



L-500 Catalog

LP-Gas & Anhydrous Ammonia Equipment

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- Regulators & Accessories
- Cylinder & Service Valves
 - Multivalve® Assemblies C
- Pressure Relief Valves & Relief Valve Manifolds
 - Globe & Angle Valves E
- Excess Flow, Check, Filler & Pressure Vapor Equalizing Valves
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 - Adapters, Connectors & Fittings H
 - Miscellaneous Equipment (Including Rotogages & ESVs)

Foreword

This catalog describes a complete line of equipment available from RegO[®] for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH_a). 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 NH_3 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 NH_3 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. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH3. If you have a need for use of another application, contact RegO, 100 RegO Drive, Elon, NC 27244, (336) 449-7707 ecii@regoproducts.com before proceeding.

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.



Determining the Age of Products

All RegO products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion and aging of components made of material such as metal and rubber.

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 products are used beyond their safe service life.

The life of a product is determined by the environment in which it "lives." The LP-Gas dealer knows better than anyone what this environment is.

Since 1960, most RegO products are identified with an alphabetical code indicating the month and the year they were manufactured.

Check the product for this code to determine age. If valves or regulators are repainted, take care to keep the date code clear for later identification and inspection.

1960 to 1985 — Two-Letter Date Code

		R — 1960	A — 1969	J — 1978
First letter in date	e code is the month	S — 1961	В — 1970	K — 1979
A — January	G — July	T — 1962	C — 1971	L — 1980
B — February	H — August	U — 1963	D — 1972	M— 1981
C — March	I — September	V — 1964	E — 1973	N — 1982
D — April	J — October	W— 1965	F — 1974	O — 1983
E — May	K — November	X — 1966	G — 1975	P — 1984
F — June	L — December	Y — 1967	H — 1976	Q — 1985
elief valves used on ASM	E tanks carry a numerical code indicating	Z — 1968	I — 1977	
onth and year such as 1-	75 means January, 1975.	EXA	MPLE: DL = April of	1980

From	1985 t	io 1990 —	Digit	Date	Code
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Re mo

First digit in date code is the month				
1 — January	7 — July			
2 — February	8 — August			
3 — March	9 — September			
4 — April	10 — October			
5 — May	11 — November			
6 — June	12 — December			

After 1990 — Digit-Letter-Digit Date Cod

First digit in date code is the month			
1 — January	7 — July		
2 — February	8 — August		
3 — March	9 — September		
4 — April 10 — O	ctober		
5 — May 11 — N	ovember		
6 — June	12 — December		

Second 2 digits in date code are the year 86 — 1986 89 — 1989 87 — 1987 90 — 1990 88 — 1988 EXAMPLE: 5-87 = May of 1987

Second letter in date code is the year

git Date Code	Letter in date code is the week	Second 2 digits in date	code are the year
-	A — 1st week	91 — 1991	97 — 1997
de is the month	B — 2nd week	92 — 1992	98 — 1998
7 — July	C — 3rd week	93 — 1993	99 — 1999
8 — August	D — 4th week	94 — 1994	00 — 2000
9 — September	E — 5th week	95 — 1995	01 — 2001
ober		96 — 1996	02 — 2002
vember		03 — 2003	etcetera
12 — December		EXAMPLE: 6A16 = First	week of June, 2016

Regulator Color Coding

RegO Domestic first stage, second stage, single stage, and integral twin stage LP-Gas regulators are easy to identify. In addition to the standard part number marking which indicates the proper application, each regulator is color coded to help minimize misapplication in the field that can lead

to accidents and costly service callbacks.The color coding system is standard on all 404, LV404, 2302,LV2302, 2403, 2503, LV4403, and LV5503 series domestic LP-Gas regulators manufactured after May of 1986.

Classic Gold Brilliant Red	Indicates a single stage regulator that is designed to be used alone in single stage systems. Denotes a first stage high pressure regulator, normally used in two-stage applications
	in conjunction with a select brown second stage regulator.
Select Brown	Signifies second stage low pressure regulators, designed for use in two-stage systems in conjunction with a brilliant red high pressure regulator — also signifies integral twin stage regulators designed to provide benefits of two-stage regulation in one compact unit.
Select Blue	Indicates a second stage 2 PSIG delivery pressure regulator and a line pressure regulator downstream to reduce 2 PSIG to appliance pressure
Green	High pressure pounds to pounds anhydrous ammonia regulator.





RegO Innovations -The Tradition Continues

From the company that pioneered propane regulators, you expect nothing less than products that lead the industry. For over 100 years, we have been manufacturing gas regulating equipment to the highest standards of precision and durability—standards that we set.

Our regulators have stood the test of time.

The basic design is ingenious. The materials are top quality. The robot-assisted manufacturing is precise. RegO values the relationships we have with our customers, and we stand behind our products.

Our distributors are the best in the industry. Distributors are

indispensable contributors to our success and we treat them as the valuable partners they are. We support our distributors with training, inventory and technical support.

10 Year Warranty on All Products The RegO 10 Year Warranty is double what most manufacturers offer.

All of our regulators are designed, assembled and tested in North Carolina. Products Made in the USA allow us to maintain our strict quality control standards that are unmatched by any other company. Every single unit is rigorously tested before it goes out the door.

See The Difference

Easy to Service

Seat Discs can be easily accessed by service techs for repair or replacement.

Standard Tools

Bonnet cap requires only hand tightening to ensure a tight seal - no wrench required.

Gas Check Labels

2 Gas Check stickers with product information are included for ease of record keeping.

Double the Warranty

The RegO 10 Year Warranty is double what most manufacturers offer.

Easy to Buy

Supported by the largest network of distributors worldwide.

Easy to Identify

Our bonnet design features patented laser engraved information (part number, date code of manufacture, outlet pressure and serial number) that is easy to see and matches stickers provided for gas check and record keeping.

Easy to Install

Service tech friendly wrench flats for use with an adjustable wrench. Mounting screws included.

Superior Design

Superior vent design has a flathead screwdriver slot for easy removal & minimizes water entering the regulator bonnet.

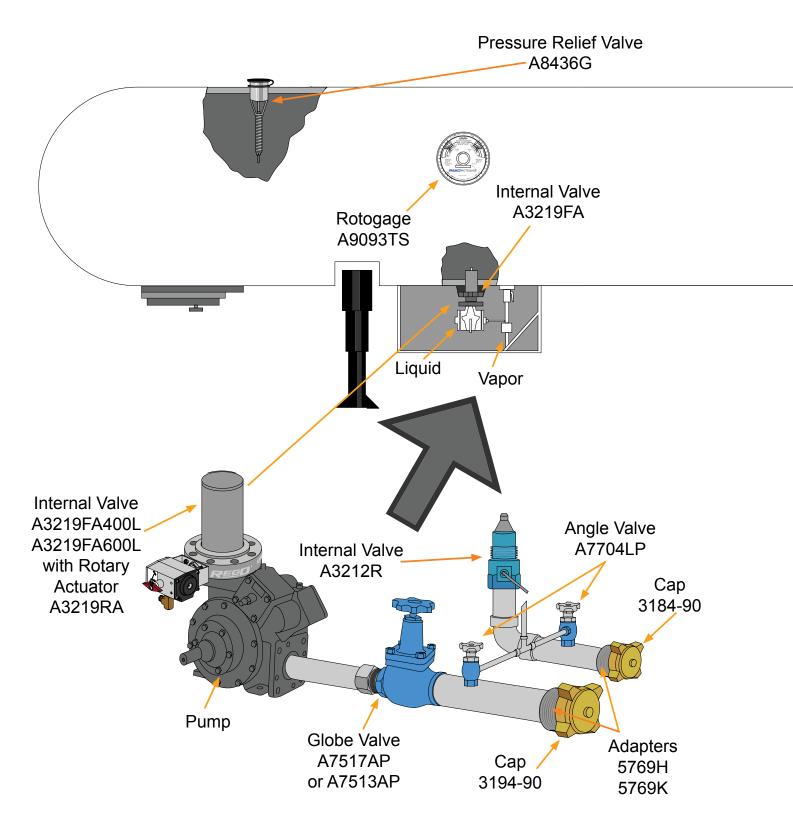




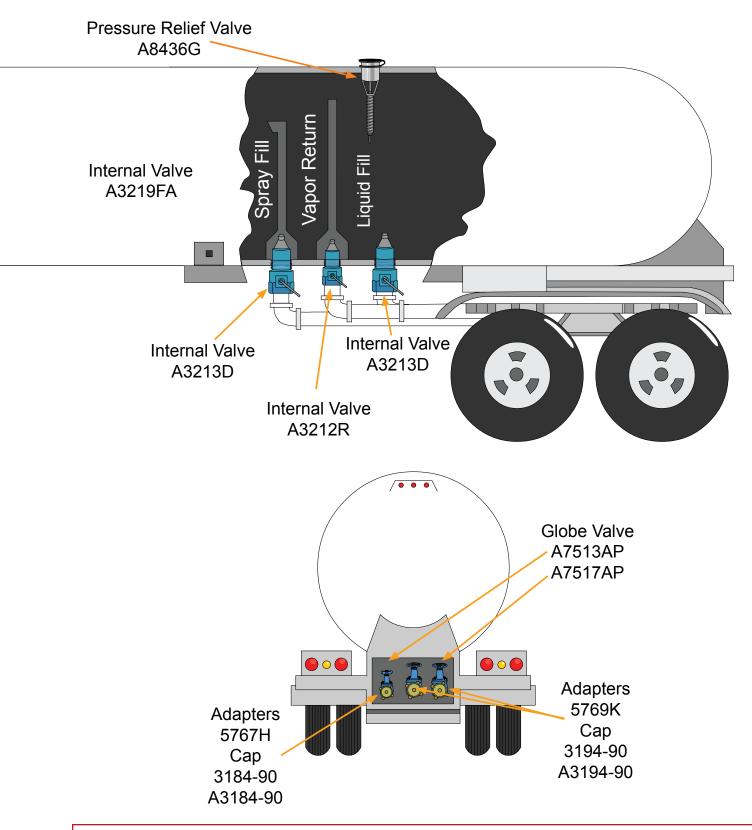


Section 1 Application Illustrations

Bulk Transport Truck Illustration



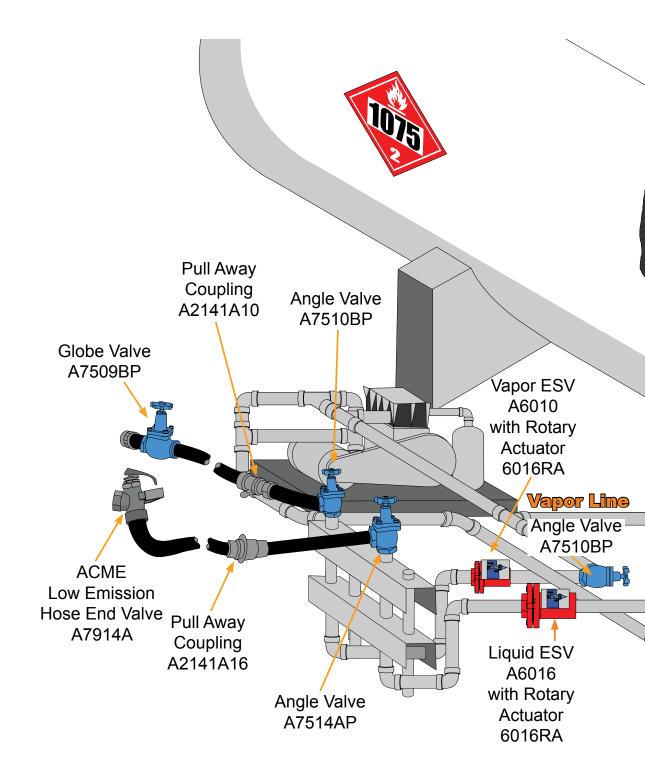




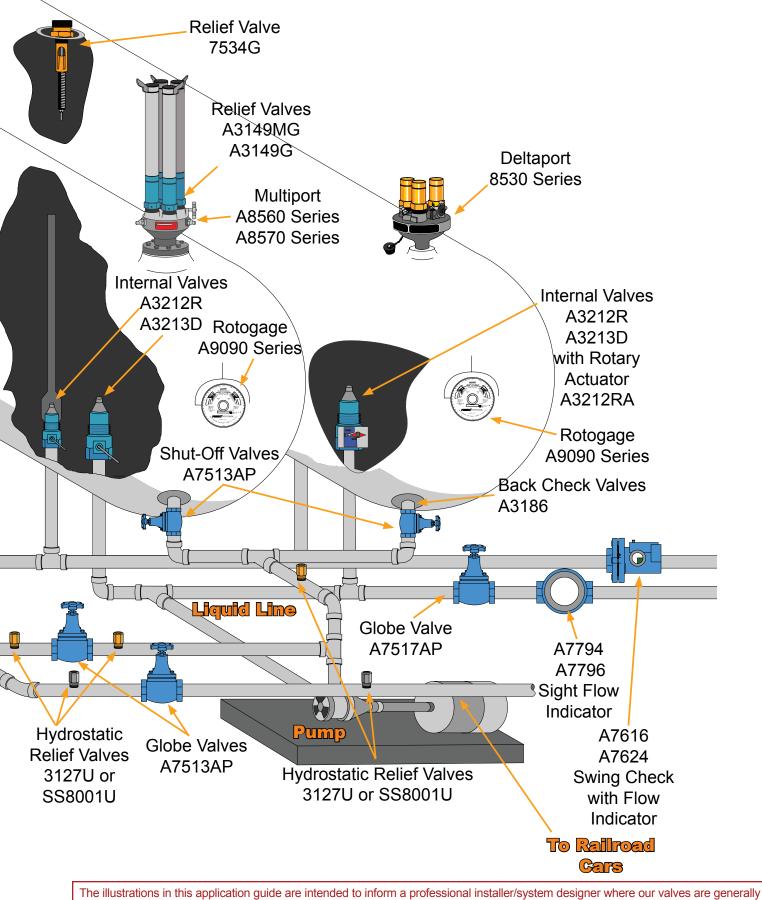
The illustrations in this application guide are intended to inform a professional installer/system designer where our valves are generally installed on certain containers or applications. These illustrations are not intended for and must not be used for system design.



Bulk Storage Plant Illustration





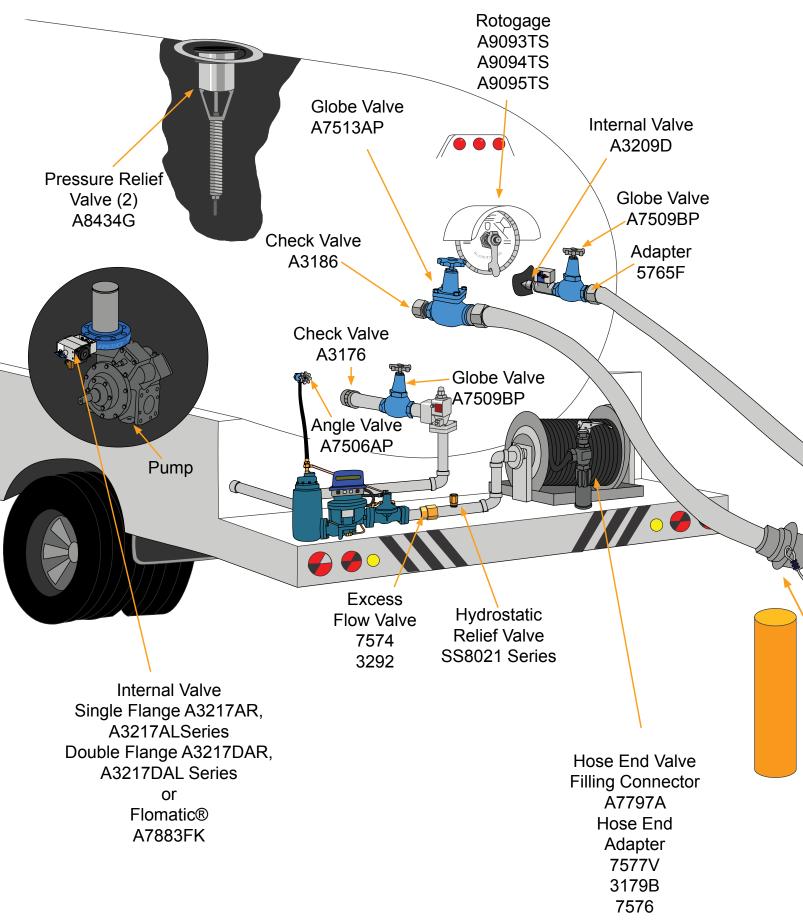


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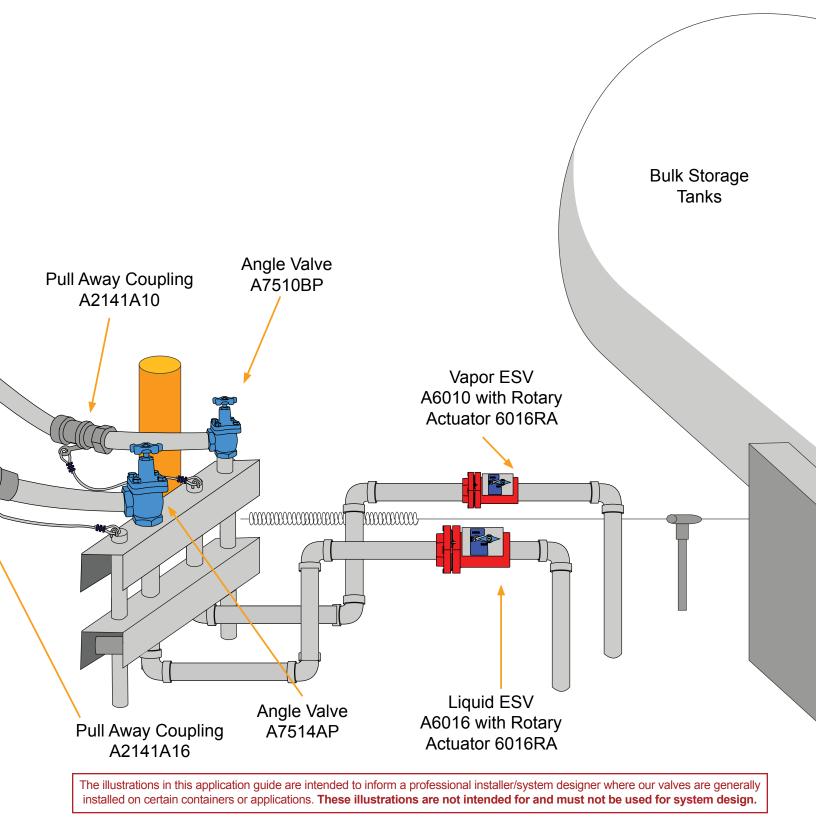


Bobtail Delivery Truck Illustrations



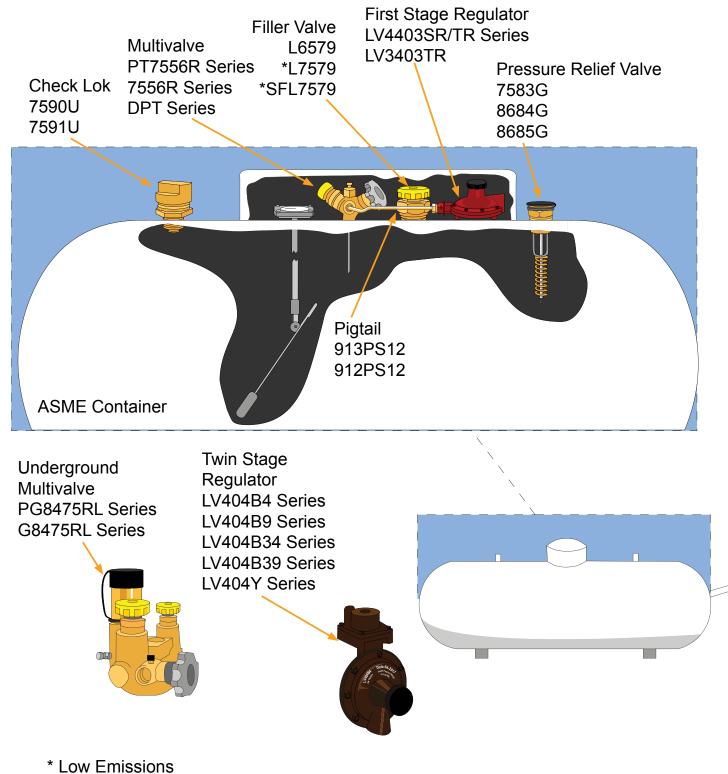


Emergency Shut Off Valves Illustration





Domestic Installations Illustration



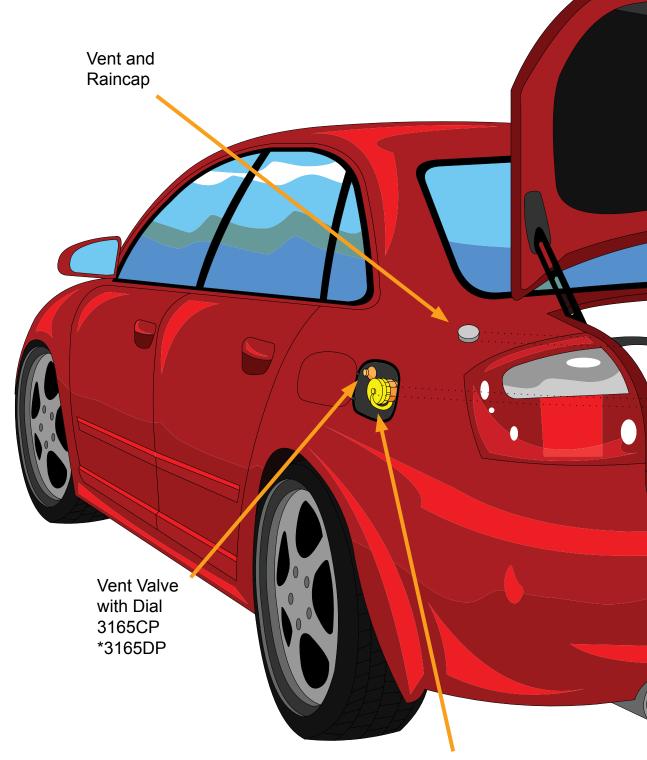
** Bleeder





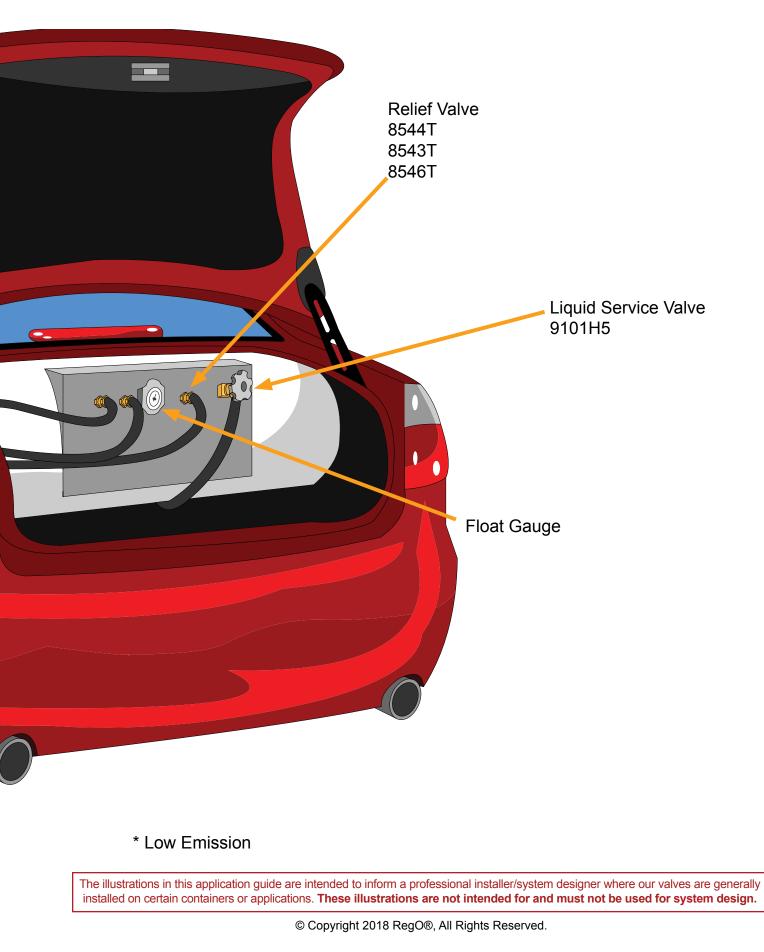


Motor Fuel Illustrations



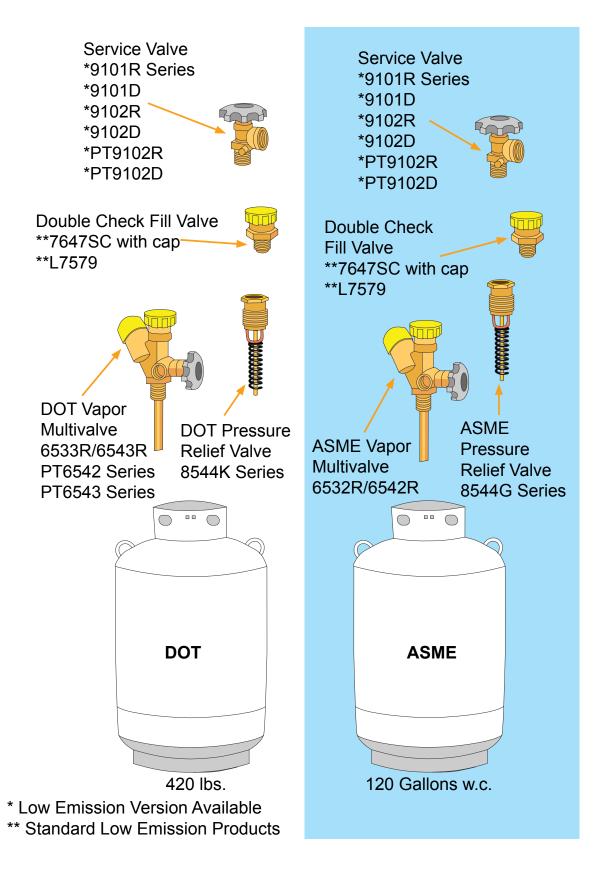
Filler Valve *7647SC



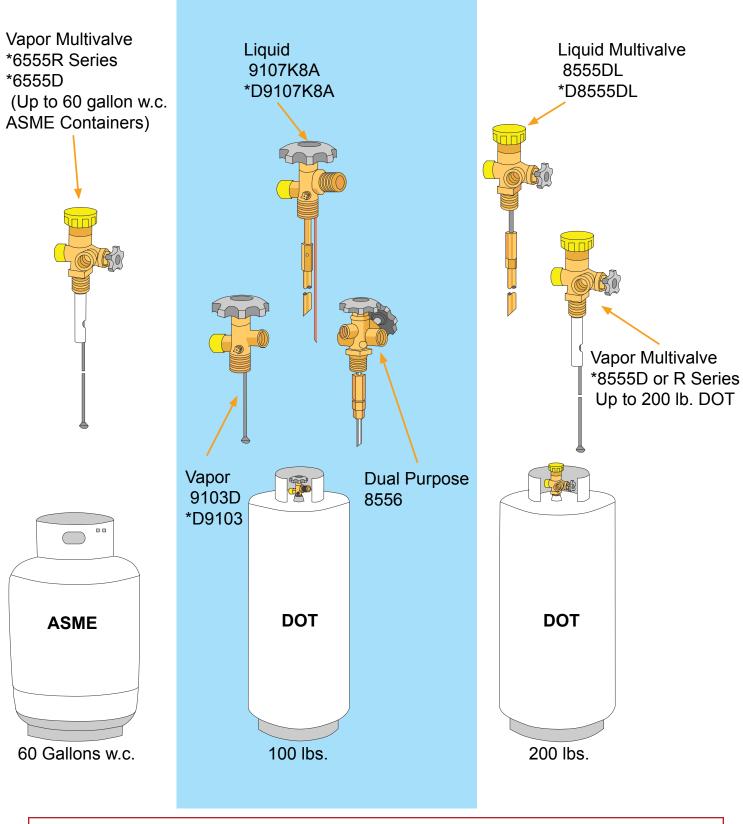




Cylinder Valve Illustrations



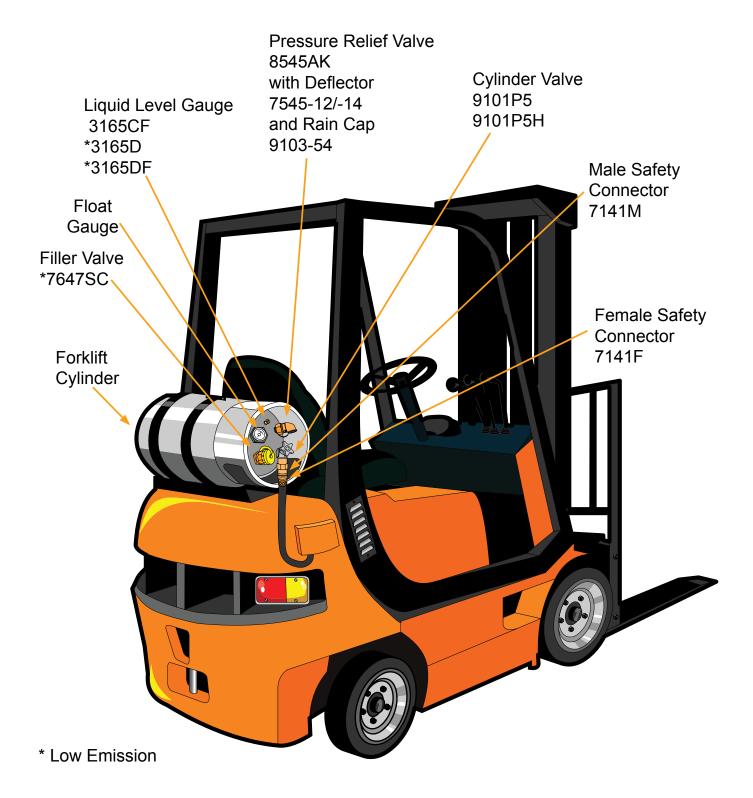




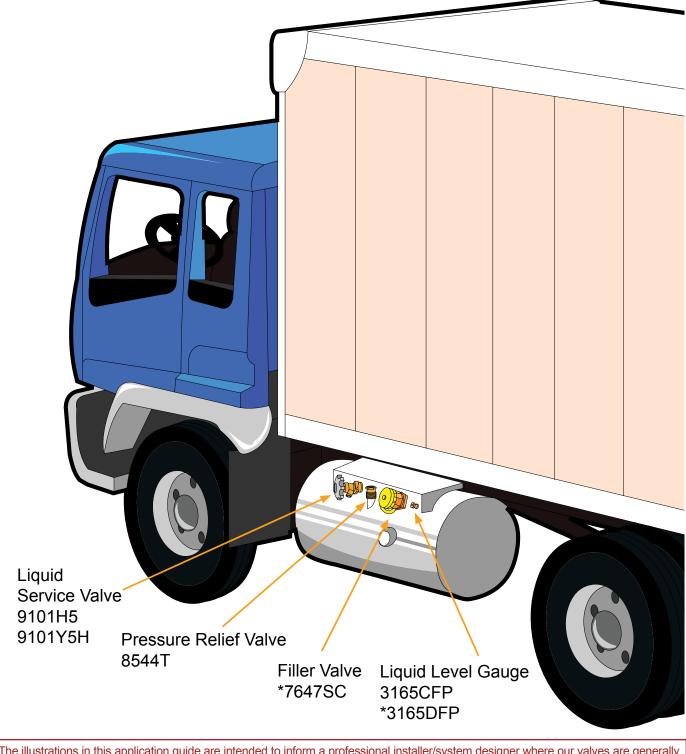
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Motor Fuel Illustrations







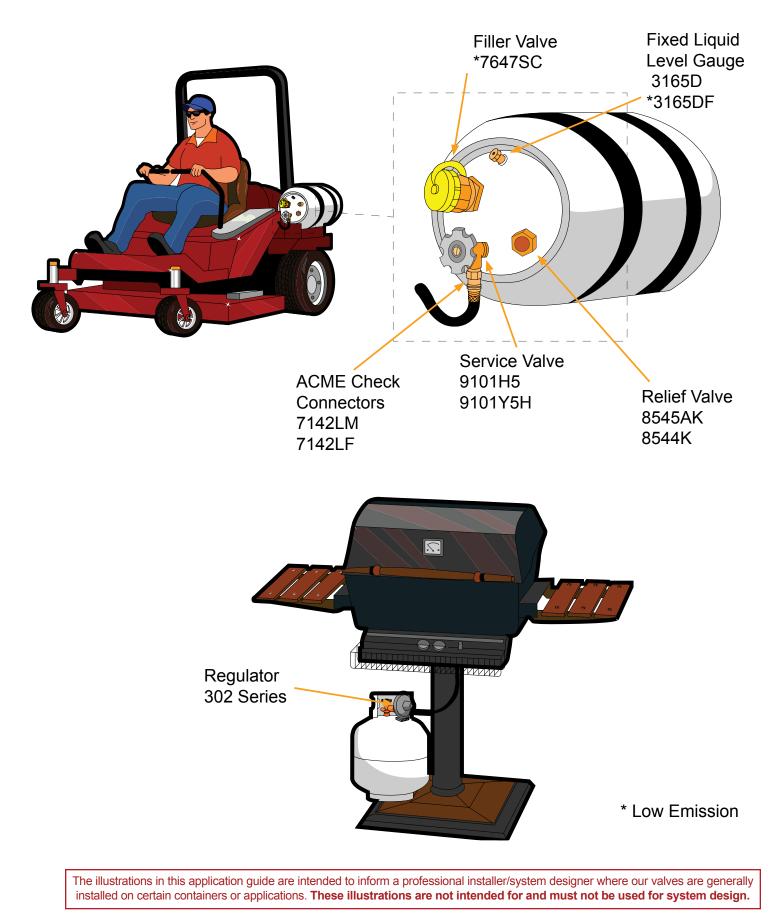
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Recreational Illustrations

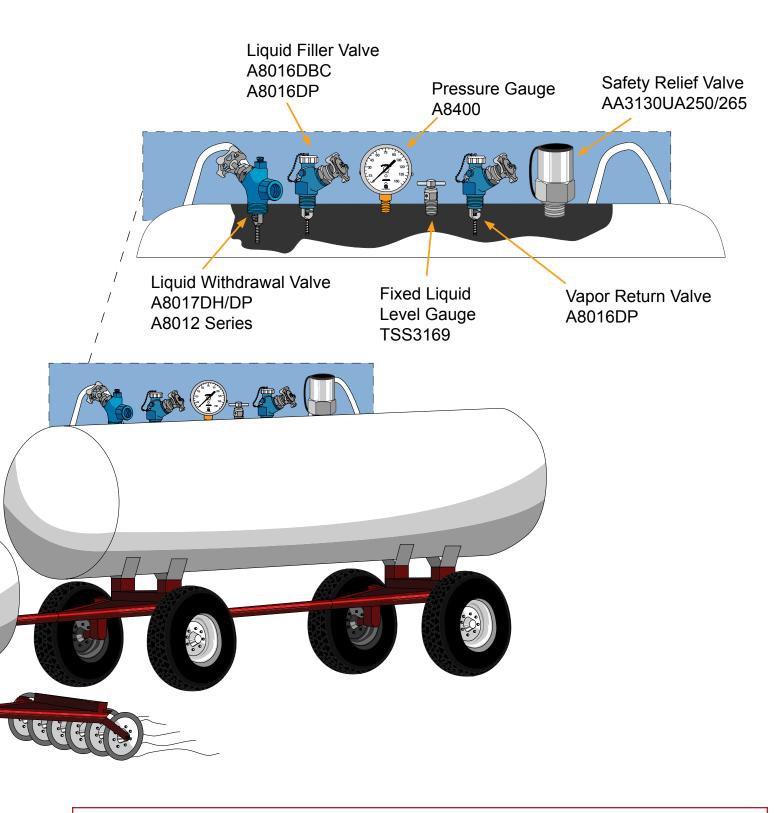








Anhydrous Ammonia Hose End Valve A7797A A7708L with A7575L4 A7707L with A7575L4 Safety Relief Valve Pressure Gauge AA3130UA250 A8400 AA3130UA265 Liquid Transfer Valve A7551P A7550P A7550PX Liquid Withdrawal Valve Liquid Filler Valve A8017D Series Fixed Liquid A8016DBC A8012 Series Level Gauge A8016DP TSS3169 ()



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Section A Regulators and Accessories



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

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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.

A



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	1,500,000	LV3403TR
First Stage in a Two Stage System	2,500,000	LV4403SR Series LV4403TR Series
	450,000	LV3403B Series
	450,000	LV3403BR Series
Second Stage in a	935,000	LV4403B Series
Two Stage System	935,000	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
Integral Twin Stage	525,000	LV404B4/B9 Series
Integral Twin Stage	800,000	LV404Y9
2 PSIG Delivery	650,000	LV404Y39
Automatic	400,000	7525B34 Series
Changeover	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.

Tempe	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

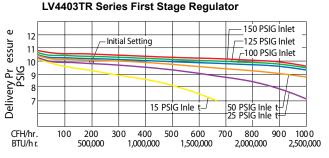
- 1. Assume a load of 500,000 BTU's per hour.
- 2. Assume a minimum delivery pressure of 9.5 PSIG.
- 3. Assume a minimum tank pressure of 15 PSIG.
- 4. For these conditions, refer to chart for the LV4403TR Series, First Stage Regulator, shown below.

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.

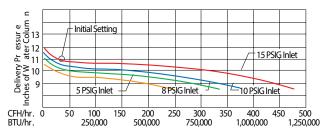
RegO Products offer a complete line of LP-Gas Regulators with capacities for almost every application.

- 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).
- 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.
- 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.



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.
- Find the line on the chart corresponding to the anticipated inlet pressure.
- 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.







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.

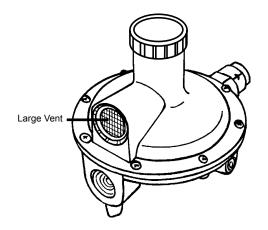
The Causes of High Pressure Gas in a System are:

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 shutoff 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:

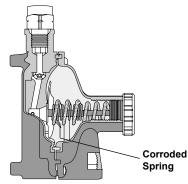
Adjusting springs and relief valve springs can rapidly corrode if exposed to salt air or industrial pollution. Even moisture condensation on these springs can cause them to rust and fail.

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.

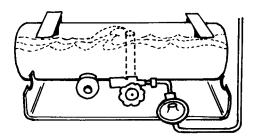


For other applications, the regulator should be inspected every 3 years. If any corrosion is evident, replace the regulator.

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.

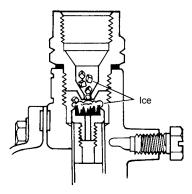


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Safety Warnings

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.

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:

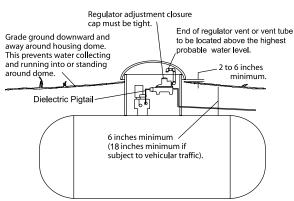
- 1. Know the odor of LP-Gas and what to do in case they smell gas. Use the NPGA "Scratch 'n Sniff" leaflet.
- 2. Are instructed to never tamper with the system.
- 3. Know that when protective hoods are used to enclose regulators and/or valves, that these hoods must be closed, but not locked.
- 4. Keep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

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.

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.

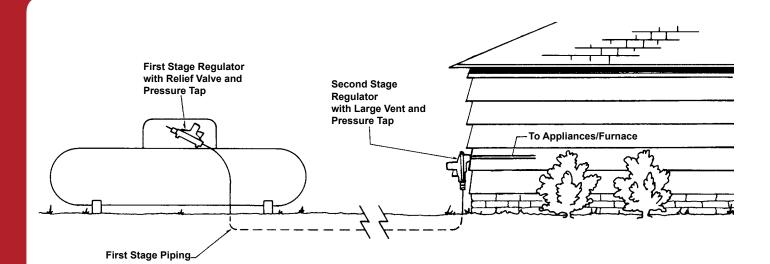
The environment and conditions of use will determine the safe service life of these products. Periodic inspection and maintenance are essential.

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.

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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. Though a single-stage system may perform adequately in many installations, the use of a two-stage system offers the ultimate in pinpoint 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.

Uniform Appliance Pressure

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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 singlestage 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.

Reduced Freeze-ups/Service Calls

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.

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 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 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.

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.

Economy of Installation

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.

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.

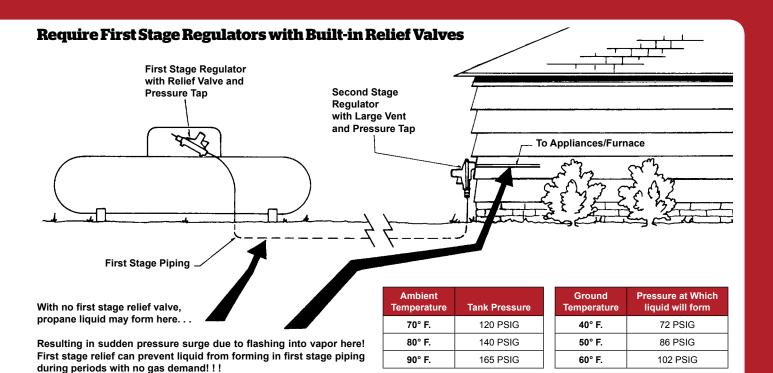
Allowance for Future Appliances

A high degree of flexibility is offered in new installations of twostage 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.

Replace Pigtails

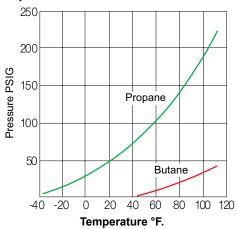
If you are replacing an old regulator, remember to replace the copper pigtail. The old pigtail may contain corrosion which can restrict flow. In addition, corrosion may flake off and wedge between the regulator orifice and seat disc – preventing proper lock-up.





Pressure at which liquid can form at various temperatures.









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.

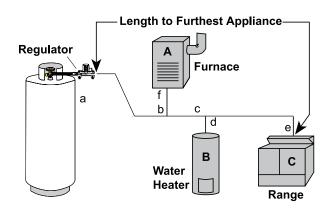


Pipe and Tubing Selection Guide

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:

- 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

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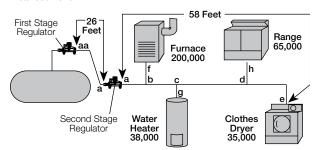
Determine the sizes of piping or tubing required for the twin-stage LP-Gas installation shown.

Total piping length = 84 feet (use Table 3 @90 feet) From a to b demand = $38\ 000 + 35\ 000 + 31$

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 ½" 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

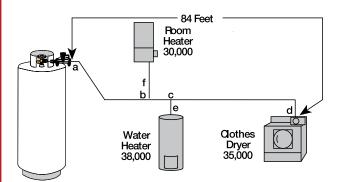


Determine the sizes of piping or tubing required for the two-stage LP-Gas installation shown.



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 pipi	ng 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 ¾" pipe or 5⁄8" tubing
From c to d, demand	= 100,000 BTU/hr; use ½" 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 ¾ 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.

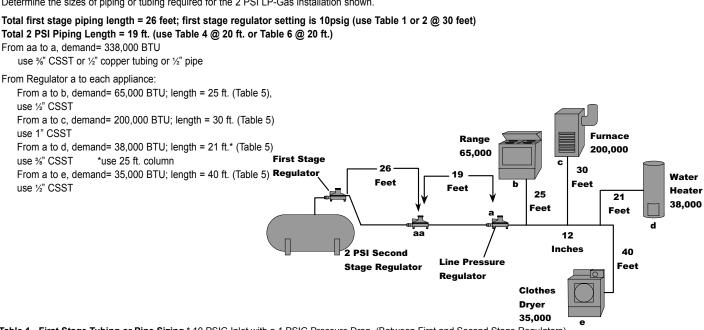


Table 1 - First Stage Tubing or Pipe Sizing * 10 PSIG Inlet with a 1 PSIG Pressure Drop (Between First and Second Stage Regulators) Maximum capacity of pipe or tubing in thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

Size of F	Pipe or									Length	of Pipe o	or Tubin	g in Feet	*					
Copper T Inch		10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400
	3⁄8	513	352	283	242	215	194	179	166	156	147	131	118	109	101	90	81	75	70
Copper Tubing	1/2	1,060	727	584	500	443	401	369	343	322	304	270	244	225	209	185	168	155	144
(O.D.)	5⁄8	2,150	1,480	1,190	1,020	901	816	751	699	655	619	549	497	457	426	377	342	314	292
(0.0.)	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
	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
Dina Siza	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
Pipe Size	1 ¼	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 By Data Calculated per NFPA # 54 and NFPA # 58

First Stage Pressure PSIG	Multiply B
20	0.844
15	0.912

10	0.012
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)

	or opeeine e	- a r icj	000)																		
	Plastic 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			2,390	3,670	3,260	2,950	2,710	2,530	2,370	2,240	990	897	826	778	721	681	646	617	567	528
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 ¼	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 20 15 5

Multiply By 0.844 0.912 1.120

Data Calculated per NFPA # 54 and NFPA # 58



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 Length of Pipe or Tubing in										g in Feet	*								
Copper ' Inch		10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400
Connor	3/8	45	31	25	21	19	17	16	15	14	13	11	10	NA	NA	NA	NA	NA	NA
Copper Tubing	1/2	93	64	51	44	39	35	32	30	28	27	24	21	20	18	16	15	14	13
0	5⁄8	188	129	104	89	79	71	66	61	57	54	48	44	40	37	33	30	28	26
(O.D.)	3⁄4	329	226	182	155	138	125	115	107	100	95	84	76	70	65	58	52	48	45
	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
Dine Cine	1	1,150	787	632	541	480	434	NA	400	NA	372	349	330	292	265	243	227	201	182
Pipe Size	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.

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						Le	ength of Tu	lbing in Fee	et*					
Size	Designation	10	25	30	40	50	75	80	100	150	200	250	300	400	500
3/	13	426	262	238	203	181	147	140	124	101	86	77	69	60	53
3/8	15	558	347	316	271	243	196	189	169	137	118	105	96	82	72
1/	18	927	591	540	469	420	344	333	298	245	213	191	173	151	135
1/2	19	1,110	701	640	554	496	406	393	350	287	248	222	203	175	158
3/	23	1,740	1,120	1,030	896	806	663	643	578	477	415	373	343	298	268
3⁄4	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

4

(1) Table does not include effect of pressure drop across the line regulator. If regulator loss exceeds ½ 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. (a) 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 tuing 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)

C :	EDH** Flow			•			•		Length o	of Tubing	g in Feet*							
Size	Designation	5	10	15	20	25	30	40	50	60	70	80	90	100	150	200	250	300
3/	13	72	50	39	34	30	28	23	20	19	17	15	15	14	11	9	8	8
3/8	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
/4	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 Data Calculated per NFPA # 54 and NFPA # 58 capacity of the tubing.

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)

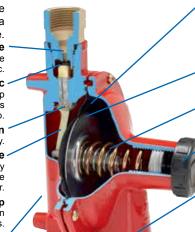
In Thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

Size of l	Pipe or	Length o								gth of	of Pipe or Tubing in Feet*														
Copper' Incl		10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400	450	500	550	600	650	700
0	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
Copper Tubing	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
(O.D.)	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
	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
Pipe Size	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



Data Calculated per NFPA # 54 and NFPA # 58



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.

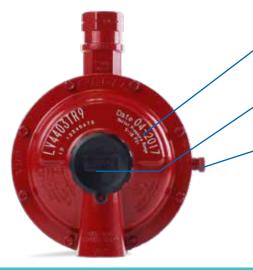
Control Linkage

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 ¾" 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.

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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

Application

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.

Features

- Compact design can be connected to a service valve using either a POL adapter or a RegO product pigtail.
- Large threaded ³/₄" F.NPT bonnet vent can easily be piped-away underground installations without the need of glue kits or extra adapters.
- · Non Adjustable
- Large flow orifice resists freeze ups due to water concentration in LPG vapor.
- Design provides for good flow regulation at both high and low container pressures.
- Built in relief valve and travel stop comply with NFPA 58 over pressure requirements.
- Incorporates 1/6" F.NPT downstream pressure tap for an easy inline check of the regulator's delivery pressure.
- Molded diaphragm provides an o-ring type seal between the body and bonnet.
- Body and bonnet are assembled in the USA using the unique, patented RegUlok seal system.
- Fully painted in brilliant red for complete corrosion protection.
- · Mounting bracket available as an accessory: part number 2302-31.

Materials

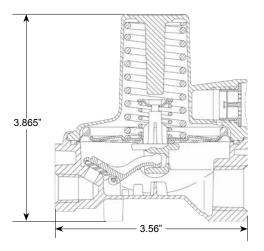
Body	Zinc
Bonnet	Zinc
Spring	Steel
Seat Disc	Resilient Rubber
	Integrated Fabric and Synthetic Rubber

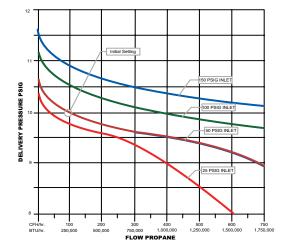






LV3403TR





Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Bonnet Vent Position	Vapor Capacity BTU/hr Propane*
LV3403TR			7/ 2		Over Outlet	4 500 000
LV3403TRV9	1⁄4" F.NPT	1⁄2" F.NPT	⁷ / ₃₂ "	10 PSIG	9:00	1,500,000

* 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

Application

Provides accurate first stage regulation in two-stage bulk tank systems. Reduce 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.

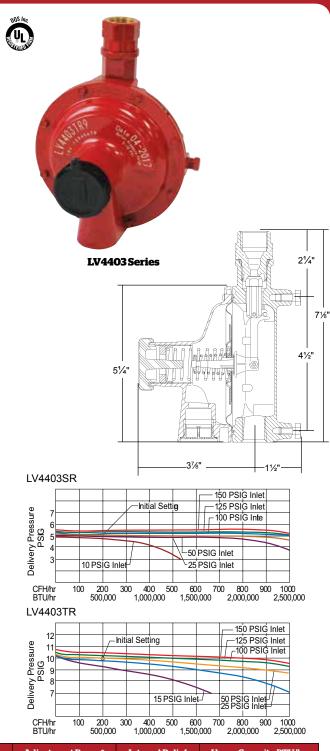
Features

- Incorporate integral relief valves for added system protection.
- Large vent helps prevent blockage and has $3\!\!\!/4"$ F.NPT thread for vent piping.
- Bonnet vent positioned over outlet to avoid icing and contamination by foreign material.
- Unique bonnet vent profile designed to minimize vent freeze over when properly installed.
- · Replaceable valve orifice and valve seat disc.
- · Straight-line valve closure reduces wear on seat disc.
- · Large molded diaphragm is extra sensitive to pressure changes.
- Built in pressure tap has plugged 1/8" F.NPT outlet.
- Plug can be removed with a ³/₁₆" hex allen wrench.
- · Extra long lever arm provides uniform delivery pressure.
- Brilliant red finish.

Materials

	Die Cast Zinc
Bonnet	Die Cast Zinc
Nozzle Orifice	Brass
Spring	Steel
	Resilient Rubber
Diaphragm	. Integrated Fabric and Synthetic Rubber





Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range* (PSIG)	Integral Relief Included	Vapor Capacity BTU/hr Propane**
LV4403SR4				5	1-5		
LV4403TR4	1⁄2" F. NPT			10	5-10		
LV4403SR9	F. POL	1⁄2" F. NPT	172	5	1-5	No	0 500 000
LV4403TR9			1⁄4"	10	5-10	Yes	2,500,000
LV4403SR96		3/7 ENDT		5	1-5]	
LV4403TR96		¾" F.NPT		10	5-10		

* 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

Application

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.

Features

- Large vent helps prevent blockage and has $\ensuremath{\mathscr{Y}}\xspace^{\ensuremath{\mathscr{Y}}\xspace}$ F.NPT for vent piping.
- With 15 PSIG inlet pressure, regulator is designed to not pass more than 2 PSIG with the seat disc removed.
- · Incorporates integral relief valves.
- Replaceable valve orifice and valve seat disc.
- · Straight line valve closure reduces wear on seat disc.
- Unique bonnet vent profile minimizes vent freeze over when properly installed.
- · Large molded diaphragm is extra sensitive to pressure changes.
- Built in pressure tap has plugged ${\rm 1\!\!/}_8$ F.NPT outlet. Plug can be removed with a ${\rm 3\!\!/}_{16}$ hex allen wrench.
- · Select brown finish.

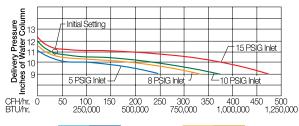
Backmount Design

Mounts directly to house line piping. Eliminates need for union joints, elbows, and mounting brackets. Quick and easy to install.

Materials

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Body	Die Cast Zinc
Bonnet	Die Cast Zinc
Nozzle Orifice	Brass
Spring	Steel
	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber





Ordering Information

Ordering In				I		1 /8	I
Part Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane**
LV4403B4		1/2"					
LV4403B46	1⁄2" F. NPT						
LV4403B46R*			#28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B66		¾" F. NPT		mot			
LV4403B66R*	3⁄4" F. NPT						

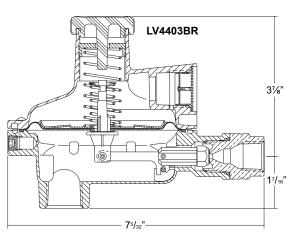
* Backmount design

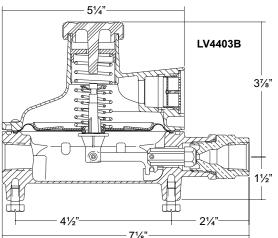
** Maximum flow based on 10 PSIG inlet and 9" w.c. delivery pressure. A16





LV4403B Series





New - Dielectric Second Stage Regulators LV4403BD Series

Application

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

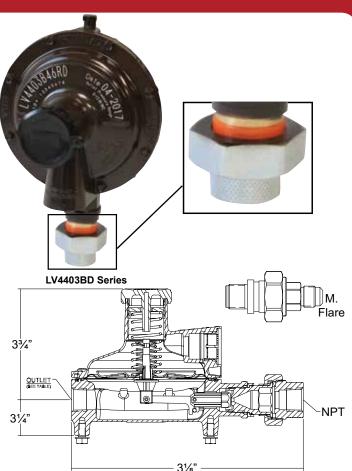
RegO Dielectric second stage regulators are engineered to isolate potential electrical current from metallic piping before entering a building. The use of a separate dielectric union is not necessary because the regulator contains a dielectric union as part of the inlet assembly. Available in both SAE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

Features

- F. NPT Dielectric Union is made of Brass with inlet Portion Made of Plated Steel
- M. SAE Flare inlet connection made of solid Brass
- All second stage features are the same as LV4403B Series







Ordering Information

Or der mig mitor mation			31/8					
Part Number	Inlet Connection	Outlet Connection	Inlet Material	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr Propane
				3%" M. Flare = .	3			
LV4403B3D		1⁄2" F. NPT						
LV4403B36D	1	3⁄4" F. NPT		# 28 Drill	447			935,000
LV4403B3RD*	3∕₃" M Flare	1⁄2" F. NPT			11" w.c. at 10 PSIG Inlet		Over Inlet	
LV4403B36RAD**]	34" F. NPT		³ / ₁₆ "				1,000,000
LV4403B36RABD***		/4 F. INF I		9/16				1,000,000
				½" M. Flare =	1			
LV4403B1D		1⁄2" F. NPT						
LV4403B16D				# 28 Drill	11" w.c. at			935,000
LV4403B16RD*	1/2" M Flare	34" F. NPT	Brass	Brass 10		9" to 13" w.c.	Over Inlet	
LV4403B16RAD**				³ / ₁₆ "				
LV4403B16RABD***]			3/16				1,000,000
%" M.Flare = 5								
LV4403B5D		1⁄2" F. NPT						
LV4403B56D				# 28 Drill	4411			025 000
LV4403B56RD*	5%" M Flare	34" F. NPT	Brass		11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B56RAD**		/4 F. INF I		³ / ₁₆ "				
LV4403B56RABD***				9/16				1,000,000
¹ /2"- ³ /4" F. NPT	Female Union							
LV4403B4D	1⁄2" F.NPT	1⁄2" F.NPT						
LV4403B46D	/2 1.INF 1							
LV4403B66D	3⁄4" F. NPT		Drace & Distad	# 28 Drill	11" w a . at			935,000
LV4403B46RD*	1⁄2" F. NPT	34" F. NPT	Brass & Plated Steel		11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	
LV4403B66RD*]	74 1. INF 1	0.001					
LV4403B66RAD**	3⁄4" F. NPT			³ / ₁₆ "				1,000,000
LV4403B66RABD***				-/10				1,000,000
 Backmount Design. 								

