REGO®

L-500 Catalog

LP-Gas & Anhydrous Ammonia Equipment

Foreword

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

First letter in date code is the month

A — January	G — July
B — February	H — August
C — March	I — September
D — April	J — October
E — May	K — November
F — June	L — December

Relief valves used on ASME tanks carry a numerical code indicating month and year such as 1-75 means January, 1975.

Second letter in date code is the year

R — 1960	A — 1969	J — 1978
S — 1961	B — 1970	K — 1979
T — 1962	C — 1971	L — 1980
U — 1963	D — 1972	M— 1981
V — 1964	E — 1973	N — 1982
W— 1965	F — 1974	O — 1983
X — 1966	G — 1975	P — 1984
Y — 1967	H — 1976	Q — 1985
Z — 1968	I — 1977	

EXAMPLE: DL = April of 1980

From 1985 to 1990 — Digit Date Code

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

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

After 1990 — Digit-Letter-Digit Date Code

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

Letter in date code is the week

A — 1st week
B — 2nd week
C — 3rd week
D — 4th week
E — 5th week

Second 2 digits in date code are the year

91 — 1991	97 — 1997
92 — 1992	98 — 1998
93 — 1993	99 — 1999
94 — 1994	00 — 2000
95 — 1995	01 — 2001
96 — 1996	02 — 2002
03 — 2003	etcetera. . .

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	Indicates a single stage regulator that is designed to be used alone in single stage systems.
Brilliant Red	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 100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com +1 (336) 449-7707

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.

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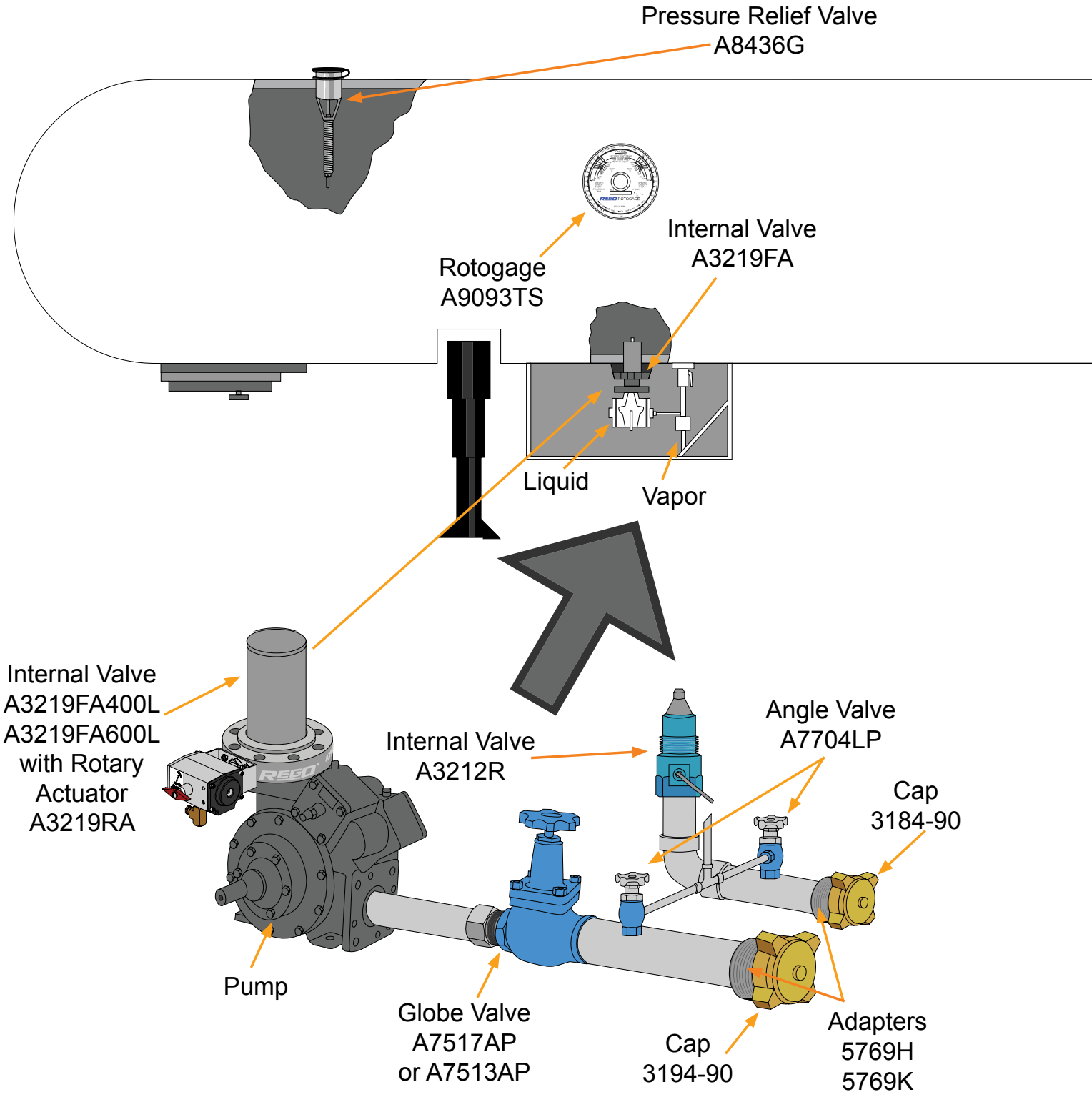
1

Section 1
Application Illustrations

Bulk Transport Truck Illustration



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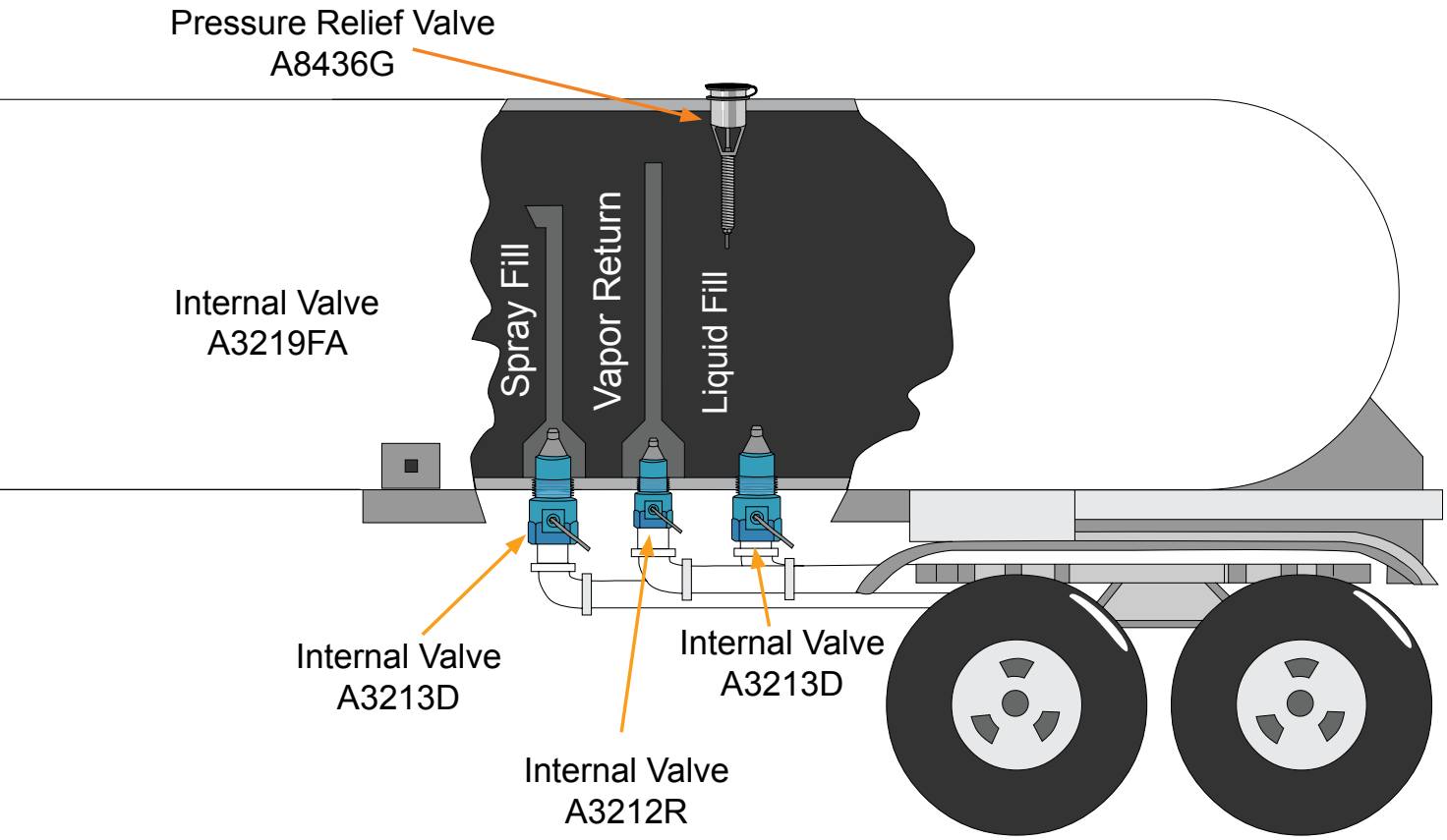

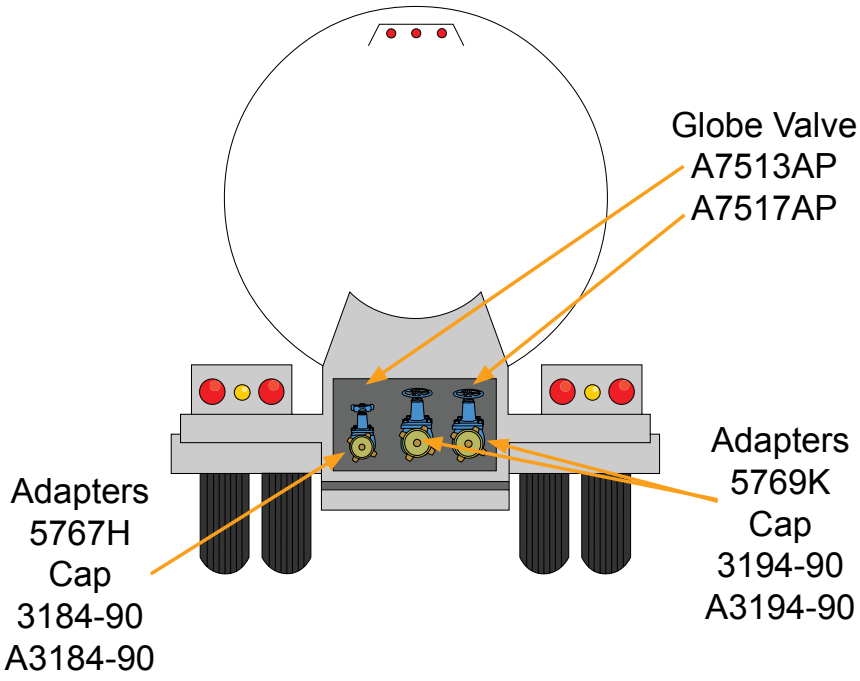

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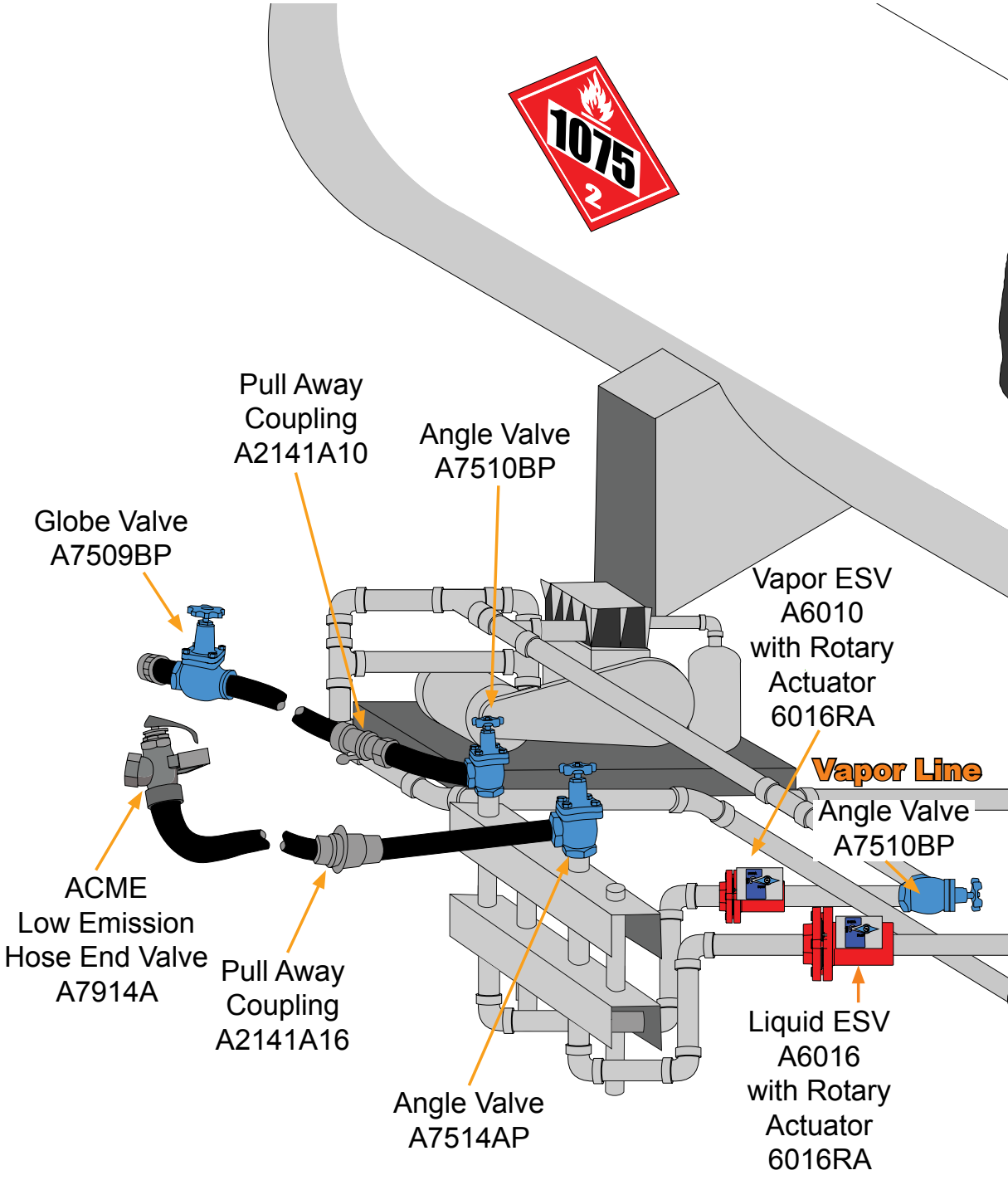
Bulk Storage Plant Illustration



