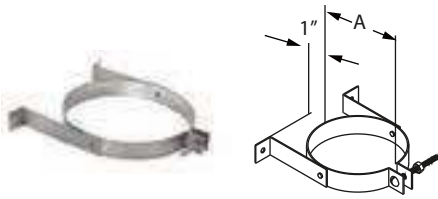
Ceiling Firestop



Required for multi-story vertical installations at the second floor and any subsequent floors. 4" x 6 5/8" style may vary.

SIZE	ORDER #	STOCK #	A	B	C
4" x 6 5/8"	46DVA-FS	810001328	6 3/4"	11"	9"
5" x 8"	58DVA-FS	810001408	8 1/4"	12 1/2"	10 1/2"

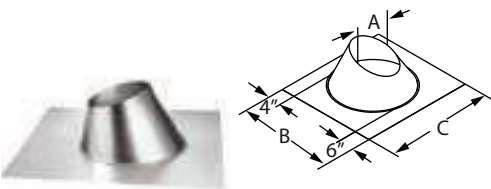
Wall Strap



Use to support vent pipe. Provides 1" clearance. Recommend installing Wall Straps at 4-foot intervals on vertical runs.

SIZE	ORDER #	STOCK #	A
4" x 6 5/8"	46DVA-WS	810001330	6 5/8"
5" x 8"	58DVA-WS	810001410	8"

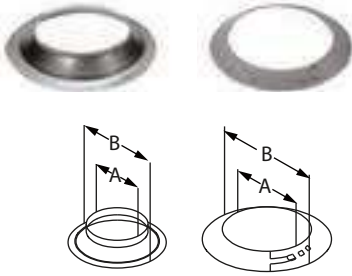
Adjustable Roof Flashing



Use to weather proof the penetration of vent pipe through the roof. Storm Collar required. Select roof flashing based on pitch of roof. For pitches of 0/12 - 6/12. Made of galvalume.

SIZE	ORDER #	STOCK #	A	B	C
4" x 6 5/8"	46DVA-F6	810001332	6 3/4"	19 1/4"	19 1/4"
5" x 8"	58DVA-F6	810001412	8 1/2"	21 1/2"	21 1/2"

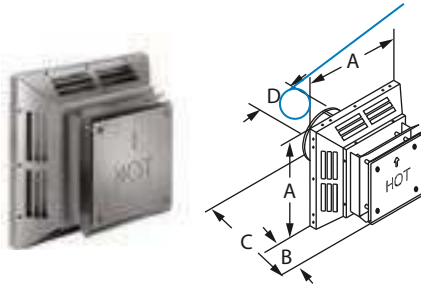
Storm Collar



Use to maintain a weather tight resistant seal between the pipe and the flashing.

SIZE	ORDER #	STOCK #	A	B
4" x 6 5/8"	46DVA-SC	810001343	6 5/8"	10 5/8"
5" x 8"	58DVA-SC	810001419	8"	12"

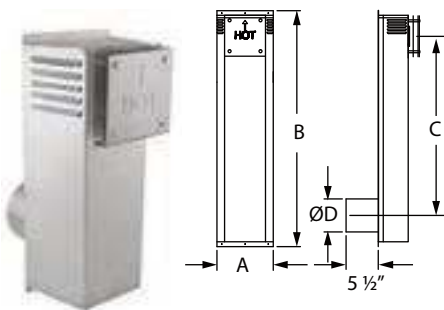
Square Horizontal Termination Cap



Use for standard and high-wind through-the-wall termination. Check installation instructions for restrictions on horizontal cap terminations, such as minimum distance from windows and doors. Available in aluminum, stainless steel (S), and copper (C).