** Right Angle Design ***Right Angle with Bracket

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

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Low Pressure Second Stage Regulators - Special Settings LV4403H Series

Application

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

Features

- Large vent helps prevent blockage and has $3\!\!\!/4"$ F.NPT for vent piping.
- With 15 PSIG inlet pressure, regulator is designed to not pass more than 2 PSIG with the seat disc removed.
- · Incorporates integral relief valves.
- · Replaceable valve orifice and valve seat disc.
- · Straight line valve closure reduces wear on seat disc.
- Unique bonnet vent profile minimizes vent freeze over when properly installed.
- Large molded diaphragm is extra sensitive to pressure changes.
- Built in pressure tap has plugged ½" F.NPT outlet. Plug can be removed with a 3/6" hex allen wrench.
- · Select brown finish.

Materials

A

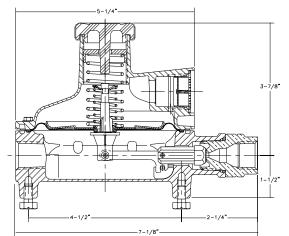
Body	Die Cast Zinc
Bonnet	Die Cast Zinc
Nozzle Orifice	Brass
Spring	Steel
Valve Seat Disc	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber

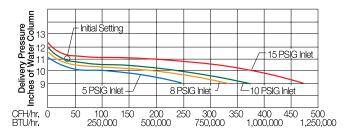




LV4403H Series







Ordering Information

Part 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		7/ ₃₂ "	22" w.c.	15-35		
LV4403H414		1⁄2" F.NPT		14" w.c.	12.5-19		
LV4403H420				20" w.c.	15-35		700.000
LV4403H4614	¹⁄₂" F.NPT		#28	14" w.c.	12.5-19	Inlet	700,000
LV4403H4620		¾" F.NPT		20" w.c.	15-35		
LV4403H6614	3⁄4" F.NPT			14" w.c.	12.5-19		

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



New Compact "Back-Mount" Regulator LV3403BR Series

Application

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.

Features

- Built in 1/8" F.NPT pressure taps on both regulator inlet and outlet side of the regulator. Plugs can be removed with a 3/16" hex allen wrench.
- Large vent helps prevent vent blockage, it is tapped for 3/6" F.NPT • for vent pipe away applications.
- With 15 PSIG inlet pressure, the regulator is designed to not pass • more than 2 PSIG downstream with the seat disc removed per UL 144 specifications.
- Incorporates an integral relief valve per UL 144 specifications. ٠
- Unique bonnet vent profile minimizes vent freeze over. ٠
- Compact design saves space.



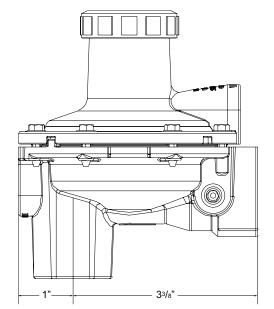
LV3403BR Series

Materials

	Zinc
Bonnet	Zinc
Spring	Steel
	Resilient Rubber
	Integrated Fabric and Synthetic Rubber

REGO

YEAR WARRANT



Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/ hr *
LV3403B44R		1⁄2" F.NPT	7/ 2	11" w.c. At 10	0" to 40"	Over a lastest	450.000
LV3403B46R	1⁄2" F.NPT	3⁄4" F.NPT	⁷ /32"	PSIG Inlet	9" to 13" w.c.	Over Inlet	450,000

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



Compact Second Stage Regulator for LP-Gas LV3403B4

Application

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.



Features

- Large vent helps prevent vent blockage, it is tapped for 3/8"F.NPT for vent piping.
- With 15 PSIG inlet pressure, the regulator is designed to not pass • more than 2 PSIG downstream with the seat disc removed, per NFPA 58.
- Incorporates an integral relief valve ٠
- . Unique bonnet vent profile minimizes vent freeze over when properly installed.
- Compact design saves space.
- Built in pressure taps $\ensuremath{\,\ensuremath{^{\prime\prime}}}$ F.NPT on both regulator inlet and downstream side of the regulator. Plugs can be removed with a 3/16" hex Allen wrench.
- Select brown finish.

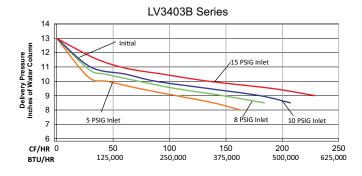


Straight Through Design 3.99" 06" 4.31 Downstream Pressure Tap

A

Materials

Body	Zinc
	Zinc
	Steel
Seat Disc	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber





• Inlet Pressure Tap 1/8" F.NPT



Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr *				
LV3403B4						Inlet					
LV3403B4V3			7 (1)	11" w.c. At 10	0" to 10"	3:00	450.000				
LV3403B4V0	1⁄2" F.NPT	1⁄2" F.NPT	//32	//32	//32	//32	7/ ₃₂ "	PSIG Inlet	9" to 13" w.c.	Outlet	450,000
LV3403B4V9]					9:00					

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



Low Pressure Second Stage Regulators LV4403B66RA Series

Application

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.

Features

- 90 degree right angle inlet to outer connection for meter or standard installations.
- Large vent helps to prevent blockage and has 3/4" F. NPT for vent • piping.
- With 15 PSIG inlet pressure, regulator is designed to not pass • more than 2 PSIG with the seat disc removed.
- Replaceable valve orifice and valve seat. •
- Straight line valve closure reduces wear on seat disc
- Unique bonnet vent profile minimizes vent freeze over when • properly installed.
- Large molded diaphragm is extra sensitive to pressure changes.
- Built in pressure tap has plugged 1/8" F. NPT outlet. Plug can be removed with a 3/16" hex allen wrench.
- Select Brown Finish

Right Angle Design

Can mount directly to vapor meter. It is also suitable for mounting directly to the house piping. It will retrofit into existing installations that are currently using a 90 degree, right angle regulator.

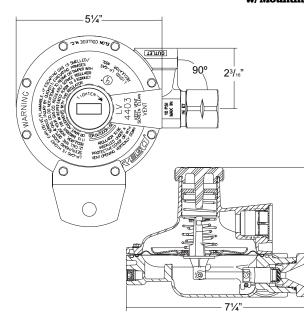
Materials

Body	Die Cast Zinc
Bonnet	Die Cast Zinc
Nozzle Orifice	Brass
Spring	Steel
Valve Seat Disc	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber





w/ Mounting Bracket



V Pressure 15 PSIG Inlet 5 PSIG Inlet 10 PSIG Inlet 8 PSIG Inlet 300 750,000 400 450 1,000,000 CFH/hr. 0 BTU/hr. 200 500,000 500 1,250,000 50 100 150 250 350 250,000

Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane*
LV4403B66RA			0/40"	11" w.c. at 10	0" to 10"	Over latet	4 000 000
LV4403B66RAB**	¾" F. NPT	¾" F. NPT	3/16"	PSIG Inlet	9" to 13" w.c.	Over Inlet	1,000,000

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

** Mounting Bracket Included.

100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com +1 (336) 449-7707



31/8"

Low Pressure Second Stage Regulators - Standard Settings LV5503B Series

Application

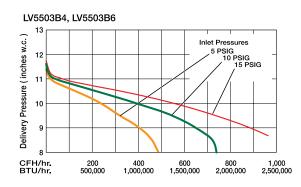
Designed to reduce first stage pressure of 5 to 20 PSIG down to burner pressure,normally 11" w.c. Ideal for larger commercial and industrial applications, multiple cylinder installations and large domestic systems.

Features

- · Incorporates integral relief valve.
- With 15 PSIG inlet pressure, regulator is designed to not pass more than 2 PSIG with the seat disc removed.
- Replaceable valve orifice and valve seat disc.
- Straight line valve closure saves wear on seat disc and orifice.
- Built in pressure tap has plugged¼" F.NPT outlet. Plug can be removed with a ¾6" hex allen wrench.
- Large bonnet vent profile minimizes vent freeze over when properly installed.
- · Extra long lever arm for uniform delivery pressure.
- · Large diaphragm is extra sensitive to pressure changes.

Materials

Body (LV5503B Series	Die Cast Aluminum
Bonnet (LV5503B Series)	Die Cast Aluminum
Nozzle Orifice	Brass
Spring	Steel
Valve Seat Disc	Resilient Rubber
Diaphragm Integrated Fabric a	nd Synthetic Rubber

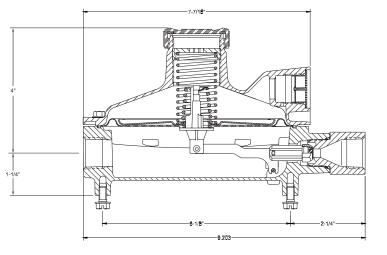


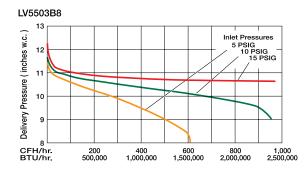






LV5503B Series





Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane
LV5503B4	1⁄2" F. NPT		1 / 22				4 000 000
LV5503B6		¾" F. NPT	1/4"	11" w.c. at 10 PSIG Inlet	9" - 13" w.c.	Over Inlet	1,600,000
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.





Low Pressure Second Stage Regulators - Special Settings LV5503H Series

Application

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.



Features

- Incorporates integral relief valve.
- With 15 PSIG inlet pressure, regulator is designed to not pass ٠ more than 2 PSIG with the seat disc removed.
- Replaceable valve orifice and valve seat disc. ٠
- Straight line valve closure saves wear on seat disc and orifice. •
- Built in pressure tap has plugged 1/6" F.NPT outlet. Plug can be • removed with a 3/16" hex allen wrench.
- Large bonnet vent profile minimizes vent freeze over when ٠ properly installed.
- Extra long lever arm for uniform delivery pressure.
- Large diaphragm is extra sensitive to pressure changes. ٠

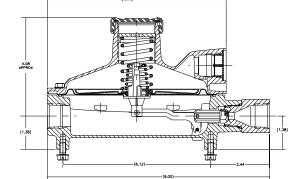
Materials

Body	Die Cast Aluminum
Bonnet	Die Cast Aluminum
Nozzle Orifice	Brass
Spring	Steel
Valve Seat Disc	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber

REGO

YEAR WARRANTY





Ordering Information

oruering in	101 mation						
Part 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	1⁄2" F. NPT			1.4"	7.40		
LV5503H614				14" w.c.	7-16	Inlet	
LV5503H620			1⁄4"	20"	44.00		1 000 000
LV5503H620V		¾" F. NPT		20" w.c.	11-28	Outlet	1,600,000
LV5503H640				40"w.c.	28-84	Inlet	
LV5503H640V	3⁄4" F. NPT					Outlet	
LV5503H814				14" w.c.	7-16		
LV5503H820]	1" F. NPT	9/ ₃₂ "	20" w.c.	11-28	Inlet	2,300,000
LV5503H840]			40" w.c.	28-84		

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

Second Stage Regulators for 2 PSI Systems LV4403Y and LV5503Y Series

Application

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.

Features

- Large vent helps prevent blockage and has 3/4" F.NPT for vent piping.
- With 15 PSIG inlet pressure, regulator is designed to not pass • more than 5 PSIG with the seat disc removed.
- Incorporates an integral relief valve. •
- Replaceable valve orifice and valve seat disc. •
- Straight line valve closure reduces wear on seat disc. ٠
- Unique bonnet vent profile minimizes vent freeze over when properly installed.
- Large molded diaphragm is extra sensitive to pressure changes.
- Built in pressure tap has plugged 1/3" F.NPT outlet. Plug can be removed with a 3/16" hex allen wrench.
- Select blue finish. •

*Backmount Design

Mounts directly to house line piping. Eliminates need for union joints, elbows, and mounting brackets. Quick and easy to install.

A **Materials**

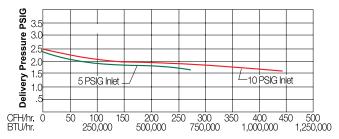
Body (LV4403Y Series)	Die Cast Zinc
Body (LV5503Y Series	Die Cast Aluminum
Bonnet (LV4403Y Series)	Die Cast Zinc
	Die Cast Aluminum
Nozzle Orifice	Brass
Spring	Steel
Valve Seat Disc	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber

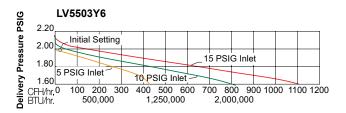


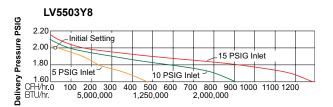




LV4403Y4, LV4403Y46R







Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane***
LV4403Y4	1⁄2" F. NPT	1⁄2" F. NPT	1⁄4"	2 PSIG @ 10 PSIG Inlet	Over Inlet	1,000,000
LV4403Y46R*	1⁄2" F. NPT	3⁄4" F. NPT	1⁄4"	2 PSIG @ 10 PSIG Inlet	Over Inlet	1,000,000
LV5503Y6	3⁄4" F. NPT	³∕₄" F. NPT	1⁄4"	2 PSIG @ 10 PSIG Inlet	Over Inlet	2,200,000
LV5503Y8	3⁄4" F. NPT	1" F. NPT	9/32"	2 PSIG @ 10 PSIG Inlet	Over Inlet	2,200,000

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



Low Pressure Second Stage Tobacco Barn Regulator LV5503G4 Series

Application

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.

Features

- Similar to construction of the LV5503B Series. Provides the same stability, low lock-up, and sensitive performance.
- · Equipped with integral relief valve.
- Built in pressure tap has plugged $\frac{1}{8}$ " F.NPT outlet. Plug can be removed with a 3/16" hex allen wrench. •
- · Distinctive yellow finish.

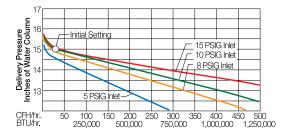
Materials

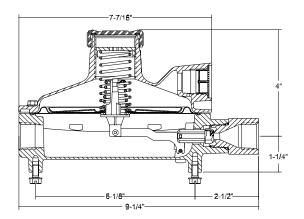
Body	Die Cast Aluminum
Bonnet	Die Cast Aluminum
Nozzle Orifice	Brass
Spring	Steel
Valve Seat Disc	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber



LV5503G4 Series







Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane*
LV5503G4	1⁄2" F. NPT	¾" F. NPT	1⁄4"	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.



Compact Twin Stage Regulators LV404B4 and LV404B9 Series

Application

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.

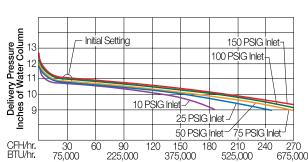
Features

- Incorporates integral relief valve. ٠
- With 15 PSIG inlet pressure, regulator is designed to not pass more than 2 PSIG with the seat disc removed.
- Large vent helps prevent blockage and has 3/4" F. NPT for vent ٠ piping.
- Compact size allows for easy installation especially under ٠ container hoods and within collars.
- Vent on the first stage is consistently in the down position. ٠
- Built in pressure taps on both first and second stage regulators • have plugged 1/8" F.NPT outlets. Plugs can be removed with a 3/16" hex allen wrench.
- Select brown finish. •

Materials

A

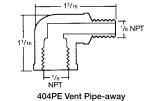
Body (First Stage)	Zinc or Brass
Body (Second Stage)	Die Cast Zinc
Nozzle Orifice	Brass
Spring	Steel
Valve Seat Disc	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber



LV404B4 LV404B4V9

51/4'

21/2



LV404B9







									-		
Initia	al Settir	g			150) PSIG	Inle	in i			
					100 PS	IG Inlet	h		7	1/8"	
										41⁄2"	
		10 PS	SIG Inlet			14					
			2	5 PSIG	Inlet -/						
			5	0 PSIG	nlet-7	5 PSIG	Inle	t_			ПĒ
60					30 21				70		
	225	()()()	275	000	525	()()()		3/5	000		1

Ordering Information

Part 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						Down	Over Outlet		
LV404B4V9		1⁄2" F. NPT		₆ " 11" w.c. at 100 PSIG Inlet	9" - 13" w.c.	9 o'clock	9 o'clock	525,000	404PE
LV404B46	1/4" F. NPT]			Down	Over Outlet		
LV404B46V9	1	¾" F. NPT	- ³ / ₁₆ "			9 o'clock	9 o'clock		
LV404B9						Down	Over Outlet		
LV404B9V9	- 50	1⁄2" F. NPT				9 o'clock	9 o'clock		
LV404B96	F. POL					Down	Over Outlet		
LV404B96V9		¾" F. NPT				9 o'clock	9 o'clock		

1/8' F. NPT

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

Application

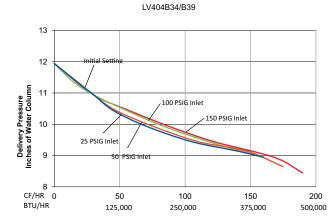
The compact twin-stage regulator is designed to reduce container pressure down to 11" w.c. delivery pressure. It is ideal for "on site" container applications such as homes, mobile homes and cottages for average domestic service; including small ASME tanks and 100-420 pound DOT cylinders.

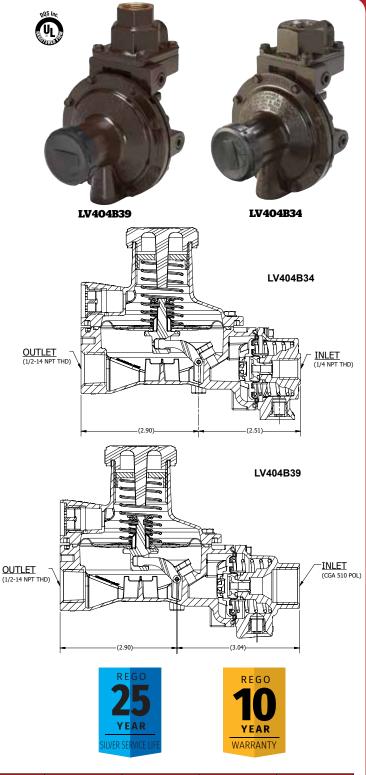
Features

- Large vent helps prevent vent blockage, the second stage regulator bonnet is tapped for %" F.NPT for vent piping, the high pressure regulator is tapped with %" F.NPT for vent piping.
- With 15 PSIG inlet pressure, the regulator is designed to not pass • more than 2 PSIG downstream with the seat disc removed.
- Incorporates an integral relief valve on second stage. ٠
- Unique bonnet vent profile minimizes vent freeze over when • properly installed.
- Compact design saves space allows for easy installation especially under container hoods with collars.
- Built in pressure taps 1/8" F.NPT on both high pressure regulator • inlet and downstream side of the second stage regulator.
- Plugs can be removed with a 3/16" hex Allen wrench.
- Select brown finish. •

Materials

Body First Stage (LV404B3	9) Brass
Body First Stage (LV404B34	4) Die Cast Zinc
Bonnet Second Stage	Die Cast Zinc
Diaphragms	Integrated Fabric and Synthetic Rubber
Springs	Steel and Stainless Steel
Valve Discs	Resilient Synthetic Rubber





Ordering Information

Part 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	1⁄4" F.NPT					Rear	Outlet	
LV404B39	F.POL	1⁄2" F.NPT		11" w.c. @ 100	9" to 13"wc.	Real	Oullet	450.000
LV404B34V9	1⁄4" F.NPT	72 F.NP1	⁷ / ₃₂ "	Psig Inlet	9 (0 13 WC.	1 - 4	0.00	450,000
LV404B39V9	F.POL					Left	9:00	

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

** Other vent positions available upon request



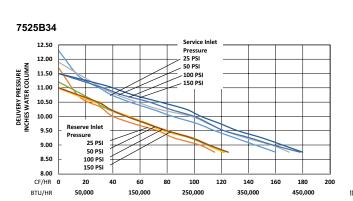
Twin Stage Automatic Changeover Regulators 7525B Series

Application

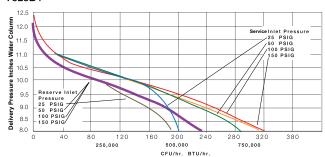
These combination automatic changeover, two stage regulators are especially suitable for homes, mobile homes, cottages, construction and other portable two cylinder installations. Empty containers may be replaced without interrupting customer's gas service.

Features

- Automatic changeover switches from "service" to "reserve" cylinder automatically without interrupting service.
- The Second Stage Incorporates wide bonnet drip lip vent to guard against freeze-up when properly installed.
- With 15 PSIG inlet pressure the second stage, regulator is designed to not pass more than 2 PSIG with the seat disc removed.
- Allows "reserve" cylinder to supplement the flow of gas from the "service" cylinder during extreme load or severe cold conditions.
- Incorporates molded diaphragm in second stage regulators.
- Integral indicator gauge.
- Changeover knob and indicator are integral to the first stage.
- · Select brown finish on first stage.

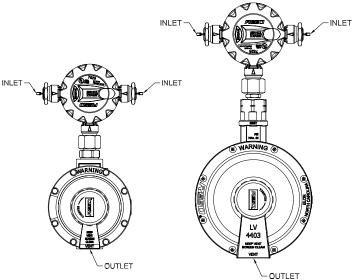


7525B4



Materials

Body (First Stage)	Die Cast Zinc
Body (Second Stage)	Die Cast Zinc
Bonnet First Stage	Die Cast Zinc
Bonnet, Second Stage	Die Cast Zinc
First Stage Nozzle Orrifice	Brass
Springs	Steel
Valve Seat Discs	Resilient Rubber
Diaphragms	Integrated Fabric and Synthetic Rubber



Ordering Information

Automatic Changeover Regulator	Inlet	Outlet	Pigtails	Bracket	Capacity BTU/hr. Propane
7525B34			912FA20	0000.04	400,000 450,000
7525B34	1/" laurate d Elana	½" F. NPT	912FS20	2302-31	
7525B4	1/4" Inverted Flare		912FA20	0500.00	
7525B4			912FS20	2503-22	

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





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

Application

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.

Features

- Incorporates an integral relief valve in the 2 PSIG stage portion of the regulator.
- Designed to pass no more than 5 PSIG with the seat disc removed.
- Large vent helps prevent blockage and is tapped with a FNPT • thread for piping away.
- Compact Design •
- Built in pressure taps. Plugs can be removed with a 3/16" hex ٠ allen wrench.
- Select Blue Finish to designate 2 PSIG delivery pressure for 2-• pound systems.

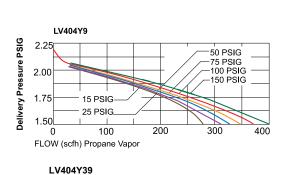


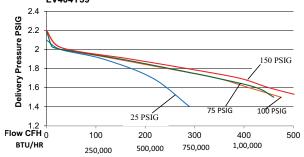
LV404Y39

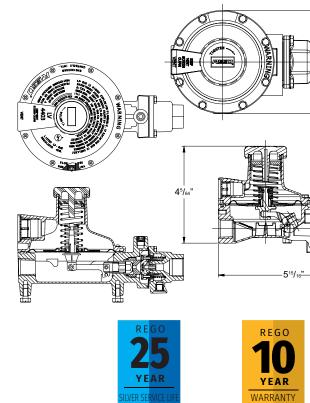
LV404Y9

Materials

Body (First Stage)	Brass
Body (2 PSIG Stage)	Die Cast Zinc
Bonnet, Second Stage	Die Cast Zinc
Diaphragms	Integrated Fabric and Synthetic Rubber
Springs	Steel and Stainless Steel
Valve Discs	Resilient Rubber







Ordering Information

Part 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		7/"			Davia	Quitlet	800,000
LV404Y39			7/32"	2	1.8 to 2.5	Down	Outlet	650,000

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



363/64

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Two Stage Regulator Outfits 5807, 5808, 5820 Series

Application

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

Features

- Includes a new pigtail. This helps ensure that a new pigtail is installed along with the regulator.
- Features, designs, and performance characteristics of the individual components may be found under the appropriate section of this catalog.

Ordering Information

	1st Stage Regulator Included		2nd Stage Reg	gulator Included			Capacity
Kit Number	Part Number	Inlet x Outlet Female	Part Number	Inlet x Outlet F. NPT	Bracket Included	Pigtail Included	BTU/hr. Propane
5807	LV4403TR9	POL x ½" NPT	LV4403B4	1⁄2" x 1⁄2"	2503-22		
5808	LV44031R9	POL X 72 NPT	LV4403B46R	1⁄2" X 3⁄4"	Not	913PS12	935,000
5820	LV4403TR96	POL x ¾" NPT	LV4403B66R	³ ⁄ ₄ " x ³ ⁄ ₄ "	Required		

Twin Stage Regulator Outfits 5828 and 5832

Application

This outfit contains the equipment required to provide twin-stage regulation.

Features

A

- Includes a new pigtail. This helps ensure that a new pigtail is installed along with the regulator.
- Features, designs, and performance characteristics of the individual components may be found under the appropriate section of this catalog.



REGO

YEAR WARRANTY



LV4403TR9

LV4403B Series





2503-22

912JS12

Ordering Information

Ordering Information

Kit Number	Twin Stage Regulator Included	Inlet F. NPT	Outlet F. NPT	Pigtails Included	Capacity BTU / hr. Propane
5828	LV404B4	1 / "	1 / "	0401040	525,000
5832	LV404B34V9	1⁄4"	1⁄2"	912JS12	450,000

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

Application

This outfit contains the equipment required to provide twin-stage regulation.

Features

- Includes 2 new pigtails. This helps ensure that a new pigtail is installed along with the regulator.
- Features, designs, and performance characteristics of the individual components may be found under the appropriate section of this catalog.



912FA20

7525B4

Kit Number	Automatic Changeover Regulator Included	Inlet	Outlet	Pigtails Included-2	Bracket Included	Capacity BTU/hr. Propane	
5726B34	7525B34			912FA20	0000.04		
5727B34	7525B34			912FS20	2302-31	400,000	
5754B4	7525B4	¹ / ₄ " Inverted Flare	½" F. NPT	912FA20		450.000	
5755B4	7525B4			912FS20	2503-22	450,000	



Compact Regulators 302 Series

Application

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.

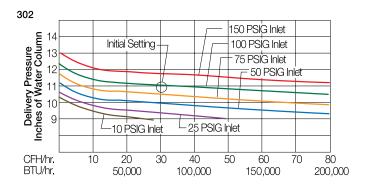
Features

- All metal, die cast construction.
- Molded diaphragms ensure close control of burner pressure.
- Durable valve levers.
- · Variety of model configurations and sizes available.
- · All POL inlet connections are soft nose.



Materials

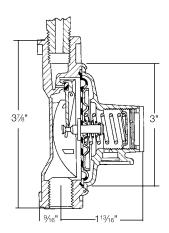
Body	Die Cast Zinc
Bonnet	Die Cast Zinc
Springs	Steel
Valve Seat Discs	Resilient Rubber
Diaphragms	Molded Synthetic Rubber







302





Ordering Information

Part Number	Туре	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane*
302		¼" F. NPT					Small Vent Above Inlet	
302V	Single Stage	1⁄4" F. NPT	3/8" F. NPT	No. 50 Drill	11" w.c. at 100 PSIG	9-13" w.c.	Drip Lip Above Inlet	125,000
302V9	e taige	1⁄4" F. NPT			inlet		Drip Lip at 9	
302V9LS		Soft POL w/o orifice					o'clock	

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



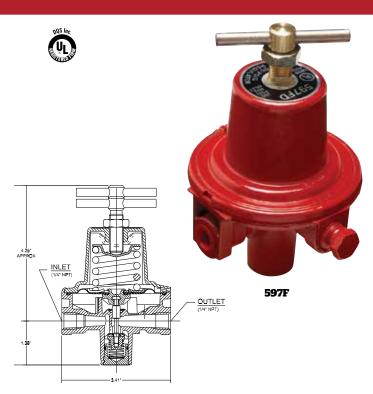
High Pressure Industrial / Commercial Pounds-to-Pounds Regulators **597F Series**

Application

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.

Features

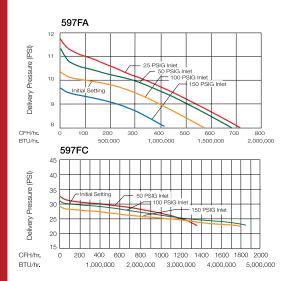
- Provides high capacity performance at a reasonable price.
- Suitable for both liquid and vapor service. .
- Compact design provides for easy installation.
- Negative or indirect acting design provides for excellent performance when needed most - in cold weather, when tank pressures are lowest and system demands are highest.
- Consistent delivery pressure, especially in cold weather, helps ensure maximum performance from the second stage regulator.
- Can be readily fitted with a pressure gauge in the 1/4" F.NPT port.
- Molded diaphragm provides an o-ring like seal between the body and the bonnet.
- Fully painted in brilliant red for complete corrosion protection.
- Available in four adjustable ranges for maximum performance.
- Bonnet and body are assembled in the USA using the unique, patented RegULok™ Seal System.



Materials

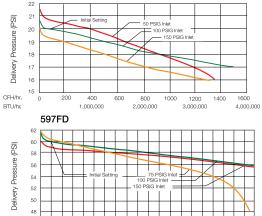
Body	Zinc
Bonnet	Zinc
	Steel
Valve Seat Discs	Resilient Rubber
Diaphragms	Integrated Fabric and Synthetic Rubber
Adjusting Screw	Brass

597FB











Ordering Information

Part Number	Adjustment Method	Inlet Connection	Outlet Connection	Recommended Delivery Pressure Range (PSIG)	Capacity Determined at Set Pressure of PSIG*	Capacity BTU/hr. Propane**	
597FA				1-15	10	1,750,000	
597FB	Tee Handle	1⁄4" NPT	1⁄4" NPT -	10-30	20	3,000,000	
597FC	ree nanule	74 NP1		/4 INF I	74 INF I	20-45	30
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.

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

Application

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.

Features

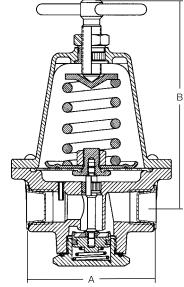
- Large nozzle and straight through flow provides high capacity and resistance to freeze-up.
- O-ring on retainer assembly provides a dampening effect to • reduce vibration.
- Suitable for both liquid and vapor service.
- Can be readily fitted with pressure gauge in 1/4" F. NPT port.

Materials

Body	Forged Aluminum
	Die Cast Aluminum
Spring	Steel
Valve Seat Discs	Resilient Rubber
Diaphragms	Integrated Fabric and Synthetic Rubber







Ordering Information

Part 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				3-30			20	7,000,000 BTU/hr. LPG
1584VL	LP-Gas			25-50			30	10,000,000 BTU/hr. LPG
1584VH			1⁄2" F. NPT	45-125	2 ¹⁵ / ₁₆ "	47⁄8"	60	10,000,000 BTU/hr. LPG
AA1584VW]		3-25			20	4,500 CFH NH ₃
AA1584VL	NH3			20-50			30	4,800 CFH NH ₃
AA1584VH				45-125			60	5,100 CFH NH ₃
1586VN				3-30			20	7,500,000 BTU/hr. LPG
1586VL	LP-Gas	Tee Handle		25-50	3 ½"	7"	30	14,000,000 BTU/hr. LPG
1586VH			∛4" F. NPT	45-125			60	14,000,000 BTU/hr. LPG
AA1586VW				3-25			20	7,700 CFH NH ₃
AA1586VL	NH ³			20-50			30	7,700 CFH NH3
AA1586VH				45-125			60	8,900 CFH NH ₃
1588VN				3-30			20	7,500,000 BTU/hr. LPG
1588VL	LP-Gas		1" F. NPT	25-50			30	14,000,000 BTU/hr. LPG
1588VH				45-125			60	14,000,000 BTU/hr. LPG

* Set pressure is established with 100 PSIG inlet pressure and a flow of 500,000 BTU/hr. propane for 1580V Series, and 180 CFH/hr. NH, for AA1584V and AA1586V Series.

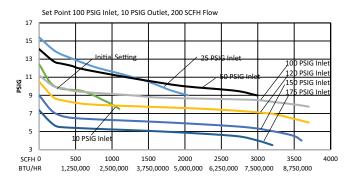
** Capacity determined at 100 PSIG inlet, set pressure noted on chart at 20% drop.

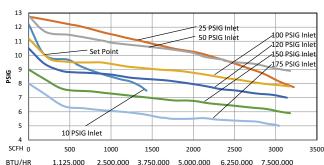
NOTE: Care must be taken to prevent re-liquification of propane at normal temperatures by heat tracing or other effective means. Use of a relief valve upstream or downstream of these regulators is recommended in accordance with NFPA 58.



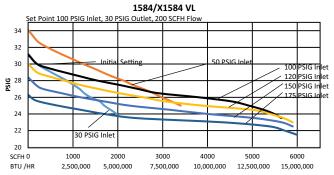
High Pressure Industrial / Commercial Pounds-to-Pounds Regulators 1580V, X1580V and AA1580V Series

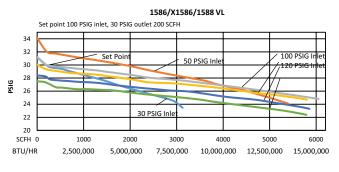
1584/X1584 VN



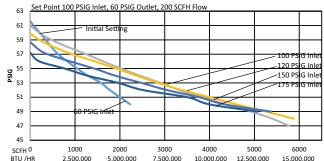


1586/X1586/1588 VN

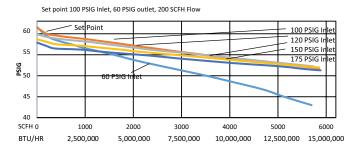




1584/X1584 VH



1586/X1586/1588 VH



A



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

Application

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.

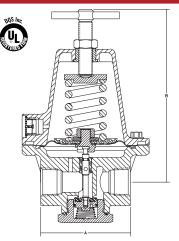
Feature

- Special diaphragm and seat materials are suitable for up to 300°F. temperatures.
- Large nozzle and straight through flow provides high capacity and resistance to freeze ups.
- Suitable for both liquid and vapor service.
- Can be fitted with high pressure gauge in 1/4" F. NPT port. RegO recommends that these gauges use silver braze rather than soft solder construction.

Materials

Body	Forged Aluminum
Bonnet	Die Cast Aluminum
Spring	Stainless Steel
Diaphragms	Integrated Fabric and Synthetic Rubber
Seat Discs	High Temperature Resilient Composition
Backup Seal	High Temperature Resilient Composition

Ordering Information





X1584





Part Number	Service	Adjustment Method	A	В	Inlet & Outlet Connections	Recommended Delivery Pressure Range (PSIG)	Capacity Determined at Set Pressure of PSIG*	Capacity BTU/hr. Propane**
X1584VN			27/8"	87⁄8"	½" F. NPT	3-30	20	7,000,000
X1584VL			2%			25-50	30	10,000,000
X1586VN	LP-Gas	Tee Handle			³ ⁄ ₄ " F. NPT	3-30	20	7,500,000
X1586VL	LP-Gas	Tee Handle	3 ⁵ /16"	6%"		25-50	30	14,000,000
X1588VN		3	3%16	0/8		3-30	20	7,500,000
X1588VL					1" F. NPT	25-50	30	14,000,000
* 0-+								

* 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-liquification 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

Application

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."

Features

- Pop-action design keeps product loss to a minimum.
- Suitable for use downstream of 1580 series regulators on vapor ٠ systems to comply with NFPA 58 requirements.
- Install a tee downstream from the regulator outlet to ensure ٠ maximum flow from the relief valve.
- Brass body and seat disc assembly. ٠



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WARRANTY



Part 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				1357*	
3139-26	26 PSIG	15 PSIG	¼" M. NPT	2 27/32"	1 1/16"	1725**	B- 009412-2B
3139-38	38 PSIG	20 PSIG				2304***	

YEAR

* 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

Application

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.

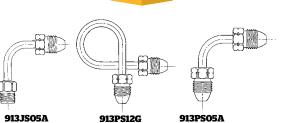
Note: RegO recommends a new pigtail be installed with every new and replaced regulator.

- Heavy duty construction.
- Individually soldered connections to the copper tubing. •
- Each pigtail is individually tested prior to shipment.

Materials

Tubing	Copper
Connection	Brass





Bent Pigtails Ordering Information

		Part Number		
	Approximate	¾" Tube	Type/Degree of	
Connections	Length	%" Hex Short Nipple	Bend	
1⁄4" M. NPT x M. POL	5"	913JS05A	90°	
		913PS05A		
M. POL x		913PS12G	270° Right Hand	
M. POL	12"	913PS12H	270° Left Hand	
		913PS12S	360°	

Inlet Fittings

Part 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	Solutionse POL with wrench hut and excess flow.				
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.				

Straight Pigtails Ordering Information

			Part Number	
		¼" T	'ube	¾" Tube
Connections	Approximate Length	%" Hex Short Nipple	1¼" Hex Long Nipple	%" Hex Short Nipple
	5"	-	1⁄2"	913JS05
	12"	912PS12	-	913PS12
M.POL x	20"	912PS20	912PA20	913PS20
M.POL	30"	912PS30	-	913PS30
	36"	912PS36	912PA36	913PS36
	48"	912PS48	912PA48	913PS48
	12"	912FS12	-	-
1/4" Inverted	20"	912FS20	912FA20	-
Flare x M.POL	30"	912FS30	-	-
	36"	912FS36	-	-
	5"	-	-	913JS05
1⁄4" M.NPT x	12"	912JS12	-	-
M.POL	20"	912JS20	-	-
	36"	912JS36	-	-
1⁄2" M.NPT x M.Pol	12"	-	-	913LS12
1⁄2" M.NPT x 3⁄8" M.NPT	12"	-	-	913KL12

Dielectric Pigtails



Part Number	Approximate Length	Tube	Connections
D912P12	12"		
D912P20	20"		M.POL x M.POL
D912P30	30"	1/"	
D912J12	12"	1⁄4"	
D912J20	20"		¼" M.NPT x M.POL
D912J30	30"		
D913P12	12"		
D913P20	20"	3/8"	M.POL x M.POL
D913P30	30"		
D913J12	12"		
D913J20	20"		¼" M.NPT x M.POL
D913J20	30"		IVI.POL

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



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Brackets

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

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

Manifolds

Tee Check Manifolds

1350R and 1450R

Application

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

Floating disc check minimizes discharge of gas to the atmosphere • when empty cylinder is being replaced.

Features

Floating disc check minimizes discharge of gas to the atmosphere • when empty cylinder is being replaced.

Materials

Body	Forged Brass
Seat Discs	

Part Number	Inlet Connections	Outlet Connection
1350R	F. POL	M. POL
1450R	1/4" Inverted Flare	1⁄4" M. NPT

Multiple Cylinder Manifolds

1350E and 1450E

Application

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.

Features

• Provides a three-way tee function without an internal disc check.

Materials

Body Forged Brass

Part Number	Inlet Connections	Outlet Connection
1350E	F. POL	M. POL
1450E	1/4" Inverted Flare	1⁄4" M. NPT



2503-19

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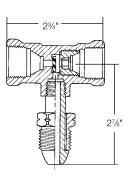
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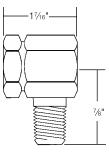


2302-31

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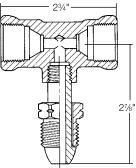
1450R



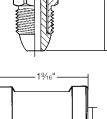
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1350E











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





LV960

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 - 3/16" O.D. flexible synthetic rubber tube. Adapters are also available.

Part Number	Contents	Adapters	Adapter size
		1328	3∕%" OD
2434A	Test Kit	1331	1⁄2" OD
		1332	5∕%" OD





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2434A

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Water Manometer Kit

1212 Kit

Application

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.

Features

- Flexible tube rolls up for convenient storage with accessories in • compact carry case.
- Magnetic clips allow easy attachment to metal surfaces. ٠
- Flexible spring steel scale is calibrated in inches of water column for reading to 16" w.c.
- Molded nylon tubing connectors incorporate a rapid shut-off • design in an unbreakable molded top.
- Rapid pressure safety trap prevents loss of fluid due to pressure surges on both columns.
- Scale is center mounted between columns to eliminate parallax error and has a full two-inch sliding zero adjustment.

Contents

- 1—Flexible water manometer which reads up to 16" w.c. of pressure.
- 1—Heavy duty, compact carrying case.
- 1-3/4 oz. bottle of Fluorescein Green color concentrate.
- 2-1/6" pipe thread barbed tubing adapters.
- -3 foot, 3/16" rubber tube. 1-
- 1—Rubber tubing adapter and 7/16" spud.







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.

_	Part	Inlet	Outlet	Pressure Gauge
	mber	Connection	Connection	Range (PSIG)
2	962	Soft Nose M. POL	F. POL	0 - 300

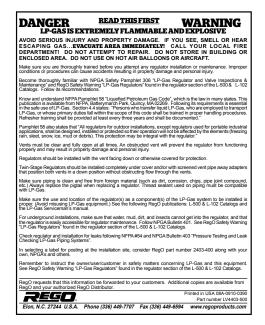




Adhesive Warning Labels

These adhesive warning labels are intended for application as close as possible to the LP-Gas regulator once the regulator has been installed.

Part Number	Description	
LV4403-400	Adhesive Warning Label	





LV4403-400

Warning Notice

The following warning information, Part Number LV4403-500, is included with each shipment of regulators 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.

LV4403-500



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Section B Cylinder and Service Valves



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 catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH_a). 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 NH₂ service only.

c.All other products including "A" prefix are suitable for use with LP-Gas & NH₂ 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. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH3. If you have a need for use of another application, contact RegO, 100 RegO Drive, Elon, NC 27244, (336) 449-7707 ecii@regoproducts.com before proceeding.

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 auestions.

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.

B





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 Liquified 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.

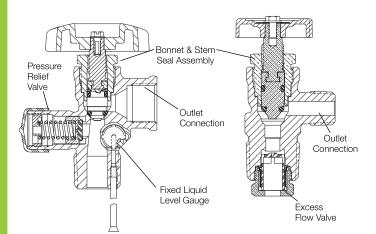
Nature of Warnings

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It is recognized that warnings should be as brief as possible, but the factors involved in cylinder valve failure are many because of the multiple functions the valve serves. If there is any simple warning, it would be:

Check cylinder valves for leaking components every time cylinders are filled.

The bulletin is not intended to be an exhaustive treatment of the subject of cylinder valves and certainly does not cover all safety practices that should be followed in installation, operation and maintenance of LP-Gas systems which include cylinder valves.



LP-Gas Cylinder Valves

These valves are mounted in DOT cylinders, and are intended to provide one or more of the following functions:

- 1. Vapor service shut-off
- 2. Liquid service shut-off (with excess flow valve)
- 3. Liquid filling
- 4. Pressure relief
- 5. Fixed liquid level gauge

These functions, although simple, are extremely critical in the safe operation of an LP-Gas cylinder system.

Abuse of these valves, failure to follow a good installation and maintenance program and attempting to use cylinder valves beyond their normal service life can result in extremely hazardous conditions.

Important Factors:

1. Installation: It should not be necessary to remind the readers that cylinder valves must be installed and used in strict conformance with NFPA Pamphlet 58, and all other applicable codes and regulations. Codes, regulations and manufacturers' recommendations have been developed by experts with many years of experience in the LP-Gas industry in the interest of safety for users of LP-Gas and all personnel servicing LP-Gas systems. Failure to fully follow these codes, regulations and recommendations could result in hazardous installations.

2. The bonnet and stem seal assembly of a cylinder valve are extremely critical, since any malfunction could cause external leakage and spillage. Check bonnet to see that it is in proper position. If there is any doubt about tightness of threaded connection between bonnet and body, valve must be repaired in accordance with manufacturers' repair instructions before cylinder is filled. Handwheel must be in good condition, stem threads must not be worn or damaged and bonnet must be properly assembled. This area should be examined each time the cylinder if filled. A leakage test should be conducted while the shut-off valve is in the open position during filling.

3. The cylinder outlet connection is usually a female POL. Threads must be free of dents, gouges and any indication of excessive wear. Seating surface inside this connection must be smooth and free of nicks and scratches to ensure a gas tight seal when connected to a male POL cylinder adapter. Cylinder adapter must spin on freely all the way, without indication of drag, roughness or excessive looseness, and must then be tightened with a wrench. Connection must be checked for leakage.

4. The pressure relief valve is of critical importance: Its proper operation is vital in avoiding excessive pressures during emergencies, such as overfilling or exposure to excessive heat. No repair of this device is allowable. Relief valve should be visually inspected and checked for leaks each time the cylinder is returned for filling. All flow passages must be clean and free of foreign material.



Entire assembly must be free of dents, distortion or other indications of damage. If relief valve appears too contaminated or damaged, the cylinder valve must be replaced. (Caution: Eye protection must be used when examining relief valves under pressure.)

5. The liquid service shut-off valve, with excess flow valve provided on some cylinder valves, is also of critical importance. The excess flow valve must be periodically tested for proper performance, in addition to the inspection of the shut-off valve.

6. The fixed liquid level gauge on a cylinder valve is, when present, essential to prevent overfilling the cylinder. The gauging valve must operate freely, venting vapor when loosened, and sealing gas-tight easily when tightened with the fingers. Gauge valves meant for use with a socket key or screwdriver must also seal easily without excessive torque. The fixed liquid level gauge diptube must be of the proper length, and be in proper position. Periodic test should be conducted by weighing the cylinder after filling, to determine that it does not contain more than the allowable amount of LP-Gas. This check should be done periodically, and any time there is suspicion that the gauge diptube may be damaged or broken.

Do Not Overfill Cylinders

Do not fill a cylinder without first repairing or replacing the cylinder valve, as required, if any defect is noted.

While not required by codes, it is recommended that a plug or suitable protection be inserted in the POL outlet of the cylinder valve at all times except during filling and while connected for use. This will guard against discharge of gas should the handwheel be inadvertently opened while the cylinder is in storage or transit. This is highly advisable for small cylinders that could be transported inside an automobile or trunk. It is important that proper wrenches and adapters be used when filling, servicing and installing cylinder valves in order to avoid damage to the valve or associated piping.

Since cylinders are often used by consumers without previous knowledge of the hazards of LP-Gases and the LP-Gas dealers are the only ones who have direct contact with the consumers, it is the dealers' 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 of the NPGA "Scratch 'n Sniff" leaflet could be productive.

2. Are instructed never to 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. Know the location of the cylinder 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.

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 guality and service, LP-Gas dealers may forget the hazards that can occur because a cylinder valve is used beyond its safe service life. Life of a cylinder valve is determined by the environment in which it "lives". The LP-Gas dealers know 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.



B

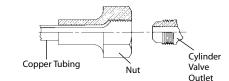
Cylinder Valve Threads

Inlet Connections

Because of the many thread forms available on equipment used in the LP-Gas industry today, the maze of letters, numbers and symbols which make up various thread specifications becomes confusing. To help eliminate some of this confusion, a brief explanation of some of the more widely used thread specifications is shown below.

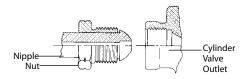
NGT and NPT Threads

The NGT (National Gas Taper) thread is the commonly used valveto-cylinder connection. The male thread on the valve has about two more threads at the large end than the NPT in order to provide additional fresh threads if further tightening is necessary. Additionally, the standard ¾" NGT valve inlet provides the greater tightness at the bottom of the valve by making the valve threads slightly straighter than the standard taper of ¾" per foot in NPT connections. In all other respects NPT and NGT threads are similar.



CGA 182, or SAE Flare

This connection ensures a leak-tight joining of copper tubing to brass parts without the need for brazing or silver soldering. The common size used on LP-Gas valves and fittings is 3/8" SAE (Society of Automotive Engineers) flare. Although this connection is referred to as a 3/8", because 3/8" OD tubing is used, the thread actually measures 5/8". The specifications are .625 – 18 UNF – 2A – RH – EXT, which means .625" diameter thread, 18 threads per inch, Unified Fine Series Class 2 Tolerances, right-hand, external thread.



CGA 510 or POL

Most widely used in this industry, POL is the common name for the standard CGA 510 connection. Thread specification is .885" - 14 NGO – LH – INT, meaning .885" diameter thread, 14 threads per inch, National Gas Outlet form, left-hand internal thread. RegO POL outlet connections for LP-Gases conform to this standard.



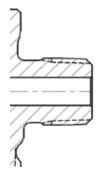
CGA Outlets

The CGA (Compressed Gas Association) outlets are standard for use with various compressed gases. The relation of one of these outlets to another is fixed so as to minimize undesirable connections. They have been designed to prevent the interchange of connections which may result in a hazard.

Hand engagement of all

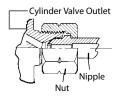
3/8"-18 NPT Thread Connection

This connection is also used for vapor or liquid withdrawal. It has a 3° diameter thread, and 18 threads per inch, National Pipe Taper Outlet form.



CGA 555

CGA 555 is the standard cylinder valve outlet connection for liquid withdrawal of butane and/or propane. Thread specification is .903" - 14 NGO – LH – EXT, which means .903" diameter thread, 14 threads per inch, National Gas Outlet form, left-hand external thread.





General Information

The wide acceptance of RegO Cylinder Valves is based on their reliable performance as well as their reputation for engineering and manufacturing excellence.

Together with thorough testing, these efforts result in years of troublefree service. RegO Cylinder Valves are listed by Underwriters' Laboratories and approved by the Bureau of Explosives for pressure relief valve operation, wherever applicable. See section on relief valves for important information.

Reliability

RegO Cylinder Valves are built with attention to each detail: Beginning with comprehensive inspection of forgings and machined parts, and ending with intense quality testing on each individual valve prior to shipment.

Every valve must pass a stringent and comprehensive underwater leakage test. Additionally, valves with pressure reliefs are tested for proper pressure and operation, including reseating to ensure proper opening and closing at required pressures. Those equipped with excess flow checks are tested for compliance with published closing specifications, and tested to ensure minimum leakage after closing.

Instructions for the Proper Use and Applications of RegO Cylinder Valves

1. Containers and pipe line should be cleaned thoroughly before valves are installed. Large particles of solid foreign matter can cut the seating surface of any resilient seat disc, causing the valve to leak. Care must be exercised in inserting valves into lines or containers to avoid damaging or exerting pressure against pressure relief valves and outlet connections. Use a minimum amount of a suitable luting compound on the cylinder valve threads only. Excess amounts of luting compound can foul the operating parts of the valves.

Heavy-Duty Valve Stem Seals

RegO Cylinder Valves utilize seat discs and stem seals which resist deterioration and provide the kind of reliable service required for LP-Gas utilization. Diaphragm or O-Ring stem seals are available. Valves with diaphragm stem seals are recognized for their heavyduty body design and are suitable for use in cylinders up to 200 lbs. propane capacity.

O-Ring type stem seals are the most widely accepted in the industry. The simple, economical and long life design features a tapered and confined nylon seat disc which provides positive, hand-tight closings, and a faster filling cylinder valve.

Pressure Relief

RegO Valves have full-capacity "pop action" pressure reliefs with start to discharge settings starting at 375 PSIG.

A Valve for Every Need

RegO Cylinder Valves are available for all LP-Gas services; a wide choice for domestic, commercial, industrial, RV, motor fuel, and lift truck applications.

Valves are available with a combination of options such as pressure reliefs, liquid level gauges, and liquid withdrawal tubes. Also available for special applications are plumber's pot valves, tamper resistant valves for field service, and dual valves for simultaneous liquid and vapor service.

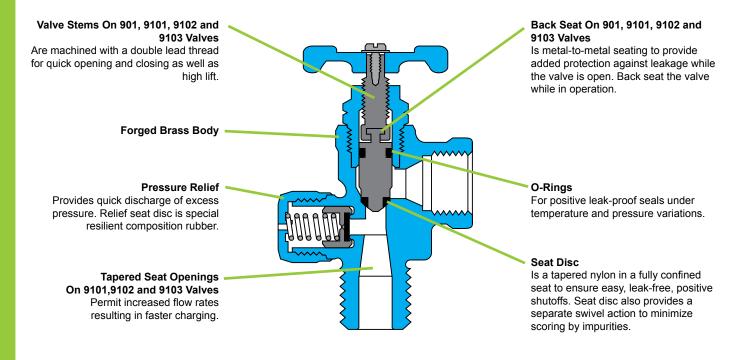
2. Do not use excessive force in opening or closing the valves. The seat disc and diaphragm materials permit the valves to be opened and closed easily by hand. Never use a wrench on wheel handle valves.

3. When the design of the piping installation allows liquid to be locked between two valves, a hydrostatic relief valve must be installed in the line between the two valves. The pressures which can develop due to temperature increase in a liquid full line are tremendous and can cause rupture of the line or damage to the valves.

4. The valves are designed to withstand normal atmospheric temperatures. They should not, however, be subjected to abnormally high temperatures.

B







Heavy-Duty Cylinder Valves for Vapor Withdrawal 9103 Series

Application

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

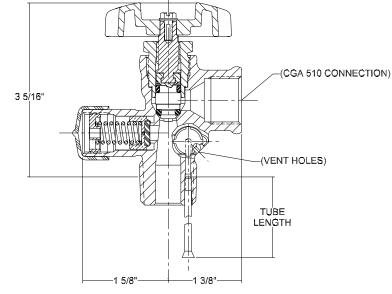
Features

- Equipped with a fast filling throat and high lift, o-ring stem seal design.
- Utilizes a nylon tapered seat design for positive closing. •
- Available with a fixed liquid level gauge. •
- Self-tapping screw secures handwheel to stem and reduces • possibility of handwheel vibrating loose while in transit.

Materials

Body	Forged Brass
Handwheel	Aluminum
Stem	Brass
O-Rings	Resilient Rubber
Seat Disc	
Relief Spring	







Ordering Information

Part Number Container Connection			Fixed		Pressure Relief Valve	For Use in Cylinders w/Propane	Approximate Filling Rate Liquid Flow, GPM				Accessories
	Service	Liquid Level	Dip Tube Length w/	Pressure Drop Across Valves							
	Connection	Connection	Vent Valve	Deflector	Setting	Capacity Up To:	10 PSIG	25 PSIG	50 PSIG	100 PSIG	POL Plug
*9103D10.6	3/4" M NGT (CCA 510)	JUN MINOT F. POL	3// MINOT F. POL 10.6"	375 PSIG	100 lbs.	lbs. 12.7	20.3	29.0	44.0	N970P	
*9103D11.6		(CGA 510)	(CGA 510) Yes	11.6"	375 F31G	100 lbs.	12.7	20.3	29.0	41.3	N9/UP

* 72 Orifice low emission version is also available.



B

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

Application

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.

Features

Materials

- Minimizes the risk of unauthorized persons withdrawing propane from cylinders not in service. It is necessary to install a male POL connection to open the outlet check to withdraw vapor from the valve.
- Ball type excess flow located in the valve inlet protects against excessive discharge if the cylinder is tipped or the hose ruptures. Closing flow is 200 SCFH at 100 PSIG.
- Removable POL outlet and check mechanism make field replacement of worn connections an easy process without removing the valve from the cylinder.
- Outlet seal plug on a heavy duty chain prevents dirt from entering POL when not in use.