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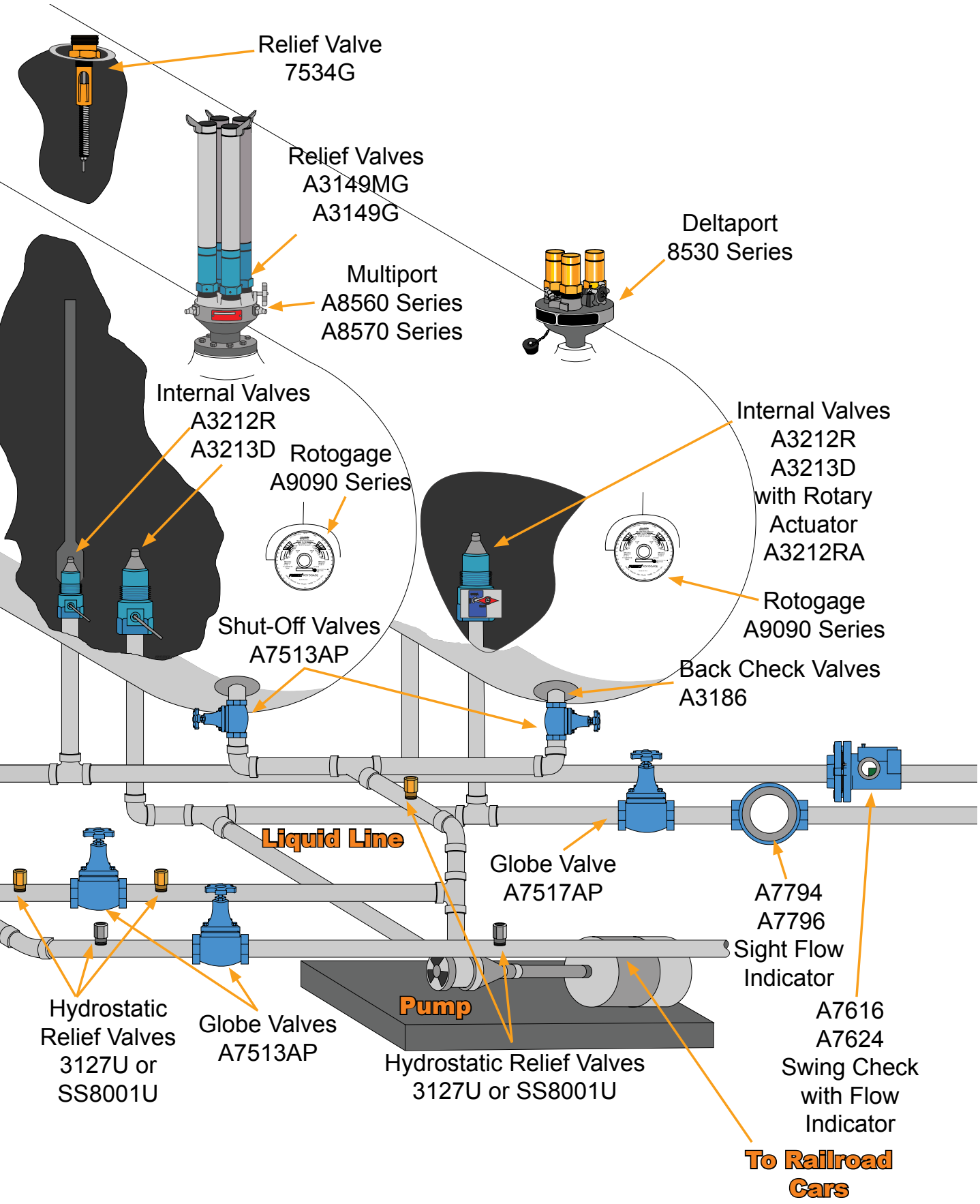

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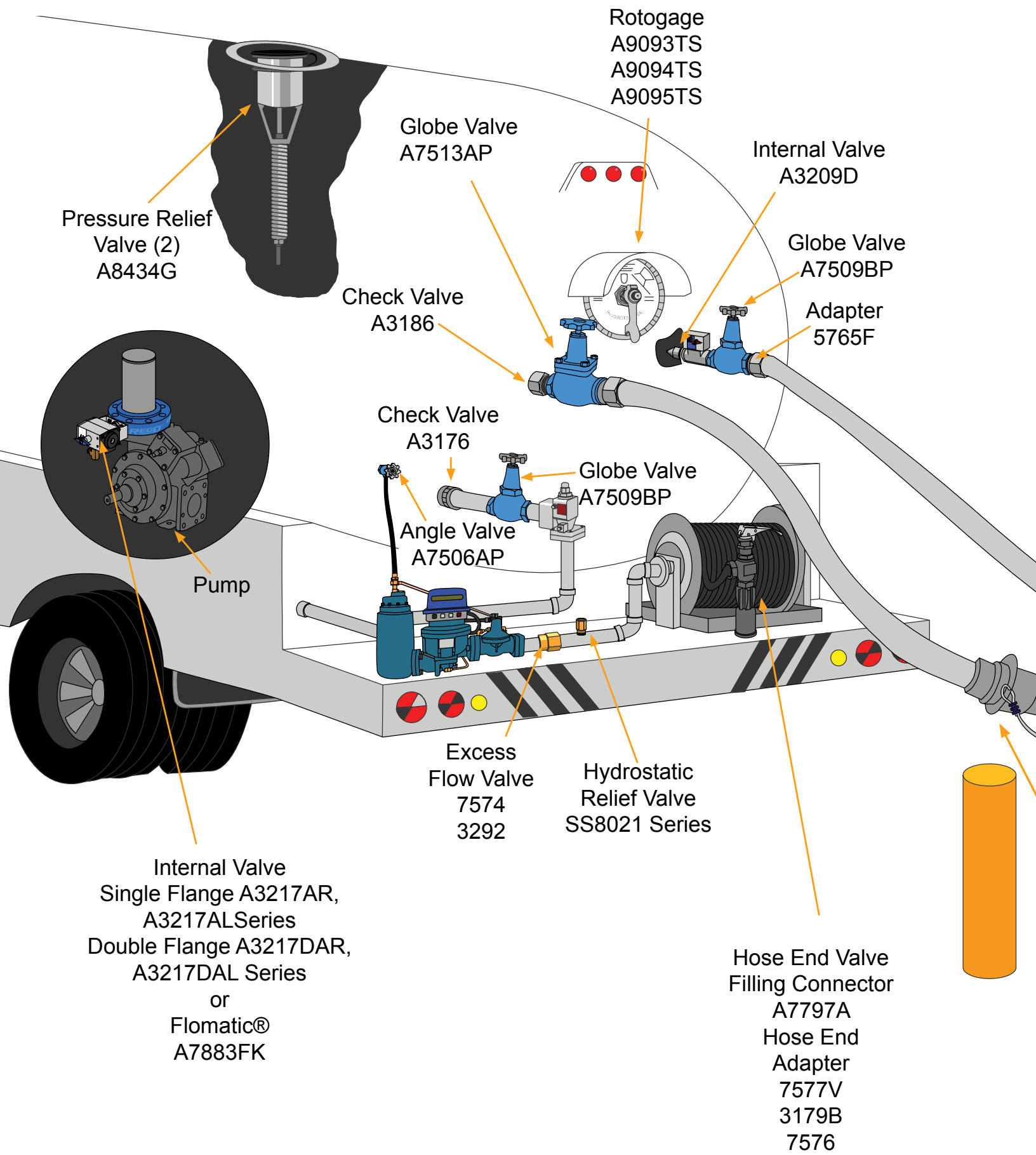
Bobtail Delivery Truck Illustrations



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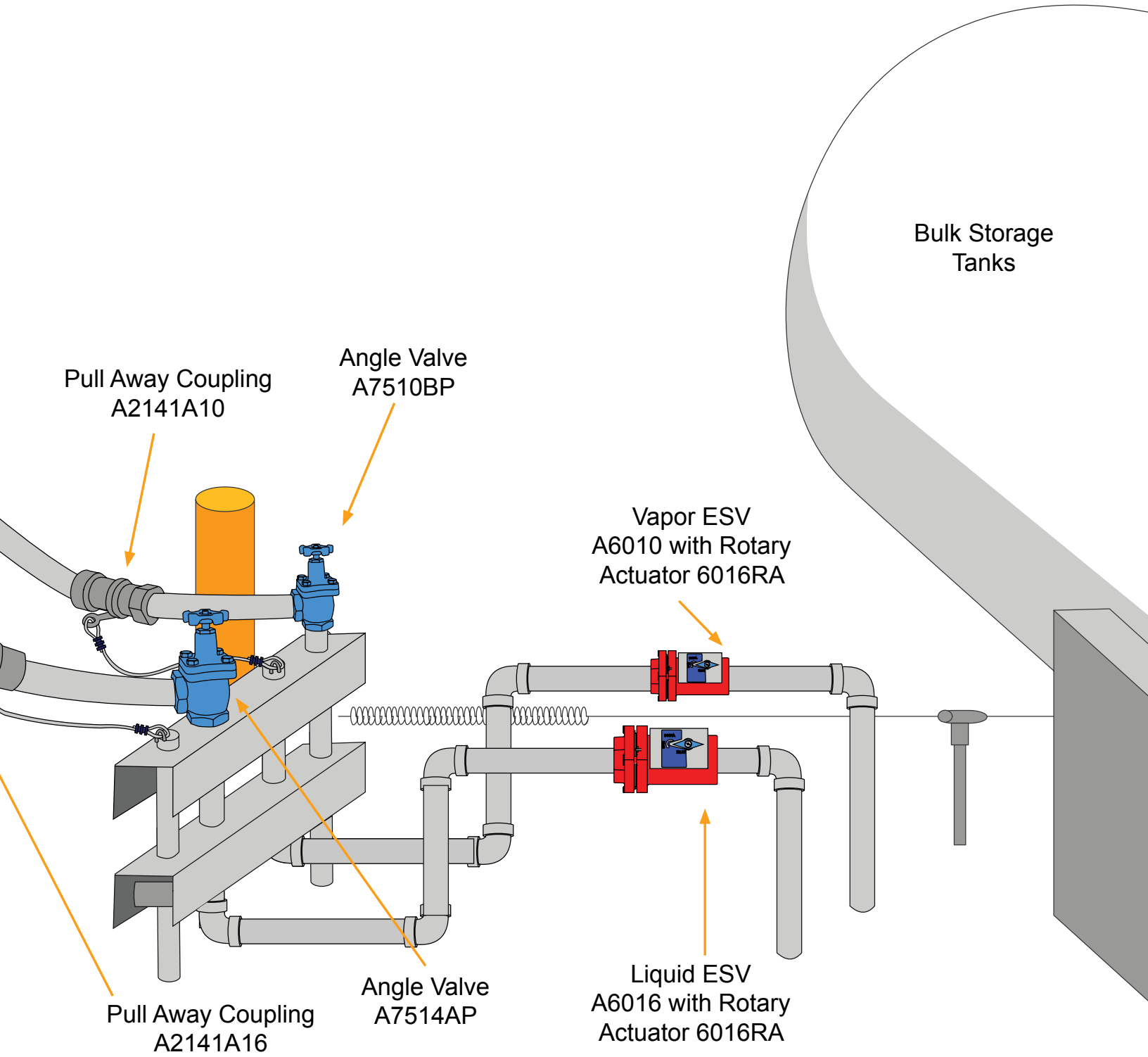
Emergency Shut Off Valves Illustration