SIZE	ORDER #	STOCK #	A	B	C	D
4" x 6 5/8"	46DVA-HC	810001351	13 1/2"	6 7/8"	12 1/2"	6 5/8"
4" x 6 5/8"	46DVA-HC-S	810001352	13 1/2"	6 7/8"	12 1/2"	6 5/8"
4" x 6 5/8"	46DVA-HC-C	810001353	13 1/2"	6 7/8"	12 1/2"	6 5/8"
5" x 8"	58DVA-HC	810001427	16"	6 7/8"	12 1/2"	8 1/8"
5" x 8"	58DVA-HC-S	810001428	16"	6 7/8"	12 1/2"	8 1/8"
5" x 8"	58DVA-HC-C	810001429	16"	6 7/8"	12 1/2"	8 1/8"

Snorkel Termination Cap

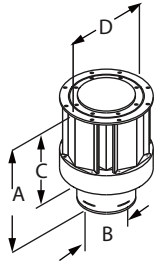


Use for horizontal through-the-wall termination when a vertical rise is desired in the system to meet appliance manufacturer recommended minimum heights. Do not enclose in the wall or install below grade.

SIZE	ORDER #	STOCK #	A	B	C
4" x 6 5/8"	46DVA-SNK14	810001355	10"	23 3/4"	14"
4" x 6 5/8"	46DVA-SNK36	810001356	10"	45 3/4"	36"
5" x 8"	58DVA-SNK14	810001430	10"	23 3/4"	14"
5" x 8"	58DVA-SNK36	810001431	10"	45 3/4"	36"

VENTING

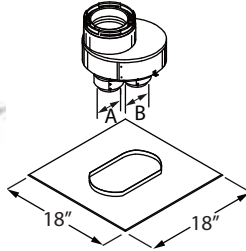
High-Wind Termination Cap



Use for vertical terminations only. Provides improved performance in high wind conditions. For vertical terminations only. Available in aluminum.

SIZE	ORDER #	STOCK #	A	B	C	D
4" x 6 5/8"	46DVA-VCH	810001359	12 3/8"	6 5/8"	7 5/8"	10 1/2"
5" x 8"	58DVA-VCH	810001432	12 3/8"	8"	7 5/8"	10 1/2"

Chimney Liner Termination Kit



Kit includes: Termination Connector and Flashing. DirectVent Pro 4" x 6 5/8" Termination Caps, 3" Flex, and Co-Linear Flex Connectors are sold separately.

DirectVent Pro chimney liner termination kit must be tested and listed for each appliance. Refer to stove manufacturer's installation instructions.

SIZE	ORDER #	STOCK #	ØA	ØB
4" x 6 5/8"	46DVA-GK	810001269	3"	3"
4" x 6 5/8"	46DVA-CT	810001368	4"	3"

A			
ACME:			
Adapters	76		
Caps	75		
Plugs	75		
Wrench	72		
ADAPTERS:			
Acme	76		
Chek-Lok	52-53		
Cylinder	24-25		
Cylinder Filling	28-29		
Filler Hose	74		
Gauge	23, 111		
POL	77-78, 21, 91-92		
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Unloading	73		
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Additive Injection System	122		
Air Filters	202		
Anode Bags	101		
Anti-Seize Compound	116		
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Ball Valves	68, 93		
Base Remote Shutdown	204-210		
Bases, Motor	163		
Belts-V	162		
Betts Lights	203		
BiPod Tank Jack	128		
Blackmer® Pumps	139-142		
Blue Moon® Filters	126		
Bobtail Equipment	200-201		
Brackets, Fire Extinguishers	200-201		
Brackets, Regulator	22		
Brass Fittings	87-92		
Bushings, Split Taper	163		
Bug Barrier	117		
Burn Kit	117		
Bypass Valves	144		
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Cabinet, Cylinder	125		
CableHound DSP	100		
Cable Control Kits	201		
Cable Releases	201		
Cables, PTO	201		
Cables, Throttle	201		
Caps, Acme	75		
Caps, Relief	34-39		
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Carburetion	202		
Carburetion Accessories	202		
Carburetion Hose	84, 202		
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Century Carburetion Kits	202		
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Compressors	135, 143		
Connector Kits	82		
Connectors, Lift Truck	73		
Connectors, Stainless Steel Flex	82		
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