Body Forged Brass Handwheel..... Aluminum Die Cast

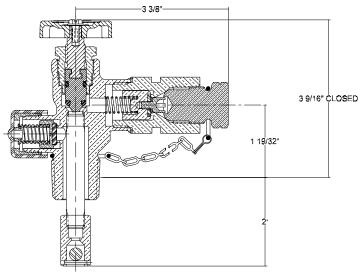
Stem Brass O-Rings Resilient Rubber Seat Disc Nylon

Relief Spring Stainless Steel Plug Brass

· Nylon tapered seat design provides positive closure.









Ordering Information

			Fixed Liquid			Approximate Filling Rate Liquid Flow, GPM									
Part Number	Container Connection	Service Connection	Level Vent	Pressure Relief Valve Setting				Pressure Relief	Level Vent Valve Setting	Level Vent Valve Setting Propage Capacity I	For Use in Cylinders w/ Propane Capacity Up To:		Pressure Drop Across Valves		
			Valve Style			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

Application

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.

Features

- One-piece relief valve is shielded from tampering and damage.
- Relief is forged as part of the body for extra strength.
- 312 PSIG Relief Valve setting.

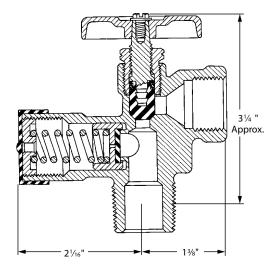


9106CO

Materials

Body	Forged Brass
Handwheel	
Stem	Brass
Seat Disc	Nylon
Relief Spring	Stainless Steel





Ordering Information

Part Number	Container	Service	Fixed Liquid Level	Pressure Relief Valve	For Use In Cylinders w/ Propane	Flow Capacity
	Connection	Connection	Vent Valve Style	Setting	Capacity Up To	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.



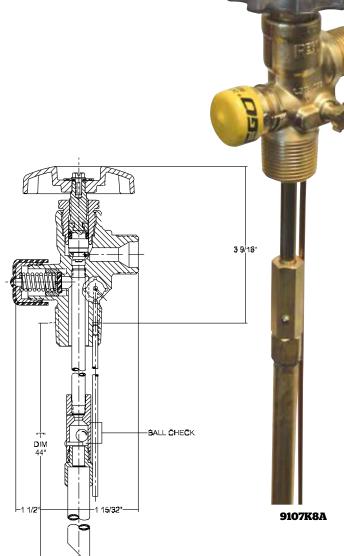
Cylinder Valve for Liquid Withdrawal 9107K8A

Application

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.

Features

- O-ring stem seal design.
- Nylon tapered seat disc for positive closure.
- Self-tapping screw secures handwheel to stem and reduces possibility of handwheel vibrating loose while in transit.
- · Features ball check excess flow valve.
- Furnished with $\frac{1}{2}$ O.D. brass withdrawal tube with "T" dimension of 44".



Materials

R

	Forged Brass
Handwheel	Aluminum Die Cast
Seat Disc	Nylon
O-Rings	Resilient Rubber
	Stainless Steel
Stem	Brass



Ordering Information

0					
Part 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.

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

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

IMPORTANT: 1/4" O.D. pigtails or POL connections for 1/4" O.D. pigtails 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 backseated 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

Application

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.

Features

- · O-Ring stem seal design provides positive seal.
- Metal-to-metal back seat provides added protection against leakage while the valve is open.
- Valves with fixed liquid level gauges permit operator to quickly determine when the maximum permitted filling level of the container is reached.
- 9101R Series with MultiBonnet allows quick and easy repair of bonnet.
- PT9102R Series With the service valve closed the pressure test/Presto-Tap® port is isolated from the container. This will allow a high pressure leak test to be conducted without disconnecting the pigtail from the service valve. For more information, see page C13 on this feature

Materials

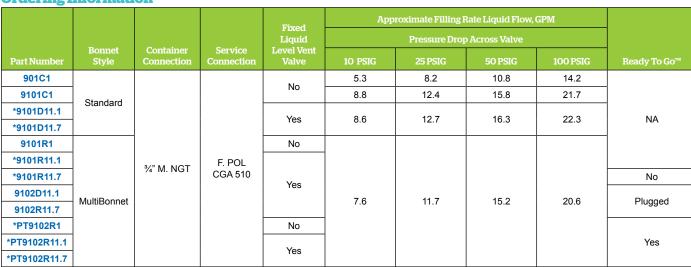
Body	Forged Brass
Handwheel	
Stem	Brass
O-Rings	Resilient Synthetic Rubber
Seat Disc	Nylon





PT9102

Ordering Information

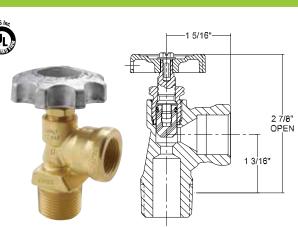


9101D

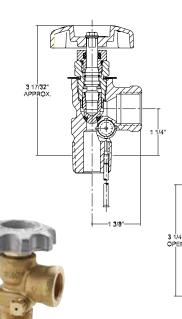
* 72 Orifice low emission version is also available.

Note: Since these valves have no integral pressure relief valve, they can be used on any container with an independant relief device sufficient for that tank's capacity.





901C1



9101R1

2/0

Service Valves for ASME Motor Fuel Containers 901C, 9101H, and 9101Y Series

Application

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.

Features

- Incorporates integral excess flow valve and shut-off valve in one • unit.
- Double lead thread provides faster opening and closing.
- O-Ring stem seal design provides positive seal.
- Tapered and confined seat disc provides positive shut off.
- Metal-to-metal back seat provides added protection against . leakage while the valve is open.
- 9101H6 equipped with a 1/4" NPT internal thread for the addition of . a liquid withdrawal tube.
- 9101Y Series features a 60° angled outlet connection to facilitate easier and simpler fuel line make-up.

Materials

R

Body	Forged Brass
Handwheel	
Stem	Brass
O-Rings	Resilient Synthetic Rubber
Seat Disc	Nylon

2 7/8" OPEN 901C5 23/64 REGO 1 9/32 WARRANT 9101H5 13/16 9101H6 -123/64"-2 3/4" OPEN 13/32

5/16"

1 3/16

11/10'

19/32

17/32

9101Y5H

					Closing Flow (LP-Gas)			
	Container	Service	Liquid Withdrawal	Va	por			
Part Number	Connection	Connection	Connection	25 PSIG Inlet (SCFH)	100 PSIG Inlet (SCFH)	Liquid GPM		
901C3		F. POL CGA 510		350***	605***	1.5***		
901C5		F. POL CGA 510	Nega	550***	1050***	2.6***		
9101H3		%" SAE Flare	¾" SAE Flare	³ ∕₃" SAE Flare	None	430**	800**	1.5**
9101H5*	3⁄4"M. NGT				SAE Flare	765**	1300**	3.6**
9101H6*			1⁄4" NPT	550****	1050****	2.6****		
9101Y5H*		60° Angle ℁" SAE Flare	None	765**	1300**	3.6**		

Ordering Information

Heavy-duty models
 Based on %" 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, ¼" O.D. pigtails or POL connections for ¼" O.D. should not be used with this valve.
 Based on %" O.D. pigtail, 20" long or less, connected to valve outlet. Also based on ¼" 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.



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

Application

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.

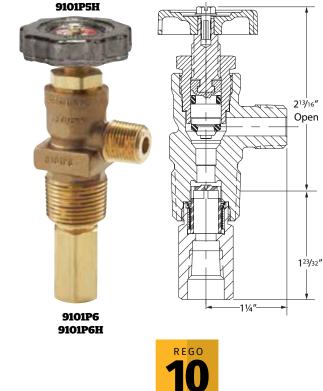
To ensure proper functioning and maximum protection for integral excess flow valves, these service valves should be fully opened and backseated when in use.

Features

- Incorporates integral excess check valve and shut-off valve in one unit
- Special 1.5 GPM closing flow on select valves provided especially • for lift trucks and equipment with smaller engines.
- Double lead stem thread provides faster opening and closing.
- O-Ring stem seal design provides positive seal.
- Tapered and confined seat disc provides positive shut-off.
- Metal-to-metal back seat provides added protection against leakage while the valve is open.
- 9101P6 Series equipped with a 1/4" NPT internal thread for the addition of a liquid withdrawal tube.

Materials

Body	Forged Brass
Handwheel	Aluminum Die Cast
Stem	Brass
O-Rings	Resilient Synthetic Rubber
Seat Disc	



YEAR WARRANTY

9101P5

11/4'

2¾" Approx.

15/16

Ordering Information

				Closi)	Appro		lling Rate GPM	Liquid		Accessor	ies		
			Liquid	Vaj	Vapor		Pressure Drop Across Valve		ACME Check Connectors					
Part Number	Container Connection	Service Connection	Withdrawal Connection	25 PSIG Inlet (SCFH)	100 PSIG Inlet (SCFH)	Liquid (GPM)	10 PSIG	25 PSIG	50 PSIG	100 PSIG	Male	Female	Сар	
9101P5			None	430	900	1.5	5.0	7.6	10.7	14.9				
9101P5H	34" M. NGT	NGT %" M. NPT –		None	550	1050	2.6	5.0	7.6	10.7	14.9	7141M	7141F	7141M-40
9101P6	74 IVI. ING I		1⁄4" NPT	430	900	1.5	4.5	7.2	10.3	14.8	7 14 11	/141F	or 7141FP	
9101P6H				550	1050	2.6	4.5							

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

Application

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.

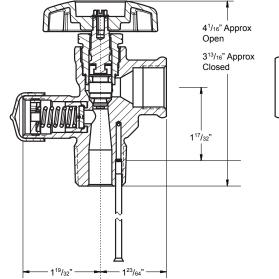
Features

- Nylon tapered seat designed for positive closing. •
- Relief is forged as part of the body for extra strength. •
- Available with Fixed Liquid Level Gauge. ٠
- 435 PSIG Relief Valve Setting.
- Meets TB27 requirements. ٠
- 3/32" Markings. ٠

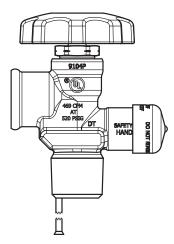
Materials

B

Body	
Handwheel	Aluminum
Stem	Brass
Seat Disc	Viton
Relief Spring	. Stainless Steel
Relief Valve Setting	435 PSIG TB27







ŰL

9104PT



Ordering Information

Part 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			N/A	N/A			
*9104PT10.1	3⁄4" M.NPT	F.POL - (CGA 510)	Knurlad	10.0"	435 PSIG	100lbs	
*9104PT10.7			Knurled	10.7"			

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





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

Application

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.

Features

Materials

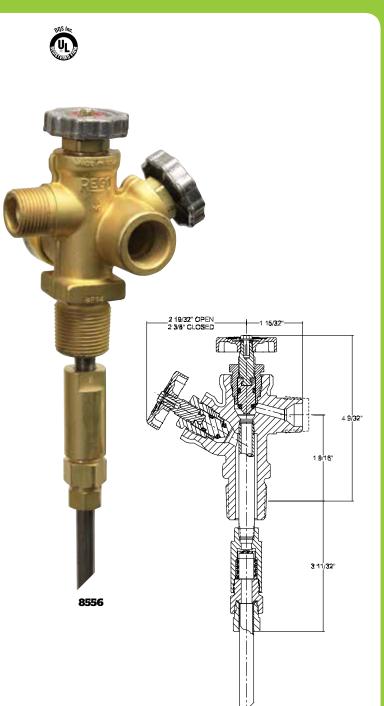
- Two separate flow channels in the body permit vapor and/or liquid withdrawal alternately, or simultaneously.
- Outlet connections have two different fittings. ٠
- Handwheels are equipped with appropriate "liquid" or "vapor" ٠ identification labels.
- Furnished with a 3/8" O.D. stainless steel liquid withdrawal tube • with a "T" dimension of 44".

Body Forged Brass

Handwheel..... Aluminum Die Cast

Stem Brass Seat Disc Nylon

O-Rings Resilient Rubber Relief Spring Stainless Steel



REGO

YFAR WARRANTY

Ordering Information

Part Number	Container	Service Connection			Fixed Liquid Level Vent Valve Style			al a	Liquid Withdrawal Tube Length	
Part Nulliper	Connection	Vapor		Liquid	Fixed Equilibre Vent Valve Style			vie	Equid Withdrawar Tube Length	
8556	¾" M. NGT	F. POL (C	GA 510)	CGA 555		None			44"	
Pressure Relief Valve Setting		For Use in Cylinders w/Propane Capacity Up To:				ate Liquid Flow, Across Valves	,GPM		Liquid Closing Flow* (LP-Gas)	
			10 PSIG	25 PSIG	3	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.



B

Adhesive Warning Labels 901-400 and 903-400

These adhesive warning labels are intended for application as close as possible to the cylinder valve and/or service valve.

The basic information contained on the label is intended for the benefit of the user of the valves and is not intended to be an "all-inclusive" product warning.

These labels are printed on a heavy duty material with pressure sensitive adhesive backing. The ultra-violet ink stands up well when exposed to the enviroment.

Part Number	
901-400	Adhesive Label Primarily for Fork Lift Cylinders
903-400	Adhesive Label Primarily for Small DOT Cylinders
903-500	Adhesive Label Primarily for Cylinder and Service Valves



901-400

	AS IS EXTREMELY FLAMMABLE AND EXPLO EP CYLINDER OUT OF THE REACH OF CHILDR	WADNING
	GE. IF YOU SEE, SMELL, OR HEAR THIS HISS OF ESCAPING GAS I NOT ATTEMPT TO REPAIR. DO NOT USE OR STORE IN BUILDING OR The Shut-Off Valve may require periodic repair or replacement.	
xplosion can result from leaks and misuse or mishandling of the cylinder and its alve. Do not carry, hold or lift the cylinder by its valve. Do not expose to ire or temperatures above 120°F (49°C).	Before the cylinder is filled for the first time, it must be purged of air. Total liquid volume must never exceed the amount designated by DOT for this cylinder.	connection to leak or may impair the functioning of the regulator, creati
he Cylinder Valve incorporates a Shut-Off Valve and Pressure Relief Valve. The ressure Relief Valve can expel a large jet of LP-Gas into the air if the cylinder is (1) exposed to high temperatures - over 120°F (49°C), or (2) overfilled and excessed to a temperature higher than the temperature at the time it was filled.	If the cylinder has a Fixed Liquid Level Gauge, filling should stop the moment a white LP-Gas cloud is emitted from it's bleed hole. Keep the Vent Valve closed tightly at all other times.	 When connecting the Cylinder Valve outlet to an appliance (CAUTIC counterclockwise thread), make sure the connection is tight. Check for it
lever attempt to fill this cylinder yourself. Do not tamper with it or trempt repairs.	Keep this cylinder firmly secured in an upright position at all times. Do not lay it on its side during transport, storage or use. In other than an upright position, liquid LP-Gas may flow or leak. This liquid can cause skin burns,	the connection leaves after tightening, close cylinder valve, disconnect if the appliance, insert the POLL plug and immediately return the cylinder, the Quinder When attracted to the Quinder and the cylinder.
nd to repair or replace its valve. Each time the cylinder is filled, the entire ylinder Valve must be checked for leaks (with a leak detection solution asks cause bubbles to grow). The Shut-Off Valve and Fixed Liquid Level	frostbite and other serious injuries in addition to those caused by fire or explosion. When not in use: Close the Shut-Of Valve. Insart a protective plug (P.O.L. plug) into the Cylinder Valve outliet. (CAUTIONcounterclockvise thread.) The POL. plue must be inserted whenever the cylinder is strong, manually moved.	This cylinder must be used only in compliance with all applicable laws regulations, including National Fire Protection Association Publication #58, w
sauge (If incorporated) must be checked for proper operation. The Pressure later Valve must be checked to ensure that is it completely unobstructed and all thas no physical damage. CAUTIONeye protection must be worn were	or transported by vehicle. WHEN MAKING CONNECTIONS TO AN APPLIANCE:	NFPA, Batterymarch Park, Quincy, MA 02269.
anting niet value. This value cannot be replaced. This obstructed, the onthe optical value must be replaced. DO NOT REMOVE, DEFACE - ADDITIONAL SAFETY INFORMATION IS AVAILABLEF FROM-	Do not use this optime without that marking the instructions accompanying the appleases with which this OR OBLITERATE THIS LABEL! DO NOT FILL THIS CYLINDER UNLESS DEGEN: Elon, NC 27244 USA • www.regoproducts. Phone (336) 449-7707 • Fax (336) 449-859-	S THIS LABEL IS READABLE! s.com Printed in U.S.A. 06-0414-0

903-400

The following warning information, Part Number 903-500, is included with each shipment of cylinder valves and service valves 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.





Section C Multivalve[®] Assemblies

C

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 catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH_a). 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 NH_3 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 NH₂ service only.

c.All other products including "A" prefix are suitable for use with LP-Gas & NH, 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. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH3. If you have a need for use of another application, contact RegO, 100 RegO Drive, Elon, NC 27244, (336) 449-7707 ecii@regoproducts.com before proceeding.

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.

С



General Information

RegO Multivalves[®] were pioneered in the 1930's. By combining several valve functions in one unit, Multivalves[®] made possible new and more practical tank designs (fewer openings and smaller, less cumbersome protective hoods). They received immediate acceptance.

The Multivalve[®] design has kept pace with changing industry needs over the years. They are as popular as ever; still keeping fabricating costs down and reducing operating expenses for the LP-Gas dealer.

RegO Multivalves® Reduce the Cost of Fabrication by

- Combining several valve functions in one less expensive body.
- Reducing the number of threaded openings in ASME containers.
- Diminishing the size and cost of protective hoods.
- Providing generous sized wrenching bosses for quick, easy installation.

RegO Multivalves® Reduce LPG Dealer Expenses by

- Permitting on-site filling of 100 lb. to 420 lb. DOT cylinders, thus eliminating cylinder return and interrupted customer service.
- Providing well-placed hose connections for easy filling.
- Allowing ample space for secure attachment and easy removal of the regulator.
- Providing substantial savings of bonnet repairs on valves with the MultiBonnet.[®]

RegO Multivalves[®] Satisfy Customer Demands for Tough, Safe Equipment with These Features

Heavy-Duty Valve Stem Seals -

C

Tapered nylon disc in a fully confined seat resists deterioration and provides hand-tight closings over a long service life.

Design Features of RegO Multivalves[®]

Comprehensive Testing -

- Every Multivalve[®] must pass a stringent underwater leakage test prior to shipment.
- Multivalves[®] with pressure relief valves are individually tested and adjusted to ensure proper pressure settings.
- Those equipped with excess flow checks are tested for compliance with published closing specifications and for leakage after closing.

Pressure Relief Valves and Other Devices -

 Multivalves[®] equipped with integral pressure relief devices employ full-capacity, "pop-action" reliefs with set pressures of 250 psig for ASME use and 375 psig for DOT cylinders.

Double Back-Check Filler Valves -

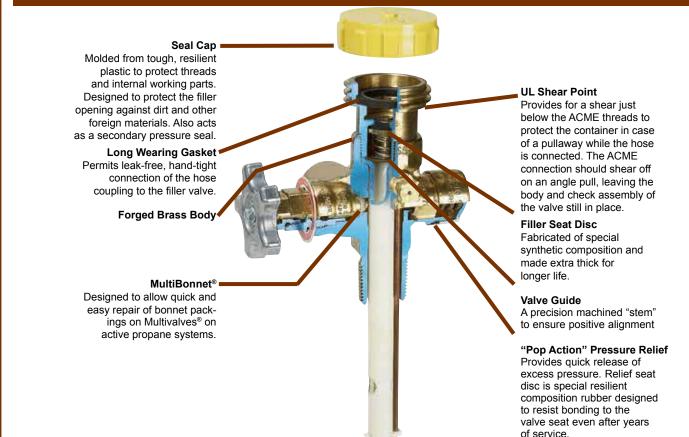
 Multivalves[®] with filling connections have double backcheck safety. If the upper check ceases to function, the lower stand-by check will continue to protect the filling connection from excessive leakage.

Ease of Maintenance -

 Standardization of parts makes it possible for one repair kit to maintain the bonnet assemblies of RegO cylinder valves, service valves, motor fuel valves, and Multivalves[®].

RegO Multivalves® fit every LP-Gas need.

- Wide selection of Multivalves[®] for domestic, commercial, and industrial needs are available.
- Multivalves[®] may be ordered with pressure relief, liquid level tube, filler valve, vapor equalizing valve, internal pipe connections, liquid filling and withdrawal connections, and ¼" NPT tapped opening for pressure gauge with or without steel plug.





RegO Multibonnet® Assemblies

Design Features of the MultiBonnet®

Handwheel Aluminum die cast handwheel.

Non-Rising Stem Designed to allow easy backseating and long service life.

Upper Packing Assembly Contains both internal and external o-rings. Provides leak resistant performance.

Internal O-ring

Lower Bonnet and Stem Assembly Machined brass construction offers durability to bonnet design.

External O-ring

Nameplate Provides easy identification of the RegO MultiBonnet®

Teflon Backseat

Provides for upper packing isolation when valve is fully open.

Machined Double Lead Threads

Provides for quick opening and closing of the valve.

Shut-off Seat Disc 🗲

Tapered nylon disc is retained in a fully confined seat that helps ensure positive shut-offs.

Application

The MultiBonnet[®] is designed to allow quick and easy repair of bonnet packings in certain Multivalves[®] and service valves on active propane systems. It allows you to repair valve bonnet stem o-ring leaks in minutes, without interrupting gas service to your customers.

- Eliminates the need to evacuate tanks or cylinders to repair the MultiBonnet[®] packing.
- Two section design allows repair of MultiBonnet[®] assemblies on active propane systems without interruption in gas service or shutting off appliances downstream. This helps to prevent time consuming relighting of pilots, special appointments, and call backs.
- Cost of replacing the MultiBonnet[®] packing is only 1/3 as much as replacing a complete bonnet assembly—not including time cost savings, which can be substantial.

- Available on certain new Multivalves[®] and service valves as well as repair assemblies for many existing RegO valves.
- UL listed as a component of valve assembly.

Here's How The MultiBonnet® Works

- When the valve is fully open, only the lower stem will rise and backseat against the teflon washer which isolates the upper packing.
- This allows you to remove the upper packing nut, which contains the o-rings, and replace it while the valve is fully open and gas service not interrupted.

С



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

Application

These Multivalves® are designed for use in single opening ASME containers equipped with a $2\frac{1}{2}$ " 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.

Features

- The most complete Multivalve® assembly in the LP-Gas industry.
- Combines low emission double back check filler valve, vapor equalizing valve, pressure relief valve, service valve, fixed liquid level gauge, "junior" sized float gauge flange opening and a plugged pressure gauge opening.
- Double back check filler valve is low emission, 2.13cc at disconnection with no reduction in fill rates.
- Designed for installation of a ¼" FNPT pressure gauge or pressure gauge connection. The pressure test port will communicate to the downstream side of the service valve.
- PG8475RL Version: With the service valve closed the pressure test/Presto-Tap® port is isolated from the container. This will allow a high pressure leak test to be conducted without disconnecting the pigtail from the service valve. For more information see page C12.
- Vapor equalizing valve with excess flow has increased capacity matched to the filler valve.
- Internal threads accommodate 2¹/₂" M. NPT riser pipe connection and a ³/₄" F. NPT connection for a customer furnished liquid baffle tube.
- · MultiBonnet® allows quick and easy repair of bonnet.

Materials

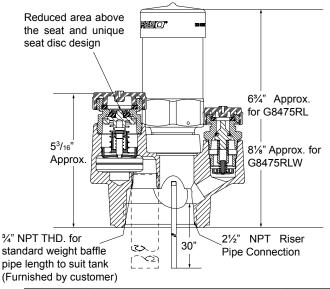
С

Handwheel Aluminum Die Cast
Valve Stems Brass
O-Rings Resilient Rubber
Seat Disc (shut-off valve) Nylon
Seat Disc (other) Resilient Rubber
Relief Spring Stainless Steel





PG8575RL



	Appro	oximate Filling l	Rate Liquid Flo	w, GPM						
		Pressure Drop Across Valve								
Part Number	10 PSIG	25 PSIG	50 PSIG	100 PSIG						
G8475RL										
G8475RLW	42	72	98	125						
PG8475RL										

Ordering Information

				Relief		qualizing nection	Float	Fixed Liquid	Dip		Press	ure Relief Valve				
Part Number	Container Connection	Service Connection	Filling Connection			UL Listed	Gauge Flange	Level Vent	Tube		be	lube	a Part	Flow Capacity		Ready To Go™
				Height	Size	Closing Flow	Opening		Length	Setting	Number	UL	ASME			
G8475RL														Plugged		
**DG8475RL				6¾"		4200 CFH	Fits				M3131G	0000 00FM air	1939 SCFM, air			
PG8475RL	21⁄2" F. NPT	F. POL (CGA 510)	1¾" M. ACME		1¼" M. ACME	@ 100	JUNIOR"	Yes	30"*	250 PSIG	W3131G			Yes		
**DP8475RL					PSIG	size							165			
*G8475RLW				8½"							MV3132G	3995 SCFM, air	n/a	Plugged		

*Dip tube not installed, may be cut by customer to desired length. ** 72 Orifice low emission version is also available.

C6



ASME Multivalves® for Vapor Withdrawal 8593AL

Application

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.

Features

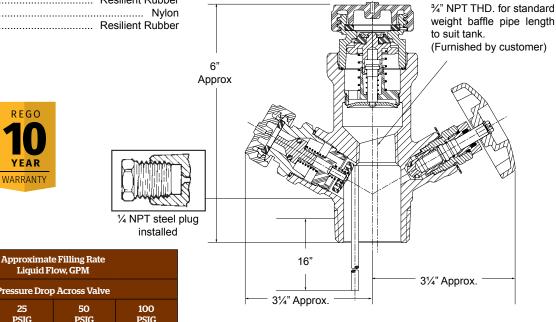
- Combines low emission double back check filler valve, vapor equalizing valve, service valve, fixed liquid level and a plugged pressure gauge opening.
- Double back check filler valve is low emission, 2.13cc at • disconnection with no reduction in fill rates.
- Includes plugged, 1/4" F. NPT gauge boss. •
- "Y" shape configuration allows for ease of operation with all valves and gauges easily accessible at all times.
- Large 21/16" hex wrenching boss on center column provides ease • of installation in tank coupling.
- MultiBonnet® allows quick and easy repair of bonnet.



8593AL

Materials

Body	Forged Brass
Handwheel	Aluminum Die Cast
Valve Stem	Brass
O-Ring	Resilient Rubber
Seat Disc (shut-off valve)	Nylon
	Resilient Rubber



Liquid Filling Rates

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

Ordering Information

	Container	Service	Filling	Vapor Equ	Vapor Equalizing Connection		Dip Tube	For Use In Containers w/	
Part Number	Connection	Connection	Connection	Connection Size	UL Listed Closing Flow	Level Vent Valve Style	Length	Surface Area Up To:	
8593AL16.0	1½" M. NPT	F. POL (CGA 510)	1³⁄4" 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.



С

DOT Multivalve® for Liquid Withdrawal 8555DL

Application

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.

Features

- Incorporates service valve, high capacity filler valve with integral • back check, fixed liquid level gauge, liquid withdrawal with excess flow check and pressure relief valve in one single unit.
- CGA 555 service connection minimizes accidental connection to vapor service systems.
- Furnished with 44" long, 1/2" O.D. brass liquid withdrawal tube. •
- Liquid withdrawal tube incorporates a ball check excess flow valve • that opens by allowing vapor, not liquid, to equalize pressure.
- ¹¹/₈" wrenching flats.

Materials

C

Body	Forged Brass
Handwheel	Aluminum Die Cast
Valve Stems	Brass
O-Rings	Resilient Rubber
Seat Disc (shut-off valve)	Nylon
Seat Disc (others)	Resilient Rubber
Relief Spring	Stainless Steel



Liquid Filling Rates

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

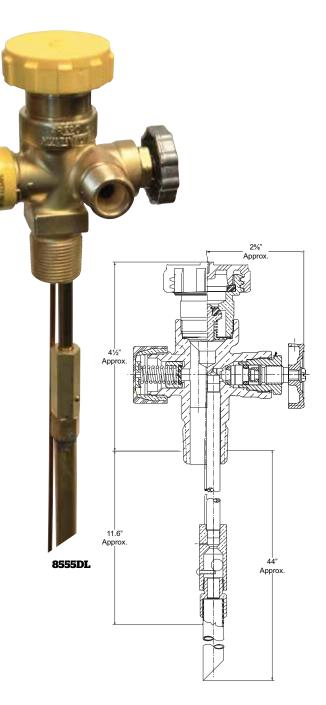
Ordering Information

Part 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	³∕₄" 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.

****70 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

Application

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.

Features

- Incorporates service valve, high capacity filler valve with integral back-check, fixed liquid level gauge and pressure relief valve in one single unit.
- Filler Valve is high capacity with integral back check. •
- Heavy duty O-ring stem seal provides positive leak proof seal. •
- Tapered nylon shut-off seat disc in fully confined seat ensures ٠ easy, leak-free, positive shut-off.
- 1¹/₈" wrenching flats.
- The MultiBonnet® option allows quick and easy repair of bonnet.

Materials

Body	Forged Brass
Handwheel	
Valve Stems	Brass
O-Rings	Resilient Rubber
Seat Disc (shut-off valve)	Nylon
Seat Disc (others)	
Relief Spring	Stainless Steel

Liquid Filling Rates

	Approximate Filling Rate Liquid Flow, GPM						
		Pressure Drop Across Valve					
Part Number	10 PSIG	25 PSIG	50 PSIG	100 PSIG			
**6555D Series							
**6555R Series	8	23	34	42			
**8555D Series	°	23	54	42			
**8555R Series							

Ordering Information

	For Us		For Use In	Use In					Pressure Relief Valve		
			Containers with Size Up	Dip Tube Length w/	Container	Service	Tilling	Fixed Liquid Filling Level Vent		Flow Ca	pacity*
Part Number	rt Number Bonnet Style Application		To:	Deflector	Connection	Connection	Connection	Valve	Setting	UL Listing	ASME
**6555R10.6	MultiBonnet®		25 ft ² surface	10.6"							
**6555R11.6	MultiBonnet®	ASME	ASME area or 60 Containers gallons water capacity	11.6"	3/"		13/4"	Yes	250	793	700
**6555R12.0	MultiBonnet®	Containers		12.0"		F. POL			PSIG	SCFM, air	SCFM, air
**8555D10.6	Standard	d		10.6"	M. NGT	(CGA 510)	M. ACME				
**8555R10.6	MultiBonnet®	DOT	200 lbs.			· · · ·	,		375	- (-	n/a
**8555D11.6	Standard	Cylinders	Propane **	11.6"					PSIG	n/a	n/a
**8555R11.6	MultiBonnet®			11.0							

REGO

YEAR

WARRANTY

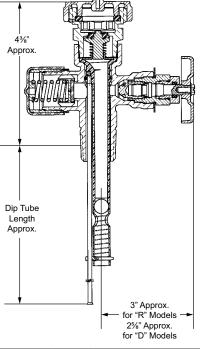
*Per CGA Pamphlet S-1.1. **72 orifice low emission version is also available.

100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com +1 (336) 449-7707









C9

С

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

Application

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.

Features 6542 and 6543

- Incorporates high capacity filler valve with double back checks, service valve, fixed liquid level gauge, pressure relief valve and built-in baffle tube into one compact unit.
- ٠ Higher filling capacity is combined with back check protection by placing the secondary back check at the bottom of the baffle tube, creating a larger flow area through the body.
- Pre-drilled hole in 11/4" wrenching flat accepts a drive screw for • attaching relief cap and chain.
- With the Service Valve closed the Pressure Test / Presto-Tap® • port is isolated from the container. This will allow a high pressure leak test to be conducted without disconnecting the pigtail from the service valve. For more information, see page C12 on this feature.

Features 6532 and 6533

- Similar but smaller than the 6542 and 6543, these are generally used for replacement on existing containers with 3/4" NGT openings.
- Secondary back check placed in the body of the valve to help • minimize reverse flow in the event the upper back check shears off or requires replacement.
- The MultiBonnet® option allows quick and easy repair of bonnet.

Materials

C

Body	Forged Brass
Handwheel	Aluminum Die Cast
Valve Stems	Brass
O-Rings	Resilient Rubber
Seat Disc (shut-off valve)	Nylon
Seat Disc (others)	
Relief Spring	Stainless Steel

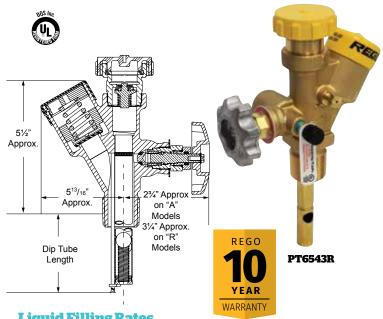
Ordering Information

Part Number	Bonnet Style		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		3⁄4" M. NGT							1180													
6532R12.0	MultiBonnet®		74 WI. NOT							1100	Plugged												
6542A12.0	Standard	ASME*					12.0"	250	-														
PT6542A12.0	Otandard	AOME	1" M. NGT				12.0	PSIG	-	1530	Yes												
6542R12.0	MultiBonnet®					I WI. NGT							1000	Plugged									
PT6542R12.0	MultiBolinet®										Yes												
6533A10.5	Standard		¾" M. NGT						10.5"				1										
6533R10.5	MultiBonnet®	3⁄4" M		¾" M. NGT F. POL (CGA 510)	F. POL 1¾"	Knurled	10.5	-															
6533A11.7	Standard						11.7"				Plugged												
6533R11.7	MultiBonnet®				M. ACME	Kilulieu	11.7																
6543A11.1	Standard															1							
PT6543A11.1	Standard	DOT					11.1"	375	420 lbs. Propane	-	Yes												
6543R11.1	MultiDespecto	DOT					11.1	PSIG			Plugged												
PT6543R11.1	MultiBonnet®										Yes												
6543A11.7	Chandard		1" M. NGT								Plugged												
PT6543A11.7	Standard						44 7"				Yes												
6543R11.7	MultiDemate						11.7"				Plugged												
PT6543R11.7	MultiBonnet®										Yes												

** Per CGA Pamphlet S-1.1.

C10





Liquid Filling Rates

	Approxii	nate Filling F	late Liquid	Flow, GPM
		Pressure Dro	p Across Valv	7e
Part Number	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	10	23	28
6533A11.7/6533R11.7		16	23	28
6543A11.1/6543R11.1				
6543A11.7/6543R11.7				
PT6542A12.0/6542R12.0	23	32	46	57
PT6543A11.1/6543R11.1				
PT6543A11.7/6543R11.7				

ASME Multivalves[®] for Vapor Withdrawal 7556R

Application

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.

Features

- Combines service valve, vapor equalizing valve with excess flow, fixed liquid level gauge and plugged pressure gauge opening in one unit.
- Rugged, 1" wrenching boss on center column minimizes possible damage during installation.
- Low profile design extends only 3" above the container boss, • allowing use of smaller domes.
- "Y" shape configuration allows for ease of operation with all valves • and gauges easily accessible at all times.
- Designed for installation of a 1/6" M.NPT pressure gauge or pressure gauge connection. The pressure test port will communicate to the downstream side of the service valve.
- MultiBonnet® allows quick and easy repair of bonnet.
- PT7556R version: With the service valve closed the pressure test/ Presto-Tap® port is isolated from the container. This will allow a high pressure leak test to be conducted without disconnecting the pigtail from the service valve. For more information see page C12.

Materials

Body	Forged Brass
Handwheel	
Valve Stems	Brass
O-Rings	Resilient Rubber
Seat Disc (shut-off valve)	Nylon
Seat Disc (others)	



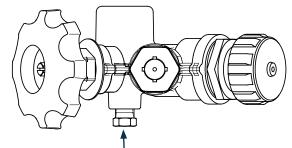
PT7556 R Multivalve®

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

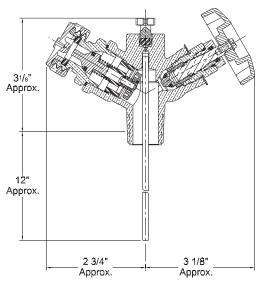


PT7556R version with the service valve closed the pressure test port will be isolated from the container. This will allow a high-pressure leak test to be conducted without disconnecting the pigtail from the service valve.

7556R Series with 1/8" FNPT pressure test port.



1/8" F.NPT Pressure Test Port is isolated from the container when the service valve is closed.



Ordering Information

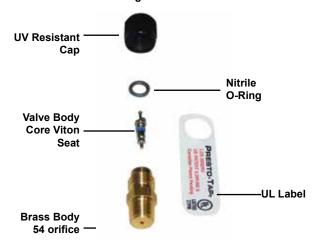
			Vapor Equalization Connection				
Part Number	Container Connection	Service Connection	Connection Size	UL Listed Closing Flow	Fixed Liquid Level Vent Valve	Dip Tube Length	Ready to Go™
7556R12.0	3⁄4" M. NGT	F. POL (CGA 510)	1¼" M. ACME	4200 CFH @ 100 PSIG	Yes	12"**	Plugged
PT7556R12.0	/4 IVI. NGT	F. FOL (CGA 510)	1 /4 IVI. ACIVIE	4200 CFH @ 100 PSIG	185	12	Yes

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



DOT and ASME Multivalves® Info Page

Patented LDS200RV Design Features





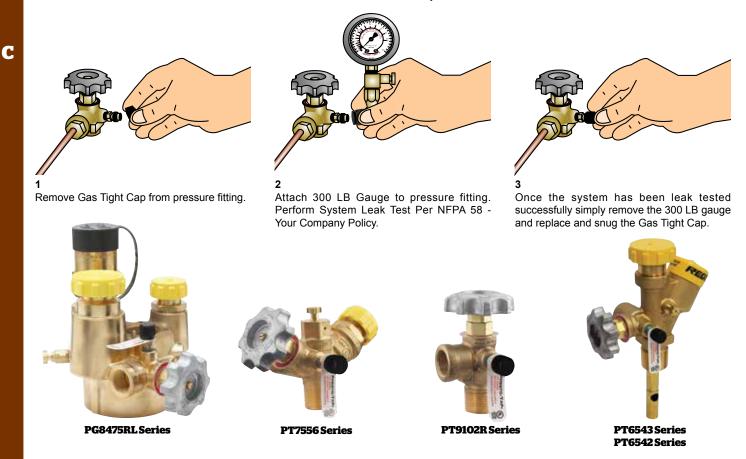
US Patent # 6,209,562

The Patented Presto-Tap LDS2000RV pressure fitting is designed to be one of the most cost efficient and simplest methods to quickly and easily perform system pressure checks.

- Patented & UL Listed.
- Provides instant ROI after only one use.
- Will reduce fugitive emissions by up to 90%.
- Can be installed into valves, regulators & appliances.
- Eliminates the need to break the system to perform a leak test.

Presto-Tap System Leak Test Procedure

The Presto-Tap fitting installed into the test port located on the downstream side of the service valve is designed to allow quick and easy access when performing a system leak test. It eliminates the need to break the system to install expensive test block apparatus. The following PT9102R series service valve shown here, illustrates how to use the Presto-Tap fitting to perform a high-pressure system leak test. This same procedure applies to the PT7556R, PG8475, PT6542 and PT6543 series valves not shown here that carry the same feature.



Only trained qualified personnel should perform leak testing. As for any LP-Gas installation, service or repair it is required that time be taken to ensure safety and all federal, state and local regulations are met.

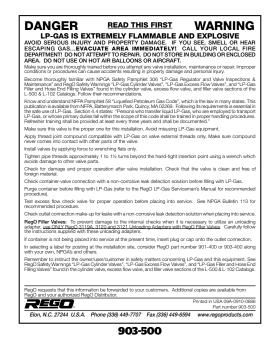


Adhesive Warning Label 903-500

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.

Part Number	
903-500	Adhesive Label Primarily for Cylinder and Service Valves







Section D Pressure Relief Valves and Relief Valve Manifolds

D

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 catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH_a). 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 NH₂ service only.

c.All other products including "A" prefix are suitable for use with LP-Gas & NH, 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. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH3. If you have a need for use of another application, contact RegO, 100 RegO Drive, Elon, NC 27244, (336) 449-7707 ecii@regoproducts.com before proceeding.

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.

D



Safety Warning – LP-Gas Pressure Relief Valves

Purpose

In its continuing quest for safety, RegO is publishing safety warning bulletins explaining the hazards associated with the use, misuse and aging of RegO Products. LP-Gas dealer managers and service personnel must realize that the failure to exercise the utmost care and attention in the installation, inspection and maintenance of these products can result in personal injury and property damage.

The National Fire Protection Association NFPA 58 Liquified 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.

This Warning Bulletin should be provided to all purchasers of RegO and all personnel using or servicing these products. Additional copies are available from RegO and your Authorized RegO Distributor.

AWARNING

What You Must Do:

- Read This Entire Warning
- **Install Properly**
- **Inspect Regularly**

Scope

D

This bulletin applies to pressure relief valves installed on stationary, portable and cargo containers and piping systems utilized with these containers. This bulletin is not intended to be an exhaustive treatment of this subject and does not cover all safety practices that should be followed in the installation and maintenance of LP-Gas systems. Each LP-Gas employee should be provided with a copy of NPGA Safety Pamphlet 306 "LP-Gas Regulator and Valve Inspection and Maintenance" as well as the NPGA "LP-Gas Training Guidebooks" relating to this subject.

Warnings should be as brief as possible. If there is a simple warning, it is:

Inspect pressure relief valves regularly. Replace unsafe or suspect valves immediately. Use common sense.



Inspect Regularly

A pressure relief valve discharges when some extraordinary circumstance causes an over pressure condition in the container. If a pressure relief valve is known to have discharged, the relief valve, as well as the entire system, should be immediately and thoroughly inspected to determine the reason for the discharge. In the case of discharge due to fire, the valve should be removed from service and replaced.

Relief valves should be inspected each time the container is filled but no less than once a year. If there is any doubt about the condition of the valve, it must be replaced.

Eye protection must be worn when performing inspection on relief valves under pressure. Never look directly into a relief valve under pressure or place any part of your body where the relief valve discharge could impact it. In some cases a flashlight and a small mirror are suggested to assist when making visual inspections.

To Properly Inspect A Pressure Relief Valve, Check For:

- 1. A rain cap. Check protective cap located in valve or at end of pipeaway for a secure fit. Protective caps help protect the relief valve against possible malfunction caused by rain, sleet, snow, ice, sand, dirt, pebbles, insects, other debris and contamination. REPLACE DAMAGED OR MISSING CAPS AT ONCE AND KEEP A CAP IN PLACE AT ALL TIMES.
- 2. Open weep holes. Dirt, ice, paint and other foreign particles can prevent proper drainage from the valve body. IF THE WEEP HOLES CANNOT BE CLEARED, REPLACE THE VALVE.
- 3. Deterioration and corrosion on relief valve spring. Exposure to high concentrations of water, salt, industrial pollutants, chemicals and roadway contaminants could cause metal parts to fail. IF THE COATING ON THE RELIEF VALVE SPRING IS CRACKED OR CHIPPED, REPLACE THE VALVE.

- 4. Physical damage. Ice accumulations and improper installation could cause mechanical damage. IF THERE ARE ANY INDICATIONS OF DAMAGE, REPLACE THE VALVE.
- 5. Tampering or readjustment. Pressure relief valves are factory set to discharge at specified pressures. IF THERE ARE ANY INDICATIONS OF TAMPERING OR READJUSTMENT, REPLACE THE VALVE.
- 6. Seat leakage. Check for leaks in the seating area using a noncorrosive leak detection solution. REPLACE THE VALVE IF THERE IS ANY INDICATION OF LEAKAGE. Never force a relief valve closed and continue to leave it in service. This could result in damage to the valve and possible rupture of the container or piping on which the valve is installed.
- 7. Corrosion and contamination. REPLACE THE VALVE IF THERE ARE ANY SIGNS OF CORROSION OR CONTAMINATION ON THE VALVE.
- 8. Moisture, foreign particles or contaminants in the valve. Foreign material such as paint, tar or ice in relief valve parts can impair the proper functioning of the valves. Grease placed in the valve body may harden over time or collect contaminants, thereby impairing the proper operation of the relief valve. DO NOT PLACE GREASE IN THE VALVE BODY. REPLACE THE VALVE IF THERE ARE ANY INDICATIONS OF MOISTURE OR FOREIGN MATTER IN THE VALVE.
- 9. Corrosion or leakage at container connection. Check container to valve connection with a non-corrosive leak detection solution. REPLACE THE VALVE IF THERE IS ANY INDICATION OF CORROSION OR LEAKAGE AT THE CONNECTION BETWEEN THE VALVE AND CONTAINER.

CAUTION: Never plug the outlet of a pressure relief valve. Any device used to stop the flow of a properly operating pressure relief valve that is venting an overfilled or overpressurized container - raises serious safety concerns!

Replace Pressure Relief Valves In 10 Years Or Less

The safe useful life of pressure relief valves can vary greatly depending on the environment in which they live.

Relief valves are required to function under widely varying conditions. Corrosion, aging of the resilient seat disc and friction all proceed at different rates depending upon the nature of the specific environment and application. Gas impurities, product misuse and improper installations can shorten the safe life of a relief valve.

Predicting the safe useful life of a relief valve obviously is not an exact science. The conditions to which the valve is subjected will vary widely and will determine its useful life. In matters of this kind, only basic guidelines can be suggested. For example, the Compressed Gas Association Pamphlet S-1.1 Pressure Relief Device Standards -Cylinders, section 9.1.1 requires all cylinders used in industrial motor fuel service to have the cylinder's pressure relief valves replaced by new or unused relief valves within twelve years of the date of manufacture of cylinder and within each ten years thereafter. The LP-Gas dealer must observe and determine the safe useful life of relief valves in his territory. The valve manufacturer can only make recommendations for the continuing safety of the industry.

WARNING: Under normal conditions, the useful safe service life of a pressure relief valve is 10 years from the original date of manufacture. However, the safe useful life of the valve may be shortened and replacement required in less than 10 years depending on the environment in which the valve lives. Inspection and maintenance of pressure relief valves is very important. Failure to properly inspect and maintain pressure relief valves could result in personal injuries or property damage.

For Additional Information Read:

1. CGA Pamphlet S-1.1 Pressure Relief Standards - Cylinders, Section 9.1.1.

- 2. RegO Catalog L-500.
- 3. RegO Warning # 8545-500.

4. NPGA Safety Pamphlet 306 "LP-Gas Regulator and Valve Inspection and Maintenance" and "LP-Gas Training Guidebooks".

5. NFPA#58, "Storage and Handling of Liquefied Petroleum Gases".

6. NFPA # 59, "LP-Gases at Utility Gas Plants".

7. ANSI K61.1 Safety Requirements for Storage and Handling of Anhydrous Ammonia.

D



Requirements for Pressure Relief Valves

Every container used for storing or hauling LP-Gas and anhydrous ammonia must be protected by a pressure relief valve. These valves must guard against the development of hazardous conditions which might be created by any of the following:

Hydrostatic pressures due to overfilling or the trapping of liquid between two points.

High pressures resulting from exposure of the container to excessive external heat.

High pressures due to the use of incorrect fuel.

High pressures due to improper purging of the container.

Consult NFPA Pamphlet #58 for LP-Gas and ANSI #K61.1 for anhydrous ammonia, and/or any applicable regulations governing the application and use of pressure relief valves.

Operation of Pressure Relief Valves

Pressure relief valves are set and sealed by the manufacturer to function at a specific "start-to-discharge" pressure in accordance with regulations. This set pressure, marked on the relief valve, depends on the design requirement of the container to be protected by the relief valve. If the container pressure reaches the start-to-discharge pressure, the relief valve will open a slight amount as the seat disc begins to move slightly away from the seat. If the pressure continues to rise despite the initial discharge through the relief valve, the seat disc will move to a full open position with a sudden "pop". This sharp popping sound is from which the term "popaction" is derived.

Whether the relief valve opens a slight amount or pops wide open, it will start to close if the pressure in the container diminishes. After the pressure has decreased sufficiently, the relief valve spring will force the seat disc against the seat tightly enough to prevent any further escape of product. The pressure at which the valve closes tightly is referred to as the "re-seal" or "blow-down" pressure. Generally, the re-seal pressure will be lower than the start-to-discharge pressure. The re-seal pressure can be, and in most cases is, adversely affected by the presence of dirt, rust, scale or other foreign particles lodging between the seat and disc. They interfere with the proper mating of the seat and disc and the pressure in the container will usually have to decrease to a lower pressure before the spring force embeds foreign particles into the resilient seat disc material and seals leak-tight. The degree by which the presence of dirt decreases the re-seal pressure, is, of course, dependent on the size of the interfering particles.

Once particles have been trapped between the disc and seat, the startto-discharge pressure is also affected. For example, the pressure relief valve will start-to-discharge at some pressure lower than its original startto-discharge pressure. Again, the pressure at which the valve will start to discharge is dependent on the size of the foreign particles.

In the case of a pressure relief valve that has opened very slightly due to a pressure beyond its start-to-discharge setting, the chances of foreign material lodging between the seat and disc is negligible although the possibility is always present. If the relief valve continues to leak at pressures below its start-to-discharge setting it must be replaced.

Relief valves which have "popped" wide open must also be checked for foreign material lodged between the seat and disc, as well as for proper reseating of the seat and disc. Continued leakage at pressures below the start-to-discharge setting indicate the relief valve must be replaced.

The pressure at which a pressure relief valve will start to discharge should never be judged by the reading of the pressure gauge normally furnished on the container.

The reasons for this are two-fold:

If the relief valve is called upon to open, the resulting discharge produces an increased vaporization of the product in the container with the result that the liquid cools to a certain extent and the vapor pressure drops. A reading taken at this time would obviously not indicate what the pressure was when the relief valve opened.

The pressure gauges usually on most containers provide somewhat approximate readings and are not intended to provide an indication of pressure sufficiently accurate to judge the setting of the relief valve.

Repair and Testing

RegO Pressure Relief Valves are tested and listed by Underwriters Laboratories, Inc., in accordance with NFPA Pamphlet #58. Construction and performance of RegO Pressure Relief Valves are constantly checked at the factory by U.L. inspectors. Therefore, testing of RegO Pressure Relief Valves in the field is not necessary.

Any pressure relief valve which shows evidence of leakage, other improper operation or is suspect as to its performance must be replaced immediately using approved procedures.

Pipe-Away Adapters

Pipe-away adapters are available for most RegO Pressure Relief Valves, where it is required or desirable to pipe the discharge above or away from the container. Each adapter is designed to sever if excessive stress is applied to the vent piping - thus leaving the relief valve fully operative.

Weep hole deflectors are available on larger relief valves. These deflectors provide protection against flame impinging on adjacent containers which could occur from ignition of LP-Gas escaping through the relief valve drain hole when the valve is discharging.

Selection of RegO Pressure Relief Valves For ASME Containers

The rate of discharge required for a given container is determined by the calculation of the surface area of the container as shown in "Chart A" for LP-Gas and "Chart B" for anhydrous ammonia. See page D9.

Setting - The set pressure of a pressure relief valve depends upon the design pressure of the container. Refer to NFPA Pamphlet #58 for more information.

Selection of RegO Pressure Relief Valves for DOT Containers

To determine the proper relief valve required for a given DOT container, refer to the information shown with each pressure relief valve in the catalog. This information will give the maximum size (pounds water capacity) DOT container for which the relief valve has been approved.

Setting - The standard relief valve setting for use on DOT cylinders is 375 PSIG.



Ordering RegO Pressure Relief Valves

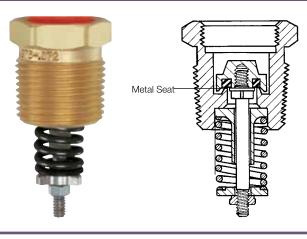
When ordering RegO Pressure Relief Valves, be sure you are certain that it will sufficiently protect the container as specified in the Foreword section, NFPA Pamphlet #58 and any other applicable standards or specifications.

All adapters, protective caps and deflectors must be ordered separately. unless specified otherwise.

Part Number Explanation

Products carrying an "A" or "AA" prefix contain no brass parts and are suitable for NH3. Hydrostatic relief valves carrying an "SS" prefix are of stainless steel construction and are suitable for use with NH3. The products are also suitable for use with LP-Gas service except relief valves carrying an "AA" prefix. These are of partial aluminum construction and are listed by U.L. for NH3 service only.

Safety Information - Relief Valves Don't Last Forever



RegO Relief Valve for lift truck containers

The internal spring is protected from external contamination but the other external parts must be protected with a cap. Circular rubber seat disc ring seats on brass shoulder approximately 3/64" wide.

This article was prepared by the engineers of RegO products, after technical consultation with valve manufacturers and other industry sources. Its purpose is to alert and remind the LP-Gas industry of the importance of proper maintenance of pressure relief valves. It applies most particularly to separate relief valves with emphasis on lift truck and motor fuel containers where the hazards of contamination are greatest.

Since the beginning of our industry, manufacturers of equipment and distributors of LP-Gas have worked diligently to provide a safe environment for employees and consumers. The history of the industry testifies to the success of their efforts.

But the industry is now entering its sixth decade and equipment installed years ago is failing because of age. Every year, additional equipment will fail unless it is replaced. Pressure relief valves are no exception. The valve manufacturers and LP-Gas dealers are naturally concerned about this situation.

Causes of Relief Valve Failure

A relief valve is designed to have a safe useful life of many years, but that life will vary greatly depending on the environment in which it "lives." To attempt to estimate the safe useful life of a relief valve and the effect of environment on its performance, a brief discussion of the materials used and the nature of its performance should be helpful.

Relief valve bodies are generally made of brass or steel. Springs are made from various spring wires which are plated or painted, or made of stainless steel. Valve seat discs are made of synthetic rubber compounds which will remain serviceable in an atmosphere of LP-Gas. Relief valve stems, guides, etc. are generally made from brass or stainless steel.

Relief valves, over the years, may not function properly in several ways:

They may leak at pressures below the set pressure.

They may open and fail to properly reseat.

They may open at higher than the set pressure.

These failures to function properly are due primarily to four "environmental" conditions:

- 1. Corrosion of metal parts (particularly springs) which result in the component parts failing to perform.
- 2. Deterioration of the synthetic rubber seat disc material.
- 3. Clogging or "cementing" of the movable relief valve components so that their movement is restricted.
- 4. Debris on the valve seat after the relief valve opens, effectively preventing the valve from reseating.

Corrosion is caused by water, corrosive atmospheres of salt and industrial pollutants, chemicals, and roadway contaminants. High concentrations can attack the metal parts vigorously. No suitable metals are totally resistant to such corrosion.

Synthetic rubber and seat disc materials can also be attacked by impurities in the gas and corrosive atmospheres, particularly those with sulphur dioxide. There are no suitable rubber materials which resist all contaminants.

"Cementing" of relief valve parts has been caused by normal industrial atmospheres containing particles of dirt, iron oxide, metal chips, etc. combined with water, oil, or grease. Ice collecting in recessed valves could cause relief valves to fail to open. Paint and tar in relief valves also cause failure to function properly.



D

Debris on valve seats which prevents reseating can occur whenever the valve collects material in the relief valve opening which is not blown out when the relief valve opens.

Inspection of Relief Valves

Unfortunately many of the above problems may not be easily observed because of the compact nature of some relief valve designs.

A casual visual inspection of a relief valve may not necessarily disclose a potential hazard. On the other hand, a visual inspection will often disclose leakage, corrosion, damage, plugging and contamination.

If additional light is required, a flashlight should be used.

If there is any doubt about the condition of the valve, or if there is a suspicion that the valve has not been protected by a cap for some time, it should be replaced before refilling the container.

Eye protection must be used when examining relief valves under pressure

Smaller Relief Valves

The industry's requirement for a small full-flow safety relief valve challenged design engineers some years ago:

The valve must be leakproof before operating and must reseat leakproof each time after each operation. The only known satisfactory seat disc materials to accomplish this have been special synthetic rubber compounds.