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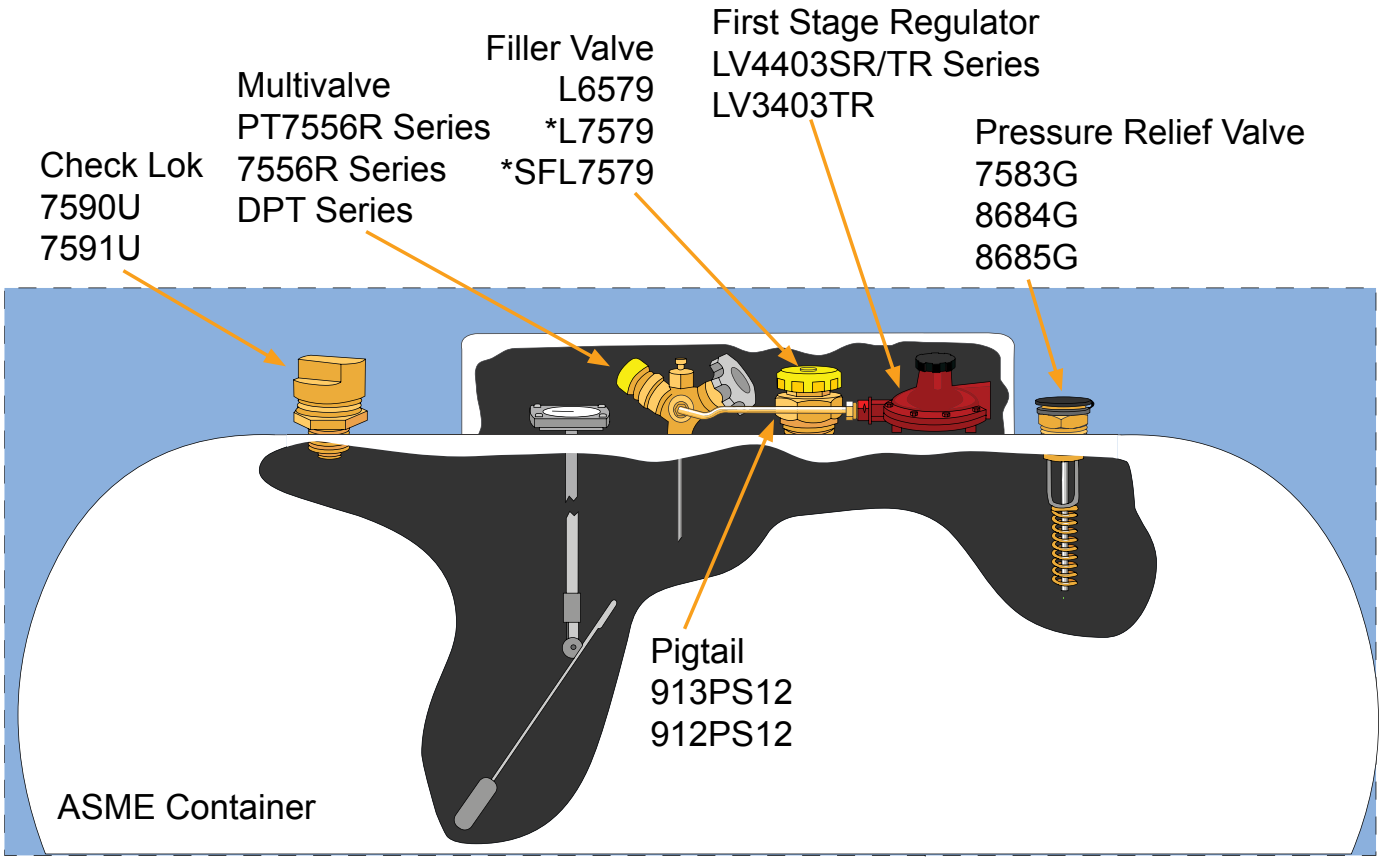
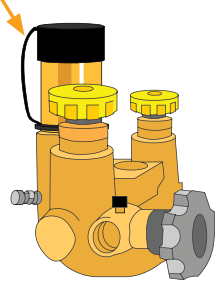
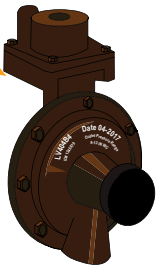
Domestic Installations Illustration

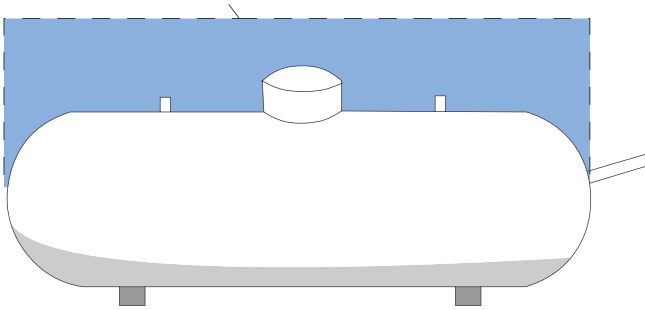


Underground
Multivalve
PG8475RL Series
G8475RL Series



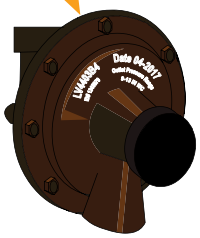
Twin Stage
Regulator
LV404B4 Series
LV404B9 Series
LV404B34 Series
LV404B39 Series
LV404Y Series





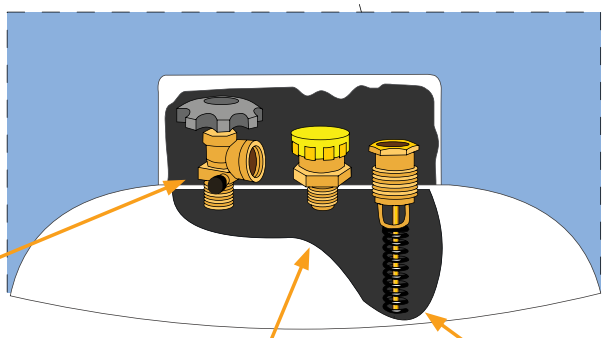
* Low Emissions
** Bleeder

Second Stage Regulator
LV3403B Series
LV4403B Series
LV4403Y Series
LV5503B Series
LV3403BR



DOT Container

Underground Line



Service Valve
PT9102R
PT9102D
9101R Series
9101D Series
9102R Series
9102D Series

Filler Valve
*7647SC with cap
*SFL7647SC
*L7579

Pressure Relief Valve
8544 Series

Pigtail
912J Series
913J Series
**D912 Series
**D913 Series

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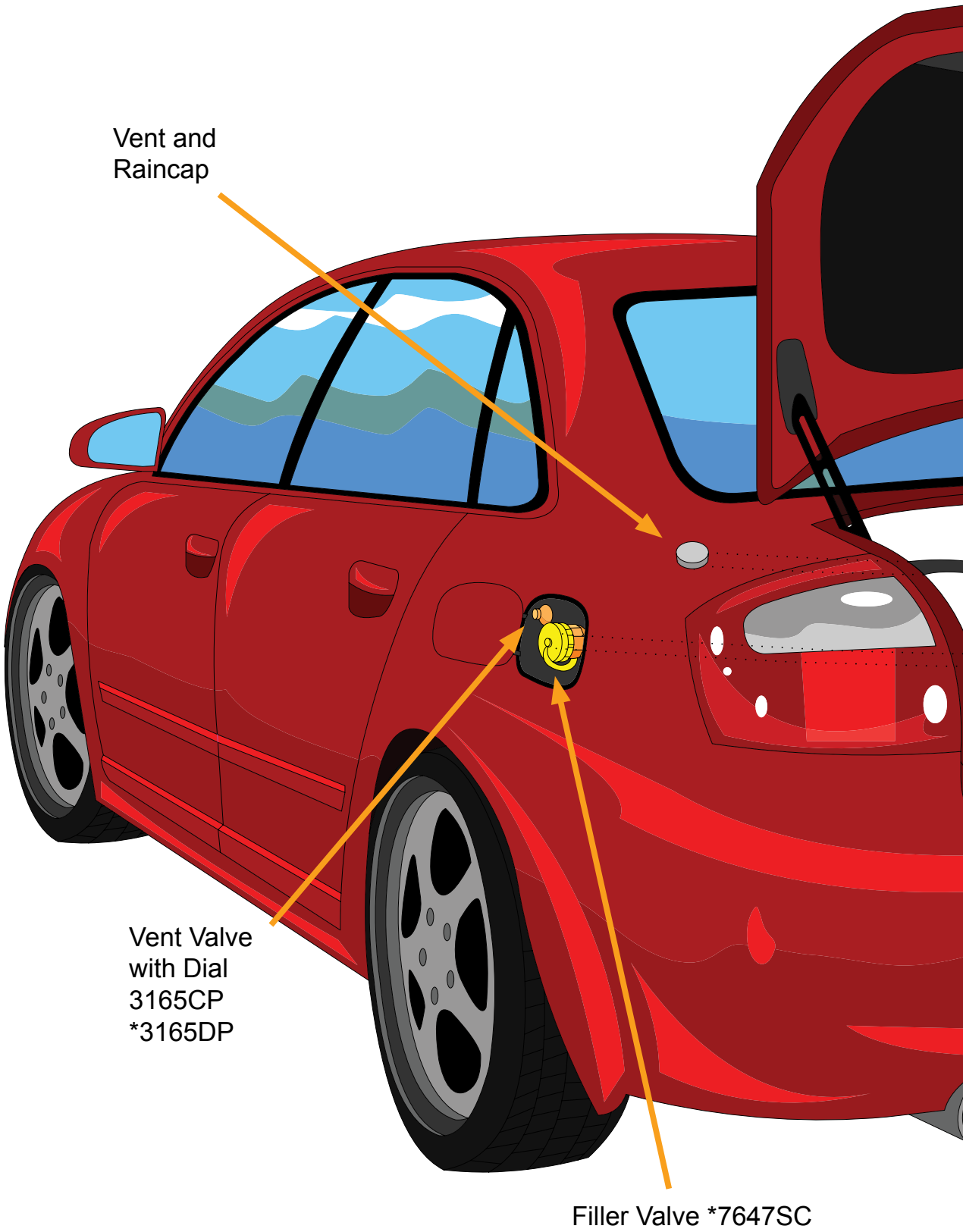
Motor Fuel Illustrations



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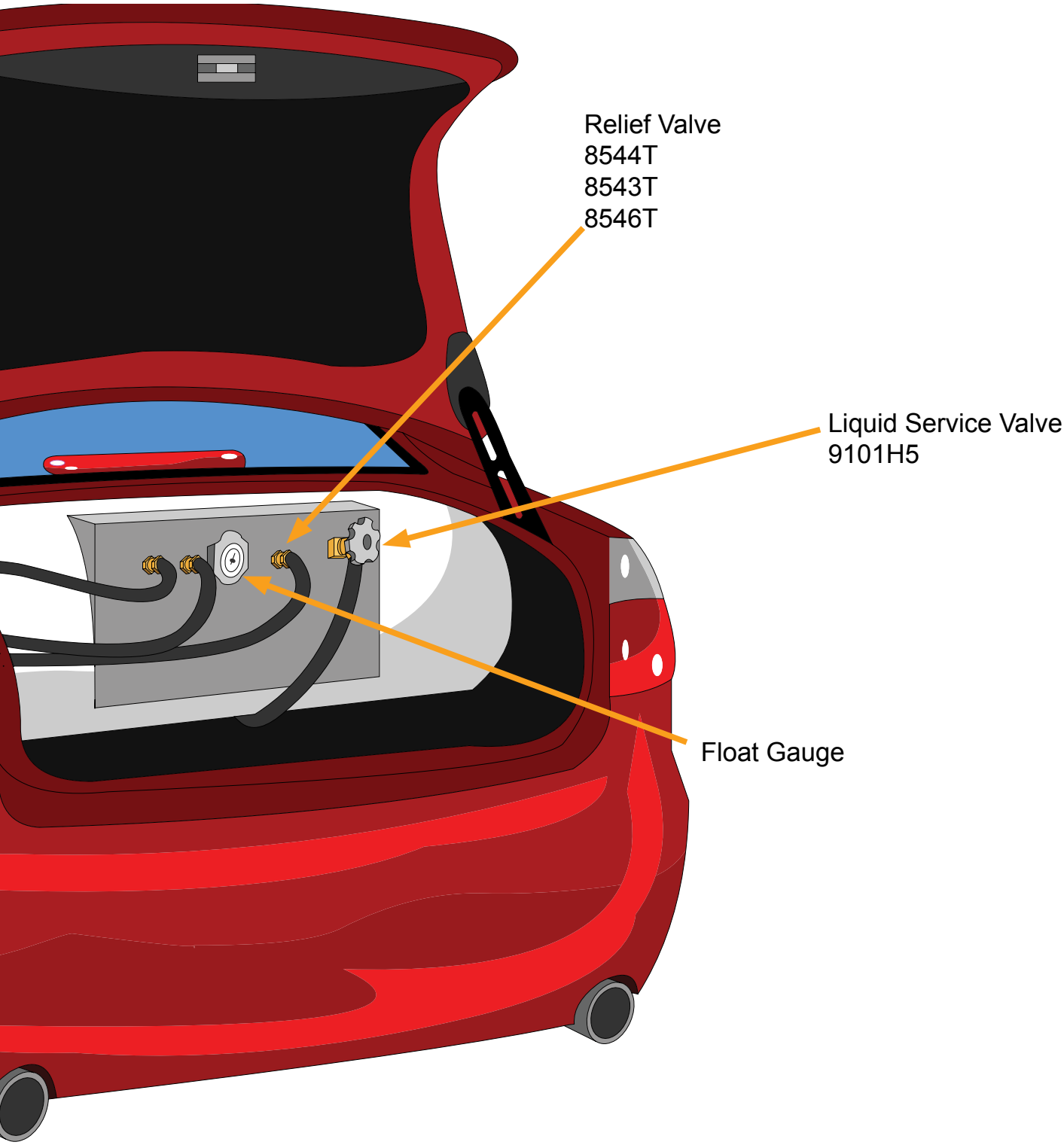

* Low Emission

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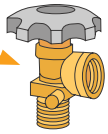
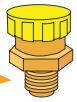
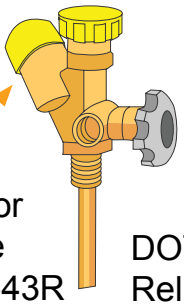
Cylinder Valve Illustrations

Service Valve
*9101R Series
*9101D
*9102R
*9102D
*PT9102R
*PT9102D

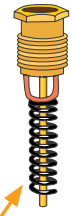


Double Check Fill Valve
**7647SC with cap
**L7579

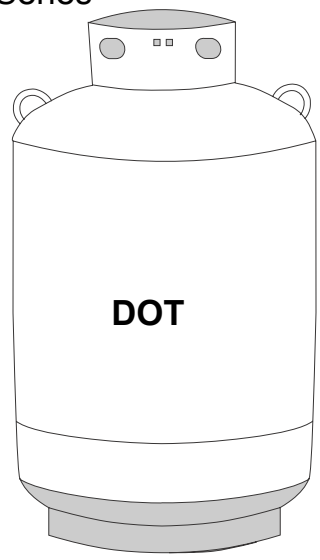




DOT Vapor
Multivalve
6533R/6543R
PT6542 Series
PT6543 Series

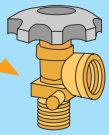


DOT Pressure
Relief Valve
8544K Series

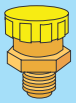


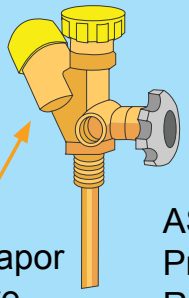
420 lbs.

Service Valve
*9101R Series
*9101D
*9102R
*9102D
*PT9102R
*PT9102D

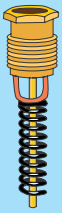


Double Check
Fill Valve
**7647SC with cap
**L7579

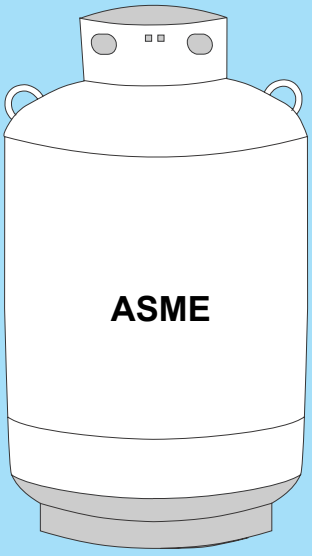




ASME Vapor
Multivalve
6532R/6542R



ASME
Pressure
Relief Valve
8544G Series



120 Gallons w.c.

* Low Emission Version Available
** Standard Low Emission Products

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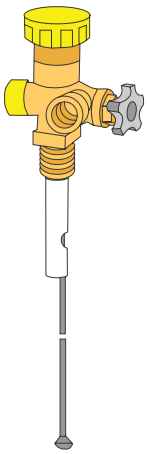
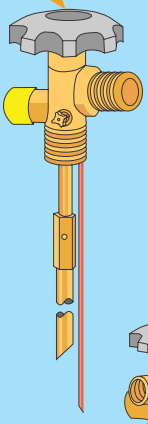
Vapor Multivalve
*6555R Series
*6555D
(Up to 60 gallon w.c.
ASME Containers)

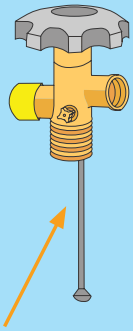


60 Gallons w.c.

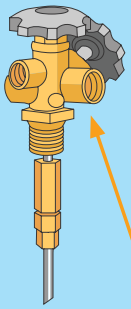
Liquid
9107K8A
*D9107K8A

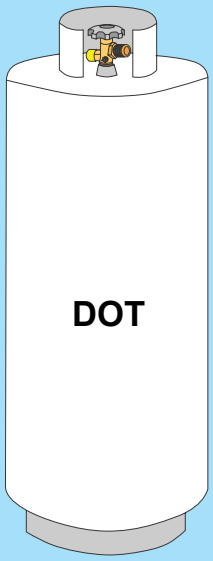


Vapor
9103D
*D9103



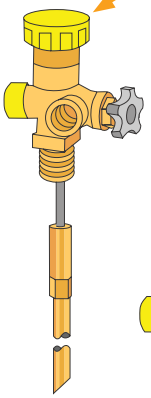
Dual Purpose
8556



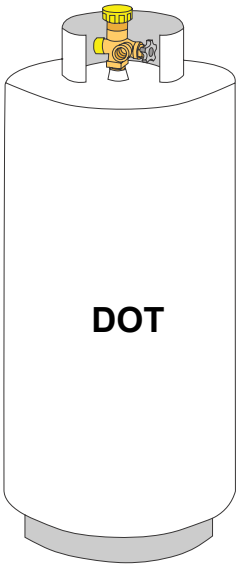


100 lbs.

Liquid Multivalve
8555DL
*D8555DL



Vapor Multivalve
*8555D or R Series
Up to 200 lb. DOT



200 lbs.

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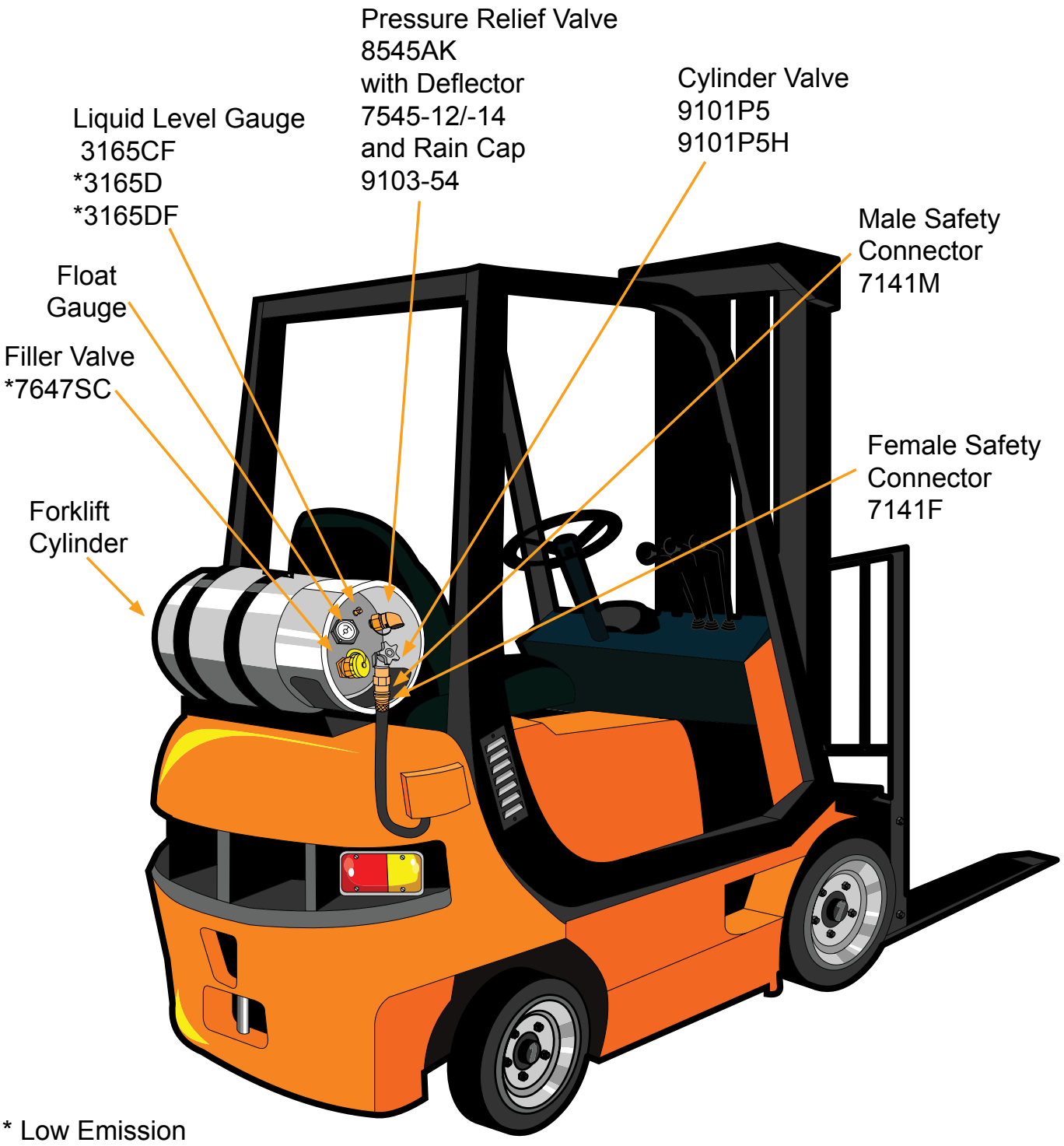
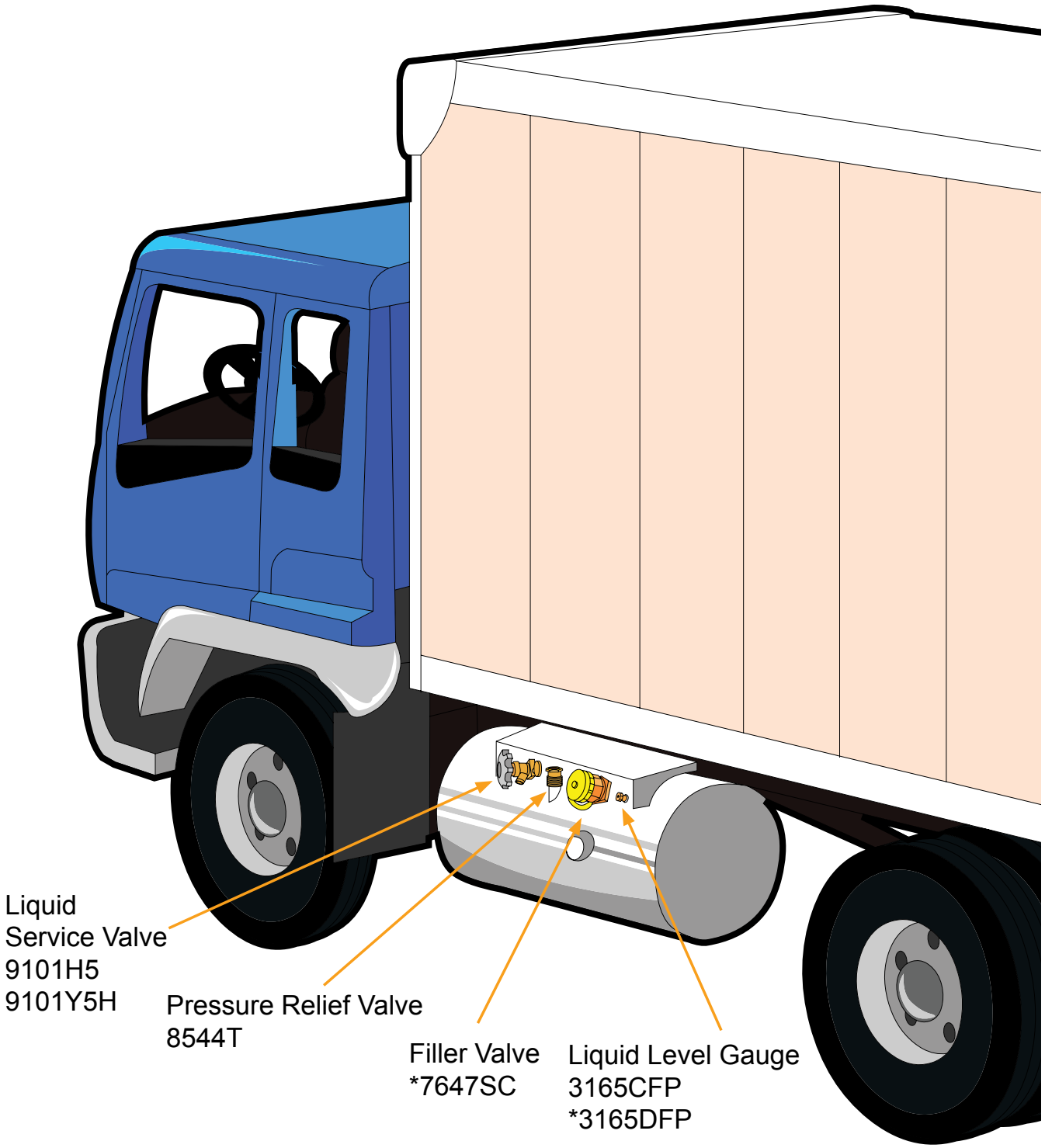
Motor Fuel Illustrations



* Low Emission



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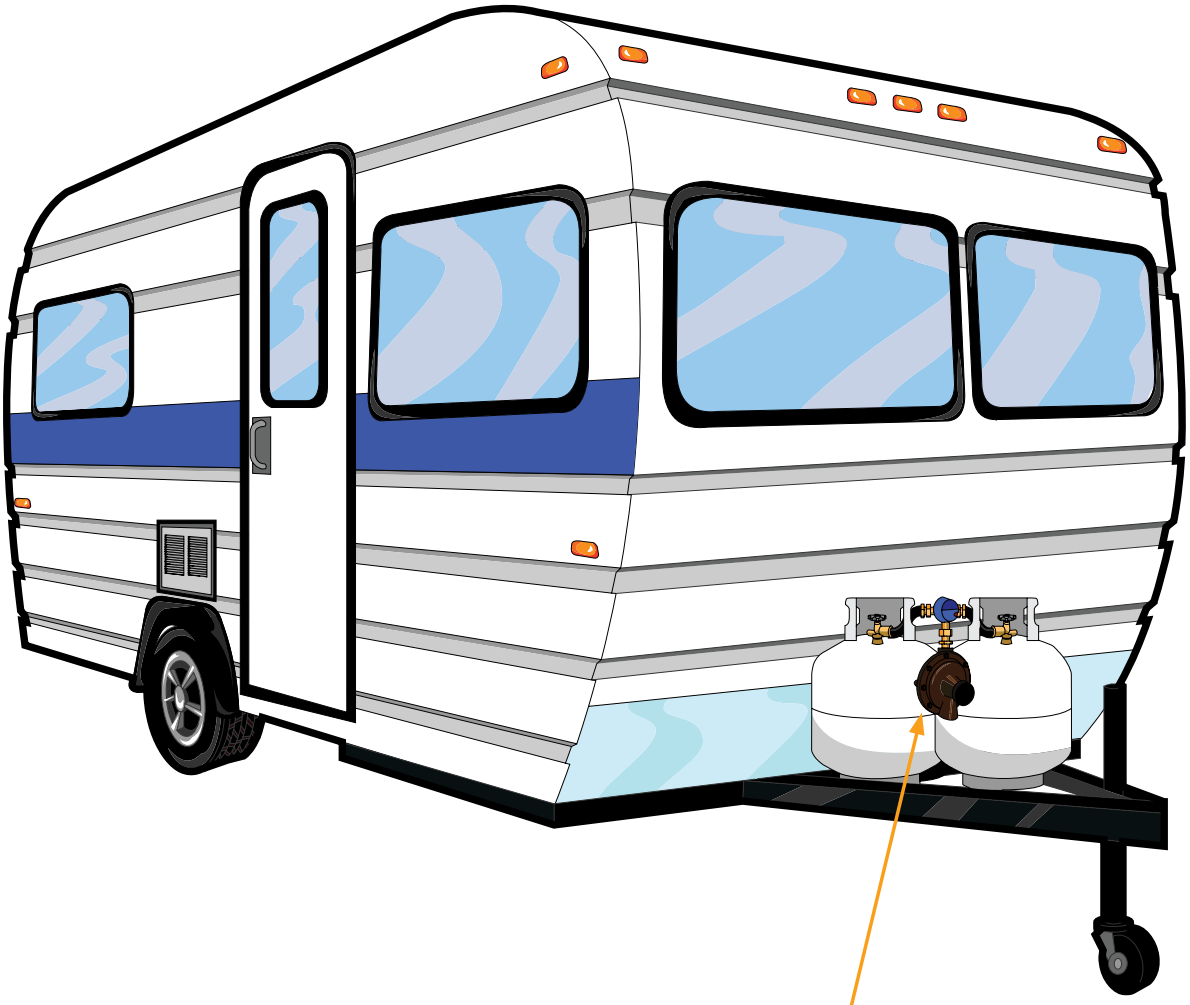
Recreational Illustrations