- Valve discharge settings are relatively high and require high spring loads to keep the valve closed.
- · Because of the small interior diameter of the valve, the round metal seating area is small.

All of these parameters may result in the development of a significant indentation in the rubber seat disc after some years. The seat disc may have a tendency to cling to the metal seat. This may result in the relief valve not opening at the set pressure as the seat disc ages.

Tests have been conducted on small LP-Gas relief valves of all the U.S. valve manufacturers. Valves over 10 years old were removed from service and tested to determine at what pressure the valves discharged. In many of the valves, the pressure required to open the valve exceeded the set pressure.

Because of the critical importance of proper functioning of relief valves, common sense and basic safety practice dictate that small relief valves should be replaced in about 10 years.

Some larger relief valves on bulk storage tanks can be replaced with rebuilt valves obtained from the manufacturers. Small relief valves cannot be rebuilt economically, thus, new valves are required. Most LP-Gas dealers find it impractical and costly to test relief valves and field repairing of relief valves is not sanctioned by the manufacturers, Underwriter's Laboratories, or ASME.

Use of Protective Caps

Many of the problems that cause inoperative relief valves could be prevented if proper protective caps were kept in place at all times.

Collection of debris would be prevented. Contamination caused by corrosive atmospheres would be reduced. Water collection in the valves would be eliminated. Relief valves protected with caps from the time of installation in the container would obviously have a much longer safe useful life, but they still should be replaced at some time because of the gradual deterioration of the rubber seat disc due to age alone.

NFPA 58 requires that protective caps must be kept in place as a protective cover on some relief valves. This is a mandatory requirement on several types of relief valves. The fact that use of caps may make inspection more time consuming should not be viewed as a reason for either not using the caps, or not making required periodic inspections.

In the event a relief valve has been used without the required cap, the relief valve should be thoroughly inspected and the required cap placed on the relief valve. If damage is noted to the relief valve, it should be replaced and the replacement valve should be capped. Relief valves with pipe-away adapters or deflectors used on lift truck containers have been found choked with debris. Inspection of relief valves with deflectors can only be accomplished by removing the deflector.

Similarly, larger relief valves with vent stacks have been found choked with debris and water. Valves have failed because springs rusted through. The weep hole was plugged. It was obvious that the relief valves had not been inspected in many years. These conditions must be alleviated by periodic inspections and replacement of relief valves as needed.

Summary Recommendations

Predicting the safe useful life of a relief valve is obviously not an exact science. The conditions to which the valve is subjected will vary widely and will largely control its life. In matters of this kind, only basic guidelines can be suggested. The LP-Gas dealer must observe and determine the safe useful life of relief valves in his territory. The valve manufacturers can only make recommendations for the continuing safety of the industry:

- 1. Make sure proper protective caps are in place at all times. Do not release a container for service or fill a container unless it has a protective cap in place.
- 2. Replace relief valves periodically, at least every 10 years. Every relief valve has the month and year of manufacture stamped on the valve. This is most particularly true of small separate relief valves.
- 3. Carefully inspect valves each time before the container is filled. Replace valves showing any signs of contamination, corrosion, damage, plugging, leakage, or any other problem. Eye protection must be used when examining relief valves under pressure.



Minimum Required Rate of Discharge for Pressure Relief Valves **Used on ASME Containers**

Chart A — Minimum Required Rate of Discharge for LP-Gas Pressure Relief Valves Used on

ASME Containers

From NFPA Pamphlet #58, Appendix D (1986).

Minimum required rate of discharge in cubic feet per minute of air at 120% of the maximum permitted start-to-discharge pressure for pressure relief valves to be used on containers other than those constructed in accordance with Interstate Commerce Commission specification.

Surface Area Sq. Ft.	Flow Rate SCFM Air	Surface Area Sq. Ft.	Flow Rate SCFM Air										
20 or less	626	85	2050	150	3260	230	4630	360	6690	850	13540	1500	21570
25	751	90	2150	155	3350	240	4800	370	6840	900	14190	1550	22160
30	872	95	2240	160	3440	250	4960	380	7000	950	14830	1600	22740
35	990	100	2340	165	3530	260	5130	390	7150	1000	15470	1650	23320
40	1100	105	2440	170	3620	270	5290	400	7300	1050	16100	1700	23900
45	1220	110	2530	175	3700	280	5450	450	8040	1100	16720	1750	24470
50	1330	115	2630	180	3790	290	5610	500	8760	1150	17350	1800	25050
55	1430	120	2720	185	3880	300	5760	550	9470	1200	17960	1850	25620
60	1540	125	2810	190	3960	310	5920	600	10170	1250	18570	1900	26180
65	1640	130	2900	195	4050	320	6080	650	10860	1300	19180	1950	26750
70	1750	135	2990	200	4130	330	6230	700	11550	1350	19780	2000	27310
75	1850	140	3080	210	4300	340	6390	750	12220	1400	20380		
80	1950	145	3170	220	4470	350	6540	800	12880	1450	20980		

Surface area =Total outside surface area of container in square feet.

When the surface area is not stamped on the name plate or when the marking is not legible, the area can be calculated by using one of the following formulas:

- 1. Cylindrical container with hemispherical heads. Area (in sq. ft.) = overall length (ft.) x outside diameter (ft.) x 3.1416.
- Cylindrical container with semi-ellipsoidal heads. Area (in sq. ft.) = overall length (ft.) + .3 outside diameter (ft.) x outside diameter (ft.) x 3.1416
- Spherical container. Area (in sq. ft.) = outside diameter (ft.) squared x 3 3.1416.

Flow Rate SCFM Air = Required flow capacity in cubic feet per minute of air at standard conditions, 60°F. and atmospheric pressure (14.7 psia). The rate of discharge may be interpolated for intermediate values of surface area. For containers with total outside surface area greater than 2000 square feet, the required flow rate can be calculated using the formula, Flow Rate-SCFM Air = $53.632 A^{0.82}$ Where A = total outside surface area of the container in square feet.

Chart B — Minimum Required Rate of Discharge for Anhydrous Ammonia Pressure Relief Valves Used on ASME Containers

Minimum required rate of discharge in cubic feet per minute of air at 120% of the maximum permitted start-From ANSI K61.1-1981, Appendix A (1981). to-discharge pressure for pressure relief valves to be used on containers other than those constructed in th United St

accordance with United States Department of Transportation cylinder specifications.													
Surface Area Sq. Ft.	Flow Rate SCFM Air	Surface Area Sq. Ft.	Flow Rate SCFM Air										
20	258	95	925	170	1500	290	2320	600	4200	1350	8160	2100	11720
25	310	100	965	175	1530	300	2380	650	4480	1400	8410	2150	11950
30	360	105	1010	180	1570	310	2450	700	4760	1450	8650	2200	12180
35	408	110	1050	185	1600	320	2510	750	5040	1500	8900	2250	12400
40	455	115	1090	190	1640	330	2570	800	5300	1550	9140	2300	12630
45	501	120	1120	195	1670	340	2640	850	5590	1600	9380	2350	12850
50	547	125	1160	200	1710	350	2700	900	5850	1650	9620	2400	13080
55	591	130	1200	210	1780	360	2760	950	6120	1700	9860	2450	13300
60	635	135	1240	220	1850	370	2830	1000	6380	1750	10090	2500	13520
65	678	140	1280	230	1920	380	2890	1050	6640	1800	10330		
70	720	145	1310	240	1980	390	2950	1100	6900	1850	10560		
75	762	150	1350	250	2050	400	3010	1150	7160	1900	10800		
80	804	155	1390	260	2120	450	3320	1200	7410	1950	11030		
85	845	160	1420	270	2180	500	3620	1250	7660	2000	11260		
90	885	165	1460	280	2250	550	3910	1300	7910	2050	11490		

Surface area = Total outside surface area of container in square feet.

When the surface area is not stamped on the name plate or when the marking is not legible, the area can be calculated by using one of the following formulas:

- 1. Cylindrical container with hemispherical heads. Area (in sq. ft.) = overall length (ft.) x outside diameter (ft.) x 3.146.
- 2. Cylindrical container with other than hemispherical heads. Area (in sq. ft.) = overall length (ft.) + .3 outside diameter (ft.) x outside diameter (ft.) x 3.1416.
- 3. Spherical container. Area (in sq. ft.) = outside diameter (ft.) squared x 3.1416.

Flow Rate SCFM Air = Required flow capacity in cubic feet per minute of air at standard conditions, 60°F. and atmospheric pressure (14.7 psia).

The rate of discharge may be interpolated for intermediate values of surface area. For containers with total outside surface area greater than 2,500 square feet, the required flow rate can be calculated using the formula, Flow Rate-SCFM Air = 22.11 A^{0.82} where A = outside surface area of the container in square feet.

Conversion Factor

ft² x 0.092 903 = m² SCFM x 0.028 317 = m³/min ft x 0.304 8 = m

D

General Information

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

Application

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

Features

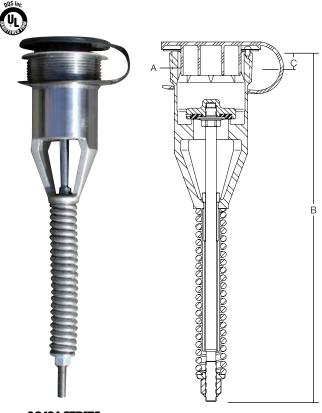
- Low profile design ensures maximum protection against shearing or distortion.
- All functioning parts are located below the level of the container connection to reduce the possibility of damage or tampering.
- Longer spring size designed to minimize stress cracking in service.
- Use of two different materials for stem and guide minimizes the possibility of stem seizure which may occur when similar materials are used.
- Internal octagonal wrenching broach ensures easy installation and removal.
- ASME rated for use with LP-Gas and anhydrous ammonia A8434
 and A8436 Series
- · ASME rated for use with LP-Gas and Propylene VA8436 Series

Materials

D

Body	Stainless Steel
Spring	Stainless Steel
Stem	Stainless Steel
Stem Bushing	17 - 4PH Stainless Steel
Seat Disc (A8434 & A8436 series)	Resilient Synthetic Rubber
Seat Disc (VA8436 series)	Viton





A8434-SERIES

Ordering Information

Part 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	NH3	Propylene	Protective Cap (Included)
A8434G	250	2" M. NPT	91/16"	1/2"	3700	3456	Yes	Yes	No	A8434-11B
A8434N	265		9.716			3659				
A8436G	250	- 3" M. NPT	177⁄8"	3/4"	10210	9598				- A8436-11B
A8436N	265					9839				
VA8436G	250				-	9596		No	Yes	
VA8436N	265					9839		INO		

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



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

Application

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.

Features

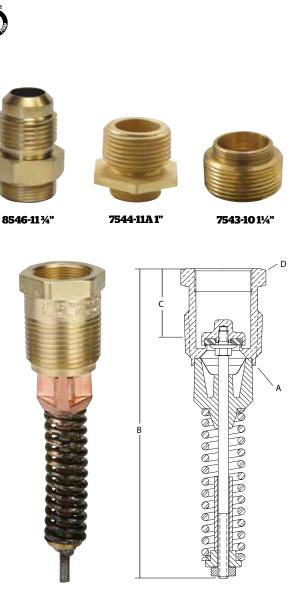
- Assure minimum product loss due to "pop-action" design.
- Recessed design minimizes possibility of damage and tampering. •
- All are threaded to accept RegO Pipeaway Adapters that permit • the addition of a discharge hose or piping.
- ASME rated for use with LP-Gas (except 8544K which meets DOT requirements).
- Specify RegO Relief Valves on all your original equipment motor • fuel container purchases for reliable performance.

Materials

Body	Brass
Spring (8543)	Stainless Steel
Spring (8544)	Coated Steel
Seat Disc	Resilient Rubber

REGO

YEAR WARRANT



8544

Ordering Information

			А	B	вс		С Д		Flow Capacity	v SCFM/Air****		B
Part Number	Container Type	Start To Discharge Setting PSIG	Container Connection M. NPT	Overall Height (Approx.)	Height Above Coupling (Approx.)	Hex Wrenching Section	UL (At 120% of Set Pressure)	ASME (At 120% of Set Pressure)	Protective Cap (Included)	Accessories Pipeaway Adapter		
8546G			3⁄4"	41⁄2"	¹⁵ / ₁₆ "	1 ¹ / ₁₆ "	723	651	11565-26	8546-11		
8544G		250	1"	57/16"	7⁄8" –	1 ⁵ / ₁₆ "	1020	936	7544-41G	7544-11A*		
8543G			1¼"	J ⁷ /16		1 ¹¹ / ₁₆ "	1465	1400	7543-40C	7543-10**		
8546T	ASME		3/4"	41⁄2"	15/16"	1 ¹ / ₁₆ "	880	792	11565-26	8546-11		
8544T		312	1"			1 ⁵ / ₁₆ "	1282	1158	7544-41	7544-11A		
8543T			1¼"	57/16"	7/7	1 ¹¹ / ₁₆ "	1990	1731	7543-40C	7543-10**		
8544A375T	DOT	375	4 "	J'/16	5" 7/8" -	15/ "	NA	1384	7544-41G	7544-11A		
8544K	DOT 375	375	1			1 ⁵ / ₁₆ "	1545***	NA	7544-41	7544-11A		

* 1" M. NPT outlet connection.

** 1¹/₄" 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.



D

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

Application

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."

Features

- Positive stop in the upper body protects against improper insertion of a pipeaway adapter that might interfere with proper operation of the relief valve.
- Internal stem guide eliminates the need for a close fit between the body and poppet, which lessens the chance of clogging due to foreign material.
- Single piece cold-headed stem provides more accurate positioning of working parts for more consistent operation and precise adjustment.
- Two different deflector adapters and a protective cap are available
 as accessories to provide complete protection.
- "Pop-action" design keeps product loss at a minimum.
- Request RegO Relief Valves on all your original equipment forklift cylinders for reliable performance.

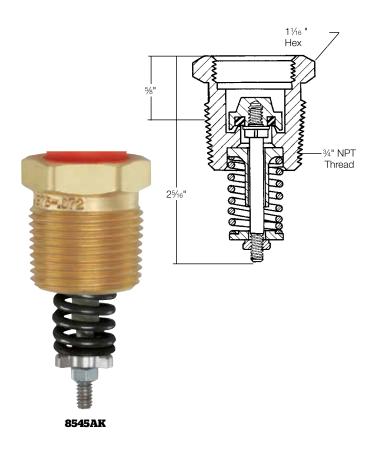






7545-1290° Adapter

7545-14 45° Adapter



Materials

D

Body	Brass
Stem	Stainless Steel
Spring	
Poppet	Brass
Guide	Brass
Seat Disc	Resilient Rubber



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

* 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.

Ordering Information

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

REGO

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Application

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.

Features

- Constructed of non-corrosive materials.
- "Pop-action" design keeps product loss at a minimum.
- ASME rated for use with LP-Gas.
- Request RegO Relief Valves on all your original equipment ASME containers for reliable performance.

Materials

Body	Brass
Spring	Steel
Stem	Stainless Steel
Seat Disc	Resilient Rubber



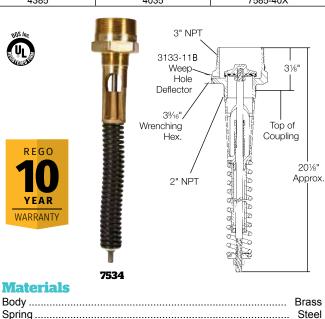
		_	_	-	_	Flow Capaci	ity SCFM/Air	
Part Number	Start To Discharge Setting PSIG	A Container Connection M. NPT	B Overall Height (Approx.)	C Height Above Coupling (Approx.)	D Wrench Hex Section	UL (At 120% of Set Pressure)	ASME (At 120% of Set Pressure)	Protective Cap (Included)
7583G		3/4"	8 ³ ⁄16"	11/16"	1³⁄₄"	1980	1806	7583-40X
8684G	250	1"	9 ³ ⁄ ₈ "	1%"	1 1/8"	2620	2565	8684-40
8685G		1¼"	1111/16"	1 ¹ ¹ / ₁₆ "	2 %"	4385	4035	7585-40X

Application

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.

Features

- High capacity, low turbulence design has a maximum guiding area providing for dependable shut-off after opening.
- Built-in spring stop limits the rise of the seat in full open position • and prevents the spring from going "solid."
- External 3" NPT threaded body allows easy attachment of vent stacks. Optional pipeaway adapter has break-off groove to prevent damage to the relief valve should piping be stressed by damaging winds.
- "Pop-Action" design keeps product loss at a minimum.
- No guiding projections around the seat disc retainer to bind and hinder opening of valve if body is damaged.



Stem Stainless Steel Seat Disc Resilient Rubber

7583G

Ordering Information

			Flow Capaci	ty SCFM/Air*	Acces	sories	
Part Number	Start To Discharge Setting PSIG	Container Connection M. NPT	UL (At 120% of Set Pressure)	ASME (At 120% of Set Pressure)	Protective Cap	Pipeaway Adapter	
7534B	125	0"	6,025	-	7524 402	7524 20**	
7534G***	250	2	11,675	10,422	7534-40X	7534-20**	

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

** 3" F. NPT outlet connection. *** Other seat materials are available.



Toppoppop

Car

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

Application

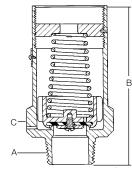
Designed for use as a primary relief valve on ASME above ground and underground containers, bulk plant installations and skid tanks. The 3131 Series may also be used as a primary or secondary relief valve on DOT cylinders, or as a hydrostatic relief valve. All working components of these relief valves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

Features

- "Pop-action" design keeps product loss at a minimum.
- Relief valve designed to automatically reseat firmly after discharge.
- Resilient seat disc provides "bubble-tight" seal.
- 3149 relief valves incorporate integral pipeaway adapter with break off groove that protects the valve from piping stress damage.
- Optional pipeaway adapters have grooves that will break off to protect the relief valve from damage should excess stress be applied to the piping.
- 3149 relief valves include weep hole deflectors, installed to guard against flame impingement on adjacent containers.
- Most are ASME rated for use with LP-Gas and anhydrous ammonia.









W3132G

REGO

WARRANT

D **Materials**

Description	3131, 3132, 3133, 3135	AA3126 AA3130	AA3135	A3149			
Body	Brass	Aluminum Roo	*t	Upper Cold Rolled Steel Lower Ductile Iron			
Liner		None	Stainless Steel				
Spring Guide	Brass	Aluminum		Stainless Steel			
Spring	Corrosion Resisant Steel	Stainless Steel Stainless Steel or Coated Steel		Stainless Steel or Coated Steel			
Seat Disc	Resilient Synthetic Rubber						

Ordering Information

					Flow Capacit	ty SCFM/Air (a)		Acces	sories	
	Start To Discharge	A Container	B Overall	C Wrench	UL	ASME		Pipeawa	y Adapter	
Part Number	Setting PSIG	Connection M. NPT	Height (Approx.)	Hex Section	(At 120% of Set Pressure)	(At 120% of Set Pressure)	Protective Cap	Part Number	Outlet Size	Weep Hole Deflector
AA3126L030	30	1⁄2"	2 ³ ⁄8"	7⁄8"	(b)	-	9103-54	AA3126-10	1⁄2" M. NPT	-
A3149L055 A3149L200	55 200	21⁄2"	10½"	41⁄8"	2608(c) 8770 (c)	-	3149-40	(h)	Included (j)
AA3126L250		1/2"	2¾"	7⁄8"	277 (c)	-	9103-54	AA3126-10	1⁄2" M. NPT	
3131G		2 / 11	3 7/16"	42/11	2060	1939	3131-41 (g)		-	-
AA3130UA250	1	3⁄4"	3 716	1¾"	2045	1838	11557-110	AA3131-10	1" F. NPT	
W3132G	1	1"			3340	-		3132-10	1¼" F. NPT	
3132G	1		6 ¹ /32"	2 ³ /8"	4130	-	0400 54 (-		
T3132G	1		6 / 32	278	3790	-	3132-54 (g)	3132-10	1¼" F. NPT	
MV3132G	250	1¼"			3995	-	-		3133-11	
3135G		1/4	5 ²¹ / ₃₂ "		5770	-	3135-54 (g)	3135-10		5155-11
AA3135UA250	m		6 ¹³ ⁄ ₃₂ "	2 ^{11/} 16"	6430	6341	AA3135-40PR	AA3135-10	2" F. NPT	
3133G	1	11⁄2"	5 ¹⁵ /16"	31⁄8"	6080	-	3133-54 (g)	3133-10	1	
A3149MG	1	21/2"	10½"	41⁄8"	10390	-	24.40.40	/		Included (i)
A3149G]	272	1072	478	10390	9153	3149-40	40 (h)		Included (j)
AA3130UA265	265	3/4"	3 7/16"	1³⁄4"	2125	1912	11557-110	AA3131-10	1" F. NPT	-
AA3135UA265	205	1¼"	6 ¹³ / ₃₂ "	2 ¹¹ / ₁₆ "	6615	6703	AA3135-40PR	AA3135-10	2" F. NPT	3133-11
AA3126L312	312	1⁄2"	23⁄8"	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 (g) Cap supplied with chain. reduce flow as discussed in the Foreword section.

(b)Not UL or ASME rated. .059 square inch effective area

(j) Outlet 3√-8N (F) thread, will accept 3" M. NPT pipe thread. (j) Weep hole deflector is Part No. A3134-11B.

(c) Not UL or ASME rated. RegO rated at 120% of set pressure.



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

Application

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.

Features

Materials

- "Pop-action" design keeps product loss at a minimum. ٠
- Relief valve designed to automatically reseat firmly after • discharge.

Body Brass Spring Stainless Steel Seat Disc Resilient Rubber

Resilient seat disc provides a "bubble-tight" seal. ٠





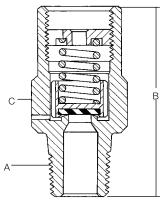
3129-10 Pipe Away Adapter





3127 Series





Ordering Information

									Accessories			
						Flow Capa	city SCFM/Air			Pipeaway	Adapter	
Part Number	Container Type	Start To Discharge Setting PSIG	A Container Connection M. NPT	B Overall Height (Approx.)	C Wrench Hex Section	UL (At 120% of Set Pressure)	RegO Rated at 480 PSIG***	Suitable for Tanks w/Surface Area Up To:*	Protective Cap	Part Number	Outlet Size	
3127G	ASME	250	1⁄4"	1 ³¹ / ₃₂ "	7⁄8"	295			9103-54	-		
3129G	ASIVIE	ASIVIE 200	IVIE 250	1⁄2"	2 ¹⁹ / ₃₂ "	11⁄8"	465	-	-	3129-40P	3129-10	1⁄2" F. NPT
3127K	DOT 275	275	1⁄4"	1 ³¹ / ₃₂ "	7⁄8"		450	100 lbs./Propane	9103-54	-		
3129K	DOT	DOT 375		2 ¹⁹ / ₃₂ "	11⁄8"	-	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

Application

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.

Features

- Relief valve designed to automatically reseat firmly after • discharge.
- Resilient seat disc provides a "bubble-tight" seal. ٠
- Available in both brass and stainless steel.
- Available in configurations that permit direct attachment of vent • piping when required.

Materials

D

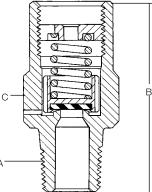
Body (3125, 3127, 3129)	Brass
Body (SS8001, SS8002, SS8021, SS8022)	
Spring	Stainless Steel
Seat Disc	Resilient Rubber







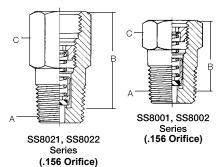
U



3125 Series (.161 Orifice) 3127 Series (.274 Orifice) 3129 Series (.386 Orifice)



SS8022G





Ordering Information

						F	Accessories
Part	Start To Discharge	Volue De du	Container Connection	Ileiabt	Wrench Hex	Ductostino	Pipeaway
Number	Setting PSIG	Valve Body Material	M.NPT	Height (Approx.)	Section	Protective Cap	Adapter or Threads
SS8001G	-		1/4"	7/8"	11/16"		-
SS8002G	-	Stainless	1/2"	,,,	7⁄8"	-	
SS8021G	250	Steel	1/4"	13⁄8"	¹¹ / ₁₆ "		1/4" NPSM Thrds
SS8022G			1⁄2"		7/8"		¾" NPT Thrds
3127G			1/4"	1 ³¹ / ₃₂ "		9103-54	-
3129G			1/2"	2 ¹⁹ / ₃₂ "	11⁄8"	3129-40P	3129-10*
3127H	275	Brass	1⁄4"	1 ³¹ / ₃₂ "	7⁄8"	9103-54	-
3129H	215	Diass	1/2"	2 ¹⁹ / ₃₂ "	11⁄8"	3129-40P	3129-10*
3127P			1⁄4"	1 ³¹ / ₃₂ "	11⁄8"	9103-54	-
3129P	300			2 ¹⁹ / ₃₂ "	11⁄8"	3129-40P	3129-10*
SS8022P	300	Stainless Steel	1⁄2"	1¾"	7⁄8"	-	¾" NPT Thrds
3127J		Deses	1/4"	1 ³¹ /32"	7⁄8"	9103-54	-
3129J]	Brass	1/2"	2 ¹⁹ / ₃₂ "	11⁄8"	3129-40P	3129-10*
SS8001J	1 250	1/4" 7/1"	¹¹ / ₁₆ "				
SS8002J	350	Stainless	1/2"	7⁄8"	7/8"	1	-
SS8021J	1	Steel	1/4"	42/2	¹¹ / ₁₆ "	-	1/4" NPSM Thrds
SS8022J	1		1/2"	13⁄8"	7 / 11		3/8" NPT Thrds
3127K			1/4"	1 ³¹ /32"	7⁄8"	9103-54	-
3129K	375		1/2"	2 ¹⁹ /32"	11⁄8"	3129-40P	3129-10*
3125L		Brass	1 / 2	1 ⁹ / ₁₆ "	5/8"	3125-40P	
3127L	1		1⁄4"	1 ³¹ /32"	7/8"	9103-54	-
3129L	1		1/2"	2 ¹⁹ /32"	11/8"	3129-40P	3129-10*
SS8001L	400		1/4"	7 (1)	¹¹ / ₁₆ "		
SS8002L	1	Stainless	1/2"	7⁄8"	7⁄8"		-
SS8021L	1	Steel	1/4"	42/2	¹¹ / ₁₆ "	-	1/4" NPSM Thrds
SS8022L	1		1/2"	13⁄8"	7 / 11	1	¾" NPT Thrds
3127U		During	1/4"	1 ³¹ / ₃₂ "	7⁄8"	9103-54	-
3129U	1	Brass	1/2"	2 ¹⁹ / ₃₂ "	11/8"	3129-40P	3129-10*
SS8001U	1		1/4"	7 (1)	11/16"		
SS8002U	450	Stainless	1/2"	7⁄8"	7/8"	1	-
SS8021U	1	Steel	1/4"	4.11	11/16"	1 -	1/4" NPSM Thrds
SS8022U	1		1/2"	1"	7/8"	1	3∕₄" NPT Thrds



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

Application

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.

Features

- Allows for relief valve removal and replacement on a periodic basis without shutting down and evacuating the container.
- Unique seat ring assemblies provide a smooth tubular section to • preclude turbulence and ensure more efficient flow capacity.
- Operating lever is only locked in the mid-position or in a position • to seal either relief valve. Placement of the clapper disc in an intermediate position could restrict flow through one of the relief valves, causing it to chatter and destroy the resilient seat disc.
- A rubber plug with chain is provided to protect manifold outlet • threads where the relief valve has been removed.
- "Pop-action" design insures maximum protection with only minimal product loss at moderately excessive pressures.
- Resilient relief valve seat disc provides "bubble-tight" seal.
- Relief valves are ASME rated for use with LP-Gas and anhydrous ammonia.

Manifold Materials

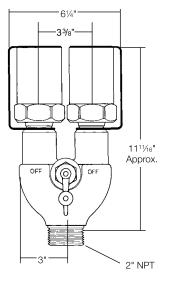
Body	Ductile Iron
Clapper Disc	Stainless Steel
Bleeder Valve	Stainless Steel
Seat Disc	Teflon
Packing	Polyethylene

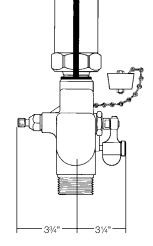
Relief Valve Materials

Body	Forged Aluminum*
Spring Guide	
Spring	Coated Steel
Seat Disc	Resilient Synthetic Rubber
*A special coating is applied to the inlet threads to minim	nize the possibility of electrolytic action.



8542





Ordering Information

	Start to			Relief Valve	Included	Flow Capacity SCFM/Air** (at 120% of set pressure)					
Part Number	Discharge			Connection				Accessories			
	Setting PSIG	LP-Gas	NH3	M. NPT	Quantity Part Number	Part Number	Inlet Connection M. NPT	Pipeaway Adaptors	UL Rating (at 120% of set Pressure)	ASME Rating (at 120% of set Pressure)	
8542G	250	Yes	No			3135MG		3135-10*	5250 (1)	NA	
8542AG	250	250 165	Tes N	NU	o "	2	3135101G	11⁄4"	3135-10	NA	5549 (1)
AA8542UA250	265	No	Yes	2	2	AA3135MUA250	1 /4	AA3135-10*	6430 (1)	6341 (1)	
AA8542UA265	- 265	INU	ies			AA3135MUA265		AA3135-10	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

Application

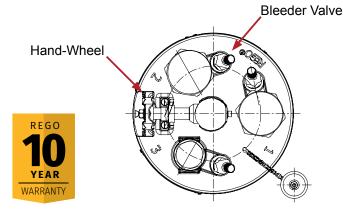
Designed especially for use as a primary relief device on large stationary pressurized storage containers, the base is supplied with a two-inch NPT threaded container connection. These manifolds incorporate an additional relief valve, not included in the flow rating, allowing for servicing or replacement 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.

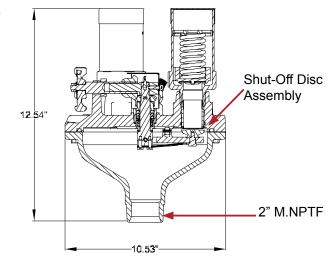
Materials

Body	Ductile Iron
Resilient Parts	Teflon
Clapper Disc	Stainless Steel
Bleeder Valve	

Relief Valve Materials

Body (3135)	Brass
Spring Gide (3135)	
Body (AA3135)	Aluminum
Spring Guide (AA3135)	Aluminum
Spring (3135 & AA3135)	Stainless Steel
Seat Disc (3135 & AA3135)	Resilient Synthetic Rubber





8533AG

RED

Ordering Information

	Application										
	Start to			Container				Accessories	ASME Flow Rating		
Part Number	Discharge Setting PSIG	LPG	NH3	Connection M.NPTF	Qty.	Part Number	Inlet Connection M.NPT	Pipe-away Adapter**	SCFM (air) @ 120% of Set Pressure *		
8532AG		Yes	No		2	3135MG		3135-10	5,549 (1)		
8533AG	250	res	INO		3	3135101G		3135-10	11,098 (2)		
AA8532MA250	250			2"	2	A A 24 25 M A 250	11⁄4"		6,341 (1)		
AA8533MA250		NIE	Vee	2	3	AA3135MA250	174	4 4 9 4 9 5 4 9	12,682 (2)		
AA8532MA265	No Yes 2]	AA3135-10	6,615 (1)							
AA8533MA265	265				AA3135MA265		3 AA3135MA265				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-always will reduce flow rates as discussed in forwarding information in L-500 catalog. ** 2" F. NPT outlet connection





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

Application

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.

Features

- Allows for relief valve removal and replacement on a periodic basis without shutting down and evacuating the container.
- "Pop-action" design of relief valves insures maximum protection with only minimal product loss at moderately excessive pressures.
- A rubber plug with chain is provided to protect manifold outlet threads where the relief valve has been removed.
- May be mounted directly to a welding neck flange or manhole cover plate. Requires no inlet piping.
- Relief valves designed to automatically reseat firmly after discharge.
- · Resilient relief valve seat disc provides "bubble-tight" seal.
- Relief valves are ASME rated for use with LP-Gas and anhydrous ammonia.

Materials

Body	Ductile Iron
Resilient Parts	Teflon
Clapper Disc	Stainless Steel
Bleeder Valve	Stainless Steel



Bolt Stud and Nut Assemblies

Part 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			Manhold Cover Plate	

Relief Valve Materials

Description	A8563, A8564, A8573, A8574
Body	Upper Cold Rolled Steel Lower Ductile Iron
Liner	Stainless Steel
Spring Guide	Stainless Steel
Spring	Coated Steel
Seat Disc	Resilient Synthetic Rubber

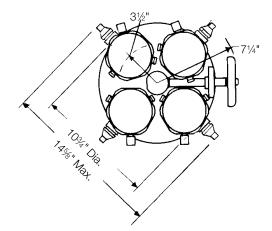
*A special coating is applied to the inlet threads to minimize possibility of electrolytic action

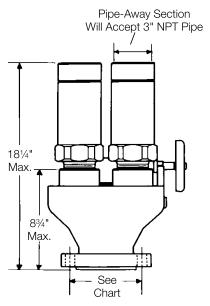






A8560 A8570





Typical RegO Multiport™ Pressure Relief Valve Manifold

D D N D

RegO Pressure Relief Valve "Pop-action" insures maximum protection with only minimum fluid loss at moderately excessive pressures.

Weep Hole Deflector

Port design of deflector prevents any ignited fluid ejected from the weep hole, while the relief valve is functioning, from impinging on the storage container or adjacent piping and equipment.

> **Resilient Seat Disc** Assures positive shut-off.

Manifold Seat Ring

Has integral teflon seat ring for positive shutoff of valve port by clapper disc.

Instruction Plate For relief valve replacement.

Plug Assembly

Protects manifold outlet threads and keeps foreign material out of manifold when relief valve is removed for retest.

Flange Dimensions

D

Manifold Series	Flange Size	Flange Drilling	Port Diameter	Flange Gasket
A8560	Modified 3" 300# (4" Port Dia)	(8) ⁷ ⁄ ₈ " Bolt Holes on a 6 ⁵ ⁄ ₈ " Bolt Circle Diameter Flat Faced.	4"	3" 7564-48
A8570 AA8570	4" ANSI 300#	 (8) %" Bolt Holes on a 7%" Bolt Circle Diameter 1/16" Raised Faced. 	4"	4" 7565-48

2CI F

Safety Groove

Excessive stress on vent piping attached to relief valve will break valve body at this point, leaving valve fully operative.

Handwheel

Large, heavy duty handwheel has raised port numbers for selective positioning of clapper disc. Raised "arrow" below handwheel indicates exact position of clapper disc at all times.

Clapper Disc

Shown in position to remove relief valve. Normally, clapper disc is positioned between any two relief valves.

Bleeder Valve

Shown in "closed" position to bleed off pressure trapped between relief valve and clapper disc prior to removal of relief valve.

Ductile Iron Body

Rugged. Has corrosion resistant lacquered finish.

Flanged Tank Connection

Available with either a modified ANSI 3" (4" port opening) or a 4" ANSI 300# flanged connection. Mates respectively with modified ANSI 3" 300 lb. flat face steel flange and ANSI 4" 300 lb. 1/16" raised face steel flange.

Spacious Manifold Port

Passages large unobstructed throat ensures minimum capacity loss. Manifold is bolted directly to storage container opening, eliminating any restrictions.

Gasket

Johns-Manville Flexitallic flange gasket furnished with each manifold assembly.

Ordering Information

		Appli	cation		Relief Valve				Flow Capacity	SCFM/Air** At
	Start To			Container			Inlet	Accessories		et Pressure
Part Number	Discharge Setting PSIG	LP-Gas	NH3	Flange Connection	Quantity	Part Number	Connection M. NPT	Pipeaway Adapters	UL Rating	ASME Rating
A8563G				3"-300#*	3				18,500 (2)	
A8564G				3 -300#	4	A3149MG			27,750 (3)	Not
A8573G				4"-300#	3	3 4 3	- 2½"	***	18,500 (2)	Applicable
A8574G	250	Yes	Yes	4 -300#	4				27,750 (3)	
A8563AG	250	165	les	3"-300#*	3					18,300 (2)
A8564AG		3-3004	3 -300#	4	A3149G			Not	27,400 (3)	
A8573AG			4"-300#	3	A3149G			Applicable	18,300 (2)	
A8574AG				4 -300#	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.

REGO

WARRANT

**** Outlet 31/2-8N (F) thread, will accept 3" M. NPT pipe thread.



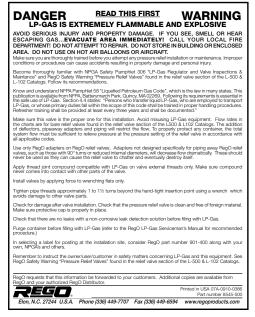


Adhesive Warning Label 8545-500

The following warning information, Part Number 8545-500, is included with each shipment of pressure relief valves and relief valve manifolds 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.

Part Number	
8545-500	Adhesive Warning Label



8545-500

D





Section E Globe and Angle Valves

E

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 catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH_a). 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 NH_3 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 NH₂ service only.

c.All other products including "A" prefix are suitable for use with LP-Gas & NH, 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. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH3. If you have a need for use of another application, contact RegO, 100 RegO Drive, Elon, NC 27244, (336) 449-7707 ecii@regoproducts.com before proceeding.

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.

E



LP-Gas Hose-End Filling Valves (With ACME Connectors)



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 Liquified 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 factors involved in filler valve and filling valves failure are not simple. They need to be fully understood so that proper procedures and maintenance can be used to prevent accidents. If there is a simple warning, it would be:

Loosen filling valve from filler valve very slowly. If there is a leak, know procedure to follow.

This bulletin is not intended to be an exhaustive treatment of the subject of filler valves and certainly does not cover all safety practices that should be followed in the installation, operation and maintenance of LP-Gas systems, which include filler and filling valves.

Hose-End Filling Valves With ACME Connectors

Hose-end valves must never be dragged over the ground or dropped or banged into the truck when the hose is reeled in.

They could open accidentally or they could be damaged. Dragging will cause abnormal wear and eventual valve failure. Foreign material will lodge in the connector which can cause failure of the filler valve.

To prevent hazardous conditions, operators should follow this procedure on every filling application:

Always wear gloves and eye protection.

Check for foreign material in hose-end valve and the filler valve, and if present, remove with extreme care. If material cannot be safely removed, do not proceed with filling and replace valve.

Make sure the ACME connector spins on easily by hand.

If leak is noticed when filling is started, stop the operation and correct the leaking condition.

After filling, bleed the gas trapped between the filler valve and hose-end valve by using the vent on the hose-end valve or by slightly loosening coupling nut to vent the gas before disconnecting.

If gas does not stop venting, then filler valve or hose-end valve is leaking. Do not disconnect filling connector. This is a hazardous situation and your company procedure for handling this problem must be carefully followed.

Make sure your company has such a procedure. Inspection of Filling Valves with Handwheel

Valves should be inspected at least once a month to be sure that the valve handle is tight and not damaged, that the stem is not bent and that there is no "play" in the threads in the bonnet. "Play" will normally not be noticed if the valve is under pressure.

The ACME threads should be examined for wear, dents or nicks and the seating area should be clean and smooth.



Inspection of Quick Acting Filling Valves

Valves should be inspected daily to make sure locking mechanism functions properly.

The ACME threads should be examined for wear, dents or nicks and the seating area should be clean and smooth.

The retaining ring on the filler connection should be examined to make sure it is properly holding the female ACME rotating nut or handle so as to keep the surface that seats on the filler valve gasket protected.

If any problems are evident, valves should be immediately replaced or repaired.

Larger Filler and Filling Valves

For 21/4" and 31/4" valves with ACME connections, use only the special wrenches designed for the purpose.

Do not use pipe wrenches or hammers to tighten the connections. All of the previous warnings about the smaller valves also apply here.

General Warning

All RegO products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion and aging components made of materials such as rubber and metal. 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 filler valve or a filling valve is used beyond its safe service life. Life of these valves is determined by the environment in which they "live." 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 owner of products responsible for replacing products before they reach the end of their safe useful life. LP-Gas dealers should be aware of the legislation which could affect them.



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

Application

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.

Features

- Minimizes product venting loss, when disconnecting, instantly by housing the seat disc at the bottom of the built-in ACME filling connector.
- Vents less than 2cc of liquid when disconnected.
- "V"-ring spring-loaded pressure seal design provides for dependable, leak-free operation. No packing to retighten or replace.
- Operator friendly. Contoured handle rotates a full 360° and large, • easy to grip filling connector make the valve easy to handle.
- Self locking handle is operator opened and closed to prevent against accidental opening of the valve.



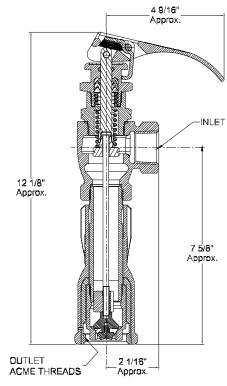


A7793

Materials

Body	Ductile Iron
"V"-Ring	Teflon
Stem	
Seat Disc	Synthetic Elastomer
ACME Connector	Aluminum w/Steel Insert
Seal Housing	Stainless Steel
Lever	Stainless Steel
Bonnet	Cadmium Plated Steel





Ordering Information

Part Number	Inlet Connection (F. NPT)	Outlet Connection (F. ACME)	Locking Handle	Flow at 1 PSIG (Cv) Pressure Drop* (GPM/ Propane)
A7793A	3/" /4	1 3⁄4"	Yes	16.0
A7797A	1"	1 3⁄4"	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 NH, flow, multiply propane flow by .90.

E



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

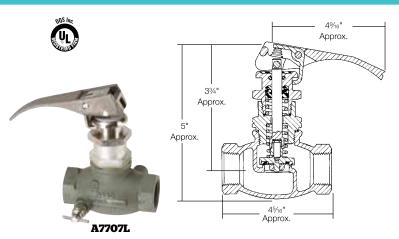
Application

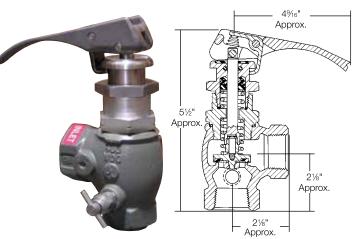
Designed especially for safe operator handling of LP-Gas in bobtail delivery truck, dispensing systems and anhydrous ammonia nurse tank service.

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.

Features

- "V"-ring spring-loaded pressure stem seal provides for leak-proof operation. No packing to retighten or replace.
- Self locking handle is operator opened and closed to prevent against accidental opening of the valve.
- · Large, contoured handle provides firm, comfortable grip.
- Full swivel handle rotates 360° so the valve can be operated from any angle.
- Built-in vent valve on the downstream side of the valve permits bleeding of trapped product to ensure safe uncoupling.
- Can be used with a variety of RegO filling adapter connectors.
- Swivel seat disc minimizes grinding on the body seat and ensures longer service life.





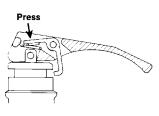
A7708L

Materials

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Body	
"V"-Ring	Teflon
Stem	
Seat Disc	Synthetic Elastomer
Valve Lever	Stainless Steel
Seal Housing	Stainless Steel
Bonnet	Cadmium Plated Steel





Spring-Loaded Thumb-Button Opens Latch Handle Pivots to Open Quickly, Easily

Ordering Information

					Accessories Filling Connectors**			
		Inlet & Outlet	Locking	Flow at 1 PSIG Pressure Drop (Cv)	Extended	Com	pact	
Part Number	Body Design	Connection (F. NPT)	Handle	(GPM/Propane)**	Steel	Brass	Steel	
A7707L	Straight	1"	Yes	18.0	A7575L4	3175A	A3175A	
A7708L	Angle	I	Tes	22.0	A/5/5L4	31/5A	A31/5A	

* 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√9 = 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

Application

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 31/4" Male ACME connector, or our 6588LE and 6589LE minimum loss filler valves.

Features

- Minimizes product discharge at disconnect.
- Vents less than 2 cc of liquid when disconnected.
- California CARB Compliant for fugitive emissions.
- Contoured handle rotates 360° and has a large easy to turn ACME swivel connector.
- Self-locking handle is operator opened and closed, designed to prevent accidental opening of the valve.
- Bypass mechanism in the seat area allows the upstream pressure • to quickly equalize when the handle is partially moved to the open position.
- Protective screen on inlet side prevents debris from entering. •
- Spring-loaded Teflon "V" packing for bonnet/stem assembly ٠ provides long service life.

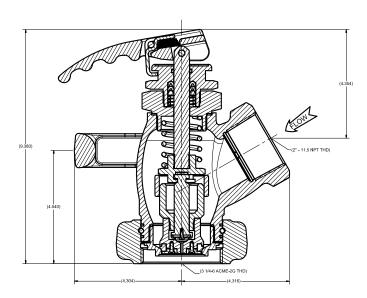


A7914A

Materials

Ductile Iron
Teflon
Stainless Steel
Plated Ductile Iron
Stainless Steel
Plated Steel
Stainless Steel
Synthetic Rubber





Ordering Information

				Flow at (Cv) Pressure Drop GPM Propane	
Part Number	Inlet Connection	Outlet Connection	Locking Handle	1 PSIG	10 PSIG
A7914A	2" F.NPT	3¼" 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

Application

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.

Features

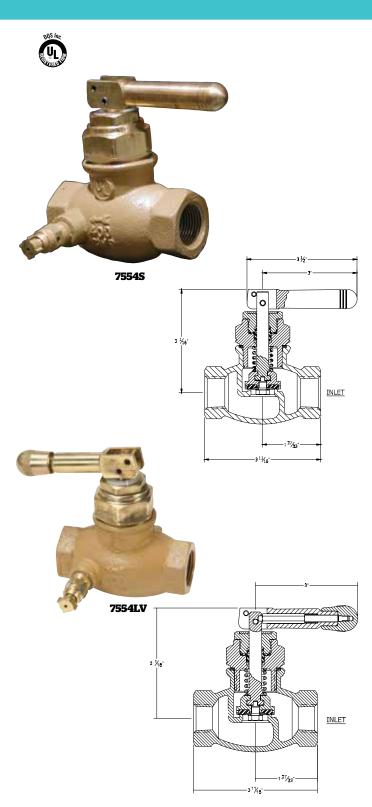
- Quick-acting design speeds transfer operations, permitting rapid, one-handed opening and closing.
- · Resilient seat disc provides positive shut-off.
- Flange seal stem design provides for leak-proof operation. No packing to retighten or replace.
- 7554L Series incorporates locking handle to prevent accidental opening of the valve.
- Vent valve installed on the downstream side of the valve permits bleeding of trapped product to ensure safe uncoupling.
- Swivel seat disc minimizes grinding on the body seat and ensures longer service life.

Materials

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Body	Ductile Iron
Bonnet	Brass
Stem Seal	
Stem	Stainless Steel
Seat Disc	Nitrile Elastomer
Seal Housing	Brass
Lever	





Ordering Information

Part Number	Inlet & Outlet Connection (F. NPT)	Locking Handle	Flow At 1 PSIG (Cv) Pressure Drop* (GPM/Propane)
7554SAV	1/2"	No	7.3
7554LAV	/2	Yes	1.5
7554SV	3//"	No	11.3
7554LV	/4	Yes	11.5

* 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 /9 = 34.5 GPM/ propane.



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

Application

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.

Features

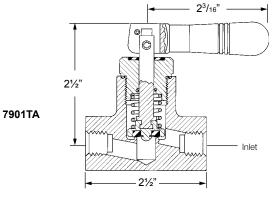
- Quick-acting design speeds transfer operations. ٠
- Permits easy, one-handed opening and closing of the valve.
- O-ring stem seal design. •
- Provides quick, positive shut-off. ٠



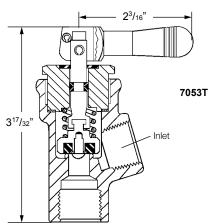
7901T

Materials

Body (7053T, 7901)	Forged Brass
O-Ring	
Bonnet Assembly (7053T, 7901)	
Seat Disc	. Resilient Synthetic Rubber
Handle (7053T, 7901)	Brass
Springs	Stainless Steel







Ordering Information

Part Number	Inlet Connection (F. NPT)	Outlet Connection (F. NPT)	Body Material	Flow At1PSIG (CV) Pressure Drop* (GPM/Propane)
7901T	1/4"	1/4"		
7901TA	3/8"	3/8"		
7901TB		1/4"	Brass	1.95
7901TC	1/2"	1/2"		
7053T		/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 = $\sqrt{1.95} \times 9 = 5.85$ GPM/propane. For NH3 flow, multiply propane flow by .90.



Quick-Acting Valves for Dispensing Hoses 7901TL Series

Application

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.



Features

- Quick-acting design speeds transfer operations.
- Permits easy, one-handed opening and closing of the valve.
- O-ring stem seal design.
- Provides quick, positive shut-off.
- Locking handle device is operator opened and closed to prevent against accidental opening of the valve.

Materials

Body	Forged Brass
O-Ring	
Bonnet Assembly	
Seat Disc	
Handle	Brass
Springs	Stainless Steel





7901TL Series

Ordering Information

Part 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"		
7901TLB	1/2"	1/4"	Brass	1.95
7901TLC	/2	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 = $1.95 \times \sqrt{9} = 5.85$ GPM/propane. For NH3 flow, multiply propane flow by .90.

Quick-Acting Valves for Dispensing Hoses with Low Emission Hose End <u>Safety Adapter 7993 Series</u>

Application

Designed primarily for use on dispensing hoses to provide fast, convenient shut-off and fast opening with minimal release of product on disconnect.





Ordering Information

Part Number	Inlet Connection (F. NPT)	Outlet Connection (F. NPT)	Body Material			
7993AD-10L	3/8"	M. POL (CGA 510)				
7993AU-10L	78	Type 1 Connection (1 ⁵ / ₁₆) F. ACME				
7993BD-10L		M. POL (CGA 510)	Brass			
7993BU-10L	1/2"	Type 1 Connection (1 ⁵ / ₁₆) F. ACME	Blass			
7993CD-10L	/2	M. POL (CGA 510)				
7993CU-10L		Type 1 Connection (1 ⁵ / ₁₆) F. ACME				



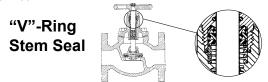
General Information

RegO Globe and Angle Valves are designed and manufactured especially to meet the rigid requirements of the LP-Gas industry. The high quality construction and wide variety of sizes and styles also make them highly suited to many other industries such as anhydrous ammonia, chemical and petrochemical.

These ductile iron valves are available in both threaded and flanged connections. Threaded connections are available in 1/2" F. NPT to 3" F. NPT sizes. Flanged connections are available in 11/2", 2" and 3" pipe sizes.

The ductile iron used in these valves has a 60,000 PSIG tensile strength which closely approaches that of steel castings. Its yield strength of 45,000 PSIG and elongation of 15% is also comparable to that of steel castings. These material features ensure the ability of the valve body to withstand impact, wrenching stresses and thermal shock. This ductile iron conforms to ASTM specification A395.

RegO globe and angle valves are designed for working pressures up to 400 PSIG WOG and for operating temperatures from -40° F. to +160° F.



The "V"-ring spring-loaded pressure seal used in these RegO globe and angle valves is the most effective stem seal yet developed. It should not be confused with conventional valve stem packing where the seal is obtained by compressing the packing around the stem by means of a packing gland with resultant hard operation and frequent packing replacement.

The wax like surface of the teflon "V"-ring seal and consequent low friction ensures leak-tight performance for an indefinite period where periodic retightening of the packing is not required and the seal provides extra long service life.

In the RegO "V"-ring design, the seal is effected by the pressure expanding the "V"-shape of the seal, forcing it against the stem and bonnet surfaces to prevent leakage. The higher the pressure within the valve, the more effective the seal becomes. A spring loaded washer under the "V"-rings keeps them in an expanded position to ensure an effective seal under low pressure conditions. A wiper ring, located above the seal, keeps the seal free from grit, and/or other foreign material that may hamper operation.

Installation and Operation Note

Containers and pipe lines should be thoroughly cleaned before globe and angle valves are installed. Large particles of solid foreign matter can permanently damage the seating surface in the valve body, causing the valve to leak. Use a minimum amount of a suitable pipe dope on the male connecting threads as excess amounts may fall off and be carried into the valve, causing damage to the seat or other operating parts.

It is totally unnecessary to use excess force in opening or closing RegO valves. The type of seat disc material used and the general design of these valves permits them to be opened and closed easily. Proper valve operation insures unusually long life.

Wrenches must never be used to operate valves equipped with handwheels and designed for hand operation.

Downstream Accessory Boss

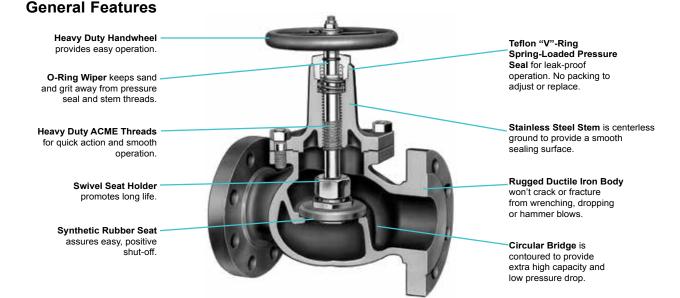
These RegO valves incorporate a plugged 1/4" F. NPT boss on the downstream side of the body for attaching either a hydrostatic relief valve or vent valve. Boss size on the 2" and 3" valves has been increased to allow a 3/4" drilling for accommodation of a standard by-pass valve or jumper lines.

Hydrostatic Relief-When the design of the piping installation is such that liquid may be locked between two shut-off valves, a hydrostatic relief valve should be installed in the lines between the valves. The pressures which can develop due to temperature increase in a liquid fill line are tremendous and can easily damage the valves or piping unless a hydrostatic relief valve is installed.

Vent Valve-If the globe or angle valve is used as a shut-off valve on a loading hose, a vent valve should be installed in the downstream boss to allow liquid trapped beyond the shut-off valve to be vented before disconnecting the hose coupling.

Replace Gate Valves with Flanged Valves

Except for standard flange sizes, RegO Flanged Globe and Angle Valves are smaller and lighter than contemporary valves, thus reducing price and shipping costs and making them far easier to install. RegO face-to-face flange dimensions conform to gate valve dimensions, making replacement of most gate or plug valves with RegO valves simple and easy.





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

Application

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.

Features

- "V"-ring spring-loaded pressure stem seal provides for leak-proof operation. No packing to retighten or replace.
- Circular bridge in the globe design and a dropped seat in the angle design achieve greater flow with less pressure drop.
- Swivel seat disc assembly minimizes the seat disc from grinding on the body seat. The seat disc stops rotating as soon as it touches the body seat. This feature provides for good seat alignment and ensures long seat life.
- ¼" F. NPT plugged boss on the downstream side of the valve body allows attachment of a hydrostatic relief valve or vent valve.
- "V"-ring stem seal virtually eliminates hard to turn handles frequently encountered with packed type seals.
- Heavy duty rolled ACME stem threads provide quick action and long service life.