Automatic Changeover
7525B34 Series
7525B4 Series

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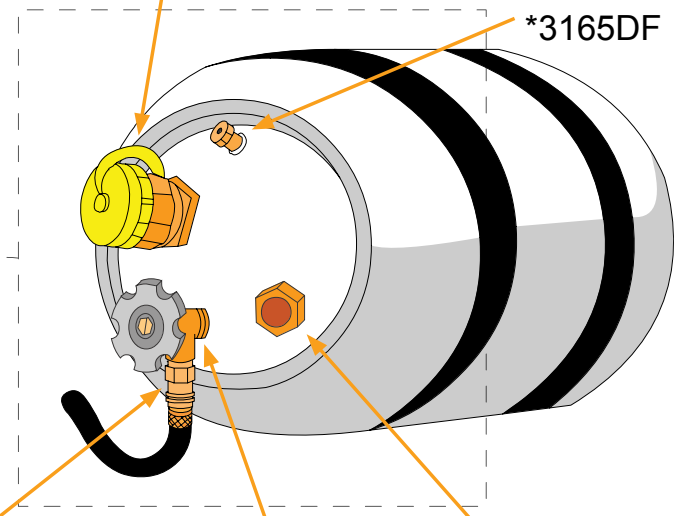


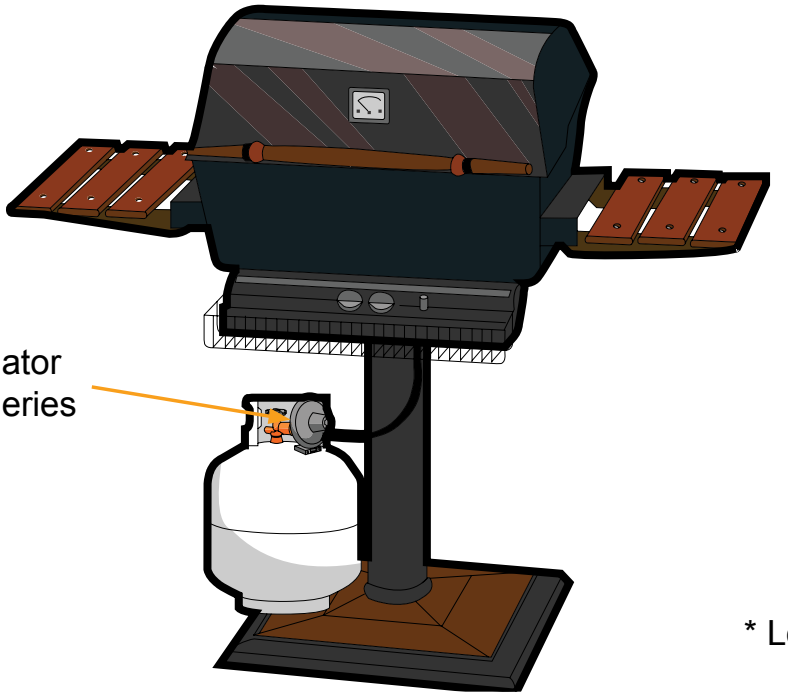
Filler Valve
*7647SC

Fixed Liquid
Level Gauge
3165D
*3165DF

ACME Check
Connectors
7142LM
7142LF

Service Valve
9101H5
9101Y5H

Relief Valve
8545AK
8544K

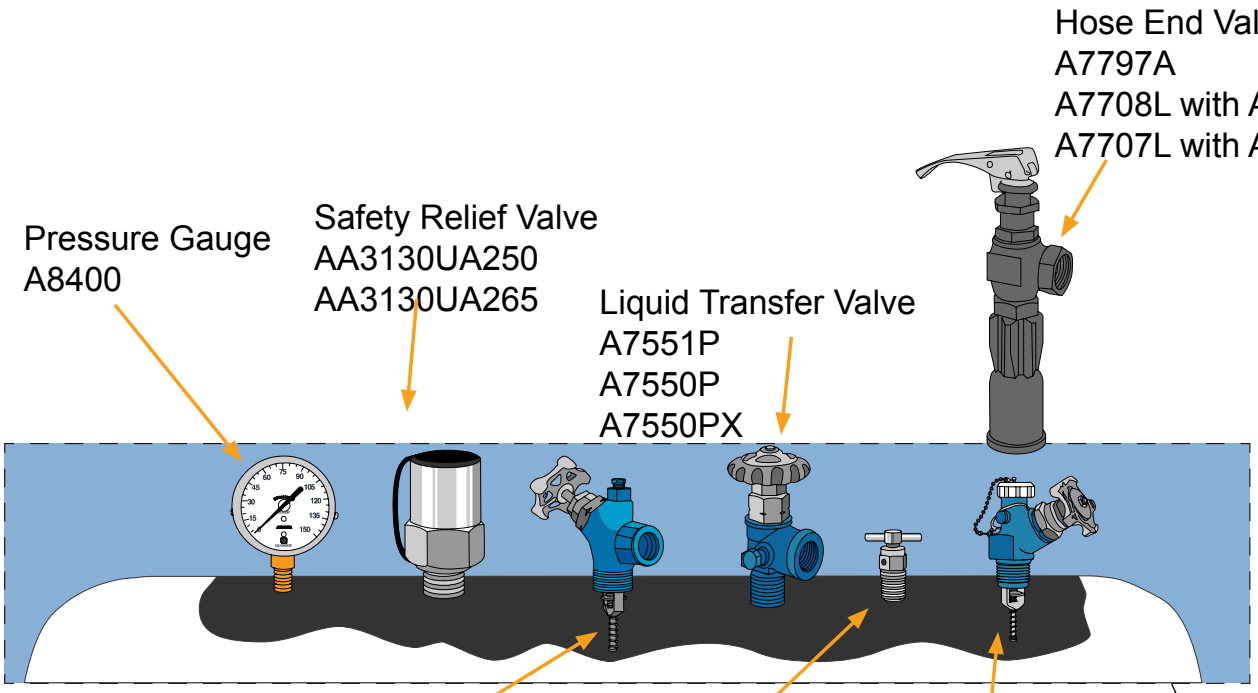


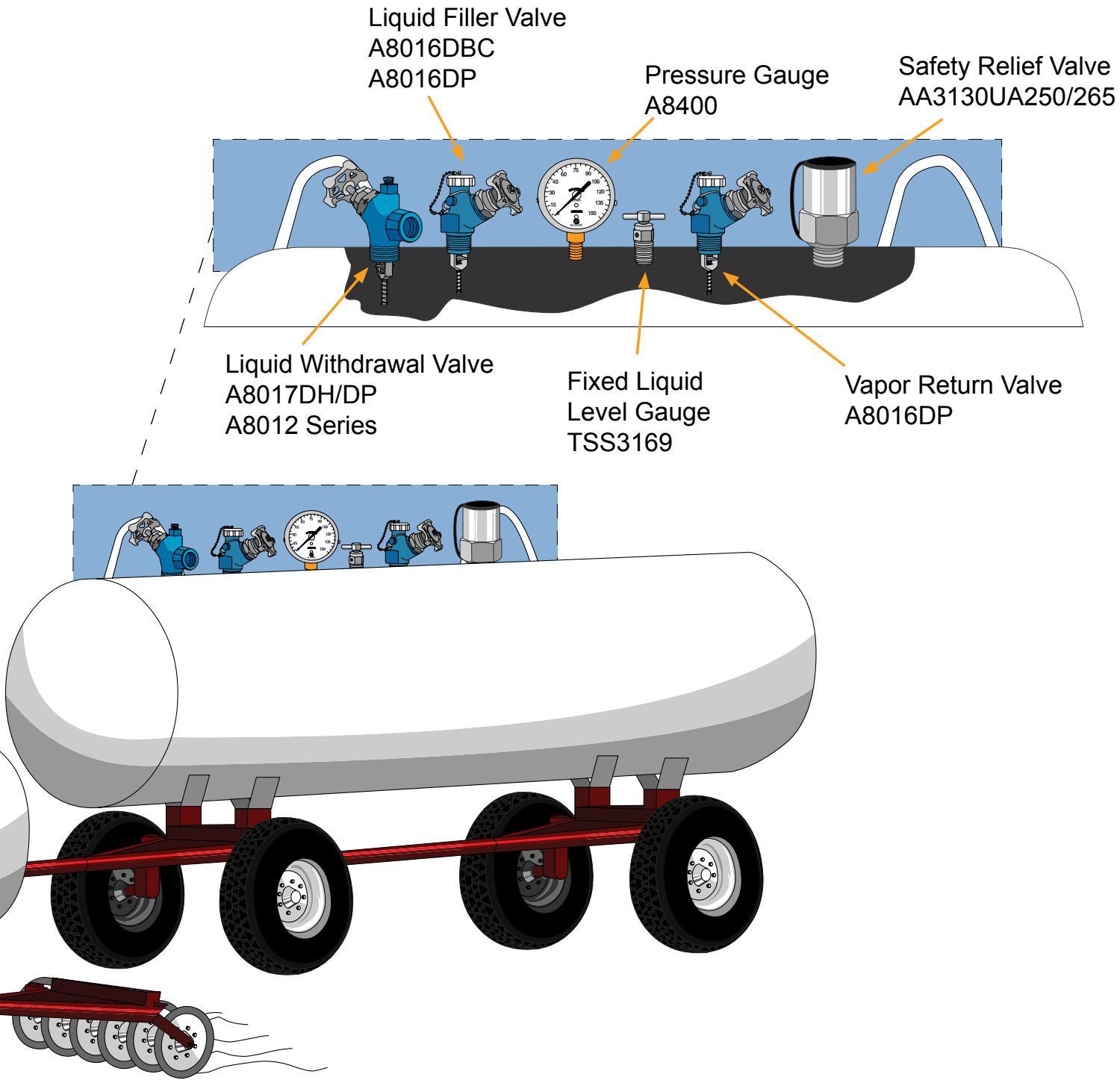
Regulator
302 Series

* Low Emission

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.**

Anhydrous Ammonia





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.**

Section A
Regulators and Accessories

A

Limited 10 Year Warranty and Limitation Of Liability

LIMITED 10 YEAR WARRANTY

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

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

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

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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.

Foreword

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

RegO Regulator Dependability

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.

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.

RegO Regulator Selection

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

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

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

* See catalog page for inlet and delivery specifications.

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

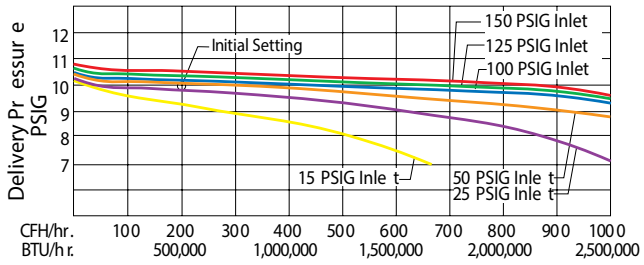
Temperature		Approx. Pressure (PSIG)		Temperature		Approx. Pressure (PSIG)	
°F	°C	Propane	Butane	°F	°C	Propane	Butane
-40	-40	3.6		40	4	72	3.0
-30	-34	8		50	10	86	6.9
-20	-29	13.5		60	16	102	12
-10	-23	23.3		70	21	127	17
0	-18	28		80	27	140	23
10	-12	37		90	32	165	29
20	-7	47		100	38	196	36
30	-1	58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

Example for a First Stage Regulator

1. Assume a load of 500,000 BTU's per hour.
2. Assume a minimum delivery pressure of 9.5 PSIG.
3. Assume a minimum tank pressure of 15 PSIG.
4. For these conditions, refer to chart for the LV4403TR Series, First Stage Regulator, shown below.
5. Find the line on the chart corresponding to the lowest anticipated winter tank pressure (note that each performance line corresponds to and is marked with a different inlet pressure in PSIG).
6. Draw a vertical line upward from the point of assumed load (500,000 BTU's per hour) to intersect with the line corresponding to the lowest tank pressure.
7. Read horizontally from the intersection of these lines to the delivery pressure at the left side of the chart. In this example the delivery pressure will be 9.7 PSIG. Since the delivery pressure will be 9.7 PSIG at the maximum load conditions and lowest anticipated tank pressure, the regulator will be sized properly for the demand.