Materials

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Body	Ductile Iron
Bonnet (7034, 7505-7508)	Steel
Bonnet (7509-7518)	Ductile Iron
Valve Stem	Stainless Steel
Wiper Ring	Synthetic Rubber
Seat Disc	See Ordering Chart
"V"-Rings	Teflon
Handwheel	Ductile Iron
Spring	Stainless Steel



Ordering Information

	Part N	lumber				Flow at 1 P	SIG Pressure	Acce	ssories
Buna N Seat Discs		Teflon Seat Discs*		Inlet and Outlet			M/Propane)***	Hydrostatic Relief	
Globe	Angle	Globe	Angle	Connection	Port Diameter	Globe	Angle	Valve	Vent Valve
	-	TA7034P	TA7034LP	1⁄2" F. NPT	3/"	10.0	14.8		
A7505AP	A7506AP	TA7505AP	TA7506AP	3⁄4" F. NPT	74	12.0	17.7		
A7507AP	A7508AP	TA7507AP	-	1" F. NPT	1"	17.8	22.0		
A7509BP	A7510BP	TA7509BP	TA7510BP	1¼" F. NPT	11⁄4"	36.5	54.0		
A7511AP	A7512AP	TA7511AP	TA7512AP	11⁄2" F. NPT	4173	43.0	55.5	00000411	T 000400
A7511FP	-	TA7511FP		1½" Flange**	11/2"	46.0	-	SS8001U	TSS3169
A7513AP	A7514AP	TA7513AP	-	2" F. NPT	- 2"	75.0	88.5		
A7513FP	A7514FP	TA7513FP	TA7514FP	2" Flange**] 2	78.0	133.0		
A7517AP	A7518AP	TA7517AP	-	3" F. NPT	21/"	107.0	202.0		
A7517FP	A7518FP	TA7517FP	-	3" Flange**	31⁄8"	197.0	303.0		

* 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: $7514FP @ 9 PSIG = 133 \times 9 = 399 GPM/propane. For NH₂ flow, multiple propane flow by .90.$





A7517FP

Globe and Angle Valve Dimensions

							Dimensions	;		
	Valve Number							Flanges		
Drawing	(A or TA Prefix)	Inlet & Outlet	Port Diameter	A	В	С	D	E	F	G
(Contraction of the contraction	7034P	½" F. NPT	3/11			011/ 7				
	7505AP	¾" F. NPT	3/4"			3 ¹¹ /16"				
	7507AP	1" F. NPT	1"	4¾"	-	4 ⁵ ⁄16"		-	-	-
	7034LP	½" F. NPT	3/ 12		43/2					
	7506AP	¾" F. NPT	3/4"		1¾"					
	7508AP	1" F. NPT	1"	-	2"	-				
	7509BP	1¼" F. NPT	1¼"	7 ⁴¹ / ₆₄ " 6¾" 7¾6" 13¼"		4 ⁷ / ₈ " 5 ³ / ₁₆ "		-	-	
Â	7511AP	1½" F. NPT	1½"							-
	7513AP	2" F. NPT	2"		-	51/8"				
C	7517AP	3" F. NPT	31⁄8"			9"				9"
	7510BP	1¼" F. NPT	1¼"	6¾"	2¼"		-		-	
	7512AP	1½" F. NPT	1½"	6 ¹³ ⁄16"	2 ⁷ /16"	-		-		
	7514AP	2" F. NPT	2"	7 ¾16"	2 ¹¹ / ₁₆ "					5¼"
	7518AP	3" F. NPT	31⁄8"	11¾"	4"					9"
	7511FP	1½" Flange	1½"	7 %16"		7½"	61⁄8"	3/4"	27⁄8"	
	7513FP	2" Flange	2"	87/16"	-	8½"	6½"	¹³ ⁄16"	35⁄8"	5¼"
	7517FP	3" Flange	31⁄8"	13¼"		11 ⅓"	8¼"	1 ⅓"	5"	9"
	7514FP	2" Flange	2"	7½"	5¼"		6½"	13/16"	35%"	5¼"
	7518FP	3" Flange	31⁄8"	11¾"	6¼"	-	8¼"	11⁄8"	5"	9"

NOTE: Regarding 7505AP through 7510BP — the thread used for assembling the bonnet to the body of the valve is a left hand thread. We advise our customers to be cognizant of this assembly design in attempting to remove the bonnets of these valves in order to avoid serious damage to the valves.

Flange Dimensions

	Valve Number (A or TA Prefix)	Size		Flange Drilling	D	Е	F	н	
	7511FP	1½"		%" Bolt Holes on a 4½" Bolt Circle Diameter	61⁄8"	¹³ ⁄16"	21/8"	3⁄4"	
	7513FP	0"	2"	an 689	¾" Bolt Holes on a 5"	6½"	7/8"	3%"	^{13/16} "
	7514FP	2		Bolt Circle Diameter	072	78	378	19/16	
	7517FP	3"*	6000	7∕₃" Bolt Holes on a 65⁄₅"	8¼"	11⁄8"	5"	41/-2	
E	7518FP	3	600	Bolt Circle Diameter	8%	1 /8	5	1 ½16"	

* Reducing screwed flanges are available for reducing 11/2" flange to 1 or 11/4" pipe thread and 3" flange to 21/2" pipe thread. Order from your local piping supplier.



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

Application

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.

Features

- V-ring spring loaded pressure stem seal provides for leak-proof operation. No packing to retighten or replace.
- ٠ Circular bridge in globe design and a dropped seat in the angle design achieve greater flow with less pressure drop.
- Swivel seat disc assembly minimizes wear which provides for • good alignment and long seat life.
- 1/4" F.NPT plugged holes on upstream and downstream sides of the valve.
- Heavy duty rolled ACME stem threads provide quick action • and long service life.
- Seat Disc assembly incorporates an automatic back check valve, eliminating the need for a separate hydrostatic relief valve.

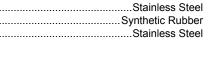


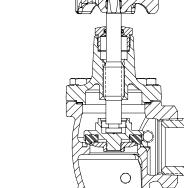
Materials

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Body	Ductile Iron
Stem	Stainless Steel
Seat	Stainless Steel
Seat Disc	Synthetic Rubber
	Stainless Steel

WARRAN





HA7514AP

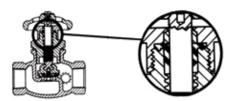
Ordering Information

ordering miorm					
Part N	umber			Flow at 1 PSIG Pressu	ire drop GPM Propane
Globe	Angle	Inlet/Outlet Connection	Port Diameter	Globe	Angle
HA7513AP	HA7514AP	2" -FNPT	2"	75.0	88.5
HA7517AP	HA7518AP	3"-FNPT	31⁄2"	197.0	303.0



General Information

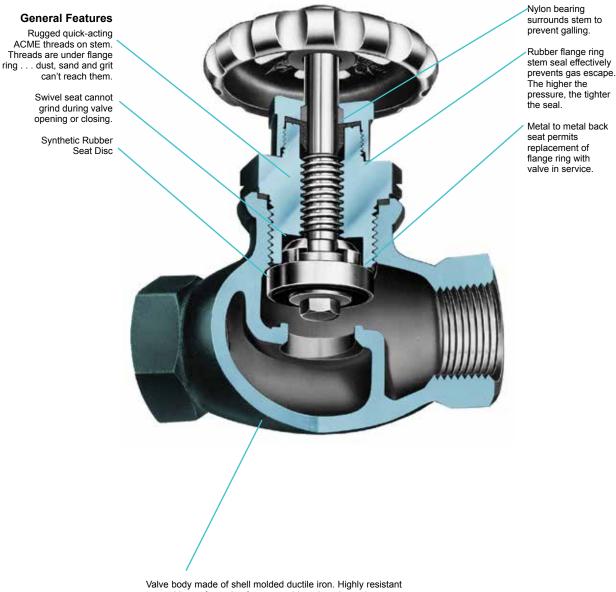
Globe and Angle Valves, incorporating the synthetic rubber flange seal design, operate on the same principle as the "V"-ring valves. Gas pressure in the valve is exerted against the synthetic rubber flange, forcing it tightly against the stem.



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 $\frac{1}{4}$ " 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.



Valve body made of shell molded ductile iron. Highly resistant to cracking or fracturing from wrenching, dropping or hammer blows. Bonnet and seal cap are steel on "A" prefix valves.



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

Application

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.

Features

Materials

- Available with either a brass bonnet and bronze stem for LP-Gas service or a steel bonnet and stainless steel stem for combined LP-Gas and anhydrous ammonia service.
- Flange seal stem provides for leak-proof operation. No packing to retighten or replace.
- Metal-to-metal back seat permits replacement of the flange ring with the valve in service.
- Plugged ¼" NPT boss on downstream side of valve accommodates hydrostatic relief valve or vent valve.
- Swivel seat disc minimizes grinding on the body seat and ensures longer service life.
- "Dropped seat" body design of the angle valve provides high flow capacity.

 Body
 Ductile Iron

 Bonnet (7704, 05, 06)
 Brass

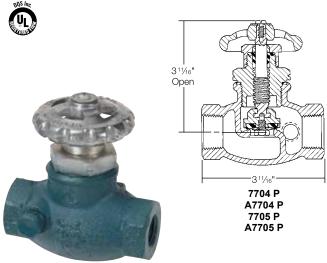
 Bonnet (A7704, 05, 06)
 Steel

 Stem (7704-05-06)
 Bronze

 Stem (A7704-05-06)
 Stainless Steel

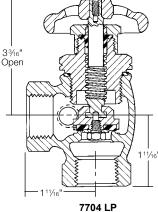
 Flange Ring
 Synthetic Rubber

 Seat Disc
 Synthetic Rubber



A7704P





7704 LP A7704 LP 7706 P A7706 P

REGO **10** YEAR

7706 P

Ordering Information

Part N	lumber		Flow at 1 PSIG Pressure Drop (Cv) (GPM/Propane)*		Accessories	
Globe	Angle	Inlet & Outlet Connection (F. NPT)	Globe	Angle	Hydrostatic Relief Valve	Vent Valve
7704P	7704LP	1/2"	7.3	12.3		
A7704P	A7704LP	/2	7.5	12:5	SS8001J or SS8001L	TSS3169
7705P	7706P	3/4	11.5	17.7	550001J 01 550001L	1222109
A7705P	A7706P	/4	11.5	17.7		

* 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 $\sqrt{9}$ = 36.9 GPM/propane. For NH₃ flow, multiply propane flow by .90.

E



E16



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

Application

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 11/4" x 3/4" NPT reducing coupling, the 3/4" 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.

Features

- Flange seal stem design provides for leak-proof operation. No packing to retighten or replace.
- Large, unrestricted interior ports reduce pressure drop through the valve, increasing capacity and preventing cavitation.
- Resilient swivel seat disc ensures longer seat life and easy, positive shut-off.
- Plugged 1/4" NPT outlet boss accommodates hydrostatic relief valve or vent valve.
- Specifically designed for liquid transfer of LP-Gas with the Chek-Lok®

Materials

Body (7550, 51)	Brass
Body (A7550, 51)	Cadmium Plated Ductile Iron
Bonnet (7550, 51)	Brass
Bonnet (A7550, 51)	
Stem (7550, 51)	Bronze
Stem (A7550, 51)	Stainless Steel
Flange Ring	Synthetic Rubber
Seat Disc	Synthetic Rubber





1 5/8"

5/8" DIA

3/4" NGT

EXCESS FLOW VALVE (Optional) 1 11/32" Approx.

13/16" Approx.

Ordering Inf	ormation						
					Excess Flow	Acces	ssories
Part Number	Inlet Connection (M. NPT)	Outlet Connection (F. NPT)	Integral Excess Flow	Flow at 1 PSIG (Cv) Pressure Drop* (GPM/Propane)	Approximate Closing Flow** (GPM/Propane)	Hydrostatic Relief Valve	Vent Valve
7550P			No	-	_	3127U	3165
A7550P]	3/"			-	SS8001J	TSS3169
7550PX	3/"	74	Yes		16.0	3127U	3165
A7550PX	/4		res		10.0	SS8001J	TSS3169
7551P		1/2"	Ne	8.9		3127U	3165
A7551P]	/2	No	0.9	-	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 NH., flow, multiple propane flow by .90. * * For NH, flow, multiply propane flow by .90.

100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com +1 (336) 449-7707

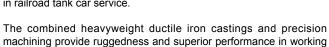


Tank Car Angle Valves for Railroad Tank Cars TA7894P

Application

pressures up to 400 PSIG.

Designed especially for transfer of LP-Gas and anhydrous ammonia in railroad tank car service.



Features

- "V"-ring spring-loaded pressure seal design provides dependable, leak-free operation. No packing to retighten or replace.
- Wiper o-ring eliminates entrance of dirt and grit into stem area that can prohibit smooth operation.
- Heavy duty ACME stem threads give quick action and are hardened for long service life.
- Swivel seat reduces scoring of seat disc and provides positive shut-off.
- Full diameter seat provides greater flow capacity and low pressure drop.
- Plugged ¼" NPT boss on downstream side of valve accommodates vent valve or hydrostatic relief valve.
- Equipped with a malleable iron plug and chain installed in the valve outlet.



AAR Approval #E-149515

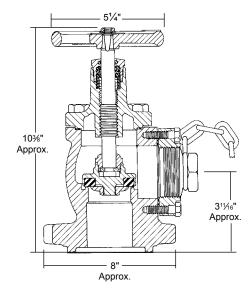


TA7894P

Materials

Body	Ductile Iron
"V"-Rings	Teflon
O-Ring	
Stem	Stainless Steel
Bonnet	Ductile Iron
Seat Disc	Teflon
Handwheel	Cadmium Plated Ductile Iron





Ordering Information

			Flow At 1 PSIG (Cv)	Acces	sories
Part Number	Inlet Connection	Outlet Connection (F.NPT)		Hydrostatic Relief Valve	Vent Valve
TA7894P	Tank Car Flange	2"	112	SS8001U	TSS3169

* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: TA7894P @ 9 PSIG = 112 x $\sqrt{9}$ = 336 GPM/propane. For NH₃ flow, multiply propane flow by .90.





High Capacity Liquid Withdrawal Valves For NH3 A8012 Series

Application

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.

Features

- Excess flow valve designed for high flow and low pressure drop.
- Excess flow seat fully contained in the container coupling for • maximum protection in the event of external damage to the valve.
- Resilient disc assembly with swivel seat is fully contained for • bubble-tight shut-off and long service life.
- "V"- ring spring loaded stem seal design requires no field • adjustment.
- 1/4" F.NPT port that accommodates a vent valve or hydrostatic relief valve.
- UL Listed for LP-Gas and anhydrous ammonia. ٠

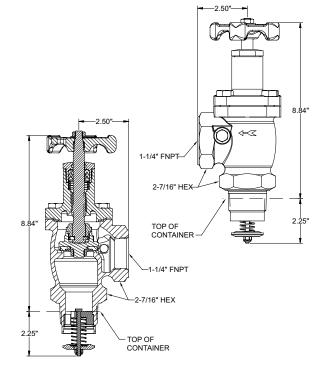


CE₀₀₃₆

Materials

Body	Ductile Iron
Bonnet	Ductile Iron
Stem	Stainless Steel
Seat Disc	Nitrile
"V" –Rings	Teflon
Excess Flow Valve	Stainless Steel
Springs	Stainless Steel





Ordering Information

			Approximate	Accessories for NH3 Use		
Part Number	Inlet Connection	Outlet Connection		Hydrostatic Relief Valve	Vent Valve	
A8012D	1½" M.NPT	1¼" F.NPT	72 GPM NH3*	SS8001J	TSS3169	
A8012C	1/2 IVI.INF I	1/4 F.INFI	45 GPM NH3*	3380013	1333109	

* When installed in a horizontally flowing system.



Multipurpose Valve for Filling of NH3 Containers A8016DBC

Application

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



Features

- Positive seating back check valve opens for maximum flow at ٠ minimum pressure drop when filling - regardless of the type of coupling in which the valve is installed.
- Back Check seat is fully contained in the tank coupling for ٠ maximum protection in the event of external damage to the valve.
- Resilient seat disc assembly is fully contained on three sides for ٠ bubble-tight shut-off and long service life.
- . "V"-ring spring-loaded stem seal design requires no repacking or field adjustment.
- Specially machined break-away groove beneath ACME threads • will shear-off with excessive pull on the hose and leave the valve body intact.
- Plugged 1/4" NPT boss accommodates vent valve or hydrostatic ٠ relief valve.



Materials

Body	Ductile Iron
Bonnet	Steel
"V"-Rings	Teflon
Stem	Stainless Steel
Seat Disc	Resilient Synthetic Rubber
Back Check Valve	Stainless Steel, Steel and Synthetic Rubber
Springs	Stainless Steel



Approximately 1¾" ACME 41⁄4" Hose Connection Approx. 4%" Break Away Closed Section Approx 21/8

Ordering Information

Dent Mussels on	Turlet Composition	Filling Connection	Filling Capacity at 20 PSIG	Accessories		
Part Number	Inlet Connection	Filling Connection	Pressure Drop GPM/NH ₃	Hydrostatic Relief Valve	Vent Valve	
A8016DBC	1¼"	1 ³ ⁄4"	95	SS8001J	TSS3169	



Multipurpose Valve for Filling of NH3 Containers A8016DP

Application

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.

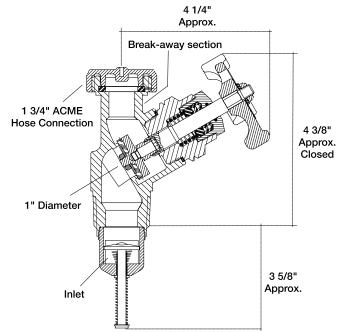
Features

- Positive-acting excess flow valve opens for maximum flow at minimum pressure drop when filling -- regardless of the type of coupling in which the valve is installed.
- Excess flow seat is fully contained in the tank coupling for maximum protection in the event of external damage to the valve.
- Resilient seat disc assembly is fully contained on three sides for bubble-tight shut-off and long service life.
- "V"-ring spring-loaded stem seal design requires no repacking or • field adjustment.
- Specially machined break-away groove beneath ACME threads • will shear-off with excessive pull on the hose and leave the valve body intact.
- Plugged 1/4" NPT boss accommodates vent valve or hydrostatic • relief valve.



Body	Ductile Iron
Bonnet	Steel
"V"-Rings	Teflon
Stem	Stainless Steel
Seat Disc	. Resilient Synthetic Rubber
Excess Flow Valve	Stainless SteelSteel Body
Springs	Stainless Steel





Ordering Information

				Approximate Excess Flow Closing Flows		Accessories	
Part Number	Inlet Connection (M. NPT)	Filling Connection (M. ACME)	Filling Capacity At 20 PSIG Pressure Drop GPM/NH3*	Liquid* GPM/NH3	Vapor** CFH/NH3	Hydrostatic Relief Valve	Vent Valve
A8016DP	1¼"	1³⁄₄"	95	44	24,000	SS8001J	TSS3169

* Determined at 9.5 to 12 PSIG differential

* * Determined at 100 PSIG inlet.



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

Application

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.

Features

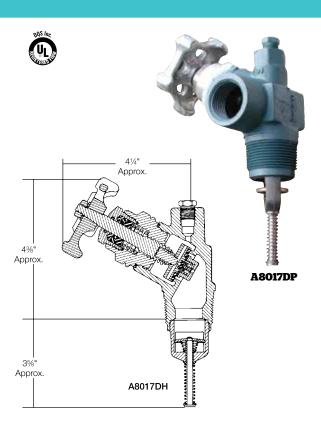
- Positive-acting excess flow valve opens for maximum flow at minimum pressure drop when filling — regardless of the type of coupling in which the valve is installed.
- Excess flow seat is fully contained in the tank coupling for maximum protection in the event of external damage to the valve.
- Resilient seat disc assembly is fully contained on three sides for bubble-tight shut-off and long service life.
- "V"-ring spring loaded stem seal design requires no repacking or field adjustment.
- A8017DH has two plugged ¼" NPT ports, one on the top and the other on the side, accommodate either a vent valve or hydrostatic relief valve.
- A8020D has a plugged ¼" NPT port that accommodates vent valve, hydrostatic relief valve, or pressure gauge.
- A8017DH incorporates an automatic back check valve built into the shut-off valve, eliminating the need for a separate hydrostatic relief valve.

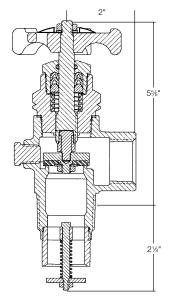
Materials

E

Body	Ductile Iron
Bonnet	Steel
Stem	Stainless Steel
Seat Disc	. Resilient Synthetic Rubber
"V"-Rings	
Excess Flow Valve	Stainless Steel - Steel Body
Springs	Stainless Steel









A8020D

Ordering Information

Part	Inlet Connection	Outlet Connection	Approximate Excess Flow Liquid Closing Flow**	Accessories	
Number	(M. NPT)	(F. NPT)	(GPM/Propane)	Hydrostatic Relief Valve	Vent Valve
A8017DH*		1"	49	Not Required	TSS3169
A8017DP	1¼"	I	55	SS8001J	
A8017DLP		3⁄4"	49	3360013	
A8020D	1¼"	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

Application

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

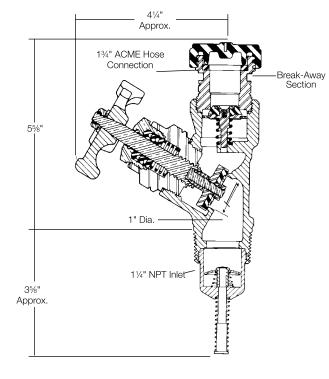
This valve incorporates an integral excess flow valve. When product is required, the valve must be completely open and backseated to allow the excess flow valve to function properly as explained in the excess flow valve section of this catalog.

Features

- Functions as both a filler valve and liquid transfer valve, in one unit.
- Positive acting excess flow valve opens for maximum flow at minimum pressure drop when filling - regardless of the type of coupling in which the valve is installed.
- Excess flow seat is fully contained in the tank coupling for maximum protection in the event of external damage to the valve.
- Specially machined break-away groove beneath ACME thread of filler valve will shear-off with excessive pull on the hose and leave the valve body intact.
- Triple guide filler valve check provides for dependable shut-off performance when filling ceases.
- Resilient seat disc assembly is fully contained on three sides for bubble-tight shut-off and long service life.
- "V"-ring spring loaded stem seal design requires no repacking or field adjustment.
- Plugged 1/4" NPT boss accommodates vent valve or hydrostatic ٠ relief valve.



A8018DP



Materials

Body	Ductile Iron
Bonnet	Steel
Stem	Stainless Steel
Seat Discs	Synthetic Resilient Rubber
"V"-Rings	Teflon
Excess Flow Valve	Stainless Steel - Steel Body
Springs	Stainless Steel



Ordering Information

	Telet	Outlot	Tilling	Filling Capacity At	Approximate Excess Flow	Accessories	
Part Number	Inlet Connection (M. NPT)	Outlet Connection (F. NPT)	Filling Connection (M.ACME)	20 PSIG Pressure Drop GPM/NH3	Excess Flow Liquid Closing Flow GPM/NH3	Hydrostatic Relief Valve	Vent Valve
A8018DP	1¼"	1"	1¾"	74	50	SS8001J	TSS3169

* Determined at 9 to 12 PSIG differential.



Multipurpose Filler Valves 8118P and 8117

Application

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.

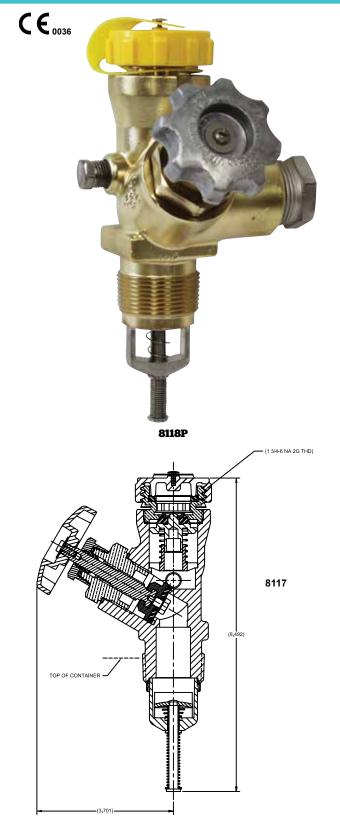
This valve incorporates an integral excess flow valve. When product is required, the valve must be completely open and back seated to allow the excess flow valve to function properly as explained in the excess flow valve section of the RegO L-102 or L-500 catalogs.

Features

- Designed as a filler valve for LP-Gas with upper check and manual shutoff.
- Excess flow valve allows for maximum filling rates regardless of the length of the coupling the valve is installed in.
- Excess flow seat is fully contained in the tank coupling for maximum protection in the event of external damage to the valve.
- Breakaway groove protects the ACME in the case of a drive-away with the filler hose still connected.
- V-ring spring loaded stem assembly requires no repacking of field adjustment.
- Plugged ¼" NPT boss allows for a pressure gauge to be installed.
- The one-inch outlet port plugged.

Materials

Body	Brass
Inlet Connection	Brass
Outlet Connection	Brass
Spring Sta	ainless Steel
Seat Disc Synth	hetic Rubber
V-rings	Teflon
Excess Flow Valve Sta	





Ordering Information

Part Number	Container Connection	Outlet Connection	Filler Connection	Plug	Filling Capacity at 20 PSIG Pressure Drop
8117	1¼" M.NPT	3⁄4" F. NPT	1¾" M.ACME	No	82 GPM
8118P	174 WI.INF I	1" F. NPT		Yes	02 GPM

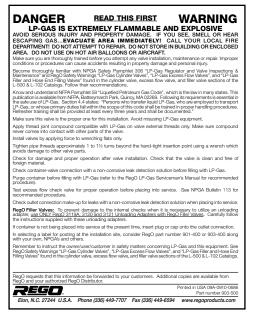


Adhesive Warning Labels 903-500

The following warning information, Part Number 903-500, is included with each shipment of Quick-Acting and Tank Car Valves 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.

Part Number	
903-500	Adhesive Warning Label



903-500

E





Section F Excess Flow, Check, Filler and Vapor Equalizing Valves

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 catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH_a). 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 NH₂ 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 NH₂ service only.

c.All other products including "A" prefix are suitable for use with LP-Gas & NH, 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. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH3. If you have a need for use of another application, contact RegO, 100 RegO Drive, Elon, NC 27244, (336) 449-7707 ecii@regoproducts.com before proceeding.

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.







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 Liquified 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 excess flow valve failures to perform are not simple. They need to be fully understood. If there is a simple warning, it would be:

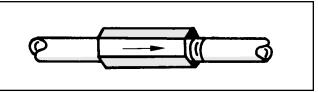
Make sure that the excess flow valve really closes when the flow exceeds normal transfer flow.

This bulletin is not intended to be an exhaustive treatment of excess flow valves, and certainly does not cover all safety practices that should be followed in installation, operation and maintenance of LP-Gas systems which include excess flow valves.

Selection and Installation

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The selection of a given closing rating of an excess flow valve involves an analysis of the complete piping system and is beyond the scope of this bulletin.



It is sufficient to say that an excess flow valve must be installed in the correct direction and will close only if the flow of liquid or vapor exceeds its designed closing rating. Many valves have been installed with closing ratings considerably higher than any flow that could be obtained by a downstream rupture in piping or hoses and thus give none of the protection for which they are intended.

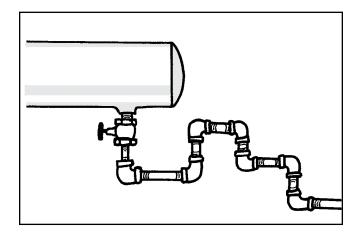
RegO provides excess flow valves with a number of closing ratings. RegO obviously can take no responsibility for the proper selection or correct installation of any valve.

Excess flow valves do not provide complete shut-off because there is a bleed at the check to permit pressure equalization.

Causes of Failure to Close

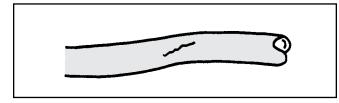
Installers, LP-Gas plant managers and service personnel should be aware that the excess flow valves may not close if these conditions are present.

1. The piping system restrictions (due to pipe length, branches, reduction in pipe size or number of other valves) decrease the flow rate to less than the valve's closing flow.

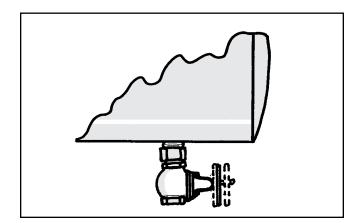




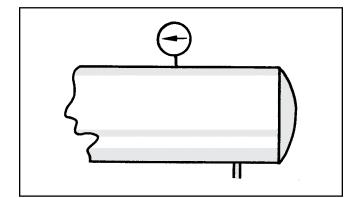
2. The break or damage to the downstream line is not large enough to allow enough flow to close the valve.



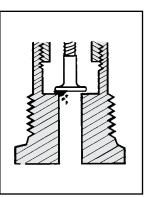
3. A shut-off valve in the line is only partially open and will not allow enough flow to close the excess flow valve.



4. LP-Gas pressure upstream of the excess flow valve, particularly due to low temperature, is not high enough to produce a closing flow rate.



5. Foreign matter (such as welding slag, scale or sludge) is lodged in the valve and prevents closing.



Because of these limitations, it is good industry practice to NOT rely entirely on excess flow valves for protection. Installation of emergency shut-off valves with remote controls is recommended in addition to excess flow valves.

Testing

The National Propane Gas Association Safety Bulletin #113-78 states:

"In order to test an excess flow valve in a piping system, the flow through the valve must be made to exceed the valve's closing rating. This testing should only be attempted by trained personnel familiar with the process. If no one at the facility has experience in proper testing, outside expert help should be obtained. The exact procedure used may vary with the installation, advisability of gas discharge and availability of equipment.

In general, most testing makes use of the fact that excess flow valves are "surge sensitive" and will close quicker under a sudden flow surge than under steady flow. A sufficient surge can often be created by using a quick open/close valve to control sudden, momentary flow into a tank or piping section containing very low pressure. An audible click from the excess flow valve (and corresponding stoppage of flow) indicates its closure.

A test involving venting gas to the atmosphere is hazardous and may be impractical, or illegal.

Any test of any excess flow valve will not prove that the valve will close in an emergency situation, due to reasons cited before. This test will only check the valve's condition, and the flow rate sizing for those test conditions."

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.

The environment and conditions of use will determine the safe service life of these products. Periodic testing at least once a year when tank pressures are low and maintenance, as required, 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 an excess flow valve is used beyond its safe service life. Life of an excess flow valve 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 effect them.



Troubleshooting Excess Flow Valve Installations

Periodical Inspections for Excess Flow Valves

Excess flow valves should be tested and proven at the time of installation and at periodic intervals not to exceed one year. CAUTION: Testing an excess flow valve in the summer when tank pressures are high will not prove that the same valve will also function under low pressure conditions in the winter. Once a year testing should be conducted during the winter.

The test should include a simulated break in the line by the quick opening of a shut-off valve at the farthest point in the piping that the excess flow valve is intended to protect. If the excess flow valve closes under these conditions, it is reasonable to assume that it will close in the event of accidental breakage (clean break) of the piping at any point closer to the excess flow valve.

The National Propane Gas Association Safety Bulletin Number 113-78 states:

In order to test an excess flow valve in a piping system, the flow through the valve must be made to exceed the valve's closing rating. This testing should only be attempted by trained personnel familiar with the process. If no one at the facility has experience in proper testing, outside expert help should be obtained. The exact procedure used may vary with the installation, advisability of gas discharge and availability of equipment.

In general, most testing makes use of the fact that excess flow valves are "surge sensitive" and will close quicker under sudden flow surge than under steady flow. A sufficient surge can often be created by using a quick open/close valve to control sudden, momentary flow into a tank or piping section containing very low pressure. An audible click from the excess flow valve (and corresponding stoppage of flow) indicates its closure.

A test involving venting gas to the atmosphere is hazardous and may be impractical or illegal.

Any test of any excess flow valve will not prove that the valve will close in an emergency situation, due to reasons cited before. This test will only check the valve's condition and the flow rate sizing for those test conditions.

What prevents excess flow valves from closing when the line breaks?

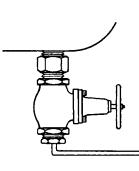
For one or a combination of the following reasons, excess flow valves have been prevented from closing in emergencies:

1. Not a Clean Break

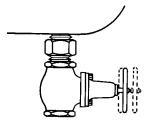


Hoses with a split or tear, and pipe lines not completely severed may be emitting LP-Gas in an amount insufficient to cause an "excess" flow. The amount of LP-Gas which can escape through such breaks may be even less than the flow during normal transfer service and under these conditions the excess flow valve could not be expected to close.

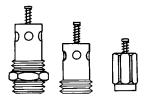
2. Line Restriction Too Great



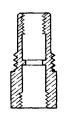
3. Improper Operating Practice



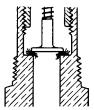
4. Improper Selection



5. Tampering with Excess Flow Valves



6. Impurities in the Line



An excess flow valve installed in a tank outlet will not close if the line beyond it is reduced or if the flow is otherwise restricted by too many fittings or too long a run because the line is incapable of passing the amount of LP-Gas necessary to create an "excess" flow. This condition should be corrected when testing a system by simulating a break at the farthest possible point and replacing any restrictive hose, pipe or fittings.

A restriction can also be imposed upon the excess flow valve by an improperly opened valve at the tank outlet. The shutoff valve should be either fully opened or fully closed. If "throttled," the valve could reduce the amount of LP-Gas passing through the excess flow valve in a sufficient amount to keep it from closing. Throttling operations should not be performed in the lines being protected by excess flow valves.

The many types of excess flow valves available are designed for specific jobs. The excess flow valve selected should remain open during normal flow but close at "excess" flow. An inspection which simulates a line break prior to start-up operations will determine if the proper valve has been selected.

Sometimes an operator, annoyed with frequent closures of an excess flow valve with too low a rating, has mutilated the valve and forgotten to replace it with a properly rated excess flow valve. A pre-test of the system would reveal this and allow the excess flow valve to be replaced.

Dirt, weld slag, broken drill taps, and various other foreign objects have been found jammed between the valve disc and valve seat to prevent excess flow valves from closing. A pre-test of the system would also discover this.



Excess flow check valves have been of help in limiting gas loss in many incidents involving breakage of hoses and transfer piping. Thus, they do provide a useful safety function in LP-Gas systems. However, there have also been transfer system accidents where excess flow valves have been ineffective in controlling gas loss due to a variety of conditions and to the inherent limitations of these valves. This bulletin explains what protection excess flow valves can offer, points out conditions which can interfere with that protection, and offers suggestions for effective excess flow valve installation.

An excess flow valve is a protective device to help control the discharge of product in the event of complete breakage of pipe lines or hose rupture. However, an excess flow valve can only offer limited protection from gas discharge, because it will only close under those conditions which cause the flow through the valve to exceed its rated closing flow, and even when closed it necessarily allows some "bleed" past the valve.

An excess flow valve is not designed to close and thus may not provide protection, if any of the following conditions are present:

- 1. The piping system restrictions (due to pipe length, branches, reduction in pipe size, or number of other valves) decrease the flow rate to less than the valve's closing flow. (Valve should be selected by closing flow rating - not just by pipe size).
- 2. The break or damage to the downstream line is not large enough to allow enough flow to close the valve.
- 3. A shut-off valve in the line is only partially open and will not allow enough flow to close the excess flow valve.
- 4. LP-Gas pressure upstream of the excess flow valve, particularly due to low temperature, is not high enough to produce a closing flow rate.
- 5. Foreign matter (such as welding slag) is lodged in the valve and prevents its closing.
- 6. A buildup of process material (sludge), which may be found in LP-Gas, may occur over a period of time and cause the valve to stick open.
- 7. The piping break or damage occurs upstream of an in-line excess flow valve, so the escaping product is not passing through the valve.
- 8. The flow through the valve is in the wrong direction. (Excess flow valves only respond to flow in one direction.)
- 9. The excess flow valve has been damaged, or is otherwise not in operating condition.

Because of these limitations of excess flow valves, they should not be relied upon as the only means of controlling the escape of product in the event of piping damage. When possible, shut-off protection by quick closing valves, with shut-off controls accessible in spite of likely line damage, should be provided in addition to, or instead of excess flow valves.

Where excess flow valves are installed, they should be checked to see that:

- 1. They are installed in the correct direction the arrow on the valve indicates the shut-off direction.
- 2. The flow rating on the valve is proper for the installation. The rating must be above the normal system flow, but not higher than necessary to prevent "nuisance" closing in normal conditions. If the manufacturer's catalog information is not sufficient, the valve suppliers can provide sizing assistance.
- 3. In-line excess flow valves are installed so likely piping damage will occur downstream of the valve and will not separate the valve from the upstream piping.

When the excess flow valves can be examined separate from the line (before the installation or if removed for system maintenance), they should be checked to see that the parts are in good condition and that the poppet can be pushed fully closed.

Testing of Excess Flow Valves

In order to test an excess flow valve in a piping system, the flow through the valve must be made to exceed the valve's closing rating.

This testing should only be attempted by trained personnel familiar with the process. If no one at the facility has experience in proper testing, outside expert help should be obtained. The exact procedure used may vary with the installation, advisability of gas discharge, and availability of equipment.

In general, most testing makes use of the fact that excess flow valves are "surge sensitive" and will close quicker under a sudden flow surge than under steady flow. A sufficient surge can often be created by using a quick-closing valve to control sudden, momentary flow into a tank or piping section containing very low pressure. An audible click from the excess flow valve (and corresponding stoppage of flow) indicates its closure.

A test involving venting gas to the atmosphere is hazardous and may be impractical, or illegal.

Any test of any excess flow valve will not prove that the valve will close in an emergency situation, due to reasons cited before. This test will only check the valve's condition, and the flow rate sizing for those test conditions.

For additional information on excess flow valves and other means of shut-off protection, contact RegO and refer to NFPA 58.

Prepared by

NATIONAL PROPANE GAS ASSOCIATION

The purpose of this bulletin is to set forth general safety practices for the installation, operation, and maintenance of LP-Gas equipment. It is not intended to be an exhaustive treatment of the subject, and should not be interpreted as precluding other procedures which would enhance safe LP-Gas operations. The National Propane Gas Association assumes no liability for reliance on the contents of this bulletin.



General Information

RegO Excess Flow Valves have been designed, developed, and manufactured for a wide variety of industry needs for more than three decades.

Throughout the years, those concerned with installing and operating bulk plant facilities have looked to RegO products with confidence for reliable, long-lasting valves as required by the National Fire Protection Association (NFPA) Standards 58 and 59, as well as any state, provincial, and local regulations.

It is a responsibility we have not taken lightly. RegO products continue to not only assess the most effective designs, but anticipate and meet the industry's changing requirements. Toward that goal, RegO products include over fifty different types and sizes of excess flow valves (most of which are listed by Underwriters Laboratories) to meet the needs of the LP-Gas and anhydrous ammonia industries.

An Explanation and Warning

An excess flow valve is a spring-loaded check valve which will close only when the flow of fluid through the valve generates sufficient force to overcome the power of the spring holding it open. Each valve has a closing rating in gallons per minute and CFH/air.

The selection of a proper closing rating is critical. It requires a technical understanding of the flow characteristics of the piping system, including restrictions of the piping and other valves and fittings downstream of the excess flow valve.

System designers and operating people must understand why an excess flow valve, which remains open in normal operations, may fail to close when an accident occurs.

Warning: A downstream break in piping or hoses may not result in sufficient flow to close the valve.

How They Work

Excess flow valves permit the flow of liquid or vapor in either direction. This flow is controlled in only one direction (the direction of the arrow stamped on the valve). If the flow in that direction exceeds a predetermined rate (shown in this catalog for each valve), the valve automatically closes.

The valve disc is held in the open position by a spring. When the flow creates a pressure drop across the valve disc that overcomes the preset load on the spring, the valve disc moves to the closed position. It remains closed until the force on both sides of the valve disc are approximately equal (a small bleed hole in the disc of each valve permits equalization), then the spring automatically reopens the valve. When a line is completely broken, the pressure cannot equalize and the excess flow valve remains closed until the line is repaired. Because the bleed hole in each valve disc permits equalization of pressure, excess flow valves do not provide a 100 percent type shut-off.

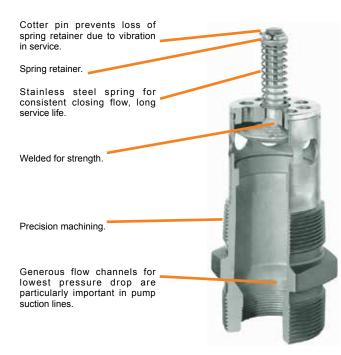
Proper Installation

Since excess flow valves depend on flow in order to close, the line downstream of the excess flow valve should be large enough not to excessively restrict the flow. If the piping is too small, unusually long or restricted by too many elbows, tees and other fittings, consideration should be given to the use of larger size pipe fittings.

An excess flow valve in a pump suction line cannot be expected to close in the case of a clean break in the line beyond the pump, as the pump constitutes too great a restriction, even if running.

Good piping practices dictate the selection of an excess flow valve with a rated closing flow of approximately 50 percent greater than the anticipated normal flow. This is important because valves which have a rated closing flow very close to the normal flow may chatter or slug closed when surges in the line occur during normal operation, or due to the rapid opening of a control valve.

All installations must be in accordance with NFPA Standards 58 and 59, as well as state, provincial and local regulations.





Excess Flow Valves for Liquid or Vapor Service 1519C Series

Application

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.

Features

- Precision machined
- · Generous flow channels provide low pressure drop.
- Cotter pin prevents loss of spring retainer due to vibration in service.
- Stainless steel spring provides consistent closing flow and long service life.

Materials

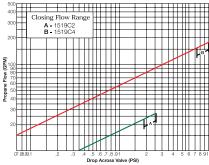
1519C2

Body	Brass
Valve Poppet w/Stem	Brass
Spring Stainles	
Guide	

1519C4

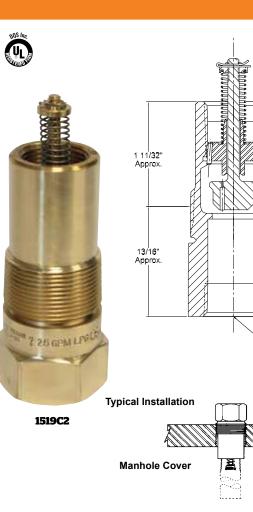
Body	Brass
Valve Disc	Cadmium Plated Steel
Stem	Stainless Steel
Spring	Stainless Steel
Guide	Ductile Iron

Performance



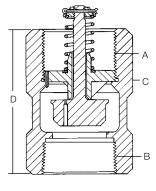
NOTE: Multiply flow rate by .94 to determine liquid butane flow.







1519C4



1519C4

Typical Installation

Ordering Information

	А	В		D		Арр	roximate Closing Flo	WS**
	Inlet Connection	Outlet Connection	C Wrench Hex	Effective Length	E Threaded End to	Liquid	Vapor SCFI	H (Propane)
Part Number	NPT	F. NPT	Flats	(Approx.)	Port	(GPM Propane)	25 PSIG Inlet	100 PSIG Inlet
1519C2	11/2" Male*	1"	21⁄4"	21⁄16"	2 ¹¹ ⁄16"	25	5,000	8,800
1519C4	2" Female	2"	3"	4%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.

100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com +1 (336) 449-7707



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

Application

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.

Features

- Precision machined.
- · Generous flow channels provide low pressure drop.
- Cotter pin prevents loss of spring retainer due to vibration in service.
- Stainless steel spring provides consistent closing flow and long service life.

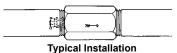
Materials

1519A Series and 1519B Series

Body	. Brass
Valve Poppet w/Stem	. Brass
Spring Stainle	ss Steel
Guide	

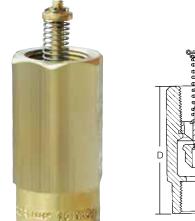
A1519 Series

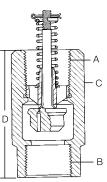
Body	
Valve Disc	Cadmium Plated Steel
Stem	
Spring	Stainless Steel
Guide	





Ordering Information

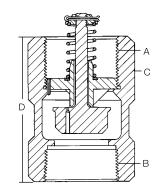




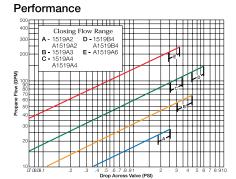
1519A2, 1519A3, 1519A4, 1519B4, A1519A2, A1519A4, A1519B4



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A1519A6



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

		A	В		D	D Approximate Closing Flows*		ows*
	Brass	Inlet Connection	Outlet Connection	C Wrench Hex	Effective Length	Liquid	Vapor SCFI	H (Propane)
Part Number	or Steel	NPT	F. NPT	Flats	(Approx)	(GPM Propane)	25 PSIG Inlet	100 PSIG Inlet
1519A2	Brass	1"	1"	13/4"	3½"	ź" 25	5,000	8,800
A1519A2	Steel		1	1 /4				
1519A3	Brass	1½"	11⁄2"	21⁄4"	4"	60	11,500	20,200
1519A4	DIdSS				4%16"	100	19.000	24 500
A1519A4	Steel	2"	2"	3" -	4 ¹³ ⁄16"	100	19,000	34,500
1519B4	Brass	2			4%16"	133	27.700	50.200
A1519B4	Steel				4 ¹³ ⁄16"	100	27,700	50,300
A1519A6	Sieer	3"	3"	4"	6 ²⁷ / 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.



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

Application

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.

Features

- Precision machined.
- Generous flow channels provide low pressure drop.
- Stainless steel spring provides consistent closing flow and long ٠ service life.

Materials

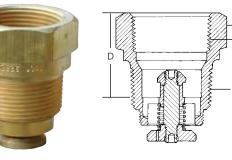
Series 3272, 3282, 3292, 7574, 12472

Body	Brass
Seat Disc	Brass
Stem	Brass
Spring Stainle	ess Steel
Guide (12472 ONLY)	

Series A3272, A3282, A3292

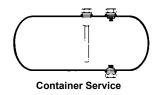
Body	Cadmium Plated Steel
Seat Disc	Cadmium Plated Steel
Stem	Cadmium Plated Steel
Spring	Stainless Steel

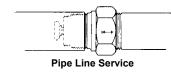




3282A







P

REGO YEAR WARRANTY

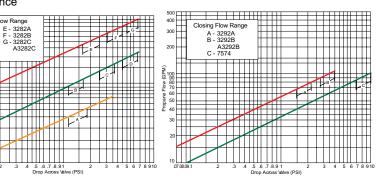
Performance

12472 3272E 3272F

A3272G

BC 3 Ď 3272G

(GPM) Mol ronane Closing Flow Rand



Ordering Information

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

			в		D	Approxi	mate Closing Flow*		
Part	Brass or	A Inlet Connection	Outlet Connection	C Wrench	Effective Length		Vapor SCF	'H (Propane)	
Number	Steel	(M. NPT)	(F. NPT)	Hex Flats	(Approx.)	Liquid (GPM Propane)	25 PSIG Inlet	100 PSIG Inlet	
12472					11/16"	4	1,050	1,700	
3272E	Brass					10	2,100	3,700	
3272F	DIdSS	3/4"	3/4"	13⁄8"	15/16"	15	2,800	5,000	
3272G						20	0.700	6,900	
A3272G	Steel				13/8"	20	3,700	0,900	
3282A						30	5,850	10,000	
3282B	Brass	Brass 11/4"	11/"	1¼"	2"	17⁄16"	40	7,600	13,600
3282C			1 /4	1 /4	2		50	9,000	16,300
A3282C	Steel				15⁄8"	50	9,000	10,300	
7574		11⁄2"	11⁄2"	21/4"	17⁄8"	90	15,200	28,100	
7574L	Brass	1 /2	1 /2	Z74	1 1/8	70	14,000	25,000	
3292A	1			21/8"		75	14.000	04.000	
A3292A	Steel	3"		75	14,200	24,800			
3292B	Brass	2"	2"	21/8"	2"	100	19 100	22 700	
A3292B	Ctool]		3"		100	18,100	32,700	
A3292C	Steel			3		122	22,100	37,600	

* 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

Application

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.

Features

- Solid brass construction ٠
- Stainless steel spring ٠
- Meets UL requirements •
- Highest flowing valve in the market ٠



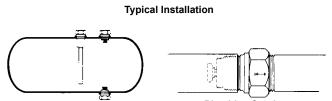


3272H

Materials

F

Body	Brass
Spring	Stainless Steel
	Brass

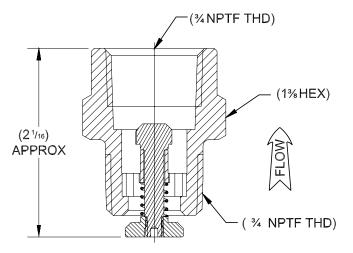


Container Service



Pipe Line Service





Ordering Information

Part Number	Inlet Connection	Outlet Connection	Wrench Hex Flats	Effective Length (Approx.)	Liquid (GPM Propane)
3272H	3/4"	3/4"	1¾"	1%"	29



Excess Flow Valves for Container Service A7537 Series, A7539 Series, A8523 and A8525

Application

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.

Features

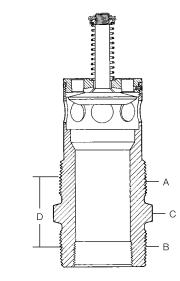
- Precision machined.
- ٠ Generous flow channels provide low pressure drop minimizing cavitation in pump suction lines.
- Cotter pin prevents loss of spring retainer due to vibration in ٠ service.
- Stainless steel spring provides consistent closing flow and long ٠ service life.
- Separate models for installation in either half or full couplings.

Materials

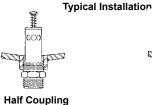
Body	Cadmium Plated Steel
Body (A7539 Series Only)	Ductile Iron
Seat Disc	Cadmium Plated Steel
Stem	Stainless Steel
Spring	Stainless Steel
Guide	Cadmium Plated Steel











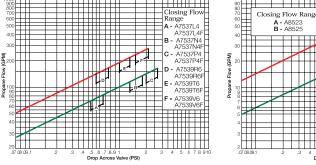
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F

Full Coupling

e (PSI)







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

			В			Approximate Closing Flow*		low*
Part	For Use With This	A Outlet his Inlet Connection C		D Effective Length	Liquid (GPM	Vapor SCFH (Propane)		
Number	Type Coupling	M. NPT	NPT	Wrench Hex Flats	(Approx.)	Propane)	25 PSIG Inlet	100 PSIG Inlet
A8523	Half	3/4"	¾" Male	11⁄8"	13⁄4"	15	5,170	8,800
A8525	Half	11⁄4"	1¼" Male	1 ³ ⁄ ₄ "	21⁄8"	35	12,540	21,560
A7537L4	Half		2" Male and 1¼" Female			75	13,000	25,600
A7537L4F	Full			2 ⁵ ⁄8"	21⁄2"		13,000	
A7537N4	Half	2"				125	25,000	42,500
A7537N4F	Full	2				125	23,000	42,500
A7537P4	Half					150	30,500	52,000
A7537P4F	Full					150	30,300	52,000
A7539R6	Half					150	32,100	55,500
A7539R6F	Full					150	32,100	55,500
A7539T6	Half	3"	3" Male	33⁄4"	31⁄8"	200	20,400	68,300
A7539T6F	Full] 3	and 2" Female	374	3/8	200	39,400	00,300
A7539V6	Half]	2 . 311010			250	E1 100	99 700
A7539V6F	Full					200	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.

Performance



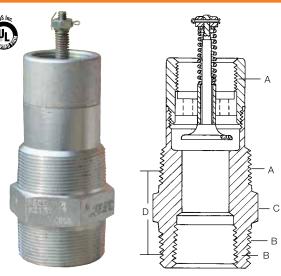
Excess Flow Valves for Vapor or Liquid A2137 Series and 2139 Series

Application

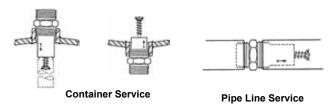
Designed especially for filling, withdrawing or vapor equalizing in half and full coupling installations. Ideal for container service where welded-in dip pipes are not provided. For vapor use, mount in the bottom opening with a threaded dip pipe. For liquid use, mount in the top opening with a threaded 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.

Features

- Precision machined.
- Cotter pin helps prevents loss of spring retainer due to vibration in service.
- Stainless steel spring provides consistent closing flow and long service life.
- · Generous flow channels provide low pressure drop.



A2137



Typical Installations



AZIJ/ Jelles	
Body	Cadmium Plated Steel
Disc	Cadmium Plated Steel
Stem	
Spring	Stainless Steel
Guide	

2139 Series

15

	ody		
D	isc		Brass
S	tem	Stainless	s Steel
S	pring	Stainless	Steel
G	uide		Brass



Performance

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

Ordering Information

		Ар				roximate Closing Flows***		
	A Inlet Connection	B Outlet Connection	C	D Effective Length	Liquid	Vapor SCFH (Propa		
Part Number	NPT	F. NPT	C Wrench Hex Flats	(Approx.)	(GPM Propane)	25 PSIG Inlet	100 PSIG Inlet	
A2137	2"*	2" Male and 11/4"	2//40"	1%16"	50	10,000	17,000	
A2137A	2	Female			70	14,000	25,000	
2139	3"**	3" Male and 2"	01/"	31⁄2" 13⁄4" –	125	26,500	46,000	
2139A	5	Female	3/2		160	32,700	57,200	

* 1¹⁄₄" 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.



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

Application

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.

Features

- Precision machined.
- Generous flow channels provide low pressure drop minimizing cavitation in pump suction lines.
- Cotter pin prevents loss of spring retainer due to vibration in service.
- Stainless steel spring provides consistent closing flow and long service life.

Materials

Body	Cadmium Plated Steel
Seat Disc	Cadmium Plated Steel
Stem	Stainless Steel
Spring	Stainless Steel
Guide	

Flanged Installation In Container

NOTE: The opening in the tank flange should be machined with a 1/4"-45° chamfer at the outer edge. The thread should be tapped one or two turns large as checked by a plug gauge. This and the undersize thread on the valve should permit the valve to be installed so that its outer face is at least flush with the outer edge of the flange.

The valve is screwed into this opening by fitting a 1/4" flat metal piece into the slot and turning until hand tight. A lubricant may be used, but a luting compound is not necessary since this joint does not have to be gas tight.

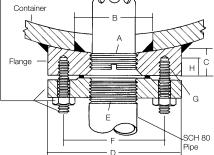
If any difficulty is experienced in "making up" the valve to fit flush, as indicated, the thread in the tank flange can be tapped.

Design and construction of tank and flange must be in accordance with the appropriate section of the ASME Pressure Vessel Code.

Ordering Information

					Арргох	imate Clo	sing Flows*			
	A Inlet		C Effective	D	Liquid	Vapor SCFH (Propane)				
Part Number	Connection NPT	For Installation	Thread (Approx.)	Threaded End To Port	(GPM Propane)	25 PSIG Inlet	100 PSIG Inlet			
A3500L4					75	13,000	22,500			
A3500N4	2"		3/4"	1 ¹⁵ ⁄16"	125	25,000	42,500			
A3500P4					150	30,500	52,000			
A3500R6		Slotted Body			150	32,100	55,500			
A3500T6	3"	Body	1"	1%16"	200	39,400	68,300			
A3500V6]							250	51,100	88,700
A4500Y8	4"		11/16"	1 ¹⁵ ⁄16"	500	89,000	154,000			

Specifications for companion flanges, gaskets, bolts and nuts must meet the appropriate codes, such as ASA B16.5 Valve $\bigcirc \bigcirc \bigcirc \bigcirc$ Containe



Ο

A3500L4

Performance

D

С

B

losing Fl

A - A3500L4

B - A3500N4

C - A3500P4 **D -** A3500B6

E - A3500HC F - A3500T6 G - A4500Y6



Key No.	Description	A3400L4, A3500L4, A3500N4, A3500P4	A3400L6, A3500R6, A3500T6, A3500V6	A4500Y8
A	Valve Size (NPT)	2"	3"	4"
В	Tank Opening	31⁄2"	4½"	5½"
С	Thickness (min.)	1"	1¼"	1¾"
D	Outside Diameter	6½"	8¼"	10"
E	Pipe Thread (NPT)	2"	3"	4"
F	Bolt Circle Dia.	5"	6%"	71⁄8"
F	Number of Bolt Holes	8	8	8
G	Bolt Hole Thread	%" -11 NC - 2	¾" - 10 NC - 2	¾" - 10 NC - 2
H	Bolt Hole Thread (min. eff.)	3⁄4"	1"	11⁄8"

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow. * 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 Liquid or Vapor Withdrawal 2723C and A8013D Series

Application

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.