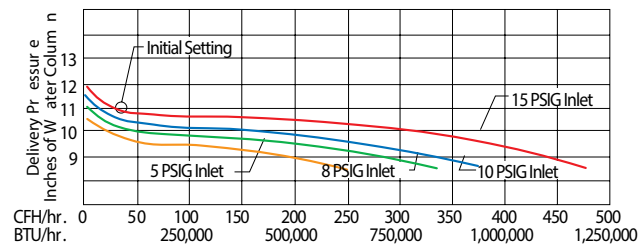
Example for a Second Stage Regulator

LV4403TR Series First Stage Regulator



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

LV4403B Series Second Stage Regulator



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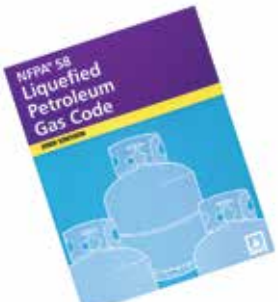
REGO 100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com +1 (336) 449-7707

Safety Warnings



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.

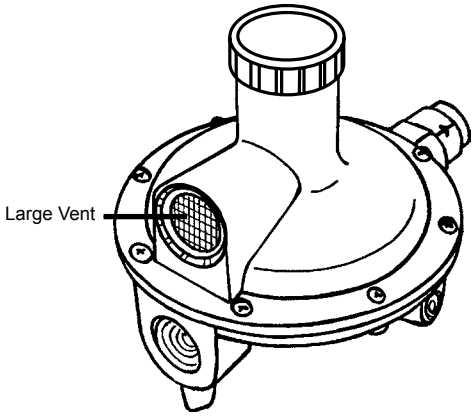
The Causes of High Pressure Gas in a System are:

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.

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

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

3. Wrong regulator installed for the application:

The proper regulator must be used for each system.

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

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

4. Failure to external mechanical parts due to corrosion:

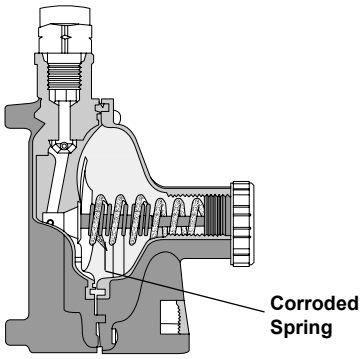
Adjusting springs and relief valve springs can rapidly corrode if exposed to salt air or industrial pollution. Even moisture condensation on these springs can cause them to rust and fail.

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

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

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

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

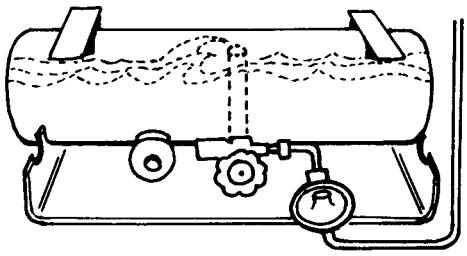


- For other applications, the regulator should be inspected every 3 years.**If any corrosion is evident, replace the regulator.**

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

5. Liquid propane in the regulator:

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



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

Leaks of LP-Gas to Atmosphere

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

These leaks can be caused by:

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

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

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

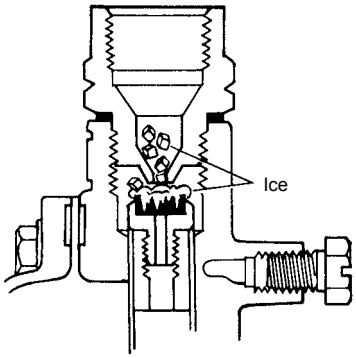
If any corrosion is evident, replace the regulator.

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

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

Loss of Pressure

Freeze-up inside the regulator.



This will prevent the regulator from regulating properly.

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

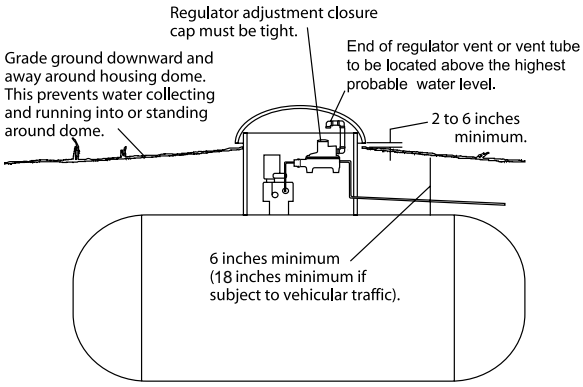
Action Required: All LP-Gas should be checked for moisture content prior to delivery to consumers and proper amounts of anhydrous methanol added if the gas cannot be returned to the supplier. Any container suspected of having excessive moisture should be treated with the proper amount of methanol.

Underground Installations

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

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

Refer to NPGA No. 401.



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

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Customer Safety

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

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

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

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

General Warning

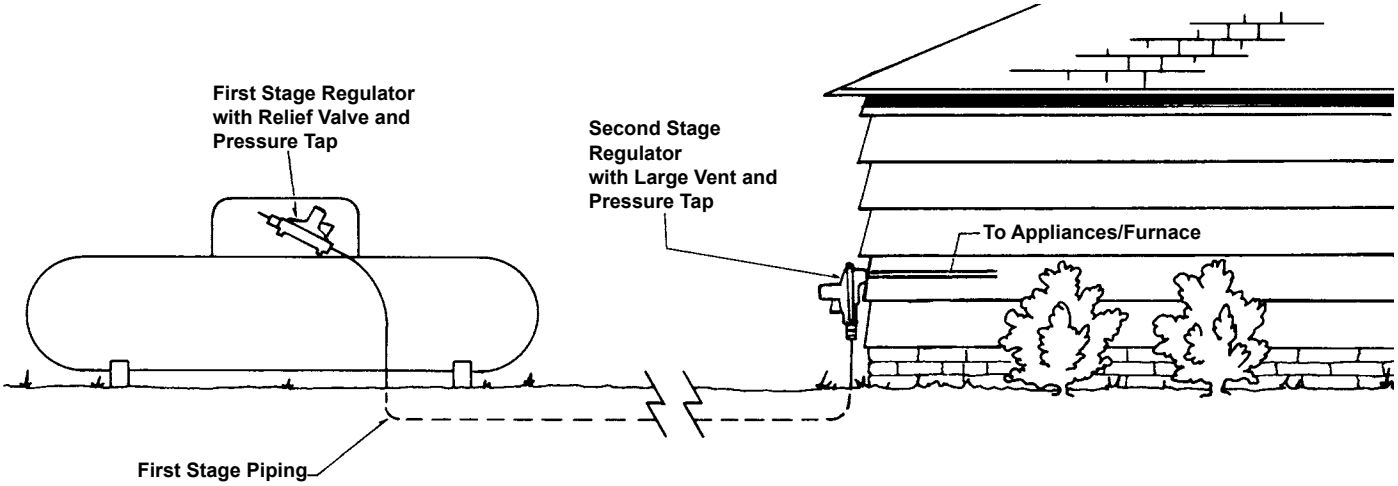
All RegO Products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion and aging of components made of materials such as metal and rubber. As a general recommendation,Regulators should be replaced in accordance with all of the recommendations outlined in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

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

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

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

Advantages of Two-Stage Regulation



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 pin-point regulation. Two-stage regulation can result in a more profitable LP-Gas operation for the dealer resulting from less maintenance and fewer installation callbacks – and there is no better time than now for installing RegO Regulators in two-stage systems.

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Uniform Appliance Pressure

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

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.

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

Size The System Correctly

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

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.

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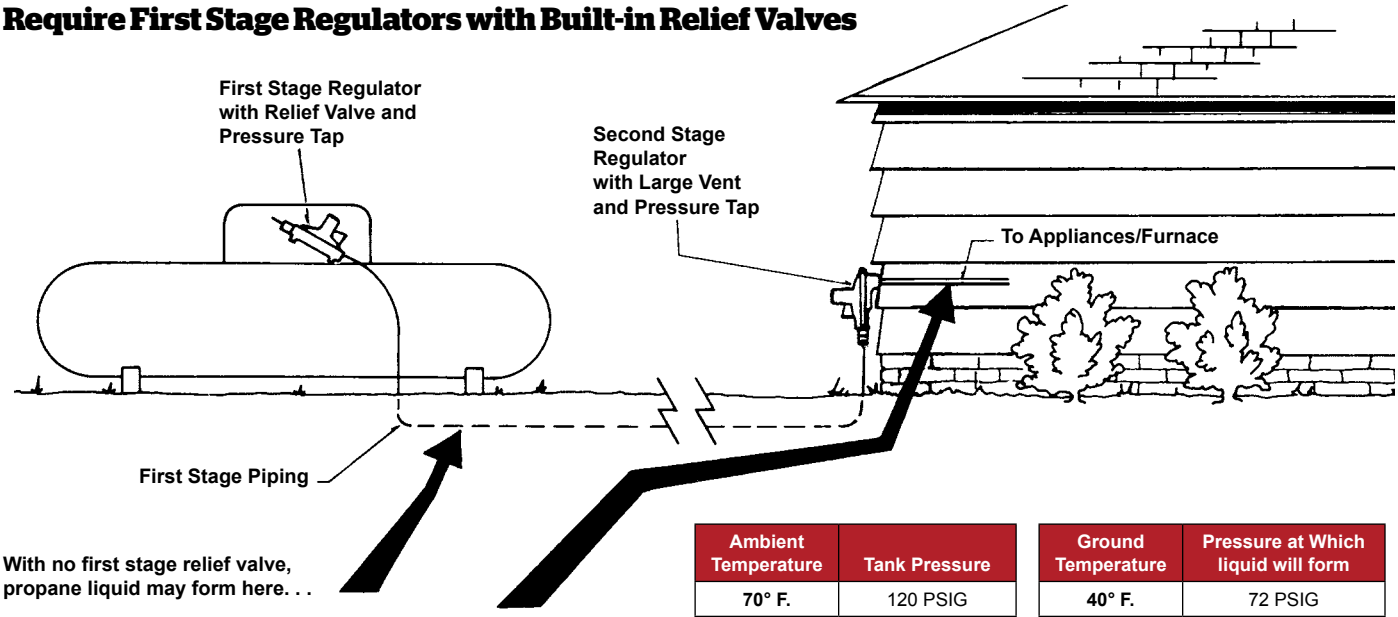
Require First Stage Regulators with Built-in Relief Valves



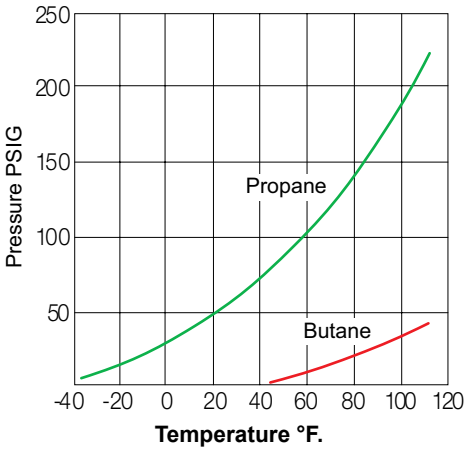
Resulting in sudden pressure surge due to flashing into vapor here! First stage relief can prevent liquid from forming in first stage piping during periods with no gas demand! ! !

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

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

Pressure at which liquid can form at various temperatures.

Vapor Pressures of LP-Gases



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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

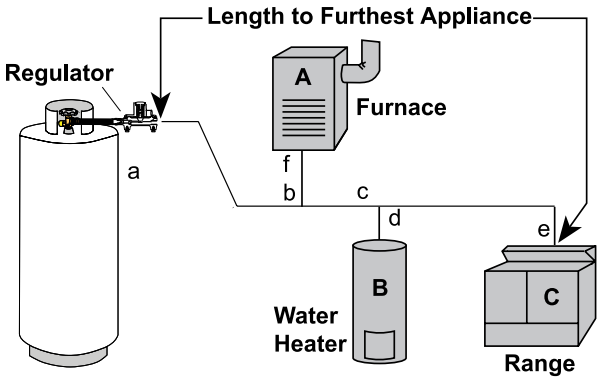
RegO LV4403 Series First Stage Regulators with Built-In Relief Valves reduce the possibility of this serious hazard in two stage applications. The built-in relief valve is designed to vent as needed and reduce the possibility of first stage piping pressure from becoming high enough to form liquid.

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:

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



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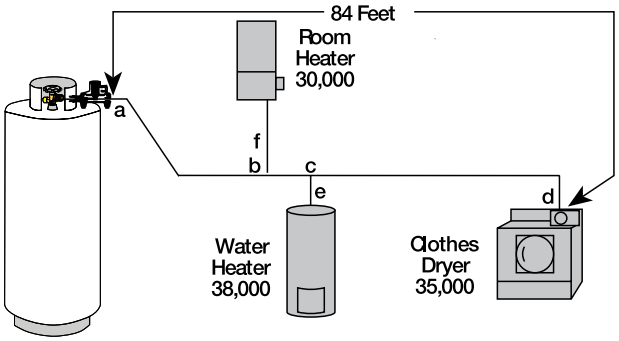
Example 1

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

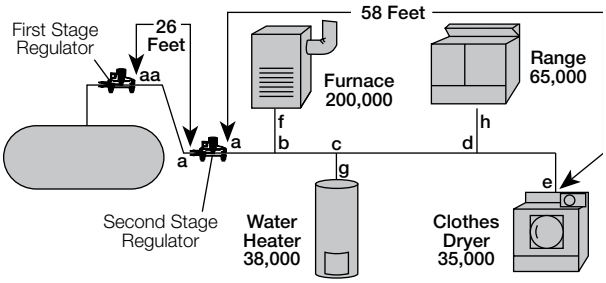
Total piping length = 84 feet (use Table 3 @90 feet)

From a to b, demand = 38,000 + 35,000 + 30,000
= 103,000 BTU/hr; use ¾" pipe or ¾" tubing
From b to c, demand = 38,000 + 35,000
= 73,000 BTU/hr; use ½" pipe or ⅝" tubing
From c to d, demand = 35,000 BTU/hr; use ½" pipe or ½" tubing
From c to e, demand = 38,000 BTU/hr; use ½" pipe or ½" tubing
From b to f, demand = 30,000 BTU/hr; use ½" pipe or ½" tubing



Example 2.