Features

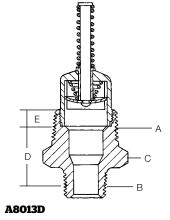
- 2723C provides a 3/4" dip pipe inlet connection for top-mounted liquid or bottom-mounted vapor requirements.
- A8013D Series features a 2-position floating valve disc for faster, • more efficient container filing.
- Precision machined.
- Stainless steel spring provides consistent closing flow and long service life.
- Generous flow channels provide low pressure drop. ٠

Materials

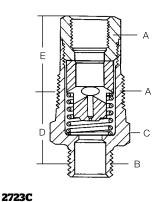
A8013D Series	
Body	Cadmium Plated Steel
Disc	Stainless Steel
Stem	Stainless Steel
Spring	Stainless Steel
Guide	Cadmium Plated Steel
Insert	Stainless Steel
2723C	
Body	Brass
Valve Poppet	Brass
Retainer	Brass

Spring Stainless Steel

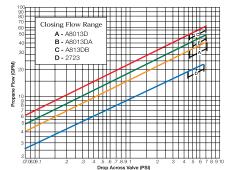




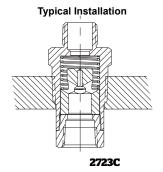


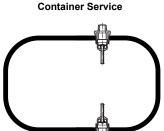


Performance









A8013D

Ordering Information

	A.	B.		D.		A	pproximate Closing Flow	**
	Inlet Connection	Outlet Connection	C. Wrench Hex	Effective Length	E. Threaded End	Liquid	Vapor SCFF	I (Propane)
Part Number	M. NPT	NPT		To Port	(GPM Propane)	25 PSIG Inlet	100 PSIG Inlet	
A8013D		3/4"		1 ¾2"		39	8,700	14,700
A8013DA	1¼"	1"	1¾"	1 ¾16"		44		
A8013DB		11⁄4"		17⁄32"		55	10,900	19,300
2723C	11⁄4"	3⁄4"	1 ¹¹ ⁄16"	1 5⁄16"	1 ¹⁵ ⁄16"	20	3,900	6,900

* ¾" 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.

Excess Flow Valve for Pressure Gauges 2884D

Application

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.

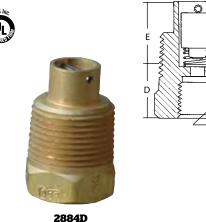
Features

- Precision machined.
- Suitable for use with all 1/4" M.NPT pressure gauges.

Materials

Body	Brass
Valve	Brass
Spring	Stainless Steel
Pin Stainless Steel	

Ordering Information





						Approxin	Approximate Closing Flow*		
	Д	в		D	E		Vapor SCFH	(Propane)	
Part Number	Inlet Connection M. NPT	Outlet Connection F. NPT	C. Wrench Hex Flats	Effective Length (Approx.)	Threaded End To Port	Liquid (GPM Propane)	25 PSIG Inlet	100 PSIG Inlet	
2884D	3/4"	1/4"	11⁄16"	¹¹ ⁄16"	¹⁵ ⁄16"	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

Application

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.

Features

- Integral ball check design.
- Machined groove designed to break-off and allow excess flow valve ball to close.

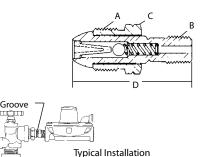
Materials

Body	Brass
Nut	Brass
Bell	Stainless Steel
Spring	Stainless Steel
Retainer Spring	Stainless Steel
Retainer	









NOTE:

No protection is afforded should break-off occur downstream of the groove. Also, restrictions introduced by the regulator may prevent closing of the valve due to limited flow capacity. The valve's purpose is to protect the cylinder valve outlet should the regulator be broken off of its connection (at the groove), in which case it will close. It must not be depended upon to protect against breaks downstream of the regulator.

Ordering Information

					А	pproximate Closing Flow	v*
		R		п		Vapor SCFI	H (Propane)
Part Number	A. Inlet Connection	Outlet Connection	C. Wrench Hex Flats	Effective Length (Approx.)	Liquid (GPM Propane)	25 PSIG Inlet	100 PSIG Inlet
3199W	Male POL	1⁄4"	7⁄8"	27⁄16"	.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.



Designed to provide a convenient means of withdrawing liquid from stationary containers prior to moving the container.

NFPA Pamphlet 58 standards require: 1) containers with 125 gallons water capacity, or more, have a connection for liquid evacuation which is at least ³/₄" NPT, and 2) containers designed for stationary use, have no more propane than 5% of their water capacity in liquid form during transportation. These rules apply to containers manufactured after July 1, 1961.

Chek-Lok® Operation

Instructions to Open Chek-Lok®

1 Loosen cap to vent any accumulated LP-Gas from the Chek-Lok. After venting stops, remove the cap. If venting does not stop, retighten the cap and use other approved means to withdraw liquid from the container.

NOTE: Use a suitable size wrench when removing the cap and adapter from the Chek-Lok. Do not allow the Chek-Lok to un-thread from the tank during removal. When necessary, use a second wrench to secure the Chek-Lok in position.

- 2 Before beginning withdrawal, securely connect a RegO 7550P angle valve or suitable shut-off valve to the adapter. Fully open the shut-off valve – the valve's handwheel must be fully opened before connecting adapter to tank.
- 3 Completely thread the adapter and shut-off valve assembly onto the Chek-Lok by turning adapter's coupling nut clockwise until it is tight. Immediately close the shut-off valve. Listen for an audible click to signal that the Chek-Lok has opened and is actuated for liquid withdrawal. The flow can now be controlled by the transfer valve.
- 4 Check the coupling nut and adapter assembly for leaks using a suitable leak detection solution.

If the Chek-Lok fails to open after following this procedure, the pressure downstream of the shut-off valve should be increased to equalize pressure in the Chek-Lok. It is simple to equalize pressures using vapor from either the vapor return valve or service valve, or from a hose end valve connected to the delivery truck.

Instructions to Close Chek-Lok®

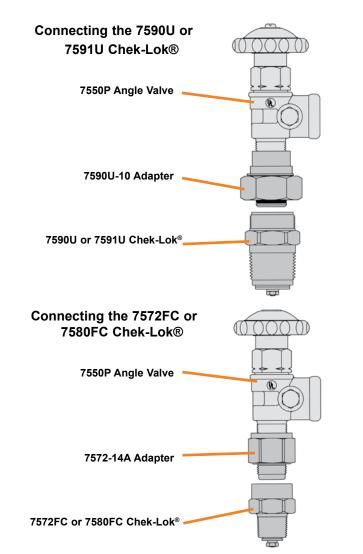
15

- 1 To re-lock the Chek-Lok, container pressure must be in excess of 35 PSIG. Close shut-off valve and disconnect the hose or piping.
- 2 Open shut-off valve fully. Liquid discharging to the atmosphere should cause the excess flow feature of the Chek-Lok to close, provided tank pressure is 35 PSIG or more.

If, for any reason, the excess flow valve does not close, the shutoff valve must be closed immediately and must not be removed until the system can be evacuated and the unit repaired.

- 3 After the excess flow valve closes, remove the Adapter and Shut-Off Valve Assembly.
- 4 Clean face of Chek-Lok and install the Cap with a gasket. IMPORTANT: Only use the proper Chek-Lok Cap. Do not use a standard pipe cap.

The Chek-Lok[®] permits one transfer shut-off valve with an adapter to be used interchangeably on a number of tanks. With a Chek-Lok[®] on each tank and a high capacity RegO 7550P Series transfer valve and adapter on all your service and delivery trucks – the need for individual transfer valves is eliminated. This provides a substantial savings without sacrificing safety.

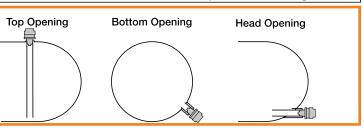


In the absence of a 7550P transfer valve, a $\frac{3}{4}$ " A7505A Globe Valve or A7506AP Angle Valve may be used. Follow the above procedures using the 7572C-15A adapter instead of the 7572C-14A. Use a RegO 7550P without an adapter in an emergency only.

CAUTION: Always wear approved protective gloves when working with the Chek-Lok®. Do not vent LP-Gas near possible source of ignition.

Chek-Lok® Mounting

Chek-Lok® Valves may be either top mounted with a dip tube or bottom mounted. For bottom mounting, it is preferable to position the coupling in the head or slightly off of the bottom. This helps prevent the accumulation of sludge, etc. around the valve which could affect the proper operation of the excess flow valve.





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

Application

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.

Features

- Extra strength connection between body and adapter provides increased strength.
- Weep hole in cap provides indicator to verify Chek-Lok® is closed before cap removal.
- Heavy duty brass cap requires at least 31/2" full turns for removal.
- O-ring seal on adapter provides a gas tight seal before the adapter opens the equalizing stem.
- · Eliminates need for individual transfer valves at each container.
- UL listed.

Ordering Information



Materials

Body	Brass
Stem	Brass
Spring	Stainless Steel
Seals	Synthetic Rubber
Valve Poppet	Brass
Gasket	Nylon

		A.	B.		Approximate Closing	
Chek-Lok® Number	Inlet Connection	Outlet Connection	Body Wrench Hex Flats	Approximate Effective Length	C. Cap Wrench Hex Flats	Flow, Liquid GPM (Propane)*
7590U	3⁄4" M. NPT	15%" UNF	13⁄4"	17⁄16"	15⁄16"	20
7591U	1¼" M. NPT		1¾"	1%"	19/16	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.

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

Application

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.

Features

- Built in nylon gasket provides a gas tight seal.
- Adapter can be installed without depressing the equalizing stem of the Chek-Lok®.
- Design eliminates the need to slug excess flow feature of Chek-Lok® when removing the adapter.
- Built in bleeder valve allows controlled discharge of liquid before removing the adapter.



Ordering Information

Adapter Number	Inlet Connection	Outlet Connection	A Wrench Hex Flats	B Approximate Length
7590U-20	15⁄8-12 UNF	3/4"	13⁄4"	4 ¾16"

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

Application

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.

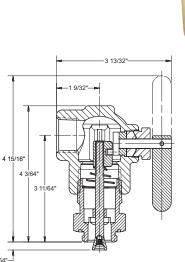
Features

15

- Built in nylon gasket provides a gas tight seal.
- Adapter can be installed without depressing the equalizing stem of the Chek-Lok®.
- Design eliminates the need to slug the excess flow feature of the Chek-Lok® when removing the adapter.
- Built in bleeder valve allows for controlled discharge of liquid before removing the adapter.

Ordering Information

Adapter Number	Inlet Connection	Outlet Connection	Approximate Length	Wrench Hex Flats	
7580F-20	¾" M.NPT	¾" F. NPT	4 ⁹ ⁄32"	1¾"	15/



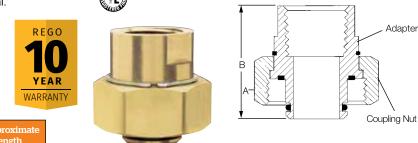


7580F-20



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.



7590U-10

Ordering Information

Adapter	Inlet	Outlet	A. Wrench Hex	B. Approximate
Number	Connection	Connection	Flats	Length
7590U-10	1%" UNF	¾" F. NPT	1¾"	11⁄8"

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.



Ordering Information

Adapter Number	Inlet Connection	Outlet Connection	A. Wrench Hex Flats	B. Approximate Effective Length
7572C-14A	3⁄4" M. NPT	¾" F. NPT	13⁄8"	1"
7572C-15A	74 IVI. INP I	3⁄4" M. NPT	178	3⁄4"





General Information

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
.3 ¹ //"	A3194-8R



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 handtight connection of cap and hose coupling.
- Safety groove is designed to shear below the ACME thread, leaving the valve seats closed and unaffected if the delivery truck pulls away with the hose connected.
- Seat disc of special synthetic composition is extra thick for longer life.
- Valve guide is precision machined to ensure positive seal.
- Exclusive swing-away lower back check valve for extra fast filling is provided on Models L6579 and 6587. Differs from conventional design by swiveling to a vertical position when opened.

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

Application

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.

Features

- Low emission- 2.14 cubic centimeters at disconnect (2.14cc versus 6.85cc)
- Double back check provides added system protection.
- Upper filler valve assembly can be easily replaced without evacuating the container.
- Both checks are spring actuated for quick, precise closure when • flow into the valve stops or reverses.
- 6579 Series swing-away check promotes faster filling for more profitable operations.
- Specify RegO Filler Valves on all your original tank purchases to ensure quality and dependable performance.



Upper Body..... Brass Lower Body..... Brass Washer and Seat Disc..... Synthetic Rubber

Cap..... Plastic

Ordering Information

Part Number		AB.		C	D.	Propane Liquid Capacity at Various Differential Pressures (GPM)				
Basic	With Cap & Lanyard	ACME Hose Connection	Tank Connection M. NPT	Wrench	Effective Length (Approx.)	5 PSIG	10 PSIG	25 PSIG	50 PSIG	75 PSIG
L7579	L7579C			11⁄4" 17⁄8" -	1 ²⁷ ⁄32"	50	70	111	157	192
7579P*	-	13⁄4"	11/"		2 ½32"	37	52	82	116	142
L6579**	L6579C**	174	1 1⁄4		1 ²⁷ /32"	78	110	174	246	301
L6579					1-732	10	110	174	240	301

* Incorporates 3/4 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.



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

General Information

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.

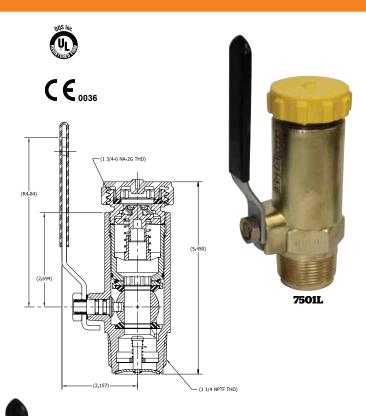
Application

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.

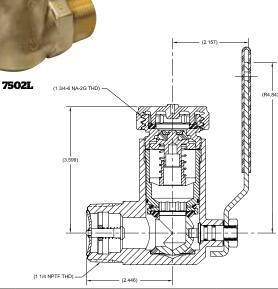
Features

l a

- Low emission 2 cc or less at disconnect.
- · Meets NFPA 58 and UL requirements.
- · Double back check provides added system protection.
- Checks are spring activated for quick precise closure when flow stops.
- Manual shutoff valve is designed to provide additional system protection when disconnecting hose end valve from filler valve.
- Hose end valve cannot be removed from the 7501L or 7502L if the lever is in the open position.
- When manual shutoff valve is closed, an integral back check prevents liquid from being trapped between the shutoff and the upper check.







Ordering Information

Part			Propane Liquid Capacity at Various Differential Pressures			
Number	Container Connection	ACME Hose Connection	15 PSIG	25 PSIG	50 PSIG	
7501L		1¾" M.ACME	62 GPM	90 GPM	6125 GPM6	
7502L	174 M.NPT		62 GPW	90 GPW	0125 GPINO	



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

CE0036

Application

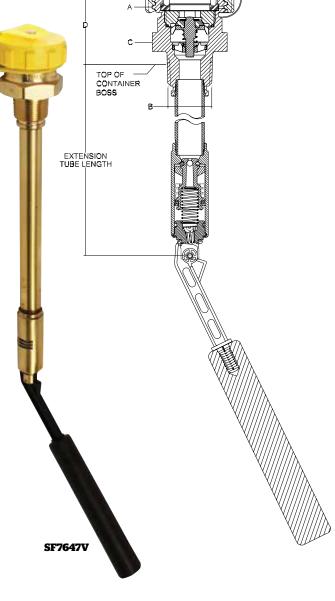
This combined filler valve and overfill protection device is designed to provide fast filling and protection against overfilling of Vertical above ground small bulk type containers. The SF7647V Series offers good fill rates and an overfill prevention device that will stop* the flow of product into the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

Features

- Large flow area for fast filling.
- Resilient seated upper check.
- Stable Overfill Protection Device that is integral to the filler valve. •
- Overfill Protection Device will stop the flow of liquid when the ٠ 80-83% level is reached.

Materials

Brass
Brass
Stainless Steel
Synthetic Rubber
Plastic
Nylon
Nylon
Closed Cell Nitrile





Ordering Information

Part 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	10	24	E0	
SF7647V11.1	19	24	50	





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

Application

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.

Features

- Low emission filler valve, will not release more than 2.14cc when • disconnected.
- Large flow area for fast filling. •
- Resilient seated upper check. •
- Stable Overfill Protection Device that is integral to the filler valve. •
- Overfill Protection Device will stop the flow of liquid when the 80% • level is reached.

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.

Materials

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Upper body	
Lower body	Brass
Springs	
Washer and seat disc	Synthetic Rubber
Cap	Resilient Molded Plastic
OPD check	
OPD lever and riser	Nylon
OPD float	





Ordering Information

Part	ACME Hose	Tank Connection		Length	Propane Liquid Capacity at Various Differential Pressures GPM			
Number**	Connection		Wrench Hex Flats		1 PSI	25 PSI	50 PSI	75 PSI
SFL7579V13.8			11/8"	14.43"	23	49	54	66
SFL7579V13.0	10/11			13.63"				
SFL7579V12.3	1¾" Male	1¼"		12.93"				
SFL7579V11.1	Male			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

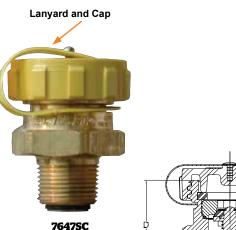
Application

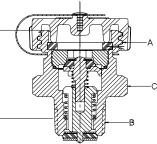
Designed to provide fast filling of forklift, motor fuel, and recreational vehicle tanks.

Features

- Resilient seat disc in lower check designed to provide a gas tight seal without leakage.
- Double back check provides added system protection.
- 7647SA has 30° angle on hose connection. Makes connection ٠ and disconnection easier for certain engine fuel applications.
- Large 1³/₄" wrench flats on 7647SC allow use of socket wrench for easy installation.
- Specify RegO Filler Valves on all your original tank purchases to ٠ ensure quality and dependable performance.







Materials

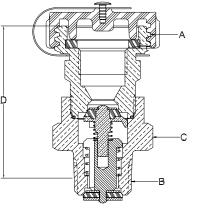
Upper Body	Brass
Lower Body	Brass
Springs	Stainless Steel
Washer and Seat Discs	
Сар	Plastic

REGO

YEAR WARRANTY







Ordering Information

		в	с	D	Propane L	iquid Capacity	at Various Diffe	rential Pressure	s (GPM)**
Part Number	A Hose Connection	Tank Connection M. NPT	Wrench Flats	Effective Length (Approx.)	10 PSIG	20 PSIG	30 PSIG	40 PSIG	50 PSIG
7647DC	1¾" ACME + F. POL	3/"	15⁄8"	2 ⁹ / ₁₆ "	14	20	24	27	50
7647SC*	1¾" ACME	/4	1¾"	1 ¹¹ / ₁₆ "*	14	20	24	21	50

* Large 1%" hex wrench flats. ** Multiply flow rate by .94 to determine liquid butane capacity.



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

Application

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

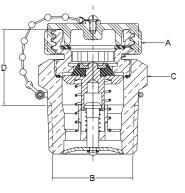
The 6587EC incorporates a swing-away lower check which greatly reduces pressure drop across the valve. This lower pressure drop promotes faster filling rates and greater efficiency resulting in more profitable operations.

Features

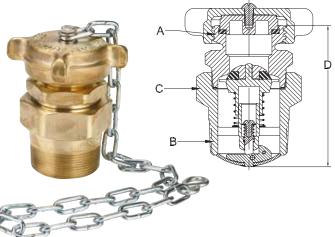
- Double back check provides added system protection.
- Upper filler valve assembly can be easily replaced without evacuating the container.
- Both checks are spring actuated for quick, precise closure when flow into the valve stops or reverses.
- 6587EC swing-away check promotes up to 65% faster filling rates for more profitable operations. Faster filling rates add longer pump life by reducing chances of cavitation.
- Specify RegO Filler Valves on all your original tank purchases to ensure quality and dependable performance.



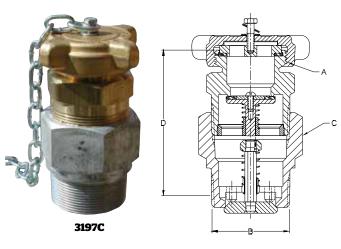




7579S



6587EC



Materials

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Upper Body	Brass
Lower Body (7579S and 6587EC)	Brass
Lower Body (3197C)	Plated Steel
Springs	Stainless Steel
Washer and Seat Discs	Synthetic Rubber
Cap (6587EC and 3197C)	Brass
Cap (7579S)	Plastic



Ordering Information

	A.	B.	C.	D.	Prop	ane Liquid Capaci	ty at Various Diffe	rential Pressures (GPM)
Part Number	ACME Hose Connection	Tank Connection M. NPT	Wrench Hex Flats	Effective Length (Approx.)	5 PSIG	10 PSIG	25 PSIG	50 PSIG	75 PSIG
7579S	1¾"	1½"	2"	2 ¹¹ ⁄16"	44	62	98	139	170
6587EC*	21⁄4"	2"	21/8"	43%"	92	130	206	291	356
3197C	3¼"	3"	4"	6½"	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

Application

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.

Features

- Specifically for use with RegO Back Check Valves.
- 6584C stem assembly reduces turbulence during filling and promotes higher filling rates.
- Specify RegO Filler Valves on all your original tank purchases to ensure quality and dependable performance.

Materials

Upper Body	Brass
Lower Body	Brass
Springs	Stainless Steel
Washer and Seat Discs	
Cap (3194C, 6584C)	Brass
Cap (3174C)	Plastic







3174C



3194C, 6584C

Ordering Information

		Outlet			For Use With			
Part Number	ACME Hose Connection	Connection M. NPT	Wrench Hex Flats	5 PSIG	10 PSIG	25 PSIG	50 PSIG	Back Check Valve:
3174C	1¾"	1¼"	1 ¹¹ / ₁₆ "	23	33	52	74	3176
6584C*	21⁄4"	2"	23⁄8"	156	220	348	492	A3186
3194C	31⁄4"	3"	31⁄2"	147	208	329	465	A3196

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

Vapor Equalizing Valves

General Information

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
11⁄4"	A2797-20R
1³⁄₄"	A2697-20R



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

Application

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.

Features

- Double check provides added system protection. ٠
- Specify RegO Vapor Equalizing Valves on all your original tank purchases to ensure quality and dependable performance.

Materials

Body	Brass
Spring	
Upper Check Seat + ACME	Synthetic Rubber
Body Gasket	Copper
Сар	

Ordering Information								
Part Number		A.	B.	C.	D.	Approx. Closing Flow at		
Basic	W/ Chain & Cap	ACME Hose Connection	Tank Connection M. NPT	Wrench Hex Flats	Effective Length (Approx.)	100 PSIG Inlet Pressure (SCFH/Propane)		
7573D	7573DC	1¼"	3/4"	1¾"	1 ¹⁵ ⁄32"	4,100		
-	3183AC	1¾"	1¼"	2"	2 ²⁹ /32"	10,000		

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

Application

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.

Features

- Specifically for use with RegO Excess Flow Valves.
- Specify RegO Vapor Equalizing Valves on all your original tank purchases to ensure quality and dependable performance.

Materials

	Brass
Spring	Stainless Steel
Seat Disc	Synthetic Rubber
Seal	Synthetic Rubber
Сар	Plastic

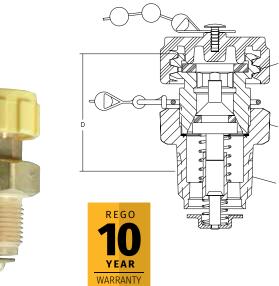


Ordering Information

Part Number	A.	B.	C.	D.	Approximate Closing Flow at	East Les Mith Essense	
With Cap & Chain		M.NPT	1		(SCFH/Propane Vapor)	For Use With Excess Flow Valve:	
-	1¼"	3/4"	1¼"	1 ½16"	7.600	3272E	
3180C	1¾"	1¼"	1 ¹¹ ⁄16"	11⁄2"	10,000	3282A	
2	art Number With Cap & Chain	Part Number A. ACME With Cap & Chain Connection - 1¼"	Part Number A. B. ACME Tank Connection With Cap & Chain Connection - 1¼"	Part NumberA. ACMEB. Tank ConnectionC. Wrench Hex FlatsWith Cap & ChainConnectionM.NPTHex Flats-1¼"¾"1¼"	Part NumberA. ACMEB. Tank ConnectionC. WrenchD. Effective LengthWith Cap & ChainConnectionM.NPTHex FlatsCApprox.)-1¼"¾"1¼"1¼"	Part NumberA. ACMEB. Tank ConnectionC. WrenchD. Effective LengthApproximate Closing Flow at 100 PSIG Inlet Pressure (SCFH/Propane Vapor)With Cap & Chaim1¼"¾"1¼"1½"7.600	

3170





7573 Series



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

Application

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.

Features

- · Generous flow channels for low pressure drop.
- · Heavy-duty construction for long service life.
- Soft seat valves have synthetic rubber seat disc for positive seals.

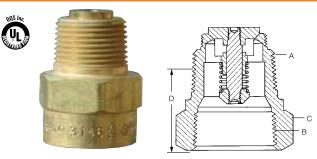
Materials

REGO

YEAR WARRANT

Body (3146, 3146S, 3176)	Brass
Body (all others)	Cadmium Plated Steel
Disc (3146, 3146S, 3176)	
Disc (all others)	
Stem (3146, 3146S, 3176)	Brass
Stem (A3146, A3196, A3276BC)	
Stem (A3176, A3186)	
Spring	Stainless Steel
Seat Disc (3146S, A3276BC)	

(2"-11.5 NPTF THD)



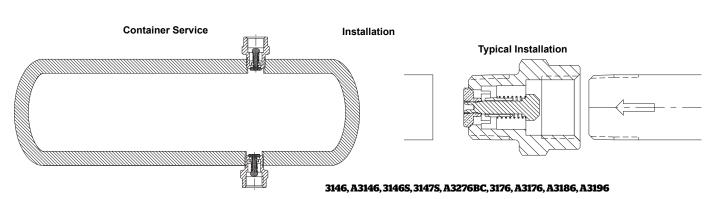
3146 Series, 3176 Series, A3186, A3196





A3198S

A3187S



Effective Length

(3"-8 NPTF THD)

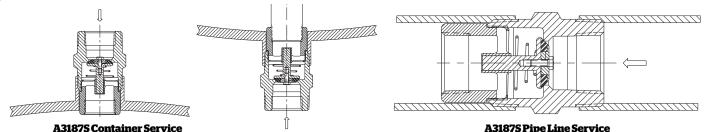
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Back Pressure Valves for Container or Line Applications 3146 Series, 3176 Series, A3186, A3187S, A3196, and A3276BC



A3187S Container Service

Ordering Information

Part N	lumber	А	В	с	D	Propane Liquid Capacity at various differential pressures (GPM)				
Brass	Steel	Inlet Connection F.NPT	Outlet Connection M. NPT	Wrench Hex Flats	Effective Length (approx.)	5 PSIG	10 PSIG	25 PSIG	50 PSIG	
3146	A3146	3/"	3/"	43/"	115/"	1 ¹⁵ / ₁₆ " 11	10	25	26	
3146S*		74	74	1¾"	1 13/16		16		36	
3176	A3176	41/"	41/"	0"	1 ¹³ /32"	28	40	63	89	
	A3276BC*	11⁄4"	1¼"	2"	21⁄8"	32	45	73	103	
	A3186	2"	2"	3"	23⁄8"	124	175	276	391	
	A3187S*	2" M & 1¼" F	2" M & 1¼" F	2³⁄s"	1 ²⁷ / ₃₂ "	60	110	225	350	
	A3196	3"	3"	4"	37/32"	297	420	664	939	
	A3198S* **	3" M & 2" F	3" M & 2" F	3½"	3¼"	210	290	400		

*Soft seat version.

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**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.

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

Application

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.

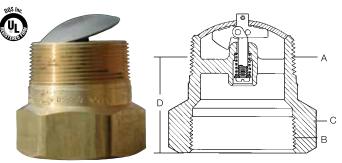
When used with the appropriate single check filler valve, the combination forms a double check filler valve suitable for use in filling of bulk storage tanks.

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.

Features

- Swing-away check design offers faster flow rates.
- Heavy-duty construction for long service life. ٠





6586D

Materials

Body (6586D)	
Body (A6586D)	Steel
Disc	
Stem Assembly	
Spring	Stainless Steel
Screw	

Ordering Information

Part N	umber	A.	B.	C.	D.	Propane Liquid Capacity at Various Differential Pressures (GPM)				
Brass	Steel	Inlet Connection F. NPT	Outlet Connection M. NPT	Wrench Hex Flats	Effective Length (Approx.)	5 PSIG	10 PSIG	25 PSIG	50 PSIG	
6586D		0 "	0 "	2¾"	21/32"	190	270	420	600	
	A6586D	2	2	21/8"	Z 732	190	270	420	000	
NOTE: Mul	NOTE: Multiply flow rate by .94 to determine liquid butane capacity.									



Back Pressure Check Valves for Flanged Installation A3400L4 and A3400L6

Application

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.

Features

Materials

- · Speeds up filling operations in bulk tanks.
- All steel and stainless steel construction ensures long service life.

Body Cadmium Plated Steel

StemStainless Steel SpringStainless Steel DiscCadmium Plated Steel

Typical high capacity filling installation for large storage containers A7518FP Angle Valve * Flange B * Flange Container Shell A3400.6 3* Back Pressure Check Valve

A3400L6

GuideStainless Steel Roll PinStainless Steel

Ordering Information

	А.	B.		D.	Propan	e Liquid Capacit	y at Various Dif	ferential Pressures (GPM)
Part Number	Flange Connection M. NPT	Wrench Hex Flats	C. Overall Length	Threaded End To Port	5 PSIG	10 PSIG	25 PSIG	50 PSIG
A3400L4	2"	Slotted	5¼"	1 5⁄16"	223	316	500	707
A3400L6	3"	Siolled	5 %32"	1%16"	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.

Adhesive Warning Labels 903-500 and 7572-400

The following warning information, Part Number 903-500, is included with each shipment of Excess Flow, Check, Filler and Vapor Equalizing Valves 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.



These adhesive warning labels are intended for application as close as possible to the Chek-Lok $\mbox{$\mathbb B$}$ once the Chek-Lok $\mbox{$\mathbb B$}$ is installed.

The basic information contained on the label is intended for the benefit of the user of the Chek-Lok® and is not intended to be an "all-inclusive" product warning.

This label is printed on a heavy duty material with pressure sensitive adhesive backing. The ultra-violet ink stands up well when exposed to the environment.

Part Number	Description
7572-400	Adhesive Warning Label



7572-400





Section G Internal Valves and Accessories



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 catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH_a). 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 NH_3 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 NH₂ service only.

c.All other products including "A" prefix are suitable for use with LP-Gas & NH, 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. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH3. If you have a need for use of another application, contact RegO, 100 RegO Drive, Elon, NC 27244, (336) 449-7707 ecii@regoproducts.com before proceeding.

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.





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 Liquified 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 internal valve and excess flow valve failures to perform are not simple. They need to be fully understood. If there is a simple warning, it would be:

Make sure that the internal valve's excess flow feature really closes when the flow exceeds rated closing flow, and that the valve will shut-off.

This bulletin is not intended to be an exhaustive treatment of internal valves, and certainly does not cover all safety practices that should be followed in installation, operation and maintenance of LP-Gas systems, which include internal valves.

Internal valves must be closed on Cargo Vehicles when traveling on public roads and highways. The valve should only be open when pumping. Per MC 330 or 331, internal valves must also be equipped with remote closure system when used on transports or bobtails.

There are two types of internal valves being used on storage tanks, transports and bobtails - spring loaded internal valves and differential pressure internal valves. They both provide positive shutoff when product is not being withdrawn and may include excess flow protection for the system during transfer operations.

Spring Loaded Internal Valves

Spring loaded internal valves are manually opened by levers, by means of fuse linked cable mechanisms or pneumatic or hydraulic actuators. They incorporate an excess flow feature that will close the valve when the flow through the valve exceeds its rate of flow. These valves should never be locked open by means of wires, chains, pegs or other devices.

Testing

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Testing should be completed on a periodic basis.

1. To check operation of a spring loaded valve, activate the remote control to close the valve while unit is pumping. If the meter indicator flow continues, the valve should be repaired immediately.

2. Testing excess flow feature.

The National Propane Gas Association Safety Bulletin #113-78 states: "In order to test an excess flow valve in a piping system, the flow through the valve must be made to exceed the valve's closing rating."

This testing should only be attempted by trained personnel familiar with the process. If no one at the facility has experience in proper testing, outside expert help should be obtained.

The exact procedure used may vary with the installation, advisability of gas discharge and availability of equipment.

In general, most testing makes use of the fact that the excess flow valves are "surge sensitive" and will close quicker under a sudden flow surge than under steady flow. A sufficient surge can often be created by using a quick open/close valve to control sudden, momentary flow into a tank or piping section containing very low pressure. An audible click from the excess flow valve (and corresponding stoppage of flow) indicates its closure.

A test involving venting gas to the atmosphere is hazardous and may be impractical, or illegal.

Any test of any excess flow valve will not prove that the valve will close in an emergency situation, due to reasons cited before. This test will only check the valves condition, and the flow rate sizing for those test conditions.

3. Tight Shut-Off - A test should be made to ensure the internal valve will give a gas tight seal when the valve is in the closed position. This will require removal of all product downstream from the internal valve, to ensure the valve will give 100% seal when in the closed position. If the internal valve does not give 100% seal the valve should be repaired immediately.



Pressure Differential Internal Valves (Flomatics®)

Pressure differential valves (Flomatics®) open by pump pressure and close when the pump stops. These valves must never be locked open by means of wires, chains, pegs or other devices.

Testing

Testing should be completed on a periodic basis.

1. To check operation of a differential pressure internal valve activate the remote control shut-off valve while the unit is pumping. If the meter indicates that flow continues the valve should be repaired immediately.

2. Since the differential pressure internal valve requires at least 18 psi to open and 8 psi over container pressure to keep open, a test may be performed to check for closure. With the PTO disengaged, connect delivery hose to a container with very low pressure. Then with hose end valve open, engage PTO. The internal valve should remain closed, no flow should be detected through the meter. If flow continues through the meter the valve should be repaired immediately.

3. Tight Shut-Off — A test should be made to ensure the internal valve will give a gas tight seal when the valve is in the closed position. First ensure the pump prime valve is closed by turning clockwise until it seats. Then with the valve closed (PTO disengaged) the product downstream from the internal valve will have to be safely removed. If the internal valve does not give 100% seal, the valve should be repaired immediately.

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.

The environment and conditions of use will determine the safe service life of these products. Periodic testing at least once a year when tank pressures are low and maintenance, as required, 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 an excess flow valve is used beyond its safe service life. Life of an excess flow valve 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 effect them.





A3200 Series

General Information

Manual Internal Valves are designed for a variety of uses in LP-Gas and anhydrous ammonia service. In addition, accessories allow most of them to be actuated manually, by cable or with air.

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

How The Valves Work

Refer to the drawings. View "A" shows the valve held closed without leakage by tank pressure and the valve's closing spring. Actuation of the operating handle alone does not open the valve, it only allows pressure to equalize between the inlet and outlet of the valve by rapid bleeding of the product downstream. This equalized pressure then allows the valve to open via the internal spring.

The valve opens by moving the handle to mid-point, see view "B". This position allows the actuator to put the equalizing portion of the valve stem in the pilot opening, allowing more product to bleed downstream than if the handle was fully open.

In a few seconds, the tank and downstream pressure will be nearly equal. The excess flow spring will push the main poppet to the open position, see view "C", the handle should then be moved to the fully open position.

If at first, the handle is quickly moved to the fully opened position, the pilot valve allows a small amount of bleed downstream, but much less than during rapid bleed (view "B"). This results in a longer pressure equalizing time before the main valve can open.

NOTE: The main poppet will not open until outlet pressure approximates tank pressure!

Once the main poppet is open, flow greater than the excess flow rating, or a sufficient surge in flow, forces the main poppet closed against the excess flow spring, as seen in view "D". The pilot valve in this position is open and allows a small amount of bleed downstream, but much less than during rapid bleed (view "B").

When the operating handle is moved to the closed position, the valve closes and a leak-tight seal is re-established as seen in view "A".

NOTE: To provide excess flow protection, the flow rating of the pump, piping, valves, fittings, and hose on the inlet and outlet sides of the valve must be greater than the flow rating of the valve. Any restrictions that reduce the flow to less than the excess flow valve rating will result in the excess flow valve not operating when required.

Valve Operation and Precautions

1. Valve must be opened before starting pump, and before opening valve on pump outlet.

2. Leave pumping system "wet" to avoid drying of seals and to reduce time involved in opening valve. Drain piping only when required by codes or safe operating practices.

3. When piping is dry or at lower pressure than the tank, open valve half-way for a few seconds to allow line pressure to equalize before fully opening the valve handle. The main poppet may not open immediately if the handle is placed in the open position too quickly.

4. Flow surges may close the built-in excess flow valve and should be avoided. If the valve slams shut, immediately stop the pump, close the nearest downstream valve, and move handle to midpoint position to equalize pressure until valve reopens with a click, then restart pump and open downstream valve slowly. These valves must remain in the closed position except during product transfer. A line break downstream of the pump may fail to actuate the excess flow valve as the pump may limit flow. If break occurs in the system, or the excess flow closes, immediately shut down the system.

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

Be sure all instructions are read and understood before installation and operation of these valves.

5. Always keep valve closed except during product transfer.

6. Completely open all valves during pumping. Partially closed or throttle type valves may prevent excess flow valve from closing when required, even in a properly designed piping system.

7. All personnel must be aware of remote closure locations and their operation in case of emergency. They must also be aware of the equalizing opening through which bleeding can occur after the excess flow valve closes. If this bleed is not stopped by closing a downstream valve, a hazard may occur.

8. Never, under any circumstances, permanently wire open the operating handle of the internal valve.

Cable Control System

The cable control system employed must meet the requirements and be in accordance with the provisions of NFPA #58, DOT, ANSI, and all applicable federal, state, provincial and local codes.

Troubleshooting

1. Internal Valve Will Not Open. Causes may be excess leakage downstream, pump engaged too quickly, excessive wear of valve, or ice freezing of poppet.

When there is excessive volume downstream, a greater amount of time is required to equalize tank and downstream pressure.

To determine if the pilot seat is opening, install a pressure gauge downstream of valve outlet, open any hand valves between valve and pressure gauge, and open valve. Pilot seat is not opening if pressure does not build up to tank pressure. Perform this test with pump off. A broken internal part may cause pilot seat not to open.

If operating handle rotates past the full open position, there is internal malfunctioning, and the valve must be disassembled and repaired.

2. Premature Valve Closure.

First, check to see that operating lever is properly connected and fully opens valve. Premature closure may also be a result of engaging pump too quickly, sudden line surges, an underrated excess flow spring or an obstructed inlet port.

3. Valve Will Not Close.

Usually a result of faulty or sticking actuator. First, check the actuator to see that it works freely by disconnecting it from valve handle and cycling it several times. Also, operate valve handle manually. If it sticks in the open position, replace the packing and bushings. This should free the operating mechanism providing the valve has no internal damage.

4. Low Flow Capacity

Downstream piping may be too small and/or long, screen or strainer may be plugged, possible restriction downstream, or a bypass valve stuck in the open position are causes of low flow. Also, the bypass valve may be set too low and prematurely opening. Check for high differential pressure across the bypass valve. If bypass valve is open, the differential across the valve should not exceed 5 to 6 psig.



Maintenance

Potential problems may be eliminated with preventive internal valve maintenance. Perform the following steps once a month:

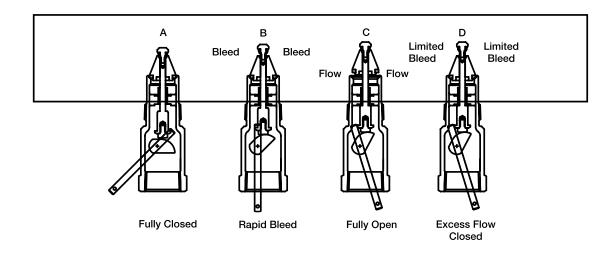
1. Check to see that the operating lever moves freely and smoothly. There should be no leakage around the lower stem or seal housing. Leakage requires replacement of the seal housing packing. A sticking lever indicates trapped foreign material or mechanism wear.

2. Check both seat discs for tight closure. Close valve and exhaust downstream pressure. Be sure piping is warmed to an ambient temperature. Close the first downstream valve and note pressure buildup between the closed valves with a pressure gauge. If leakage occurs, replace both seat discs.

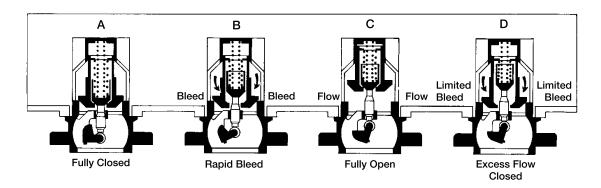
A3209D Series, 1¼" Straight A3209DT Series, 1¼" Tee Body A3211D Series 1½ Straight A3212R Series, 2" Straight A3212RT Series, 2" Tee Body A3213D Series, 3" Straight A3213DT Series 3" Tee Body 3. Inspect, clean and oil all operating controls. Check controls to see that they open fully, but do not overtravel the valve operating lever. See that they work freely to close the valve. Worn parts should be replaced.

4. Remove valve if the tank is to be steam cleaned. Heat may damage the valve's seals.

5. Valve is not designed for water service. After tank is hydrostatically tested, immediately remove all water and allow tank to thoroughly dry out before installing valve.



A3219FA Series, 4" Flanged





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

Application

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.

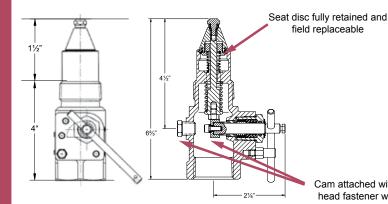
Features

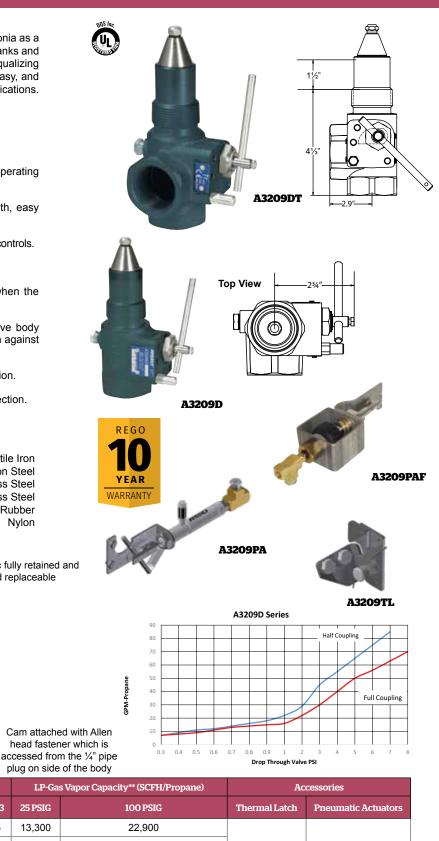
- · Valve is compact, with one piece body construction.
- Spring loaded V-packing with heavy duty wiper ring on operating shaft for dependable leak-free construction.
- Nylon bearing supported operating shaft provides smooth, easy operation.
- Simple operating lever allows for easy connection of cable controls.
- · Built in excess flow valve
- Return spring forces the valve to the closed position when the lever is released.
- All critical operating components are located in the valve body and inside the container coupling for maximum protection against damage.
- · Midway stem position allows for quick pressure equalization.
- Equipped with 212° F, UL listed fuse link for thermal protection.

Materials

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Body	Ductile Iron
Operating Lever	Cadmium Plated Carbon Steel
Stem	Stainless Steel
Springs	Stainless Steel
Seat Disc	Resilient Synthetic Rubber
Shaft Bearing	Nylon





Ordering Information

Inlet	Outlet	Closing Flow		LP-Ga	s Vapor Capacity** (SCFH/Propane)	Accessories		
Part Number	Connection M.NPT	Connection F. NPT	LP-Gas	NH3	25 PSIG	100 PSIG	Thermal Latch	Pneumatic Actua
A3209D050	1¼"	11⁄4"	50	45	13,300	22,900		
A3209D080	1¼"	11⁄4"	80	72	15,700	26,700	A 2000TI	A3209PA
A3209DT050*	1¼"	1¼"	50	45	13,300	22,900	A3209TL	A3209PAF
A3209DT080*	11⁄4"	1¼"	80	72	15,700	26,700		

* T-Body Design

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

Application

Designed primarily for use with LP-Gas as a main valve on small capacity pumping systems such as auto gas dispensers. 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 comes fully assembled with the electric actuator, ready to install.

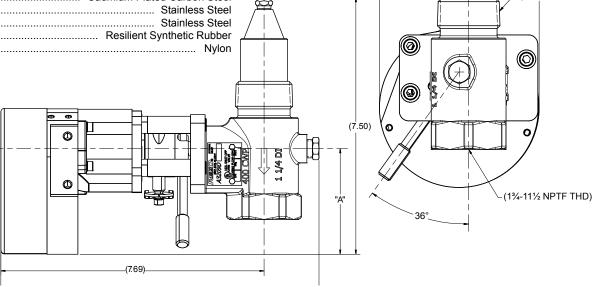
Features

- Valve is compact, with one piece body construction.
- Spring loaded V-packing with heavy duty wiper ring on operating shaft for dependable leak-free construction.
- Nylon bearing supported operating shaft provides smooth, easy • operation.
- Simple operating lever allows for easy connection of cable controls. ٠
- Built in excess flow valve
- Return spring forces the valve to the closed position when the lever is released.
- All critical operating components are located in the valve body and inside the container coupling for maximum protection against damage.
- Midway stem position allows for quick pressure equalization.
- Equipped with 212° F, UL listed fuse link for thermal protection.

Materials

Body	Ductile Iron
Operating Lever	Cadmium Plated Carbon Steel
Stem	Stainless Steel
Springs	Stainless Steel
Seat Disc	Resilient Synthetic Rubber
Shaft Bearing	Nylon





Ordering Information

Part Number	Inlet Connection M. NPT	Outlet Connection F. NPT	Voltages	Closin	g Flow		apacity** (SCFH/ bane)
	IVI. INF 1	F. NF I		LP-Gas	NH3	25 PSIG	100 PSIG
EA3209D050	11⁄4"	1¼"		50	45	13,300	22,900
EA3209D080	1¼"	1¼"		80	72	15,700	26,700
EA3209DT050*	1¼"	11⁄4"	12/24 VDC	50	45	13,300	22,900
EA3209DT080*	11⁄4"	1¼"		80	72	15,700	26,700

* T-Body Design **Data for full flow in half coupling.

100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com +1 (336) 449-7707



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(11/4-111/2 NPTF THD)



(2.38)

(1.88)

Straight Through 1½" Internal Valve A3211D Series

Application

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.

Features

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Materials

- · Valve is compact, with one piece body construction.
- Spring loaded V-packing with heavy duty wiper ring on operating shaft for dependable leak-free construction.
- Nylon bearing supported operating shaft provides smooth, easy operation.
- Simple operating lever allows for easy connection of cable controls.
- · Built in excess flow valve
- Return spring forces the valve to the closed position when the lever is released.
- All critical operating components are located in the valve body and inside the container coupling for maximum protection against damage.
- · Midway stem position allows for quick pressure equalization.
- Equipped with 212° F, UL listed fuse link for thermal protection.

Body Ductile Iron Operating Lever..... Cadmium Plated Carbon Steel

Stem Stainless Steel

Springs Stainless Steel Shaft Bearing Nylon

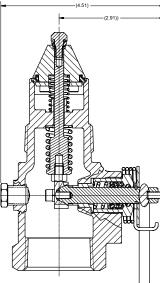
Seat Disc Synthetic Rubber

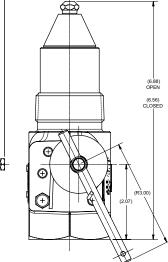


A3211D









Ordering Information

			Closing Flow GPM					or Capacity Propane)	Accessories	
Part			Half Co	oupling	Full Co	oupling			Thermal	Pneumatic
Number	Inlet M.NPT	Outlet F.NPT	LP-Gas	NH3	LP-Gas	NH3	25 PSIG Inlet	100 PSIG Inlet	Latch	Actuator
A3211D080	11⁄2"	11⁄2"	80	72	63	67	15,700	26,700	A 2200TI	A3209PAF
A3211D110	11⁄2"	11⁄2"	110	99	84	76	N/A	N/A	A3209TL	AJZUJFAF





3" Flanged Internal Valves for Bobtail Delivery Trucks, Transports and Large Stationary Storage Containers A3217A & A3217DA

Application

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.

Features

Provides More Efficient Operation

- Flow passages designed to allow substantially higher without cavitation or loss of efficiency--saving time and money.
- Simple operating lever facilitates easy adaptation of all cable controls.
- Lever available on right or left side to allow for installation without • the use of an extra pulley.
- Nylon bearing supported operating shaft provides smooth, easy operation.

Less Frequent-Easier Maintenance

- Stainless steel screws resist rusting and are easily removed during valve disassembly.
- Heavy duty rod wiper helps minimize dirt and foreign material from entering operating shaft and hampering operation.

Durable Construction

- Cadmium plating helps resist corrosion during storage and use.
- All ferrous materials with a temperature range of -40° F. to +165° F. and a pressure rating of 400 psi.
- Sturdy retaining ring secures operating cam to provide for more ٠ durable, slack-free operation.
- Built-in excess flow valve.
- Specify RegO Internal Valves on your next new tank or when your truck is rebuilt.



Ordering Information

					Closing Flow GPM		Accessories													
		Operating					Pneumati	ic Actuator												
Part Number		Lever Position	Inlet Connection	Outlet Connection	LP-Gas	NH3	Right Operation	Left Operation												
Single Flange			•	•																
A3217AR160	A3217AL160				160	145	A3217ARPA A3217RA	A3217ALPA A3217LA												
A3217AR210	A3217AL210		3" 300#	3" 300#	210	190														
A3217AR260	A3217AL260	Right or Left	ANSI RF Modified	ANSI RF ANSI RF	260	236														
A3217AR410	A3217AL410			Flange*												Flange	410	372		AVEITLA
A3217AR510	A3217AL510	l lange	i lango					510	459	1										
Double Flange																				
A3217DAR160	A3217DAL160				160	145	_													
A3217DAR210	A3217DAL210		3" 300#	3" 300#	210	190														
A3217DAR260	A3217DAL260	Right or Left	ANSI RF Modified Flange*		-				260	236	A3217ARPA A3217RA	A3217ALPA A3217LA								
A3217DAR410	A3217DAL410	1		Flange	410	372	AJZITKA	AJZITLA												
A3217DAR510	A3217DAL510	1			510	459	1													

* Valve supplied with 16 nuts and 8 studs for mounting.
**Modified bore=45%" diameter with 53/4" diameter raised face.



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

UL

A3217ARPA and A3217ALPA Pneumatic Actuators

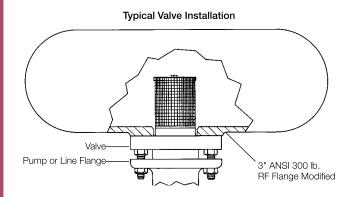
These Pneumatic Actuators are designed specifically for use with the A3217 Series 3" Internal Valves. The diaphragm design provides a convenient means of opening and closing the valve from a remote location, using either air or nitrogen.

Features

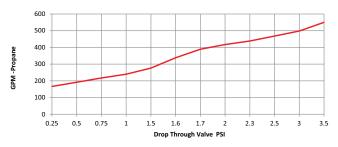
- Diaphragm type-no seals to leak.
- · Easily installed on internal valve "in-line."
- Utilizes standard air brake chamber with proven performance over many years of heavy-duty truck/trailer applications.
- · Compatible with existing air interlock systems.
- · Operates with pressures of 50-150 psig.
- Thermal Fuse installed complies with DOT thermal protection requirements.

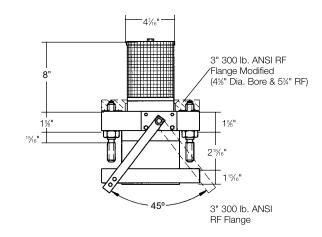
Materials

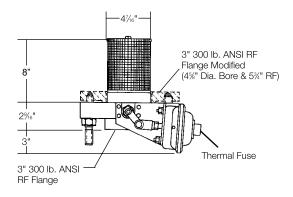
Body and Valve Cage	Cadmium Plated Ductile Iron
Seat	Nickel Chrome Plated Steel
Strainer	Stainless Steel
Shaft	Stainless Steel
Pilot Valve Stem	Stainless Steel
Springs	Stainless Steel
Actuator Cam	Stainless Steel
Lever	Cadmium Plated Carbon Steel
Seat Disc	Resilient Synthetic Rubber

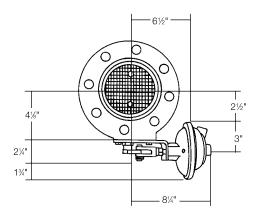














4" Flanged Internal Valve for Transports and Large Stationary Storage Tanks A3219 Series

Application

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.

Features

Provides More Efficient Operation

- Flow passages designed to allow higher pumping rates without cavitation or loss of efficiency-saves time and money.
- One piece, stainless steel pilot valve provides more accurate alignment for dependable operation.
- Remote release lever allows cables to run directly to opposite ends of vessel without pulleys or tubing.

Protects Your Pump

- Main disc retaining screws are installed from the top down to help minimize loose screws from entering and damaging the pump.
- Back-up cotter pin is designed to minimize the chance of a loosened actuator nut and washer from entering and damaging the pump.

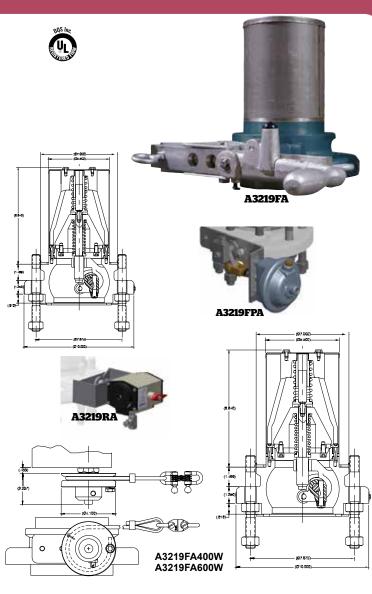
Less Frequent-Easier Maintenance

- Easily replaceable chrome plated seat insert eliminates need for expensive remachining of valve body when overhauled.
- Stainless steel screws resist rusting and are easily removed ٠ during valve disassembly.
- Strainer completely covers the top of the valve to help keep out sediment and foreign material.
- Strainer seats at the top flange of the valve's seat insert, making removal of the valve easier.

Durable Construction

- Cadmium plating helps resist corrosion during storage and use.
- Taper pin lock secures the operating shaft to provide for more precise, trouble-free actuation.
- Built-in excess flow valve and thermal protection.
- Specify RegO Internal Valves on your next new tank body or rebuild.





Materials

Body and Valve Cage	Cadmium Plated Ductile Iron
Handle	Cadmium Plated Ductile Iron
Seat	Nickel Chrome Plated Steel
Strainer	Stainless Steel
Stem	Stainless Steel
Pilot Valve Plug	Stainless Steel
Springs	Stainless Steel
Roller Actuator	Cadmium Plated Carbon Steel
Lever Assembly	Cadmium Plated Carbon Steel
Seat Disc	Resilient Synthetic Rubber

Ordering Information

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

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

100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com +1 (336) 449-7707



4" Flanged Internal Valves for Transports and Large Stationary Storage Tanks

ŶL

Application

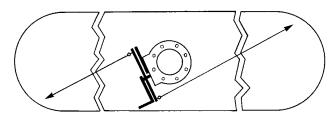
A3219FPA Pneumatic Actuator

The A3219FPA Pneumatic Actuator is designed especially for use with the A3219FPA 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.

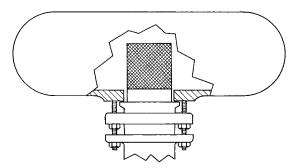
Features

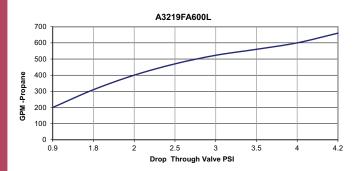
- Diaphragm type-no seals to leak.
- · Easily installed on internal valve "in-line."
- Utilizes standard brake actuator with time proven performance in heavy-duty truck/trailer applications.
- · Compatible with existing air interlock systems.
- · Operate with pressures of 50-150 psig.
- Thermal fuse installed in actuator complies with DOT thermal protection requirements.

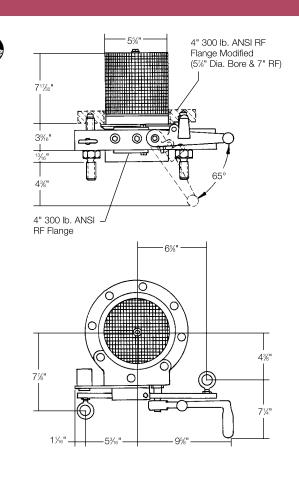
Typical Valve Positioning

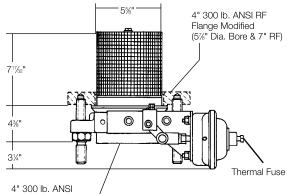


Typical Valve Installation

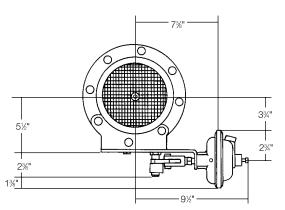








RF Flange -





Application

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.

Materials

Body	Galvanized Steel
Springs	Stainless Steel

Ordering Information

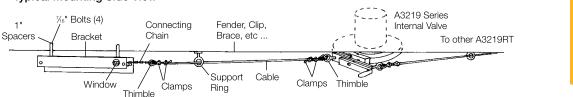
			Spring	g Load	Minimum
Part Number	For Use With	Release Temperature	Fully Extended	After 4" Travel	Number Required By MC331
A3219RT	Internal Valves	212° F.	≈100 lbs.	≈50 lbs.	2

Typical Mounting Side View



Features

- Meets DOT MC331 requirements.
- Easily installed, rugged formed steel bracket has open bottom to minimize dirt and water build-up.
- Heavy, shouldered pins lock into position.
- Stainless steel spring provides dependable performance with 100 lb. load.
- Heavy-duty chain adapts easily to standard cable and fittings.
- Fuse link has 212° F. release temperature.
- Adapts easily to standard cables and fittings.





Remote Cable Controls for Internal Valves 3200C and 3200L

Application

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

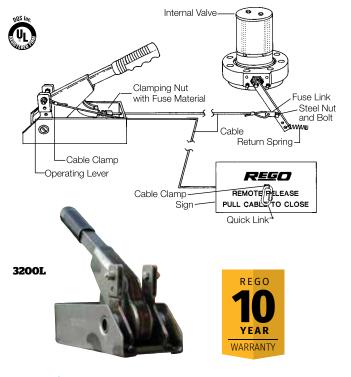
The internal valve is opened by pulling back the remote operation lever and closed by returning the lever to its original position. A remote release is provided to close the internal valve from a different remote location.

Features

- Metal construction provides durability in heavy duty applications.
- Toggle action of operating lever allows for quick closure without extra springs and latches.
- The unique clamping nut and cable clamps provide easy installation.
- Fuse connections allow internal valves to close if connections are exposed to fire.
- Versatile design permits installation on bobtails and stationary tanks at bulk plants.
- Provides necessary remote closure system for bobtails required by DOT regulation on MC330/MC331 tanks and NFPA #58.

Ordering Information

Part 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



Materials

Body	Galvanized Steel
Springs	Stainless Steel



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

Application

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.

Features

- · May be installed in full and half couplings.
- Nylon bearing supported operating shaft provides smooth, easy operation.
- Simple operating lever facilitates easy adaptation of all cable controls.
- · Midway stem position allows for quicker pressure equalization.
- All critical operating components are located in the valve body inside the container coupling for maximum protection against physical damage.
- Built-in excess flow valve.
- Return spring returns the valve to the closed position when the handle is released.
- Specify RegO Internal Valves on your next new tank body or when your tank is rebuilt.
- A3213PA pneumatic actuator provides a convenient means of opening and closing the valve from a remote location, using either air or nitrogen for A3213D service valves.

Materials

G

Body	Ductile Iron
Operating Lever	Cadmium Plated Steel
Stem	Stainless Steel
Springs	Stainless Steel
Seat Disc	Resilient Synthetic Rubber
Shaft Bearing	Nylon

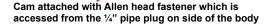


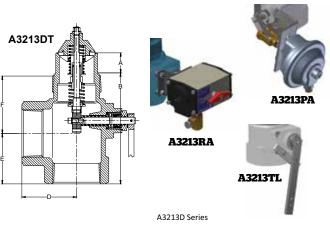
Ordering Information

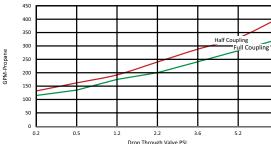
									Through valve PSI			
Part Number Inlet Connection M.NPT				Closing Flow (GF	Closing Flow Full Coupling . (GPM)		Vapor Closing Flow (SCFH)		Accessories			
	Connections F.NPT	LPG	NH3	LPG	NH3	25 PSIG Inlet	100 PSIG Inlet	Pneumatic Actuator	Rotary Actuator	Thermal Latch		
A3213D150			150	135	125	113	26,900	45,900				
A3213D200			200	180	160	144	32,300	55,100				
A3213D300			300	270	250	225	50,500	86,500				
A3213D400	3"	3"	400	360	325	293	71,400	121,300	A3213PA	A3213RA	A3213RA	A3213TL
A3213DT150*		5	150	135	125	113	26,900	45,900	AJZIJFA			
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				

Seat disc fully retained and field replaceable.

A3213D Series









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

Application

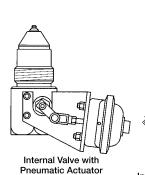
Designed primarily for use with LP-Gas and anhydrous ammonia for liquid withdrawal; vapor transfer or vapor equalization of bobtail delivery trucks, transports, stationary storage tanks, and in-line installations. The valve may be operated manually by cable or pneumatically.

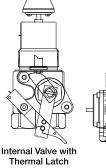
Features

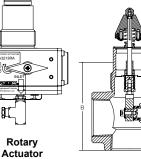
- May be installed in full and half couplings.
- Nylon bearing supported operating shaft provides smooth, easy operation.
- Simple operating lever facilitates easy adaptation of all cable controls.
- Midway stem position allows for quicker pressure equalization.
- All critical operating components are located in the valve body inside the container coupling for maximum protection against physical damage.
- Built-in excess flow valve.
- Return spring returns the valve to the closed position when the handle is released.
- Specify RegO Internal Valves on your next new tank body or when your tank is rebuilt.
- A3213PA pneumatic actuator provides a convenient means of opening and closing the valve from a remote location, using either air or nitrogen for both the A3212R & A3213A service valves.

Materials

Body	Ductile Iron
Operating Lever	Cadmium Plated Steel
Stem	Stainless Steel
Springs	Stainless Steel
Seat Disc	Resilient Synthetic Rubber
Shaft Bearing	Nylon





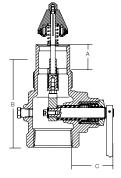


A3212R Series 300 Half Coupling 250 -Propane 200 150 100 Full Coupling 50 0 3 10 Drop Through Valve PSI REGO WARRANT



GPM

A3212R Series



Ordering Information

ordering morniduon												
Part Inlet	Inlet Connection	Outlet Connection	Closing Flow (GPM) Half Coupling Full Coupling		л	A B	B C	Accessories				
Number	M. NPT	F. NPT	LP-Gas NH3 LP-Gas NH3	A	Thermal Latch			Pneumatic Actuator	Rotary Actuator			
A3212R 105		2"	105	95	65	59		4 ¹¹ / ₁₆ "				
A3212R T105		2" T-body	105	95	95 05			4 ¹⁵ / ₁₆ "]			
A3212R 175	2"	2"	175	158	100	90	1 ⁹ / ₁₆ "	4 ¹¹ / ₁₆ "	3 ⁴⁵ / ₆₄ "	A3213TL	*A3213PA	A3212RA
A3212R T175	2	2" T-body	175	150	100	90	I º/ 16	4 ¹⁵ / ₁₆ "				
A3212R 250		2"	250	225	130	117]	4 ¹¹ / ₁₆ " 4 ¹⁵ / ₁₆ "]			
A3212R T250		2" T-body	250	225	130		117					

* 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

Application

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.



Features

Fully Automatic

- Operates on pressure differential from the pump to open and close.
- Automatically closes should downstream line rupture causing loss of pump differential pressure required to keep the valve open.
- Problems of improperly sized excess flow valves slugging shut during liquid transfer are eliminated.

Faster Unloading

- Straight through flow design provides minimum pressure drop and large flow capacity to the pump, resulting in higher flow rates and greater pump efficiency.
- Unloading is quicker and turn-around faster to provide more profitable operation.

Greater Protection

- Fully automatic operation virtually eliminates operator errors such as forgetting to close the valve after product transfer.
- Fully internal design reduces possibility of spillage that may result from a collision.
- Built-in visual indicator lets the operator know whether the valve seat is in the open or closed position.
- Never a cable problem. These valves cannot be held open by wire or any other means as the valve will not close as expected when the pump is shut-off.

Less Maintenance

- Easily replaceable, high efficiency external filter removes contaminants as small as 20 microns. Filter virtually eliminates orifice clogging, excessive internal filter maintenance and service downtime.
- No need to check or replace air lines, cables or cable connections.

Economical

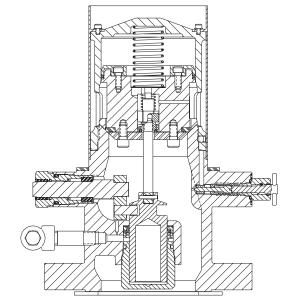
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- Completely equipped with mounting bolts, flange gaskets, quick acting valve and filter - all in one purchase price.
- No need to purchase additional mounting equipment or actuating accessories.
- Specify RegO Internal Valves on your next new tank body or when your tank is rebuilt.

Materials

Body	Cast Steel
Valve Stem	Stainless Steel
Operating Stem	Stainless Steel
Piston	Aluminum
Cylinder	Stainless Steel
Screen	
Seats	Resilient Synthetic Rubber





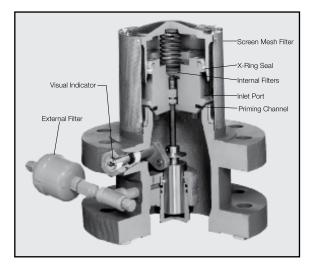


Ordering Information

Part	Inlet Connection ANSI	Outlet Connection	Strainer	Base	Overall Height Height from Indicator Accessories (included with Flomatic®)			
Number	Flange	ANSI Flange	Width	Width	(Approx.)	to Base	Filter	3-Way Valve
A7883FK	3"-300#**	3"-300#	4¾"	8¼"	101⁄8"	4 ¹³ ⁄16"	A7884-201	A7853A

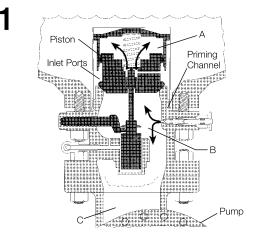
*Supplied with A7853A 3-way valve, A7884-201 filter, studs, nuts and gaskets. **With 4% diameter bore.





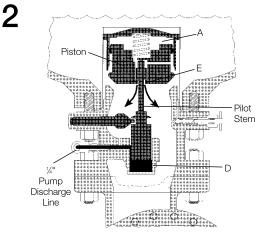
1. Normally Closed

When the valve is closed, liquid flows into the INLET PORTS, through a channel in the PISTON, and into area A. It also flows down through the PRIMING CHANNEL in the valve body, into area B beneath the valve seat, and into area C to prime the PUMP.



2. Pump On – Valve Opening

When the pump is started, differential pressure transmits through the $\frac{1}{4}$ " piping into chamber D. lifting the PILOT STEM. This opens the seat between the stem and piston at E. Pump suction then evacuates the tank pressure in area A, which becomes equal to the pump suction pressure.



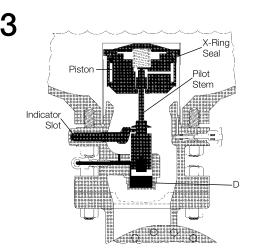
General Information

RegO piston type Flomatic Internal Valves are normally closed and use pressure differential to provide completely automatic service. Mounted directly between the tank body and pump, the Flomatic® uses the pressure differential developed by the pump to open the valve and it closes automatically when the differential no longer exists.

This means the RegO Flomatic opens when the pump is on and closes when the pump is shut off – fully automatic.

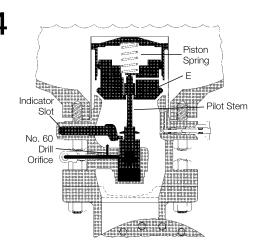
3. Pump On – Valve Open

The force below the pilot stem forces the piston up to open the valve; rotating the INDICATOR SLOT to its vertical (valve open) position. Pump differential pressure in area D holds the PILOT STEM and PISTON open. Approximately 20 psig pump differential pressure is required to open the valve; approximately 8 psig differential pressure will hold the valve open.



4. Pump Off – Valve Closes

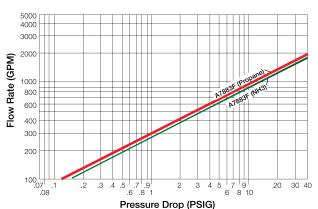
With the pump shut off, the pressure in area D which holds the valve open, bleeds out through the #60 DRILL ORIFICE. This loss of pressure permits the SPRING to push the PILOT STEM down to reseat at point E. Since pressures are equal above and below the PISTON, with no sustaining pressure in area D, the SPRING forces the valve closed. The INDICATOR SLOT rotates to the horizontal (valve closed) position.

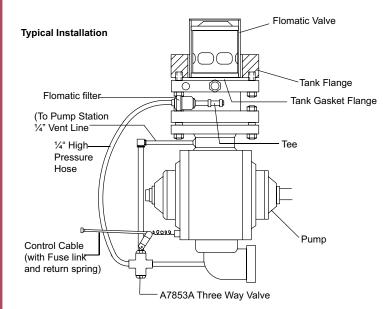




1/4" Three-Way Quick-Acting Valve A7853A

Flow Characteristics



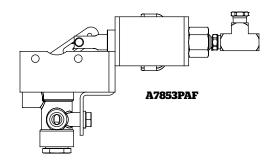




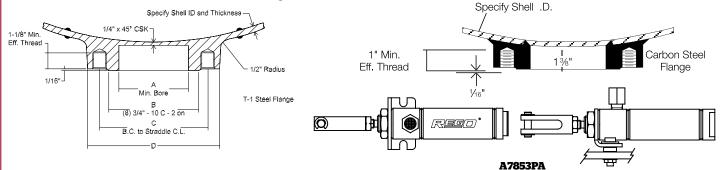
Quick-Acting Valve

YEAR

WARRANTY



Flange Dimensions



Ordering Information

						Access	ories
Part Number	Flange Type	A	В	с	D	Pneumatic Actuator	3-Way Valve
A7853A	T-1 Steel Carbon Steel	4 ¹³ / ₁₆ "	5¾"	65%"	8¼"	A7853PAF	A7853PA

*Supplied with A7853A 3-way valve, A7884-201 filter, studs, nuts and gaskets. **With 41% diameter bore.



Introduction

Efficient, profitable transport and delivery truck operations depend on keeping the equipment working safely and efficiently under changing conditions. It is important to know how to eliminate expensive delays by handling unloading problems as they arise.

The purpose of this technical guide is to provide basic information on the Flomatic® valve, along with simple, appropriate steps to follow in the event things go wrong.

The Flomatic® valve is mounted on the bottom of your transport or delivery truck tank, with the pump mounted immediately downstream. When the pump starts to push the liquid down the piping, the Flomatic® Valve opens automatically, allowing you to unload the tank, and closes when the pump stops pushing. It takes at least 20 pounds per square inch of "push" at the pump to open the valve.

Your flanged Flomatic® valve has an indicating shaft on it that shows whether it's open or closed (Figure 1). If the indicating shaft is horizontal, the valve is closed. If it's vertical, the valve is open.

A threaded type, diaphragm-operated Flomatic® valve has an indicating shaft on the bottom, covered by a clear plastic hood. The indicating shaft projects down when the valve is closed and is concealed when the valve is open (Figure 2).

Important Facts About Pressure

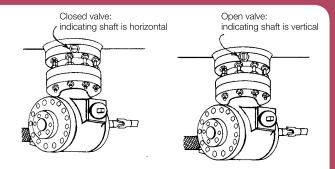
When handling propane or anhydrous ammonia, storage and transport tank pressures vary from about 20 pounds per square inch or less when it's cold to 200 pounds per square inch or more in hot weather (Figure 3). If you're hauling butane, tank pressures will be 50 pounds per square inch or less.

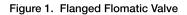
The transport or delivery truck tank pressure may be higher than the storage tank pressure when you are ready to unload (Figure 4). This is because your rig may have been freshly loaded at the terminal or bulk plant without a vapor equalizing line and hasn't had time to get back to normal. Also, the storage tank pressure tends to drop when a lot of LP-Gas is being used.

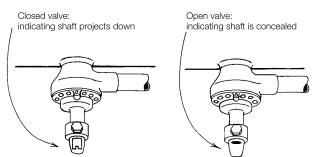
Troubleshooting on the Job

O.K. So you follow your procedures, hook up your hoses, open the required valves and start your pump. The indicating shaft on the Flomatic® valve moves to the open position and the liquid goes in to storage. Great! You're happy and so is the boss, and so are we.

But, let's say you do these things, start the pump and the liquid doesn't move. Now, how do you find out what is wrong?









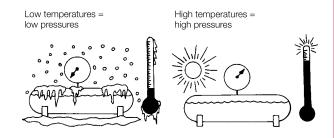


Figure 3. Weather Conditions Affect Pressure

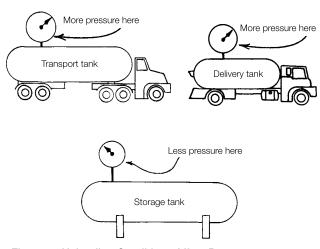


Figure 4. Unloading Conditions Affect Pressure



On-The-Job Service Guide for the Flomatic® Valve

Step 1

Immediately shut down the pump so you don't cause possible damage to the seals or valves. Next:

1. Check all manual valves in the system to make certain they are open or closed as required for proper operation.

2. Check the liquid level in the transport or delivery tank. If the level is low, it may slow the transfer rate.

3. Check to ensure that the pump rotates normally when power is applied. If not, inspect and repair as needed the power takeoff, universal joints, drive shaft and clutch, etc.

4. Make sure the lever is straight out on the $\frac{1}{4}$ operating valve in the line between the pump discharge line and the Flomatic® valve (Figure 5). If it isn't, the Flomatic® valve will remain closed.

5. Make certain the priming valve on the side of the Flomatic® valve is open (Figure 6).

6. Ice in the system may prevent proper operation, as will a collapsed or kinked sensing line or a clogged sensing line filter. If you found the trouble within STEP 1, just start the pump and continue unloading, If not, proceed accordingly.

a. New Models with T-handle: To adjust to the proper position, push in the end of the valve stem and tighten the needle valve clockwise until it seats. Then, turn counterclockwise 1¹/₂ turns.

b. Old Models with Plug: To adjust to the proper position, carefully remove the plug. A small amount of liquid LP-Gas may be discharged when plug is loosened. Insert a small screwdriver and tighten the needle valve clockwise until it seats. Then turn it counterclockwise 1 turn only. **CAUTION: Do not open needle valve more than 1 turn as it might blow out!**

c. Threaded Models with Internal Priming Channel. The internal priming channel normally self-actuates. To be sure the system is primed, remove the plastic hood and push the travel indicator up about 1/3" and hold for at least 15 seconds.

Priming valve

turn counter-

clockwise to open

Open valve: lever is straight out

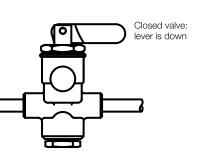


Figure 5. Operating Lever Positions

Step 2

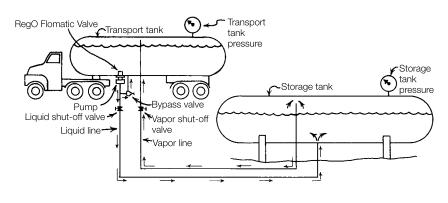


Figure 7a. Unloading Diagram of Transport Trailer Truck

Figure 6. Priming Procedures

DI

For Transport Trailer Trucks Only (Figure 7a) 1. Check the difference between the pressure in your transport and the storage tank. If there's 15 or 20 pounds per square inch more pressure in the transport tank than in the storage tank, chances are the Flomatic® valve won't open. This is because the pump can't develop enough "push."

If you have a good bypass valve on your rig to send the extra liquid back into the tank, you can merely close the liquid shut-off valve in the discharge line and restart your pump (Figure 8a). Now, the Flomatic® indicating shaft should move to the open position (see Figures 1 and 2).

2. Slowly open the liquid shut-off valve in the discharge line and the liquid will start to move out of the transport. If the Flomatic® valve indicating shaft starts to move toward the closed position once you've opened this liquid shut-off valve all the way, throttle the valve for a while until the transport tank pressure drops to where the Flomatic® valve indicating shaft will stay open. Then, open the liquid shut-off valve all the way until you finish unloading.

The liquid flows out of the transport tank through the Flomatic® valve, into the pump and through the delivery hose to the storage tank. The vapor line allows vapor to flow from storage back to the transport so that the storage tank pressure won't build up too much and make the pump work harder than necessary.



3. If your pump system doesn't have a bypass valve, the liquid shut-off valve in the discharge line should be left partially open when you restart the pump. Just be sure that the pump is pushing at least 20 pounds per square inch, so the Flomatic® valve can open.

Don't worry about how much it may slow up your loading speed when you pinch down the liquid shut-off valve to get the Flomatic® valve open. Your pump is running at constant RPM and will move liquid at almost the same rate, even when pushing harder. (It's a lot like using engine braking on a downhill grade, except, in this case, the pump keeps the liquid moving at a constant flow rate.)

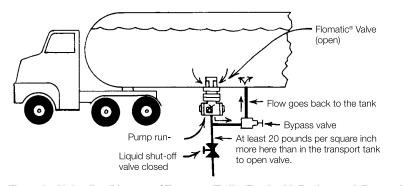


Figure 8a. Unloading Diagram of Transport Trailer Truck with Back-to-tank Bypass Valve You must have a separate back-to-tank bypass valve if the pump is to be run with the liquid shut-off valve closed.



1. Check the pump bypass piping. If your truck is equipped with a manual bypass valve, close it and try the pump again. (Figure 8b). If the Flomatic® valve indicating shaft moves to the open position, the problem is that the pump can't develop 20 pounds per square inch or more to "push" open the Flomatic® valve with the bypass valve open. You can prevent this in the future by not opening the manual bypass valve too wide.

2. If the delivery truck is not equipped with a manual bypass valve, merely start the pump. Slowly close the shut-off valve between the back-to-tank bypass valve and tank. If the Flomatic® valve indicating shaft moves to the open position as you close the valve, the back-to-tank bypass valve may be stuck open, adjusted too low, or the spring may be broken. CAUTION: Don't close the shut-off valve all the way, because excessive pressures and pump damage may occur.

3. If the Flomatic® valve indicating shaft remains in the closed position, the problem is either in the pump or the Flomatic® valve.

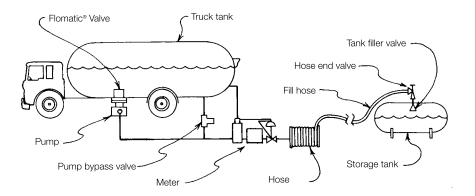


Figure 7b. Unloading Diagram of Delivery Truck

The liquid flows out of the truck tank, through the Flomatic® valve and into the pump, where it is then pushed through the meter and delivery hose into the storage tank. The liquid normally enters the vapor space of the storage tank to minimize pressure buildup, so a vapor equalizing line is usually not needed. The back-to-tank bypass valve opens to divert excess pump capacity back to the truck tank, preventing the pump from creating too much pressure.

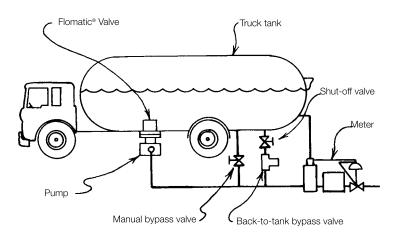


Figure 8b. Unloading Diagram of Delivery Truck with Manual Bypass Valve



USE EXTREME CARE AT ALL TIMES WHEN WORKING AROUND YOUR VEHICLE! Watch out for drive shafts and moving parts. It is common knowledge that serious injury can result if any part of one's body or clothing is caught in moving machinery.

If you manually open the Flomatic® valve, you are responsible for safely unloading the liquid and closing the valve when you're through. If this procedure is being followed, under no circumstances must the valve be left unattended. The valve must never be permanently held in the open position.

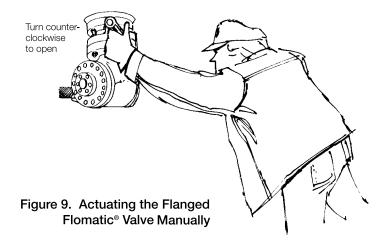
If you are not able to cause the Flomatic® valve indicating shaft to move to the open position after completing the preceding steps, a complete detailed diagnosis will have to be made.

In the meantime, you can actuate the flanged Flomatic® valve by using a special wrench and attempt to unload manually (Figure 9).

If you still can't unload by following the preceding steps, it is suggested that you unload by an alternate method, such as through the valve normally used for liquid filling.

In any event, if you haven't solved the problem and the unit still doesn't operate properly, immediately take it out of service, have a complete analysis made and repair as needed.

Be sure to obtain and keep available for quick referral the Manufacturers' Operation and Service Manuals for the valves, pump, meter and all operating equipment in the system.





Pumping System Troubleshooting Guide

Introduction

Most LP-Gas and anhydrous ammonia systems use pumps to move liquid from one location to another. Unloading transport trailer tanks into plant storage, loading delivery trucks, filling bulk tanks, engine fuel tanks, portable cylinders, etc. and pressurizing LP-Gas vaporizers are only a few of many such applications. A well-designed and properly installed pumping system will perform well for some time, but eventually problems occur requiring attention.

Finding out what is wrong, and getting it working again, can be a time-consuming and confusing experience, unless one knows clearly how to proceed.

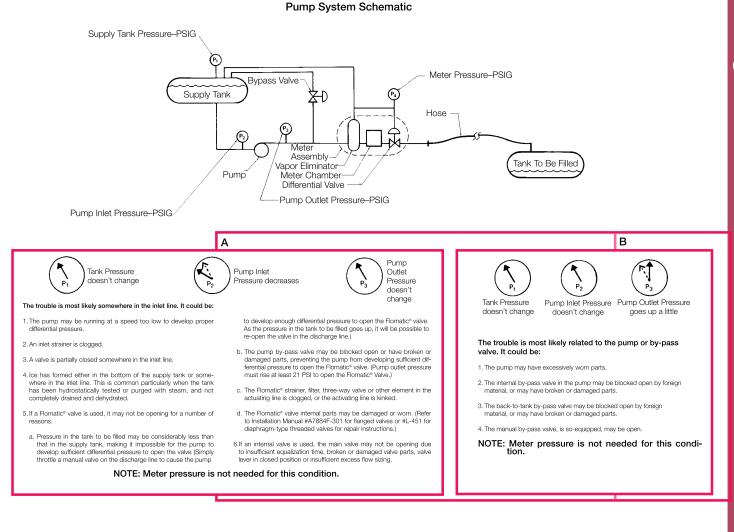
The purpose for this technical guide is to provide simple, step-bystep guidelines for correcting LP-Gas and anhydrous ammonia pumping difficulties.

The procedure includes a preliminary checklist to help find out if the difficulty can be corrected without taking anything apart. Then, it shows how to zero in on more serious problems by using a few pressure gauges to pinpoint the cause.

It is recommended that the pumping system be equipped for easy pressure gauge installation before trouble occurs. Small manual shutoff valves can be installed at proper locations, with plugs inserted in the outlets. This would allow pressure gauges to be put in easily without removing the LP-Gas or anhydrous ammonia from the system at the time trouble occurs, saving a lot of time and unnecessary expense. Pressure gauges should be installed temporarily at the time the system is first installed, and pressure readings recorded while the system is working properly. Then, in many cases, merely comparing pressures with original readings may tell what the trouble is.

NOTE: The figure below shows where pressure gauges should be installed. Pressure gauge readings from the original tests should be recorded for each gauge.

It is recommended that the pressure gauges not be used continuously, because vibrations and the ravages of weather cause their damage or ruin. Therefore, as soon as the initial tests are complete, it is best to (1) close the shutoff valves, (2) remove the gauges, (3) plug the valves and (4) keep the gauges in a safe place, ready for troubleshooting when really needed. It is easier to diagnose a problem if the original test results are available, but don't panic if they aren't. You can still solve the problem without this information, but it requires more time and effort.





Pumping System Troubleshooting Guide

Be sure to obtain and keep available for quick referral the Manufacturer's Operation and Service Manuals for the valves, pump, meter and all operating equipment in the system.

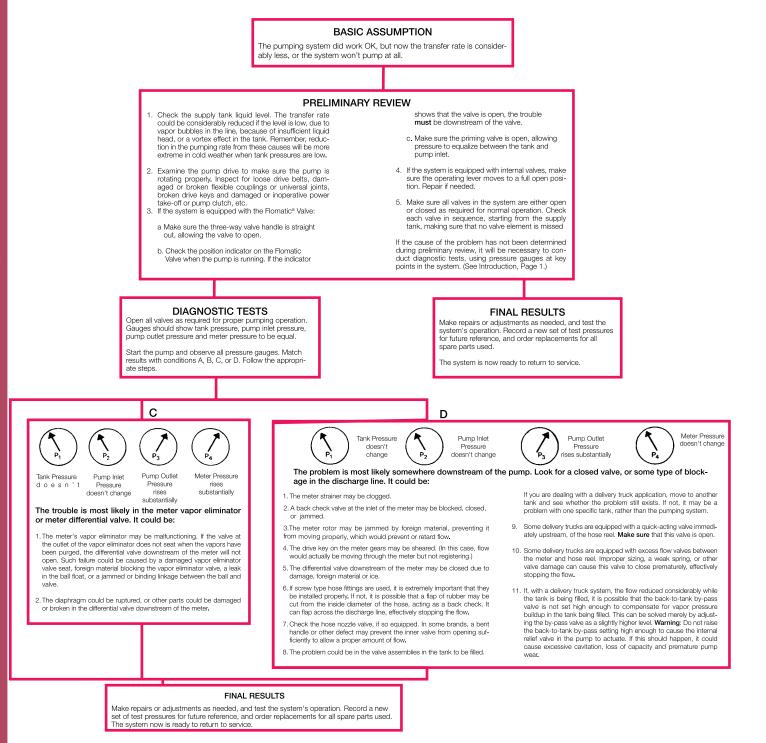
To avoid delays, maintain a complete stock of recommended spare parts on hand for quick repairs.

Follow the steps as shown. Don't assume the answer is known beforehand, or skip any applicable steps. Rather, be thorough and methodical and in most instances, you will solve the problem. On the

other hand, if you have done all of this and still haven't worked out your problem. feel free to call your local distributor or RegO $\,$

direct. We will do our best to help. Perhaps, between us, we will be able to solve your problem and add something new to the procedure which could help everyone in the future.

Pumping System Troubleshooting Chart





Section H Adapters, Connectors and Fittings



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 catalog describes a complete line of equipment available from RegO[®] for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH₄). 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.
- 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 NH_3 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 NH_3 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. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH3. If you have a need for use of another application, contact RegO, 100 RegO Drive, Elon, NC 27244, (336) 449-7707 ecii@regoproducts.com before proceeding.

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.

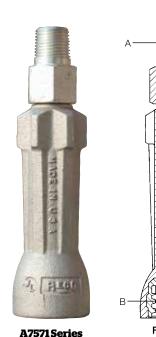
Extended Type Hose Couplings for Vapor and Liquid Service A7571 and A7575 Series

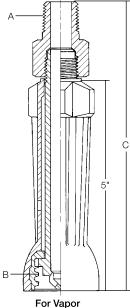
Application

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.

Features

- Lightweight aluminum handle is contoured and ribbed for added • comfort, easy handling allows for easy make-up.
- Free swivel action between tailpiece and handle allows for easy ٠ make-up.
- Simplified design eliminates an extra joint and provides smooth, uninterrupted flow.





Equalizing

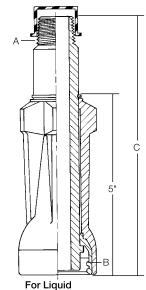
Materials

I HI

Handle	Aluminium
ACME Threads	Steel Inlet
Restraining Ring	Stainless Steel







A7575 Series

Filling

Ordering Information

Part Number	Type of Service	A. Hose Connection (M. NPT)	B. Coupling Connection (F. ACME)	C. Approx. Length		
A7575L2*		1/2"				
A7575L3	1 [3/4"	13⁄4"	71		
A7575L4	Liquid	1"	174			
A7575L5**		1¼"		1"		
A7571LA	Vener	1/2"	11/"			
A7571LB	Vapor	3/1"	1¼"			

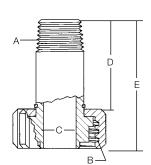
* Includes 7199-33 adapter, shipped loose. ** Includes A7575L5-1 adapter, shipped loose.



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

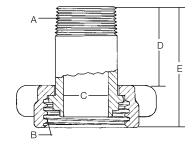






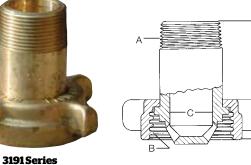
Style A For Liquid Filling

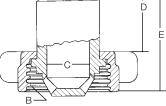




A3185 Series

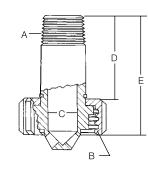
Style B For Liquid Filling





Style D For Vapor Equalizing





3171A Series

Style C For Vapor Equalizing



Ordering Information

Part 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			1⁄2"		³⁵ ⁄64"		
3175	Brass	А	3/4"	1¾"	3/4"	1 ¹³ ⁄16"	211/16"
3175A	Brass		1"]	¹⁵ ⁄16"	1	
3185			1¼"	21/4"	13⁄16"	211/16"	3¾"
3195	Brass Nut & Steel Nipple	В	2"	3¼"	7⁄8"	21⁄4"	35⁄8"
A3175		•	3/4"	1¾"	3/4"	2"	21/8"
A3175A	Charal	A	1"		7⁄8"	21⁄4"	31⁄8"
A3185	Steel	P	1¼"	21/4"	1¼"	21/8"	33⁄16"
A3195		В	2"	31⁄4"	11/8"	21⁄4"	35⁄8"
3171			3/8"	41/"	3/8"	447/ "	042/ "
3171A		С	1/2"	11⁄4"	³¹ ⁄64"	- 117/32"	2 ¹³ / ₃₂ "
3181	Brass	U	3/4"	13⁄4"	3/4"	13⁄16"	2 ¹¹ /16"
3181A			1"	174	3/4"	17⁄8"	2 ³ / ₄ "
3191		D	11⁄4"	21/4"	1 ³ ⁄16"	21/8"	33⁄16"



ACME Check Connectors for Lift Trucks 7141F and 7141M

Application

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.

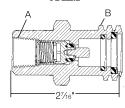


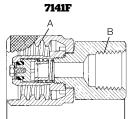
YEAR WARRANTY

REGO



7141M





115/16

45%

Approx.

Ordering Information

		A.	B.	Protective Cap*						
Part Number	Application	Inlet	Outlet	Rubber	Brass					
7141M	Service Valve	3∕%" F. NPT	1¼" M. ACME	7141M-40	7141FP					
7141F	Fuel Line	1¼" 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

H Application

Designed to provide an efficient means of evacuating an LP-Gas container for relocation or repair. They thread directly onto the 1³/₄" 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.

Features

Materials

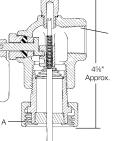
- · Available in either angle or in-line type configurations.
- Built-in vent valve provides for a controlled release of gas which may be trapped within the unit after use and also helps to indicate closure of the Filler Valve.
- Integral plunger has two different lengths of travel, ¼" and ½", depending on which way the lever is turned. Can be used with all RegO Filler Valves.

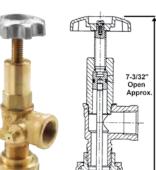


Body	Brass
Plunger	Steel

3120

в





3121

-							
	10	OTI	mσ	1111	orn	121	on
-	-					LCCC.	

Part Number	Style	A. Filler Valve Connection	B. Hose Connection
3119A	In-Line		1¾" M. ACME
3120	Anglo	1 ¾" F. ACME	∛″ F. NPT
3121	Angle		74 F. NF I

REC. 100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com Phone (336) 449-7707

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

Application

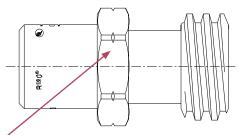
These brass connectors are especially designed to join the carburetor vapor fuel line to the service valve on industrial cylinders especially designed for and used on propane fueled lawn mowers. Sturdy long lasting ACME left hand threads provides for quick hand tight assembly that provides for quick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

Features

- The 7142LM couples directly to the service valve.
- An integral O-ring is designed to seal before the internal check ٠ opens, aiding in product loss prevention.
- A gasket at the ACME thread when the connectors are tightened • together.
- The 7142LF accepts the vapor fuel line adapter and couples • directly with the 7142LM.
- The O-ring seal in the 7142LM is designed to seal before the • internal check opens to allow product to pass through the connection.
- The knurled coupling nut proves for easy make-up even against • LP-Gas vapor pressure.



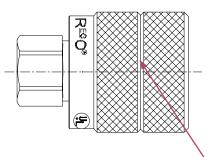
7142LM



Lines across wrench flats indicate left hand thread male ACME connection.



7142LF



Solid line around coupling nut indicates left hand thread female ACME connection.

Ordering Information

Part Number	Application	Inlet	Outlet	Protective Cap
7142LM	Vapor Service Valve	3⁄8" F.NPT	1¼" M.ACME –left hand	7141M-40
7142LF	Vapor Fuel Line	1¼" F.ACME –left hand	1⁄4" F.NPT	-



Filler Hose Adapters 3179B, 7577V and 7576

 $\overline{\mathcal{A}}$

3 13/32



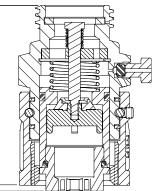
3179B



7577V

I 🕴







2 5/16

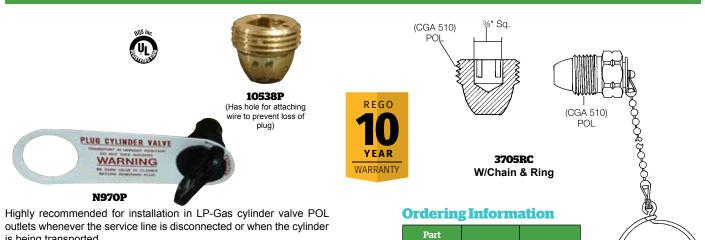
These adapters are designed with minimal flow restriction and recommended for use on the outlet of the LP-Gas delivery truck filler hose. If the controlled bleed off of the connection indicates the filler valve on the tank being filled has failed to close, the hose adapter should be left in place on 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.

Ordering Information

Part Number	Built-in Vent Valve	A Filler Valve Connection	B Hose Connection
7577V	Yes		
3179B	No	1¾" F. ACME	1¾" M. ACME
7576	Yes		



POL Plugs



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.

Number

N970P

10538P

3705RC

Material

Cycolac

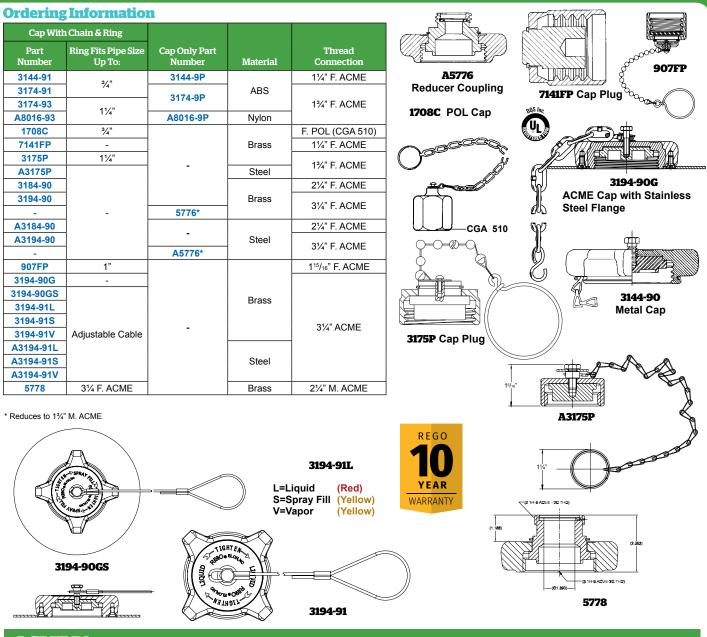
Brass

Connection

M. POL

(CGA 510)

Caps and Reducers



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

Ordering Information

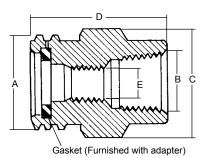
Part Number	Material	A (M. ACME)	Chain & Ring Fits Pipe Size Up To:
C5763N	Nylon	11⁄4"	3/4"
C5765N	Nyion	1¾"	1¼"
5765PR	Brass		Not Applicable
C5767N	Nulon	21⁄4"	1¼"
C5769N	Nylon	3¼"	2"

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ACME Adapters

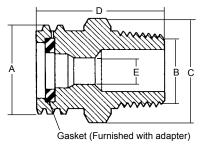
Ordering Information

Part Number	Material	A M. ACME	B F.NPT	C Hex	D Overall Length	E Diameter	For Spare Gasket Order Part No.
5764A			1⁄4"		1³⁄₄"	13/ ₃₂ "	
5764B			3⁄8"	13⁄4"	1 ²³ / ₃₂ "	⁹ / ₁₆ "	
5764C	Dura	1¾"	1/2"		11⁄4"	11/16"	A2697- 20R
5764D			3/4"		1º/32"	29/32"	206
5764E	Brass		1"		1 3/8	/32	
5766E			1"	01/"	2 "	1 ³ /32"	40404.00
5766F		21⁄4"	11/4" 21/4"	2	13⁄8"	A3184-8R	
5768G		3¼"	11⁄2"	31⁄4"	1³⁄₄"	1 ¹¹ / ₁₆ "	A3194-8R
A5764D	Steel	13/"	3/4"	13/"	2 ³ /16"	7/"	A2697-
A5764E		1¾"	1"	13⁄4"	∠3/16	7⁄8"	20R
A5768H		3¼"	2"	31⁄4"	1 ¹³ /16"	1 ¹⁵ /16"	A3194-8R

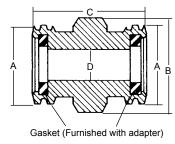


ACME x Female NPT

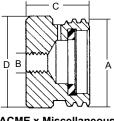




ACME x Male NPT



ACME x ACME



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

Ordering Information

Part Number	Material	A M. ACME	B M. NPT	C Hex	D Overall Length	E Diameter	For Spare Gasket Order Part No.
5763D		11⁄4"	3/4"	1¼"	13⁄4"	1⁄2"	A2797-20R
5765D			3⁄4"		1 ²³ /32"		
5765E		1¾"	1"	1¾"	2 ³ /32"	²⁹ / ₃₂ "	A2697-20R
5765F	Drago		1¼"		Z°/32		
5767F	Brass		1¼"	2¼"	23/8"	1 ³ / ₁₆ ""	
5767G		2¼"	1½"	Z74	278	1¾" A	A3184-8R
5767H			2"	2¾"	27/16"	1 ²⁵ / ₆₄ "	
5769K]	3¼"	3"	31⁄2"	35⁄8"	21⁄8"	A3194-8R
A5765C			1⁄2"			17/32"	
A5765D]	1 ³ ⁄4"	3/4"	1¾"	2 ³ /16"	¹¹ / ₁₆ "	A2697-20R
A5765E	Steel	174	1"	174	Z°/16	57/64"	A2097-20K
A5765F			1¼"			07/64	
A5767F		21⁄4"	1¼"	2¼"	23⁄8"	1¼"	A3184-8R
A5769H		31⁄4"	2"	3¼"	21/8"	1 ¹⁵ / ₁₆ "	A3194-8R
A5769K		J/4	3"	4"	313/16"	1.3/16	A3154-0K

Ordering Information

Part Number	Material	A M. ACME	B Hex	C Overall Length	D Diameter	For Spare Gasket Order Part No.
5765M		1³⁄₄"	1³⁄₄"	2 "	²⁹ / ₃₂ "	A2697-20R
5767M	Brass	21⁄4"	21⁄4"	2 ^{1⁄16} "	1 "	A3184-8R
5769M		31⁄4"	3¼"	2 ³ ⁄4°	1 ¹⁵⁷ ft"	A3194-8R

Ordering Information

Part Number	Material	A M. ACME	B F. NPT	C Overall Length	D Diameter	For Spare Gasket Order Part No.
A5764W	Steel	1¾"	3/8"*	1¼"	13/"	2607.20
5764W	Brass	174	78	174	1¾"	2697-20

* 3/8" -16 UNC Thread.



3¼" M.ACME X 2" M.NPT Adapter with Vent Valve & Integral Screen **5769HVB**

Ui

Application

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



- Meets NFPA 58 requirements for liquid transfer •
- Stainless steel screen
- Vent valve available in brass or stainless steel ٠

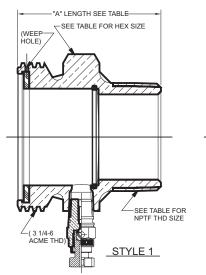


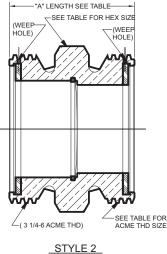
5769HVB

Materials

Body	Brass
Screen	Stanless Steel
Gasket	Resilient Rubber







Ordering Information

Part Number	Style	Gasket Qty	Vent Valve	Hex Size	Thread	"A" Length
5769H	1	1		31⁄4"	2" M.NPT	2.875
5769K	1	1	-	31⁄2"	3" M.NPT	3.625
5769M	2	2		3¼"	31⁄4" ACME	2.750
5769HVB	1	1	3165CBT		2" M.NPT	3.150
5769VSS	1	1	TSS3169		2 WI.INPT	3.150



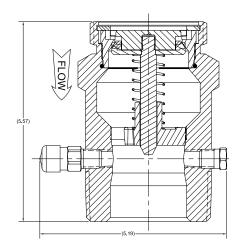
Low Emission ACME Connector For Transports and Bobtails 6588LE & 6589LE

Application

Designed to provide fast filling of bobtails, transports and large bulk storage tanks while providing for low emission of LPG when disconnecting.

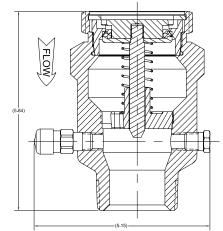
Features

- 31/4" Male Acme Connector with reduced emissions, 90% less than current RegO ACME adapters.
- 10.5 cubic centimeters of liquid discharged at disconnect ٠
- UL Listed as a Filler Valve.
- Safety groove is designed to shear below ACME threads leaving • the valve seat closed and unaffected if the vehicle pulls away with the hose connected.
- Seat disc is made of synthetic composition and is mechanically ٠ held in place by a seat disc retainer.
- Stainless Steel return spring. ٠
- One- piece poppet stem for smooth operation.
- Will connect to any standard female 31/4" ACME adapter. .
- Hydrostatic relief valve included (3125L). ٠





6588 Series



Materials or D - -

I II

Оррег Воду	Brass
Lower Body	Brass
Poppet & Stem Assembly	Brass
Spring	Stainless Steel
Gasket	Resilient Synthetic Rubber
Seat Disc	Resilient Synthetic Rubber

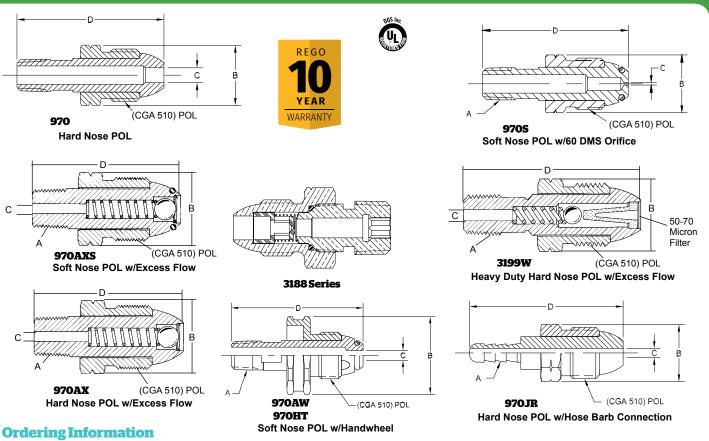


Ordering Information

	ACME Connection	Outlet Connection M.NPT	Wrench Flats	Hydrostatic Relief Valve	Propane Capacity at Various Differential Pressures (GPM)		
Part Number					5 PSIG	10 PSIG	25 PSIG
6588LE	31⁄4"	2"	31⁄2"	3125L	138	223	349
6589LE	31⁄4"	3"		3125L			



Male POL Swivel Adapters



Part Number	Material	A Outlet Thread	B Hex	C Drill	D Overall Length	Vapor at 100 PSIG Inlet (SCFH)	Liquid (GPM)
970				1⁄4"			
970S				.040" orifice		-	-
970AX			7/8"		2 ¹⁵ ⁄32"		
970AXS		1/4"	/8	1⁄8"		404	1.10
970AWXS		M. NPT	43/7				
3199W				⁵ /32"	27/16"	450	0.95
970AW	Brass			³ ⁄16"	045("		-
970HT			13⁄8"	.040" orifice	215/32"		
970JR		1⁄4" Hose Barb	7⁄8"	⁵ / ₃₂ "	25⁄8"	-	
3188A						350	.95
3188B		½" M. NPT	11⁄8"	9⁄32"	21⁄2"	700	1.9
3188C						1180	2.9

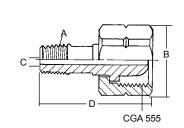
Note: All nipples incorporate wrench hex section.

CGA 555 Swivel Adapters



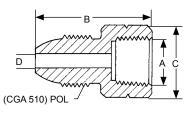
Ordering Information

Part Number	Material	A Outlet Thread	B Hex	C Drill	D Overall Length		
12982	Brass	1⁄4" M. NPT	11⁄8"	³ ⁄16"	11⁄8"		



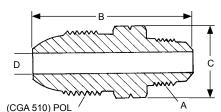
H

POL Adapters





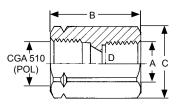




Male POL x Female NPT

Ordering Information

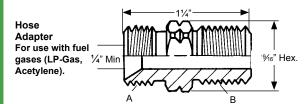
Part Number	Material	A F.NPT	В	C Hex	D Diameter
2906A	Droop	1⁄4"	1 ¹¹ /32"	7⁄8"	⁹ /32"
2906G	Brass	1⁄2"	2"	11⁄8"	9/32



Female POL x Female NPT and Female POL

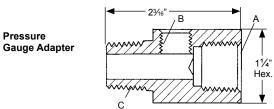
Ordering Information

Part Number	Material	А	В	C Hex	D Diameter
5760A		1⁄4" F.NPT			¹³ /32"
5760B]	3∕8" F.NPT	15⁄8"	11⁄8"	19/32
5760C	Brass	1⁄2" F.NPT	1		7⁄16"
5760D]	¾" F.NPT	11⁄8"	1¾"	13/32"
5760S]	POL (CGA 510)	21⁄8"	11⁄8"	19/32



Ordering Information

Part		А	В
Number	Material		
1300	Brass	%₁º-18UNF (L.H.)	1⁄4" M. NPT

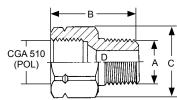


Ordering Information

Part Number	Material	A	В	с
1494-1	Brass	1⁄2" F. NPT	1⁄4" F. NPT	1⁄2" M. NPT

Ordering Information			Male PO	L x Male	NPT and S	AE Flare
Part Number	Material	A	В	C Hex	D Diameter	
		3/"	1			

2906D		%" M. NPT	25⁄64"		¹¹ / ₃₂ "
2906F	Brass	³∕₃" SAE Flare	2¾32"	7⁄8"	9/ ₃₂ "
2906E		½" SAE Flare	2%32"		932

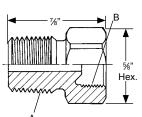


Female POL x Male NPT

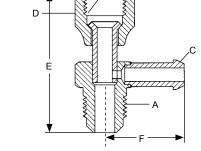
Ordering Information

Part Number	Material	A	В	C Hex	D Diameter
5761A	Brass	1⁄4" M.NPT	15%"	11⁄8"	³ /16"
5761B		3∕8" M.NPT			¹³ / ₃₂ "
5761C		1⁄2" M.NPT			7/16"
5761D		3⁄4" M.NPT			'/16









Part Number	Material	A	В	С	D	Е	F
1328		%" SAE Male Flare	%" SAE Female Flare	3/8"	¹³ ⁄16"	2"	11⁄8"
1331	Brass	1/2" SAE Male Flare	1/2" SAE Female Flare	Hose	1'	21⁄8"	1¼"
1332		%" SAE Male Flare	5%" SAE Female Flare	Barb	11⁄8"	21⁄2"	174



Copper Pigtails

Features

- •
- Heavy duty construction. Individually soldered connections to the copper tubing. Each pigtail is individually tested prior to shipment. •
- •

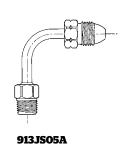
Materials

Tubing	Copper
Connections	Brass

912JS12







913PS05A



Straight Pigtails

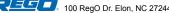
Ordering Information

		Part Number				
		¼" T	¼" Tube			
Connections	Approximate Length	%" Hex Short Nipple	1½" Hex Long Nipple	%" Hex Short Nipple		
	5"	-		913PS05		
	12"	912PS12	-	913PS12		
M.POL x	20"	912PS20	912PA20	913PS20		
M.POL	30"	912PS30	-	913PS30		
	36"	912PS36	912PA36	913PS36		
	48"	912PS48	912PA48	913PS48		
	12"	912FS12	-	-		
¼" Inverted	20"	912FS20	912FA20	-		
Flare x M.POL	30"	912FS30	-	-		
	36"	912FS36	-	-		
	5"	-	-	913JS05		
¼" M.NPT x	12"	912JS12	-	913JS12		
M.POL	20"	912JS20	912JA20	913JS20		
	36"	912JS36	-	-		
½" M.NPT x M.Pol	12"	-	-	913LS12		
¹ ⁄ ₂ " M.NPT x ³ ⁄ ₈ " M.NPT	12"	-	-	913KL12		

Bent Pigtails

		Part Number	
		¾" Tube	
Connections	Approximate Length	%" Hex Short Nipple	Type/Degree of Bend
¼" M. NPT x M. POL	5"	913JS05A	90°
	1	913PS05A	7
M. POL x	M. POL x	913PS12G	270° Right Hand
M. POL	12"	913PS12H 270°	270° Left Hand
		913PS12S	360°





Section J Miscellaneous Equipment (Including Rotogages and ESVs)

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

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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 catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH_a). 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 NH_3 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 NH₂ service only.

c.All other products including "A" prefix are suitable for use with LP-Gas & NH, 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. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

Do not use any product contained in this catalog with any service commodity other than LP-Gas or NH3. If you have a need for use of another application, contact RegO, 100 RegO Drive, Elon, NC 27244, (336) 449-7707 ecii@regoproducts.com before proceeding.