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



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

From aa to a, demand = 338,000 BTU/hr; use ½" pipe, ½" tubing, or ½" T plastic pipe.

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

From a to b, demand = 338,000 BTU/hr; use 1" pipe
From b to c, demand = 138,000 BTU/hr; use ¾" pipe or ⅝" tubing
From c to d, demand = 100,000 BTU/hr; use ½" pipe or ⅝" tubing
From d to e, demand = 35,000 BTU/hr; use ½" pipe or ½" tubing
From b to f, demand = 200,000 BTU/hr; use ¾" pipe
From c to g, demand = 38,000 BTU/hr; use ½" pipe or ½" tubing
From d to h, demand = 65,000 BTU/hr; use ½" pipe or ½" tubing

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Example 3

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

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

From aa to a, demand= 338,000 BTU
use ⅜" CSST or ½" copper tubing or ½" pipe

From Regulator a to each appliance:
From a to b, demand= 65,000 BTU; length = 25 ft. (Table 5),
use ½" CSST
From a to c, demand= 200,000 BTU; length = 30 ft. (Table 5)
use 1" CSST
From a to d, demand= 38,000 BTU; length = 21 ft.* (Table 5)
use ⅜" CSST *use 25 ft. column
From a to e, demand= 35,000 BTU; length = 40 ft. (Table 5)
use ½" CSST

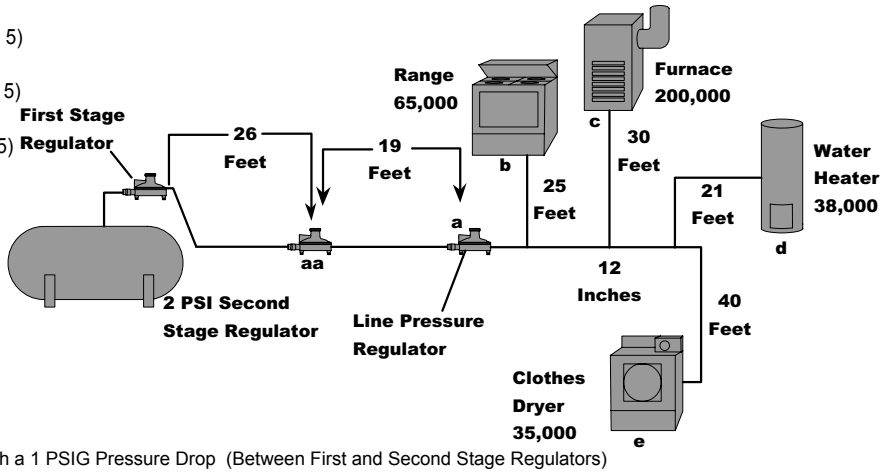

Table 1 - First Stage Tubing or Pipe Sizing * 10 PSIG Inlet with a 1 PSIG Pressure Drop (Between First and Second Stage Regulators)
Maximum capacity of pipe or tubing in thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

Size of Pipe or Copper Tubing, Inches		Length of Pipe or Tubing in Feet*																	
Copper Tubing (O.D.)		10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400
	⅜"	513	352	283	242	215	194	179	166	156	147	131	118	109	101	90	81	75	70
	½"	1,060	727	584	500	443	401	369	343	322	304	270	244	225	209	185	168	155	144
	⅝"	2,150	1,480	1,190	1,020	901	816	751	699	655	619	549	497	457	426	377	342	314	292
	¾"	3,760	2,580	2,080	1,780	1,570	1,430	1,310	1,220	1,150	1,080	959	869	799	744	659	597	549	511
Pipe Size	⅞"	5,330	3,670	2,940	2,520	2,230	2,020	1,860	1,730	1,630	1,540	1360	1230	1130	1,060	935	847	779	725
	½"	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
	¾"	6,950	4,780	3,840	3,280	2,910	2,640	2,430	2,260	2,120	2,000	1,770	1,610	1,480	1,370	1,220	1,100	1,020	945
	1"	13,100	9,000	7,220	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
	1¼"	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
	1½"	40,300	27,700	22,200	19,000	16,900	15,300	14,100	13,100	12,300	11,600	10,300	9,300	8,560	7,960	7,060	6,400	5,880	5,470
	2"	77,600	53,300	42,800	36,600	32,500	29,400	27,100	25,200	23,600	22,300	19,800	17,900	16,500	15,300	13,600	12,300	11,300	10,500

* Notes: Total length of piping from outlet of first stage regulator to inlet of second stage regulator (or to inlet of second stage regulator furthest away)
1) To allow 2 PSIG pressure drop, multiply total gas demand by 0.707 and use capacities from table.
2) For different first stage pressures, multiply total gas demand by the following factor and use capacities from table.
Example: 1,000,000 BTU load at 5 PSI: 1,000,000 (1.12) = 1,120,000 BTU then use chart based on 1,120,000 BTU

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

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

Size of Plastic Tubing or Pipe		Length of Pipe or Tubing in Feet*																			
NPS	SDR	10	20	30	40	50	60	70	80	90	100	125	150	175	200	225	250	275	300	350	400
½T	**7.00**			762	653	578	524	482	448	421	397	352	319	294	273	256	242	230	219	202	188
½	**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
¾	**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
1¼	**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
1½	**11.00**			20,300	17,300	15,400	13,900	12,800	11,900	11,200	10,600	9,360	8,480	7,800	7,260	6,810	6,430	6,110	5,830	5,360	4,990
2	**11.00**			36,400	31,200	27,600	25,000	23,000	21,400	20,100	19,000	16,800	15,200	14,000	13,000	12,200	11,600	11,000	10,470	9,640	8,970

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

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

Table 3 - Second Stage or Integral Twin Stage Tubing or Pipe Sizing *
11-In. Water Column Inlet with a 0.05-In. Water Column Drop
Maximum capacity of pipe or tubing in thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

Size of Pipe or Copper Tubing, Inches		Length of Pipe or Tubing in Feet*																	
	l"	10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400
Copper Tubing (O.D.)	⅜"	45	31	25	21	19	17	16	15	14	13	11	10	NA	NA	NA	NA	NA	NA
	½"	93	64	51	44	39	35	32	30	28	27	24	21	20	18	16	15	14	13
	⅝"	188	129	104	89	79	71	66	61	57	54	48	44	40	37	33	30	28	26
	¾"	329	226	182	155	138	125	115	107	100	95	84	76	70	65	58	52	48	45
	⅞"	467	321	258	220	195	177	163	152	142	134	119	108	99	92	82	74	68	63
Pipe Size	½"	291	200	160	137	122	110	NA	101	NA	94	89	84	74	67	62	58	51	46
	¾"	608	418	336	287	255	231	NA	212	NA	197	185	175	155	140	129	120	107	97
	1"	1,150	787	632	541	480	434	NA	400	NA	372	349	330	292	265	243	227	201	182
	1¼"	2,350	1,620	1,300	1,110	985	892	NA	821	NA	763	716	677	600	543	500	465	412	373
	1½"	3,520	2,420	1,940	1,660	1,480	1,340	NA	1,230	NA	1,140	1,070	1,010	899	814	749	697	618	560
	2"	6,790	4,660	3,750	3,210	2,840	2,570	NA	2,370	NA	2,200	2,070	1,950	1,730	1,570	1,440	1,340	1,190	1,080

* Note: Total length of piping from outlet of regulator to appliance furthest away.
Data Calculated per NFPA # 54 and NFPA # 58

Table 4 - Maximum Capacity of CSST *
2 PSIG and a Pressure Drop of 1 PSIG (Between 2 psig Service and Line Pressure Regulator)
In Thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

EDH** Flow Size Designation		Length of Tubing in Feet*													
		10	25	30	40	50	75	80	110	150	200	250	300	400	500
⅜	13	426	262	238	203	181	147	140	124	101	86	77	69	60	53
	15	558	347	316	271	243	196	189	169	137	118	105	96	82	72
½	18	927	591	540	469	420	344	333	298	245	213	191	173	151	135
	19	1,110	701	640	554	496	406	393	350	287	248	222	203	175	158
¾	23	1,740	1,120	1,030	896	806	663	643	578	477	415	373	343	298	268
	25	2,170	1,380	1,270	1,100	986	809	768	703	575	501	448	411	355	319
1	30	4,100	2,560	2,330	2,010	1,790	1,460	1,410	1,260	1,020	880	785	716	616	550
	31	4,720	2,950	2,690	2,320	2,070	1,690	1,630	1,450	1,180	1,020	910	829	716	638

* Notes:
(1) Table does not include effect of pressure drop across the line regulator. If regulator loss exceeds 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.
(3) Table includes losses for four 90-degree bends and two end fittings. Tubing runs with a larger number of bends and/or fittings shall be increased by an equivalent length of 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)

Size	EDH** Flow Designation	Length of Tubing in Feet*																	
		5	10	15	20	25	30	40	50	60	70	80	90	100	150	200	250	300
⅜"	13	72	50	39	34	30	28	23	20	19	17	15	15	14	11	9	8	8
	15	99	69	55	49	42	39	33	30	26	25	23	22	20	15	14	12	11
½"	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
¾"	23	355	254	208	183	164	151	131	118	107	99	94	90	85	66	60	53	50
	25	426	303	248	216	192	177	153	137	126	117	109	102	98	75	69	61	57
1	30	744	521	422	365	325	297	256	227	207	191	178	169	159	123	112	99	90
	31	863	605	490	425	379	344	297	265	241	222	208	197	186	143	129	117	107

* Notes:
Table includes losses for four 90-degree bends and two end fittings. Tubing runs with a larger number of bends and/or fittings shall be increased by an equivalent length of tubing according to the following equation; L-1.3n where L is additional length (ft) of tubing and n is the number of additional fittings and/or bends.
**EHD - Equivalent Hydraulic Diameter - A measure of the relative hydraulic efficiency between different tubing sizes. The greater the value of EHD, the greater the gas capacity of the tubing.
Data Calculated per NFPA # 54 and NFPA # 58

Table 6 - Copper Tubing or Schedule 40 Pipe Sizing *
2 PSIG Inlet with a 1 PSIG Pressure Drop (Between 2 PSIG Service and Line Pressure Regulator)
In Thousands of BTU/hr of undiluted LP-Gases (Propane) (Based on 1.50 Specific Gravity Gas)

Size of Pipe or Copper Tubing, Inches		Length of Pipe or Tubing in Feet*																							
		10	20	30	40	50	60	70	80	90	100	125	150	175	200	250	300	350	400	450	500	550	600	650	700
Copper Tubing (O.D.)	⅜"	413	284	228	195	173	157	144	134	126	119	105	95	88	82	72	66	60	56	53	50	47	45	43	41
	½"	852	585	470	402	356	323	297	276	259	245	217	197	181	168	149	135	124	116	109	103	97	93	89	86
	⅝"	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
	¾"	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
	⅞"	4,300	2,950	2,370	2,030	1,800	1,630	1,500	1,390	1,310	1,240	1,100	992	913	849	753	682	628	584	548	517	491	469	449	431
Pipe Size	½"	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
	¾"	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
	1¼"	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
	1½"	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

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RegO Regulator Designs

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

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

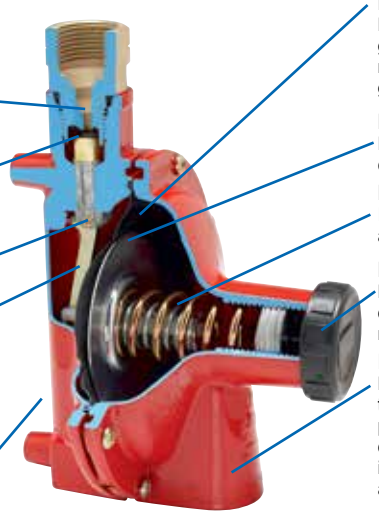
Seat Disc
Replaceable, resilient construction gives sure closing at lock up pressure. Straight line seat disc to nozzle operation provides even seat disc wear and positive lock up.

Pivot Pin
Fully enclosed in regulator body.

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

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

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



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

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

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

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

Large Bonnet Vent
Large vent is equipped with protective screen and threaded for 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.

⅛" pressure plug ports
Our ⅛" pressure plug ports conform to 7/16" hex wrenches.

A

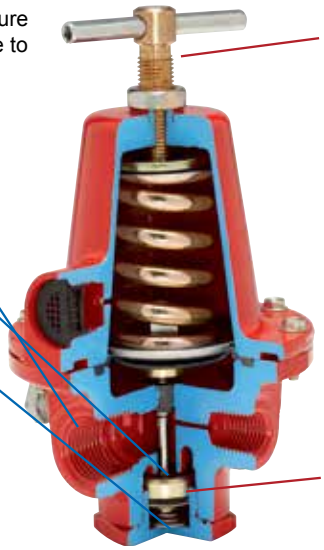
Typical of the 1580 Industrial High Pressure Regulators

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 ¼" 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.



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.

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.

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.