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.



1" Rotogages[®] for Large Mobile and Stationary Containers A9090 Series

Application

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.

Features

- Supported design (TS Models) eliminates whipping and the need for internal support hangers.
- Resistance-free nylon bearing inserts reduce friction and promote ٠ operating ease.
- Dial face is dual calibrated to provide greater accuracy in reading contents in containers which are not level.
- Interchangeable accessory dials permit interchangeable service • between LP-Gas and anhydrous ammonia.



Rotogage[®] Assembly

Materials

J

Body	Steel
Stem	Steel
Dip Tube	Seamless Steel
Indicator	Malleable Iron
Dial Plate	Aluminium
Vent Stem	Stainless Steel

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





A9091-18LX

Rotogage® Dials

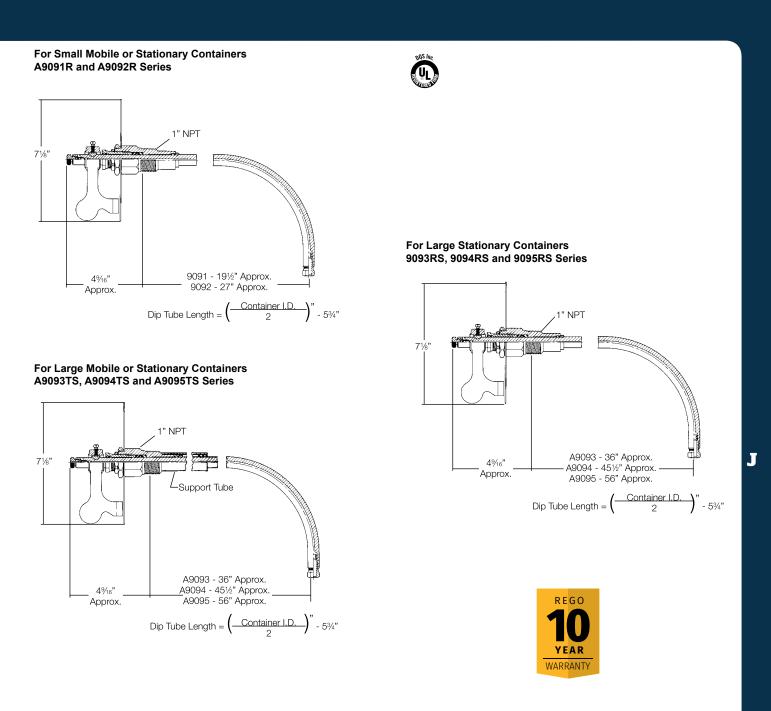
Ordering Information

Part 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



Ordering Information

	For Container Inside Diameter				
Part Numb	Ellipsoid	al 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%").



³⁄4" Rotogages[®] for Small Stationary and Mobile LP-Gas Containers 2070 Series

Application

Rotogages® are designed to provide accurate determination of LP-Gas container contents. They may be end or side mounted in a standard 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".

Features

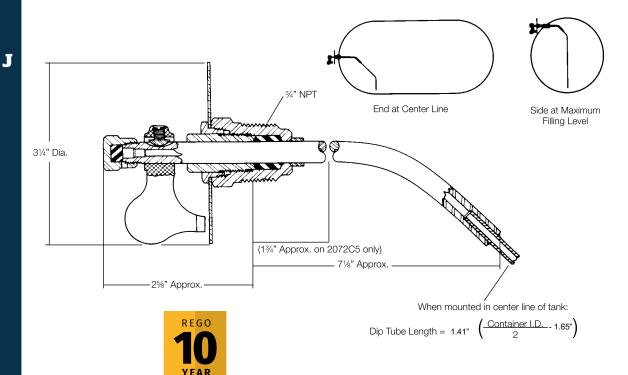
- Provides long, trouble-free performance and ease of operation.
- Polished stems ensure bind-proof operation.
- Dial face is dual calibrated to provide greater accuracy in reading contents in containers which are not level.



Materials

Body	Brass
Stem	Brass Tubing
Dip Tube	
Dial Plate	
Indicator	Malleable Iron

2070 Series Rotogage® Mounting Positions



Side at Center Line



Recessed in Side at Center Line

Ordering Information

Part Number		For Containers with Inside			
Rotogage [®]	Dip Tube	Diameter	Tank Connection	Valve Seat Orifice	
2070C0	2071-L25.7	Up to 40"	34 M. NPT	No. 54	
207000	2071-L39.7	Up to 60"	74 WI. NP I	Drill Size	

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.

WARRANT



Pull-Away Valves for Transfer Operations A2141 Series

Application

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 perodically 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.

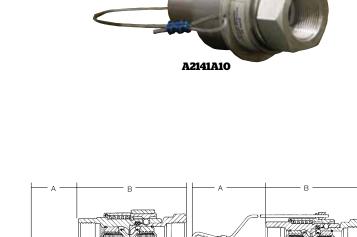
Features

- Heavy-duty construction for long service life.
- A "true" pull-away type valve which simply reconnects by snapping together without unnecessary downtime or need for new parts.
- Buna-N seals provide leak tight operation.
- 400 PSIG operating pressure.

Materials

Body (¾", 1")	Cadmium Plated Steel
Body (1¼", 2")	Cadmium Plated Steel
Seals	Buna-N Rubber
Cables	Nylon Coated, Galvanized Steel





A2141A6

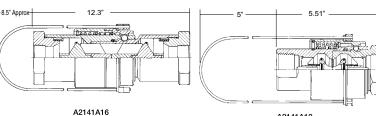


A2141A8

A2141A6L

A2141A8L

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A2141A10

Ordering Information

Part Number	Inlet/Outlet Connections	Disconnect Force	Reconnect	Length Of Valve	LP-Gas Liquid Flow Capacity at Various Differential Pressures (GPM)*			ressures (GPM)*
PartNulliber	NPT F.	Approx-lbs	Force Approx-lbs	Lengur Of valve	5 PSIG	10 PSIG	25 PSIG	50 PSIG
A2141A6	3/"	130	80	37%"	11	16	25	36
A2141A6L**	74	130	80	378	11	10	25	30
A2141A8	1"	75	50	4%16"	21	30	47	67
A2141A8L**		75	50	4716	21		47	07
A2141A10	1¼"	160	25	5%"	52	75	120	170
A2141A16	2"	300	50	145⁄16""	250	350	550	750

67

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



Why and how they should be used for Bobtail Filling and Transport Unloading.

General Information

The primary purpose of Emergency Shut-Off Valves in bobtail filling and transport unloading is to allow quick shut-off of liquid and vapor flow in the event there is an accidental pull-away of a truck or a hose rupture, both of which could cause a fire.

A system using Emergency Shut-Off Valves will not prevent some spillage of liquid and vapor, but the total system should be constructed so this spillage will be kept to a minimum.

This can be accomplished either by making possible, quick action by the driver or plant personnel in closing the valves by manual remote or pneumatic remote actuation; or in case of a pull-away, by automatic closing of the liquid valve by means of a cable connected to the liquid hose.

By minimizing the presence of liquid and vapor, the chance of a fire or explosion will be reduced. In case of a fire, thermal links at the valves or at other appropriate locations could close the valves and prevent further release of liquid and vapor.

The valve closing systems will be discussed later in this section. The user should decide which system is most appropriate, depending on the piping configuration and the general layout of the filling/unloading area.

ESV Application for Bobtail Loading and Transport Unloading

A very important function of the typical LP-Gas storage plant is to transfer LP-Gas into bobtails for delivery to customers. How efficiently and rapidly these bobtails can be filled often determines the number of customers that can be served each day, as well as how many bobtails are required to satisfactorily serve all customers. Therefore, the selection of an ESV for the bobtail liquid loading line should be done with care so as to maximize efficiency in filling and have year-round dependability.

The RegO 2" (A6016) and 3" (A6024) liquid ESVs have a full open port so that the restrictions of flow would be no more than you would expect through an equivalent length of schedule 80 pipe. To improve the overall efficiency of the system, the valves were designed as an operating valve so it could replace an existing globe or angle valve already installed at the end of the fixed piping. Thus, installing a RegO ESV could actually result in a more efficient pumping operation than the existing system.

Equally important in the consideration of an ESV is its performance in an emergency, especially bobtail pull-aways. Therefore, when selecting the proper ESV for bobtail filling, also consider the dependability of performance, and simplicity of operation and maintenance.

The RegO ESVs clearly indicate to the operator its open or closed position. It allows full manual control by the operator and provides means for remote operation in emergencies from either in front of the valve or in the rear.

No complicated systems of pulleys and cables are necessary since direct, straight pulls will close the valve. Means are even provided to secure a length of cable to the transfer hose so as to produce an automatic closing in the event the driver pulls away without disconnecting the hose.

NFPA Provisions (2014)

The pertinent provisions of NFPA Pamphlet 58, as they apply to Emergency Shut-Off Valves and how they are to be installed are below (for complete information refer to NFPA 58):.

Section 5.12.2.3 requires that emergency shutoff valves be approved and incorporate all the following means of closing: (1) Automatic shutoff through thermal (fire) actuation, (2) Manual shutoff from a remote location, (3) Manual shutoff at the installed location. Section 5.12.2.4 states where fusible elements are used; the melting point cannot exceed 250°F (121°C).

This provision sets for the basic criteria for the emergency shutoff valve, a key valve in the protection of many liquid transfer operations. Actuating means for remote control may be electrical, mechanical or pneumatic.

Many systems use a pneumatic system where the tubing itself acts as a fusible element releasing the pressure holding the valve open. With respect to the feature of manual shutoff at the installed location, it is recommended that this valve be operated occasionally. Also, the system should be tested periodically to determine that it will function properly.

Section 6.12.1 covers new and existing installations, stationary container storage systems with an aggregate water capacity of more than 4000 gal (15.1m³) utilizing a liquid transfer line that is 1½ in. (39 mm) or larger and pressure equalizing lines 1¼ in (32 mm) or larger, must be equipped with emergency shutoff valves.

Section 6.12.2 describes where an emergency shutoff valve must be installed in the transfer lines of the fixed piping transfer system within 20 ft (6m) of lineal pipe from the nearest end of the hose or swivel-type piping connections.

Section 6.12.5 covers installations where there are two or more liquid or vapor lines with hoses or swivel-type piping connected of the sizes designated in 6.12.1, an emergency shutoff valve or a backflow check valve, where allowed, must be installed in each leg of the piping.

Section 6.12.6 states the requirements for thermal protection; emergency shutoff valves must be installed so that the temperature-sensitive element in the valve, or a supplemental temperature-sensitive element that operates at a maximum temperature or 250° F (121° C) that is connected to actuate the valve. It also states maximum distance this can be which is not more than 5ft (1.5m) from the nearest end of the hose or swiveltype piping connected to the line in which the valve is installed.

Section 6.12.7 requires that the temperature-sensitive elements of emergency shutoff valves cannot be painted, or can they have any ornamental finishes applied after manufacture.

Section 6.12.8 emergency shutoff valves or backflow check valves must be installed in the fixed piping in manner to protect them so that any breaks resulting from a pull will occur on the hose or swivel-type piping side of the connection; allowing the valves and piping on the plant side of the connection to remain intact.

Section 6.12.9 emergency shutoff valves that are required to be installed in accordance with 6.12.2, that a means must be incorporated to actuate the emergency shutoff valves in the event of a break of the fixed piping resulting from pulling of the hose.

Section 6.12.10 states that all emergency shutoff valves required by the code be annually tested for the functions required in 5.12.2.3 (2) Manual shutoff from a remote location, (3) Manual shutoff at the installed location; the results of the test are documented.

Section 6.12.12 requires that new and existing emergency shutoff valves shall comply with 6.12.12.1 through 6.12.12.3 below.

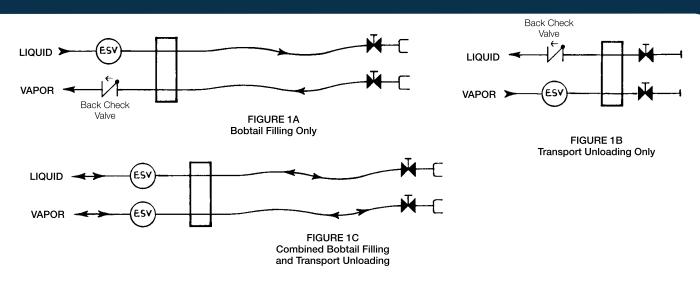
Section 6.12.12.1 requires that the emergency shutoff valve shall have at least one clearly identified and accessible manually operated remote shutoff device.

Section 6.12.12.2 states that the remote shutoff device for an emergency shutoff valve must be located not less than 25ft (7.6m) or more than 100 ft. (30 m) in the path away from the emergency shutoff valve.

Section 6.12.12.3 describes the requirements when an emergency shutoff valve is used in place of an internal valve in compliance with 5.7.4.2(D) (2) the remote shutoff device have to be installed in accordance with 6.11.4 and 6.11.5.

The provisions above and others covered in NFPA 58 can assist in determining how bobtail filling and transport unloading stations are to be configured. The diagrams shown here offer general information, they should not be used as an installation guide.





Installation Compliance with NFPA Requirements

A valve that is approved as an ESV may be installed in the fixed piping up to a distance of 20 feet (along the pipe) from the point where the transfer hose is attached to the fixed piping.

However, when the ESV is located more than five feet from the end of the fixed piping, an additional fusible element must be installed within five feet of the point of attachment of the hose, and be connected to the ESV valve in such a manner that it will cause the ESV to close in the event of a fire.

The ideal location of the ESV is as close to the end of the fixed piping as possible. This position eliminates the need for an additional fusible element and cable, and it may also permit the elimination of a restrictive valve already installed at the end of the fixed piping.

To this point, our comments have been principally concerned with ESV protection of the liquid line at bulk plants because this is the area of greatest potential danger in the event of a pull-away or hose rupture.

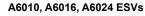
However, regulations also require an ESV in the vapor transfer line when the vapor hose is 11/4" or larger. A helpful rule of thumb in determining whether or not an ESV control valve is required in your vapor system is this: If the vapor flow is out of the storage tank, an ESV is required. ESV systems are designed to protect the storage tank contents against uncontrolled release.

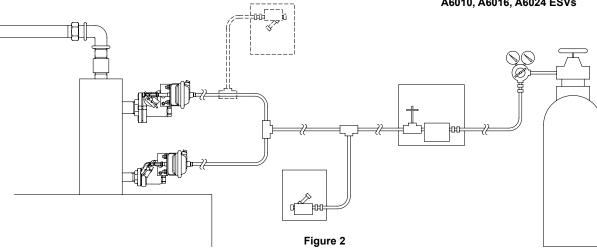
Therefore, a bobtail loading system could use a 11/4" or larger back pressure check valve in the vapor system since the flow of vapor is always from the bobtail being filled back to the storage tank. To improve transfer rates, the use of the RegO 6586D back check valve at this location would provide protection at minimum pressure drop.

If the bobtail vapor line is also used when unloading transports, then the RegO A6010 ESV should be used. The A6010 provides thermal protection, manual closing and a remote emergency closing system similar to the RegO 2" liquid ESV, A6016.

Remote Control Systems

Usually in transfer loading operations, the valve handles and cables are located in close proximity to the area of greatest potential danger during an emergency. Therefore, each bobtail filling system or transport unloading system should have installed in it at least one readily accessible, alternate remote operating device.





RegO ESV's with Remote Pneumatic and Transfer Hose Cable Release Systems Typical Installation



2" & 3" Swing-Check ESVs for Bulk Plants A6016 Series and A6024 Series

Application

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.

Features

- Fusible Element is located in the thermal fuse assembly which acts at the latch open and close trigger. When exposed to fire, the element melts at 212° F allowing the shaft to return to the closed position.
- Valve can be opened by use of operating lever, if a pneumatic • actuator is used it will open with the actuator.
- Valve can be closed by remote cable or pneumatic actuator.
- . Valve can be closed by simply pushing the operating lever down, it is not necessary to trip the close trigger.
- Seat Disc is retained by a metal seat to minimize leakage in case . of direct fire impingement.
- Quick closing regardless if the pump is running or not.

Sturdy Rugged Construction

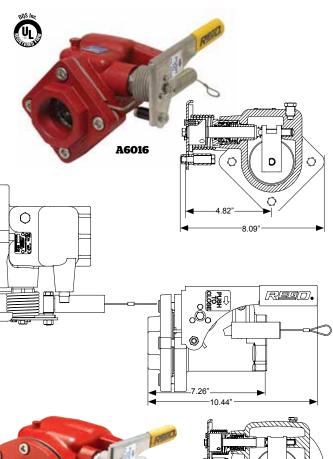
- Will withstand hydraulic shock of sudden closings, piping strains, • and temperature variations.
- Valve has only two moving parts, stem and close/thermal trigger.
- A6016 is UL listed for use in LP-Gas as an emergency and operating shut-off valve.
- Stem seals are spring loaded for leak free performance at low • temperatures/pressures.

Materials

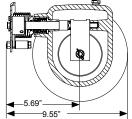
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Body	
Stem	Stainless Steel
Seat	Stainless Steel
Seat Disc (VA6016/VA6024)	High Temperature Viton
Seat Disc (A6016/A6024)	Nitrite
Springs	
Gaskets	Teflon

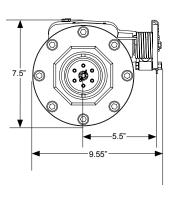


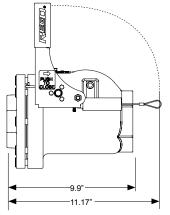






A6024





					Accessories	
Part Number	Seat	Inlet and Outlet Connections	Liquid Flow Capacity at 10 PSIG Drop (GPM)	Remote Close Pneumatic	Remote Open/Close Pneumatic	Remote Open/Close Rotary
VA6016	Viton	2" F.NPT	711 (LP-Gas)			
A6016	Buna-N	2" F.NPT	640 (NH3 or LP-Gas)	601660D	6016-60C	6016RA
VA6024	Viton	3" F.NPT	1325 (LP-Gas)	001000D	0010-000	OUTORA
A6024	Buna-N	3" F.NPT	1173 (NH3 or LP-Gas)			



1¼" Swing-Check ESV for Bulk Plants VA6010 and A6010

Application

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

Features

Meets NFPA 58 and UL requirements

- Fusible Element is located in the thermal fuse assembly, which ٠ acts at the latch open and close trigger. When exposed to fire, the element melts at 212 degrees F. allowing the shaft to return to the closed position.
- Valve can be opened by use of operating lever. If a pneumatic • actuator is used it will open with the actuator.
- Valve can be closed by remote cable or pneumatic actuator.
- Valve can be closed by simply pushing the operating lever down; • it is not necessary to trip the close trigger.

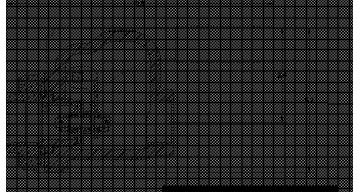
Sturdy Rugged Construction

- Will withstand hydraulic shock of sudden closings, piping strains, and temperature variations.
- Valve has only two moving parts, stem and close/thermal trigger. ٠
- A6010 is UL listed for use in LP-Gas as an emergency and ٠ operating shut-off valve.
- Stem seals are spring loaded for leak free performance at low ٠ temperatures/pressures.
- Seat Disc is retained by a metal seat to minimize leakage in case of direct fire impingement.
- Quick closing regardless if the pump is running or not.

Materials

Body	Ductile Iron Clad Plated
Stem	Stainless Steel
Seat	Stainless Steel
Seat Disc	High Temperature Viton (6010 only)
Seat Disc	Synthetic Rubber (AA6010 only)
Springs	Stainless Steel
Gaskets	Teflon







6016-60D



Ordering Information

Part	Seat	Inlet and Outlet		Liquid Flow Capacity @ 10 PSIG		
Number	Seat	Connections	Remote Pneumatic Close	Remote Pneumatic Open/Close	Rotary Actuator	Pressure Drop (GPM)
VA6010	Viton	1¼" F. NPT	6016-60D	6016-60C	6016RA	259 (LP-Gas)
A6010	Buna-N	1¼" F. NPT	0010-000	0010-000	6016RA	233 (NH3 or LP-Gas)



6016-60C

Flanged ESVs for Bulk Plants FA6010, FA6016 and FA6024

Application

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.

Features

- Fusible Element is located in the thermal fuse assembly which acts at the latch open and close trigger. When exposed to fire, the element melts at 212° F allowing the shaft to return to the closed position.
- Valve can be opened by use of operating lever, if a pneumatic • actuator is used it will open with the actuator.
- Valve can be closed by remote cable or pneumatic actuator.
- Valve can be closed by simply pushing the operating lever down. • It is not necessary to trip the close trigger.
- Seat Disc is retained by a metal seat to minimize leakage in case • of direct fire impingement.
- Quick closing regardless if the pump is running or not. ٠

Sturdy Rugged Construction

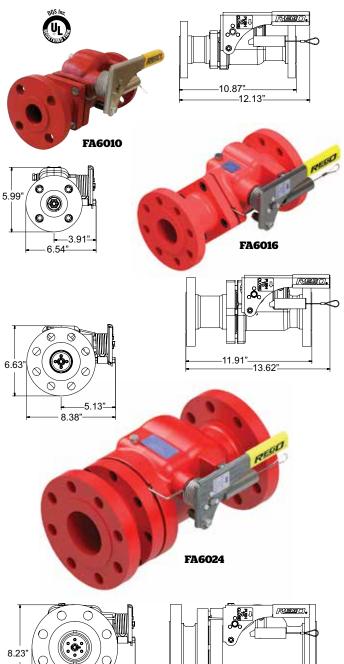
- . Will withstand hydraulic shock of sudden closings, piping strains, and temperature variations.
- Valve has only two moving parts, stem and close/thermal trigger.
- UL listed for use in LP-Gas as an emergency and operating shutoff valve.
- Stem seals are spring loaded for leak free performance at low temperatures/pressures.

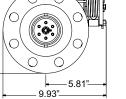
Materials

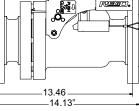
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Body	. Ductile Iron Cad Plated
Stem	Stainless Steel
Seat	Stainless Steel
Seat Disc (FVA6010/16/24)	High Temperature Viton
Seat Disc (FA6010/16/24)	Nitrile
Springs	
Stem Seals	Teflon









Ordering Information

				Accessories		
Part Number	Seat	Inlet and Outlet Connections	Liquid Flow Capacity at 10 PSIG Drop (GPM)		Remote Open/ Close Pneumatic	Remote Open/ Close Rotary
FVA6010	Viton	11/4" - 300# ANSI RF Flange	233 (NH3)		*	
FA6010	Buna-N	1¼" - 300# ANSI RF Flange	259 (LP-Gas)			
FVA6016	Viton	2" - 300# ANSI RF Flange	640 (NH3)	FA6016-		6016RA
FA6016	Buna-N	2" - 300# ANSI RF Flange	711 (LP-Gas)	60D	6016-60C	0010RA
FVA6024	Viton	3" - 300# ANSI RF Flange	1173 (NH3)			
FA6024	Buna-N	3" - 300# ANSI RF Flange	1325 (LP-Gas)			

* Not Available



Application

RegO Emergency Shut-Off Valves modified for remote pneumatic shutdown operation retain all the operating features of the standard valves.

Once equipped with pneumatic cylinders and then pressurized, the pneumatic cylinder piston rod disengages from a striker plate, allowing the ESV to be manually opened and the striker plate to act as a latch and hold the valve open. Release of the control system pressure for any reason closes the ESV for fail-safe operation.

Features

Convenience

- Closes the liquid and vapor ESV from a convenient remote • location.
- · Independent closed loop system allows the ESV to be pneumatically charged, but opened or closed manually or with cable controls to conserve pressurized gas.

Reliability

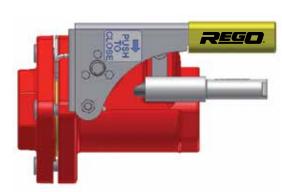
Independent closed loop system will continue to hold pressure • and close ESV in an emergency - even if supply pressure is cut off.

Security

- Any loss of pressure from the control line, such as accidents or the line melting from fire, automatically shuts down the liquid and vapor ESV.
- ESV must be reset after automatic shutdown. •







A6016 with 6016-60D Remote Close Actuator



6016PN-50 Pneumatic Remote Control Kit

Control kit with components for connecting and charging the pneumatic controls from a source of compressed gas (air or nitrogen) to a RegO liquid or vapor ESV. Includes charging valves with low pressure indicator, operating valves, 100 feet of 1/4" plastic tubing and tube fittings.

Ordering Information

Part Number	Description		
6016-60D	Cylinder assembly kit to convert 6016 ESVs to pneumatic shutdown.		
6016PN-50	Pneumatic remote shutdown system kit, complete with 100' of tubing, fittings, 1 charging valve assembly and 1 remote shutdown valve assembly		
6016PN-80	0 Bypass kit for pneumatic actuators.		
7605A-BT 100' roll of ¼" pneumatic tubing.			
7605AP-16	1/2" tubing tee, with nuts.		
7605AP-15	½" NPT x ¼" tubing, straight connector.		
7606RM	Remote Close Cable Kit		



Hydraulic Automatic Cylinder Filling System 7194MD and 7194HD

Application

Designed to provide accurate, economical filling of LP-Gas, DOT and fork lift cylinders by weight. Filling stops automatically as the total weight of the cylinder reaches the amount pre-set on the scale. One individual can efficiently handle up to four cylinder filling operations simultaneously to maximize profits, increase efficiency and allow servicing of more customers.

The RegO automatic cylinder filling system is designed for use with these scales only:

FAIRBANKS-MORSE SCALES

New Style - 1280A Double Beam Scale or Single Beam Scales 1124A and 1174A.

Old Style - 1280 Double Beam Scale or Single Beam Scale 1123 with or without Howe No. 12108 "Over or Under" Indicator.

HOWE SCALES

(with or without Howe No. 8325 Balance Indicator) —No. 54X Wood Pillar and Shelf Scale.

- -No. 57 Steel Pillar and Shelf Scale (single beam).
- -No. 57X Steel Pillar and Shelf Scale (double beam).

Features

- Completely self-contained with no electrical source or wiring required.
- Works hydraulically, like brakes on a car.
- Filling stops automatically when cylinders reach pre-set weight.
- Up to four stations can be handled by one individual.

How It Works

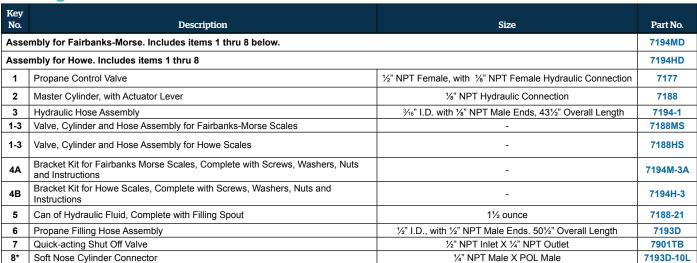
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The scale beam weight is adjusted to the desired filled weight and the empty cylinder is placed on the scale. The loading hose is connected to the cylinder valve, and the lever on the master cylinder is moved to the vertical position. When the quick-acting valve on the loading hose is opened, the cylinder will rapidly fill. The master cylinder lever is designed to trip, move to a horizontal position and automatically shut off the control valve as soon as the scale reaches the pre-set filled weight.

Components may be ordered separately with piping done by the installer. Two completely assembled manifold configurations are also available.

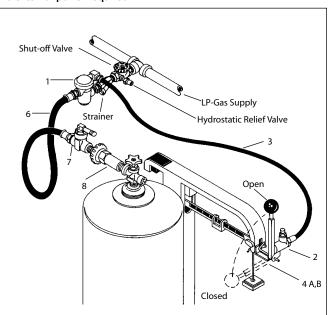
Ordering Information

Hydraulic System Components





Hydraulic self-contained system. No external power required.







3" Heavy Duty Swing Check with Flow Indicator A7624

Application 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. Features Easy-to-read flow indicator • REGO • Heavy duty spring loaded swing check design A7624 Resilient synthetic rubber seat disc YEAR High flow rates with low pressure drop WARRANTY May be installed either horizontally or vertically 1/4" F.NPT plugged boss on top of body Outlet 7.5" Inlet **Materials** Body Ductile Iron StemStainless Steel SeatStainless Steel Seat Disc Resilient synthetic rubber Return SpringStainless Steel **Flow Direction Ordering Information** 9.9" Part Number Inlet & Outlet Connections For Use With: Liquid Capacity at 10 PSIG Drop GPM A7624 LPG & NH3 3" F.NPT 1325-GPM(LPG) 1173-GPM(NH3)

2" Heavy Duty Swing Check with Flow Indicator A7616

Application

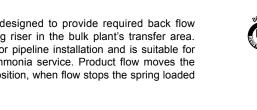
This back check valve is designed to provide required back flow protection for the unloading riser in the bulk plant's transfer area. It is designed specifically for pipeline installation and is suitable for LP-Gas and anhydrous ammonia service. Product flow moves the swing check to the open position,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

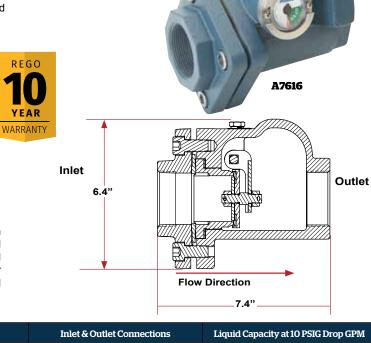
Features

- Easy-to-read flow indicator
- ٠ Heavy duty spring loaded swing check design
- Resilient synthetic rubber seat disc
- High flow rates with low pressure drop ٠
- May be installed either horizontally or vertically
- ¹/₄" F.NPT plugged boss on top of body

Materials

Body	Ductile Iron
Stem	Stainless Steel
Seat	
Seat Disc	Synthetic Rubber
Return Spring	





Ordering Information

Part 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)		

YEAR



Sight Flow Indicators for Bulk Plants A7794 and A7796

Application

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.

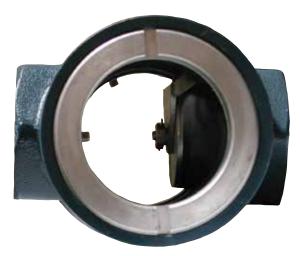
Both installations are designed to allow for observation to provide maximum pump efficiency and ensure safe plant pump operation.

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.

Features

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- Durable ductile iron body ensures long, trouble-free operation with design working pressure of 400 PSIG.
- Glass is polished, ground and tempered after fabrication for maximum strength up to 2,500 PSIG.
- Set screws minimize loosening of glass retainer rings.
- · O-ring glass seals provide for leak-tight operation.

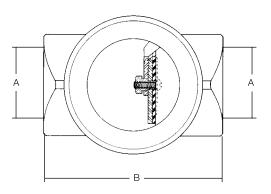


A7794

Materials

Body	Ductile Iron
Swing Check	Stainless Steel
Check Seat Disc	Resilient Synthetic Rubber
Glass Polished, Ground, Tempere	ed and tested to 2,500 PSIG





Part Number	A Inlet/Outlet Connections	B Length
A7794	2" F. NPT	5¾"
A7796	3" F. NPT	7%"

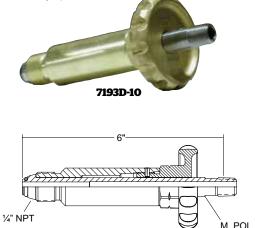


Hose End Adapters for DOT Cylinder Filling 7193D-10 and 7193U-10

Application

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.

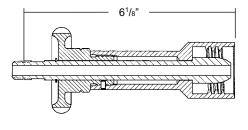
These filling connectors have an extended connection on the handwheel, which makes it possible to connect the loading hose to valves on cylinders with fixed collars. The handwheel is well outside the collar for easy operation.





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Part 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	74 IVI. INF I	Type 1 Connection (1 ⁵ /16" F. ACME)	Brass

(CGA 510)

Connector for DOT Cylinder Filling Adapter 7193T-10

Application

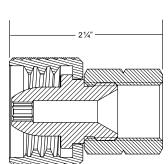
The 7193T-10 Connector is designed for use on the 7193D-10 Filling Adapters. Connector allows quick connection to the Type I 15/16" M. ACME threads for operators that fill both POL and Type I valves.





7193T-10





Ordering Information

Part 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 (15/16" F. ACME)	Brass



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

Application

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.

Features

- Meets CARB Low Emission Standards.
- Light weight, easy-to-use.
- Soft Nose M.POL connection. •
- Redundant Safety Feature will only open when connected to valve.







6.491"

CGA 510 CONNECTION

M. POL

7193D-10L Series

FLOW

1/4" NPT

Materials

Body	Brass – Knurled
Shaft	Stainless Steel – ¼" M.NPT x M.POL (CGA 510)
O-Ring	Synthetic Rubber

Ordering Information

- 2							
	Part Number	Application	Inlet Connection	Outlet Connection	Materials		
Γ	7193D-10L	Filling of DOT cylinders with POL Connections	1⁄4" M. NPT	M. POL (CGA 510)	Brass & Stainless Steel		

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

Application

J

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

Features

- Meets CARB Low Emission Standards
- Light weight, easy-to-use type 1 Fitting
- Liquid release directed away from operator
- Redundant Safety Feature will only open when connected to valve.



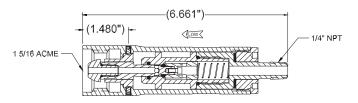




7193U-10L Series

Materials

Body	Brass - Knurled
Shaft Stainless Steel - 1/4" M.NPT x T	ype 1 (15/16" M. ACME)
O-Ring	Synthetic Rubber



Part Number	Application	Inlet Connection	Outlet Connection	Materials
7193U-10L	Filling of DOT cylinders with Type 1 Connections	1⁄4" M. NPT	Type 1 Connection (1 ⁵ / ₁₆) F. ACME	Brass



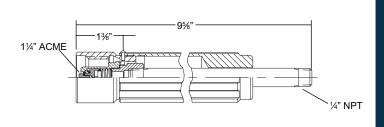
Hose End Adapter for Lift Truck Cylinder Filling 7193L-10A

Application

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.





Ordering Information

				Body	Accessories
Part Number	Application	Inlet Connection	Outlet Connection	Material	Adapter
7193L-10A	Filling of Fork Lift Cylinders*	¼" M. NPT	1¼" F. ACME	Brass	5760A
+TI 34001 404 · ·		CU: 1			

*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

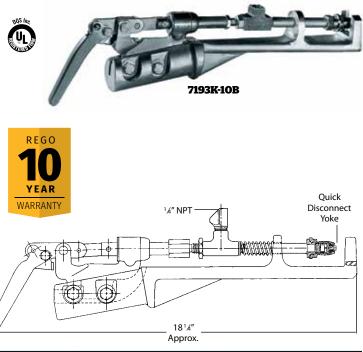
Application

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.



Part Number Application		Inlet Connection	Outlet Connection	Materials	
7193K-10B	Lever Operated for Quick Filling of Fork Lift Cylinders	1⁄4" F. NPT	Quick Disconnect Yoke*	Brass and Steel	
* For use with Reg	gO 7141M check connector.				



Combination Valve for Bulk Storage Containers A2805C

Application

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

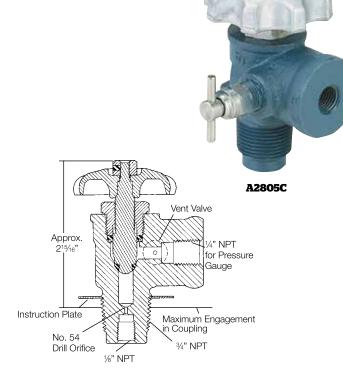
The shut-off valve prevents the pressure gauge from being subjected to constant pressure, thereby prolonging its life and accuracy. The valve may be closed, and the vent valve opened to vent pressure from the gauge to permit replacement.

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

Materials

Body A2805C	Ductile Iron
Bonnet	Steel
Valve Stem	Stainless Steel
Vent Stem	Stainless Steel
Valve Stem Seal	Resilient Synthetic Rubber
Vent Seal	Resilient Synthetic Rubber
Valve Seat	-





Ordering Information

Part Number	Container Connection	Service Connection	Liquid Level Vent					
A2805C	805C ¾" M. NPT ¼" F. NPT for Gauge Mounting		Tee Handle					
*Has 1/8" F. NPT openir	Has %" F. NPT opening for installing separate dip tube.							

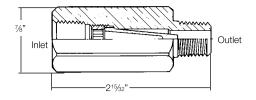
Gritrol Fuel Line Filters 12802

Application

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.

WARRAN





Ordering Information

Part Number	Inlet Connection	Outlet Connection
12802	¼" F. NPT	1⁄4" M. NPT



Application

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.

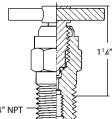
The 3165C, 3165S and TSS3169 incorporates a No 54 drill size orifice The 3165D incorporates a No 72 drill size orifice.

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

Materials	
Body (3165)	Brass
Body (TSS3169)	Stainless Steel
Seat Disc (3165)	Resilient Synthetic Rubber
Seat Disc (3169)	Teflon



1/4" NPT



Ordering Information

				Accessories
Part Number	Service	Connection	Actuation	Warning Plate Kit
3165C	3165C		Ribbed	
3165D	LP-Gas Only	1⁄4" M. NPT	Ribbed	2550 400
3165S		74 WI. NP I	Slotted	2550-40P
TSS3169	LP-Gas & NH3	7	Tee Handle	

Materials

Fixed Liquid Level Gauges 3165 Series and TA3169F

Application

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.

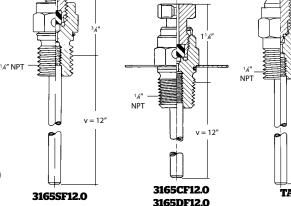




3165CF12.0 3165DF12.0

005/

TA3169F12.0

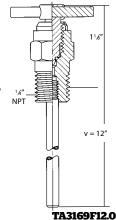


Body (3165)..... Brass

Body (TA3169)..... Stainless Steel

Seat Disc (3165)..... Resilient Synthetic Rubber

Seat Disc (TA3169) Teflon



Ordering Information

Part					Accessories
Number	Service	Connection	Actuation	Dip Tube Length	Warning Plate Kit
3165CF*				*	
3165DF*			Dibbod		
3165CF12.0	LP-Gas Only	1⁄4" M. NPT	Ribbed		2550-40P
3165DF12.0		/4 IVI. INF I		12"	2550-40P
3165SF12.0			Slotted	12	
TA3169F12.0	LP-Gas & NH3		Tee Handle		



Spanner Wrench for ACME Connectors 3195-50

Application

This aluminum spanner wrench is especially designed for use with 21/4" and 31/4" ACME couplings, adapters and caps.





Ordering Information

Part Number	For Use With ACME Connector Size
3195-50	2¼" & 3¼"

Pressure Gauges

Application

J

Especially designed in a variety of sizes and construction for the LP-Gas and anhydrous ammonia industry.









5575

Ordering Information

Part Number	Service	Case Material	Maximum Pressure	Inlet Connection M.NPT	Case Size	Increment Divisions
2434A-2*			35" w.c. and		21/2"	1" w.c. and
2434-2**		Steel	20 oz. (Dual)		L /2	1 oz.
3226A-3			30 PSIG			1/2 PSI
2411]	Drees	30 PSIG			72 P 51
5575	LP-Gas Only Brass Brass Brass Steel Brass			0"	4 DOI	
5547		Steel	60 PSIG		2"	1 PSI
5576		Brass	400 5010	1/4"		0.001
1286		Steel	100 PSIG			2 PSI
948		Brass	000 5010		0"	5 001
948B	1		300 PSIG		2"	5 PSI
A8060			60 PSIG			
A8150	NH ₃ and		150 PSIG		21/2"	5 lb.
A8400	LP-Gas Ste	Steel	400 PSIG			
612-PG	LP-Gas	1	0.000 501	4 (1)	11/2"	30 PSI
612-G2	Only		0-300 PSI	1⁄8"	2"	5 PSI

* ¼" Hose Connection ** 1/6" M. NPT Connection



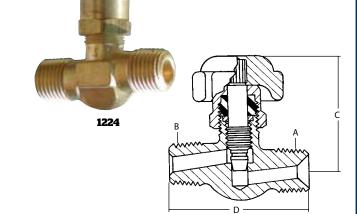
Application

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.





Part Number	A. Inlet Connection	B. Outlet Connection	C. Height	D. Length	
1224WA	1⁄4" M. NPT	1⁄4" M. NPT			
1316WA	9/16" - 18 L.H .	1⁄8" M. NPT	1 ⁹ / ₁₆ "	1¾"	
1318WA	°∕16 - I8 L.H.	1⁄4" M. NPT			



Cross Reference by Part Number

302	A31	1584VN	. A33	3188C		6542R12.0	. C10	7579P	
302V	A31	1586VH	. A33	3191	H5	6543A11.1	. C10	7579S	F26
302V9	A31	1586VL		3194-90	H9	6543A11.1/6543R11.1.		7580F-20	F20
302V9LS		1586VN		3194-90G		6543A11.7		7583G	
597FA	A32	1588VH		3194-90GS	חפ	6543A11.7/6543R11.7.		7590U	F19
597FB		1588VL		3194-91L	H9	6543R11.1		7590U-10	
597FC		1588VN		3194-91S		6543R11.7		7590U-20	
597FD	A32	1708C	H9	3194-91V	H9	6555R10.6	C9	7591U	F19
612-G2	J22	2070C0	J6	3194C	F27	6555R11.6	C9	7605A-BT	J13
612-PG		2071-L25.7		3195		6555R12.0		7605AP-15	
901-400		2071-L39.7		3195-50		6584C		7605AP-16	
901-400	DIO	2071-L39.7		3195-50	JZZ	05040		7005AF-10	
901C1	B13	2139		3197C		6586D		7606RM	
901C3		2139A		3199W	. A36	6587EC		7647DC	F25
901C5	B14	2302-31	. A37	3199W	F17	6588LE	. H12	7647SC	F25
903-400	B18	2411		3199W	H13	6589LE		7704LP	F16
903-500	B18	2434-2		3200C		7034LP		7704P	
903-500	013	2434A		3200L		7034P		7705P	
903-500		2434A-2		3226A-3		7053T		7706P	
907FP	H9	2503-19	. A37	3272E	F11	7141F		7901T	
912FA20	H15	2503-22	. A37	3272F	F11	7141FP	H9	7901TA	E9
912FS12	H15	2723C	F16	3272G	F11	7141M	H6	7901TB	F9
912FS20	H15	2884D		3272H		7142LF		7901TB	
912FS30	H15	2906A		3282A		7142LM		7901TC	E9
912FS36		2906D		3282B		7177		7901TLA	
912JA20	H15	2906E	. H14	3282C	F11	7188	J14	7901TLB	
912JS12	H15	2906F	. H14	3292A	F11	7188-21	J14	7901TLC	E10
912JS20	H15	2906G	H14	3292B	F11	7188HS		7993AD-10L	E10
912JS36	H15	2962		3705RC		7188MS		7993AU-10L	
		3119A							
912PA20	ΠΙΟ			5547		7193D		7993BD-10L	E 10
912PA36	H15	3120		5575		7193D-10		7993BU-10L	
912PA48		3121	H6	5576	J22	7193D-10L	J14	7993CD-10L	
912PS12	H15	3125L	.D16	5726B34	. A30	7193D-10L	J18	7993CU-10L	E10
912PS20	H15	3127G	D15	5727B34		7193K-10B		8117	F24
912PS30	ш15	3127G	D16	5754B4		7193L-10A		8118P	
912PS36	H15	3127H		5755B4		7193T-10		8532AG	
912PS48	H15	3127J		5760A		7193U-10		8533AG	D18
913JS05	H15	3127K	. D15	5760B	. H14	7193U-10L	J18	8542AG	D17
913JS05A		3127K	D16	5760C	H14	7194-1	.114	8542G	D17
913JS12	H15	3127L	D16	5760D	H14	7194H-3		8543G	D11
913JS20	1110	3127P		5760S		7194HD			
								8543T	
913KL12	H15	3127U		5761A		7194M-3A		8544A375T	D11
913LS12	H15	3129G	. D15	5761B	. H14	7194MD	J14	8544G	D11
913PS05	H15	3129G	. D16	5761C	. H14	7501L	F22	8544K	D11
913PS05A	H15	3129H	D16	5761D	H14	7502L	F22	8544T	D11
913PS12	H15	3129J	D16	5763D	H10	7505AP		8545-500	D21
913PS12G		3129K		5764A		7506AP		8545AK	
						7500AF	. E 13		
913PS12H		3129K		5764B	.H10	7507AP	. E13	8546G	D11
913PS12S	H15	3129L	. D16	5764C	. H10	7508AP	. E13	8546T	D11
913PS20	H15	3129P	. D16	5764D	. H10	7509BP	. E13	8555D10.6	C9
913PS30	H15	3129U	D16	5764E	H10	7510BP	F13	8555D11.6	C9
913PS36	H15	3131G	D14	5764W	н10	7511AP	E13	8555DL11.6	C8
913PS48		3132G				7511FP		8555DL11.6	
				5765D					
948		3133G	. D14	5765E		7511FP	. E13	8555R10.6	
948B		3135G	. D14	5765F		7512AP		8555R11.6	
970	A36	3135MG	. D18	5765M	. H10	7513AP	. E13	8556	B17
970	H13	3139-18	A35	5765PR	H9	7513FP	E13	8593AL16.0	C7
970AW		3139-26		5766E		7513FP		8593AL16.0	
970AW		3139-38		5766F		7514AP		8684G	
970AWXS		3144-9P		5767F		7514FP		8685G	
970AX		3144-91		5767G		7514FP		9101C1	
970AX	H13	3146	F30	5767H	. H10	7517AP	. E13	9101D11.1	B13
970AXS		3146S		5767M	. H10	7517FP		9101D11.7	B13
970AXS		3165C		5768G		7517FP		9101H3	
970HT		3165CF		5769H		7518AP		9101H5	
				5769HVB					
970HT		3165CF12.0				7518FP		9101H6	
970JR		3165D		5769K		7518FP		9101P5	
970S		3165DF		5769K		7525B4		9101P5H	
970S	H13	3165DF12.0	J21	5769M	. H10	7525B4	. A28	9101P6	B15
970WXS		3165S	J21	5769M		7525B34		9101P6H	
1212 KIT		3165SF12.0		5769VSS		7525B34		9101R1	
1224WA		3170		5776		7534B		9101R11.1	
1286		3171		5778		7534G		9101R11.7	
1300		3171A		5807		7550P		9101Y5H	
1316WA		3174-9P		5808		7550PX		9102D11.1	
1318WA	J23	3174-91	H9	5820	. A30	7551P	. E17	9102R11.7	B13
1328		3174-93		5828		7554LAV		9103D10.6	
1331		3174C		5832		7554LV		9103D11.6	
1332		3175		6016-60D		7554SAV		9103T9F	
1350E		3175A		6016PN-50		7554SV		9104PPA	
1350R		3175B		6016PN-80		7556R12.0		9104PT10.1	
1450E	A37	3175P	H9	6532A12.0	. C10	7560-55	. D19	9104PT10.7	B16
1450R		3176		6532A12.0/6532R12.0.		7560-56		9106CO	
1494-1		3179B		6532R12.0		7572-400		9107K8A	
1519A2		3180C		6533A10.5		7572C-14A		10538P	
1519A3		3181		6533A10.5/6533R10.5.		7572C-15A		12472	
1519A4		3181A		6533A11.7		7573D		12802	
1519B4		3183AC	F28	6533A11.7/6533R11.7.		7573DC	F28	12982	H13
1519C2		3184-90		6533R10.5		7574		15774-1	
1519C4		3185		6533R11.7		7574L		A1519A2	
1584VH		3188A		6542A12.0		7576		A1519A4	
1584VH 1584VL		3188A							
		0000	. 🗆 13	6542A12.0/6542R12.0.	. U I U	7577V	Hŏ	A1519A6	
1304 VL	A33	0.000							

Cross Reference by Part Number

1519B4		A3219FA600W		A8016-9P		HA7514AP		LV5503Y8	
2137 2137A	F14	A3219RT A3272G		A8016-93		HA7517AP		M3131G	
2137A 2141A6		A3276BC		A8016DBC A8016DP	E20	HA7518AP		MV3132G MV3132G	
141A6L		A3282C		A8016DP A8017DH	EZ1	L6579 L6579		N970P	
141A8		A3292A		A8017DLP		L6579C		PG8475RL	
141A8L		A3292B		A8017DP		L7579		PG8475RL	
141A10		A3292C	F11	A8018DP	E23	L7579C		PT6542A12.0	
141A16	J7	A3400L4		A8020D		LV404B4		PT6542A12.0/6542	
697-20R		A3400L6		A8060	J22	LV404B4V9		PT6542R12.0	C10
697-20R		A3500L4		A8150	J22	LV404B9		PT6543A11.1	C10
797-20R		A3500N4		A8400		LV404B9V9		PT6543A11.1/6543	
797-20R		A3500P4		A8434G		LV404B34		PT6543A11.7	
805C	J20	A3500R6		A8434N		LV404B34V9		PT6543A11.7/6543	
146 149G	F30	A3500T6 A3500V6		A8436G		LV404B39		PT6543R11.1	
149L055		A3500V8		A8436N		LV404B39V9		PT6543R11.7	
149L200		A450018 A5764D		A8523 A8525		LV404B46 LV404B46V9		PT7556R12.0	
149MG		A5764E		A8563AG		LV404B96		PT9102R1 PT9102R11.1	
175		A5764W		A8563G		LV404B96V9		PT9102R11.7	
175A	H5	A5765C		A8564AG		LV404Y9		SF7647V11.0	
175P	H9	A5765D		A8564G		LV404Y39		SF7647V11.1	
176	F30	A5765E	H10	A8573AG		LV960-48		SFL7579V10.6	
184-8R	F21	A5765F	H10	A8573G		LV960-72		SFL7579V11.1	
184-90		A5767F	H10	A8574AG	D20	LV960-120		SFL7579V12.3	
185		A5768H		A8574G	D20	LV3403B4	A20	SFL7579V13.0	F24
186	F30	A5769H		A9091-18L	J4	LV3403B4V0	A20	SFL7579V13.8	F24
187S		A5769K		A9091-18LX		LV3403B4V3		SS8001G	
194-8R		A5776		A9091-18N		LV3403B4V9		SS8001J	
194-90		A6010		A9091-M24.0		LV3403B44R		SS8001L	
194-91L		A6016		A9091-M36.0		LV3403B46R		SS8001U	
194-91S	H9	A6024 A6586D		A9091-M48.0		LV3403TR		SS8002G	
194-91V 195	H9 L/E	A6586D A7505AP		A9091-M60.0		LV3403TRV9		SS8002J	
196		A7506AP		A9091-M72.0		LV4403-400		SS8002L	
198S		A7507AP		A9091R		LV4403B1D		SS8002U	
209D050		A7508AP		A9092R A9093RS		LV4403B3D		SS8021G	
209D080		A7509BP		A9093RS		LV4403B3RD LV4403B4		SS8021J SS8021L	
209DE050		A7510BP		A909313		LV4403B4		SS8021U	
209DE080		A7511AP		A9094TS		LV4403B4D		SS8022G	
209DT050		A7511FP		A909413		LV4403B3D		SS8022J	
209DT080		A7512AP		A9095TS		LV4403B16RABD		SS8022L	
209DTE050		A7513AP		AA1584VH		LV4403B16RAD		SS8022P	
209DTE080		A7513FP	E12	AA1584VL	A33	LV4403B16RD		SS8022U	
211D080	G10	A7514AP		AA1584VW		LV4403B36D		T3132G	
211D110		A7514FP		AA1586VH	A33	LV4403B36RABD	A17	TA3169F12.0	J21
212R 105		A7517AP		AA1586VL	A33	LV4403B36RAD	A17	TA7034LP	E12
212R 175		A7517FP		AA1586VW		LV4403B46		TA7034P	
212R 250		A7518AP		AA3126L030		LV4403B46D		TA7505AP	
212R T105	G17	A7518FP		AA3126L250		LV4403B46R		TA7506AP	
212R T175		A7537L4		AA3126L312		LV4403B46RD		TA7507AP	
212R T250 213D150		A7537L4F A7537N4		AA3130UA250		LV4403B56D		TA7509BP	E12
213D150 213D200	G16	A7537N4 A7537N4F		AA3130UA265		LV4403B56RABD		TA7510BP	
213D200		A7537P4		AA3135MA250		LV4403B56RAD LV4403B56RD		TA7511AP	
213D300		A7537P4F		AA3135MA265				TA7511FP	
213DT150		A7539R6		AA3135MUA250 AA3135MUA265		LV4403B66 LV4403B66D		TA7512AP TA7513AP	
213DT200		A7539R6F		AA3135UA250		LV4403B66R		TA7513FP	
213DT300		A7539T6		AA3135UA265		LV4403B66RA		TA7514FP	
213DT400		A7539T6F		AA8532MA250		LV4403B66RAB		TA7517AP	
217AL160		A7539V6		AA8532MA265		LV4403B66RABD		TA7517FP	
217AL210		A7539V6F		AA8533MA250		LV4403B66RAD		TA7894P	
217AL260		A7550P	E17	AA8533MA265		LV4403B66RD		TSS3169	
217AL410	G11	A7550PX		AA8542UA250		LV4403H222		VA6010	
217AL510		A7551P		AA8542UA265		LV4403H414	A18	VA6016	J10
217ALPA		A7571LA		C5763N	H9	LV4403H420	A18	VA6024	J10
217ALPA		A7571LB		C5765N	H9	LV4403H4614	A18	VA8436G	
217AR160		A7575L2		C5767N	H9	LV4403H4620		VA8436N	
217AR210		A7575L3		C5769N		LV4403H6614		VFA6010	
217AR260		A7575L4		D912J12		LV4403SR4		VFA6016	
217AR410		A7575L5		D912J20		LV4403SR9		VFA6024	
217AR510		A7616		D912J30		LV4403SR96		W3132G	
217ARPA		A7624 A7704LP		D912P12		LV4403TR4		X1584VL	
217ARPA 217DAL160		A7704P		D912P20		LV4403TR9		X1584VN	
217DAL210		A7705P		D912P30		LV4403TR96		X1586VL X1586VN	
17DAL260		A7706P		D913J12 D913J20		LV4403Y4 LV4403Y46R		X1588VL	
17DAL410		A7707L		D913J20		LV5503B4		X1588VN	
17DAL510		A7708L		D913P12		LV5503B6		X1000 VIV	
217DAR160		A7793A		D913P20		LV5503B8			
217DAR210		A7794		D913P30		LV5503G4			
217DAR260		A7796		DG8475RL		LV5503H414			
217DAR410		A7797A		DP8475RL		LV5503H614			
217DAR510		A7853A		FA6010		LV5503H620			
217LA	G11	A7883FK		FA6016		LV5503H620V			
217LA		A7914A		FA6024		LV5503H640			
217RA		A8012C		G8475RL		LV5503H640V			
217RA		A8012D		G8475RL		LV5503H814			
219FA400L		A8013D		G8475RLW	C6	LV5503H820			
	G13	A8013DA	F16	G8475RLW	C6	LV5503H840	A23		
3219FA400W 3219FA600L		A8013DB		HA7513AP					





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