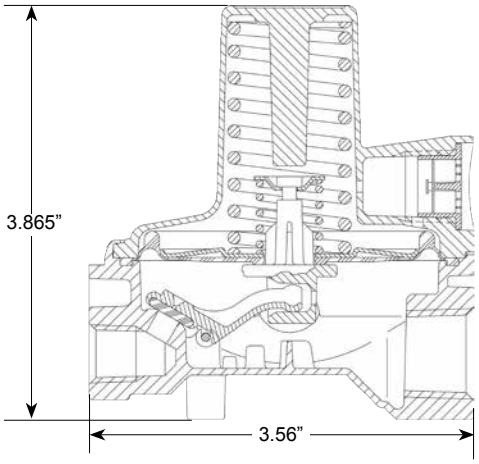
Features

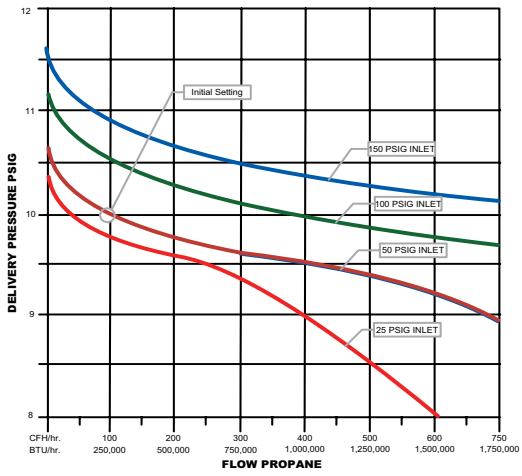
- Compact design can be connected to a service valve using either a POL adapter or a RegO product pigtail.
- Large threaded ⅜" F.NPT bonnet vent can easily be piped-away underground installations without the need of glue kits or extra adapters.
- Non Adjustable
- Large flow orifice resists freeze ups 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 ⅛" 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
Diaphragm ..... Integrated Fabric and Synthetic Rubber

LV3403TR





REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Factory Delivery Pressure	Bonnet Vent Position	Vapor Capacity BTU/hr Propane*
LV3403TR	¼" F.NPT	½" F.NPT	7/32"	10 PSIG	Over Outlet	1,500,000
LV3403TRV9					9:00	

* 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.

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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.

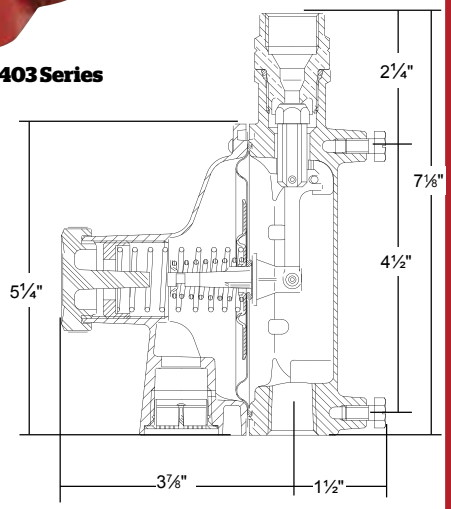
Features

- Incorporate integral relief valves for added system protection.
- Large vent helps prevent blockage and has ¾" 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 ⅛" 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.

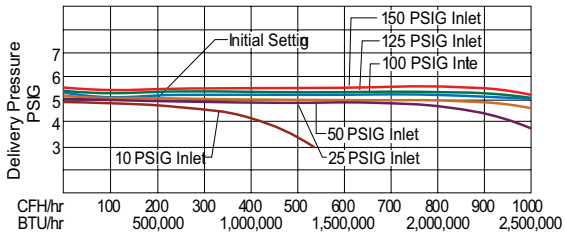
Materials

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

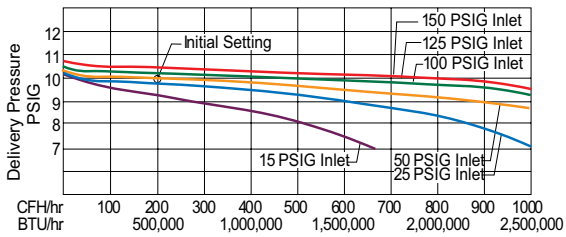
LV4403 Series



LV4403SR



LV4403TR



REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

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	½" F. NPT	½" F. NPT	¼"	5	1-5	Yes	2,500,000
LV4403TR4				10	5-10		
LV4403SR9	F. POL			5	1-5		
LV4403TR9				10	5-10		
LV4403SR96		¾" F.NPT		5	1-5		
LV4403TR96				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

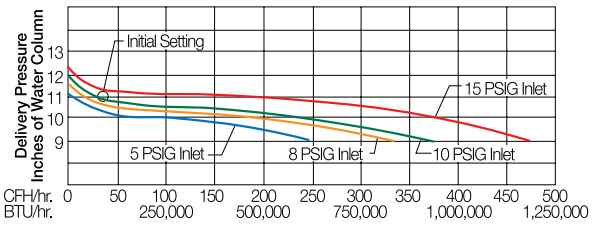
- Large vent helps prevent blockage and has ¾" F.NPT for vent piping.
- With 15 PSIG inlet pressure, regulator is designed to not pass more than 2 PSIG with the seat disc removed.
- Incorporates integral relief valves.
- Replaceable valve orifice and valve seat disc.
- Straight line valve closure reduces 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 ⅛ F.NPT outlet. Plug can be removed with a 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

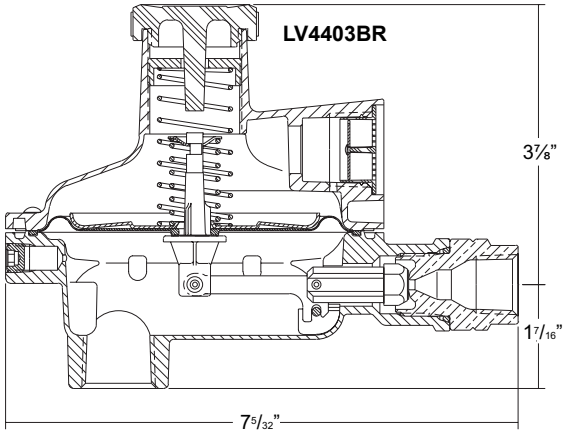
Body ..... Die Cast Zinc
Bonnet ..... Die Cast Zinc
Nozzle Orifice ..... Brass
Spring ..... Steel
Valve Seat Disc ..... Resilient Rubber
Diaphragm ..... Integrated Fabric and Synthetic Rubber

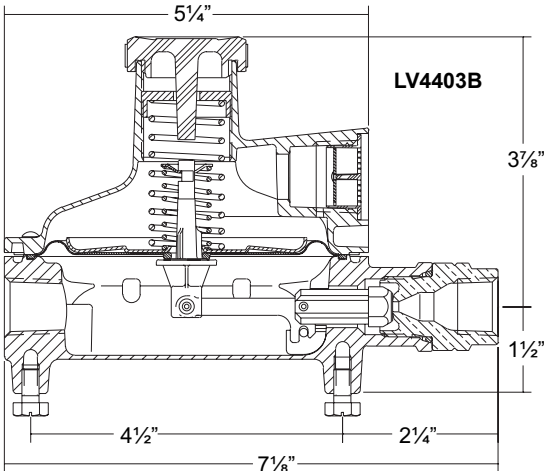


REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

LV4403B Series





Ordering Information

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

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

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New - Dielectric Second Stage Regulators
LV4403BD Series

Application

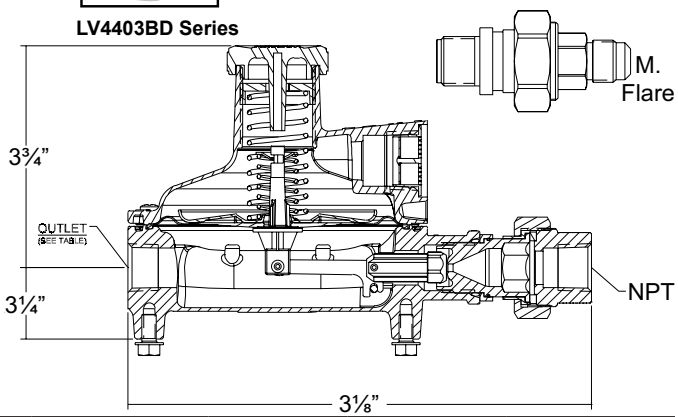
RegO's Dielectric second stage regulators are designed to reduce first stage pressure normally 10PSIG down to burner pressure, normally 11" w.c. and are ideal for medium commercial installations, multiple cylinders installations and normal domestic loads.

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

LV4403BD Series



REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Inlet Connection	Outlet Connection	Inlet Material	Orifice Size	Factory Delivery Pressure	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr Propane
⅜" M. Flare = 3								
LV4403B3D	⅜" M Flare	½" F. NPT		# 28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B36D		¾" F. NPT						
LV4403B3RD*		½" F. NPT						
LV4403B36RAD**		¾" F. NPT		3/16"				1,000,000
LV4403B36RABD***								
½" M. Flare = 1								
LV4403B1D	½" M Flare	½" F. NPT	Brass	# 28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B16D		¾" F. NPT						
LV4403B16RD*								
LV4403B16RAD**				3/16"				
LV4403B16RABD***								1,000,000
⅝" M.Flare = 5								
LV4403B5D	⅝" M Flare	½" F. NPT	Brass	# 28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B56D		¾" F. NPT						
LV4403B56RD*								
LV4403B56RAD**				3/16"				
LV4403B56RABD***								1,000,000
½"-¾" F. NPT	**Female Union**							
LV4403B4D	½" F.NPT	½" F.NPT	Brass & Plated Steel	# 28 Drill	11" w.c. at 10 PSIG Inlet	9" to 13" w.c.	Over Inlet	935,000
LV4403B46D		¾" F. NPT						
LV4403B66D	¾" F. NPT							
LV4403B46RD*	½" F. NPT							
LV4403B66RD*	¾" F. NPT							
LV4403B66RAD**				3/16"				
LV4403B66RABD***								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.

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

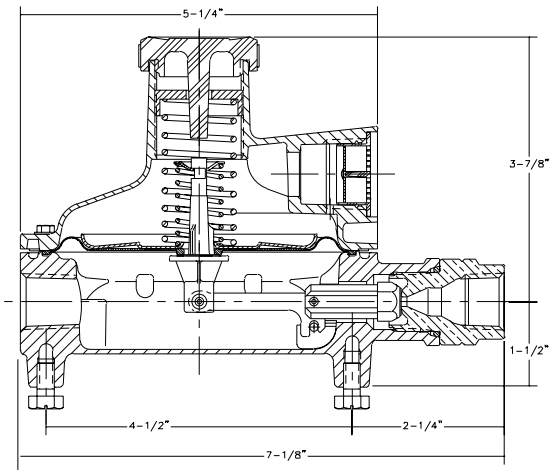
- Large vent helps prevent blockage and has ¾" F.NPT for vent piping.
- With 15 PSIG inlet pressure, regulator is designed to not pass more than 2 PSIG with the seat disc removed.
- Incorporates integral relief valves.
- Replaceable valve orifice and valve seat disc.
- Straight line valve closure reduces 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 ⅛" F.NPT outlet. Plug can be removed with a 3/16" hex allen wrench.
- Select brown finish.

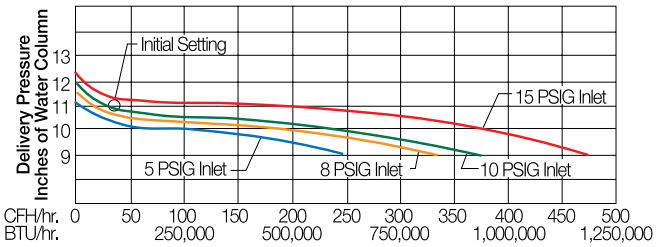
Materials

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

LV4403H Series

LV4403H





REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

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	¼" F.NPT	½" F.NPT	7/32"	22" w.c.	15-35	Inlet	700,000
LV4403H414	½" F.NPT		#28	14" w.c.	12.5-19		
LV4403H420				20" w.c.	15-35		
LV4403H4614		¾" F.NPT		14" w.c.	12.5-19		
LV4403H4620				20" w.c.	15-35		
LV4403H6614	¾" F.NPT			14" w.c.	12.5-19		

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

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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.

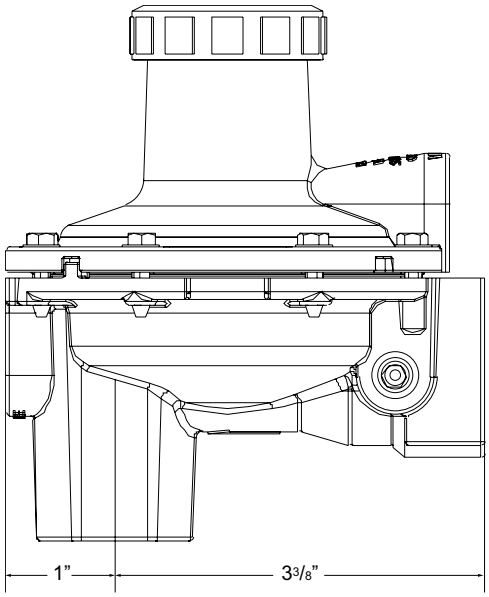
Features

- Built in **⅛" 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 ⅜" 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.
- Unique bonnet vent profile minimizes vent freeze over.
- Compact design saves space.

LV3403BR Series

Materials

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



REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

Ordering Information

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

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

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
- Unique bonnet vent profile minimizes vent freeze over when properly installed.
- Compact design saves space.
- Built in pressure taps ⅛" 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.

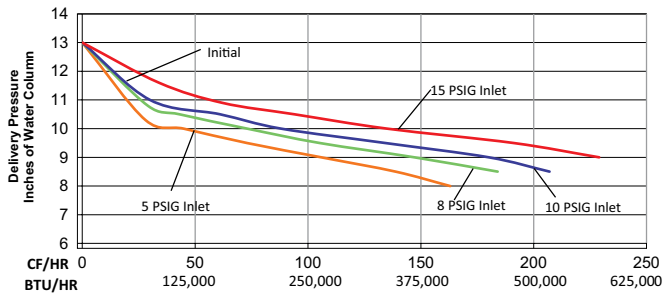
LV3403B4 Series

A

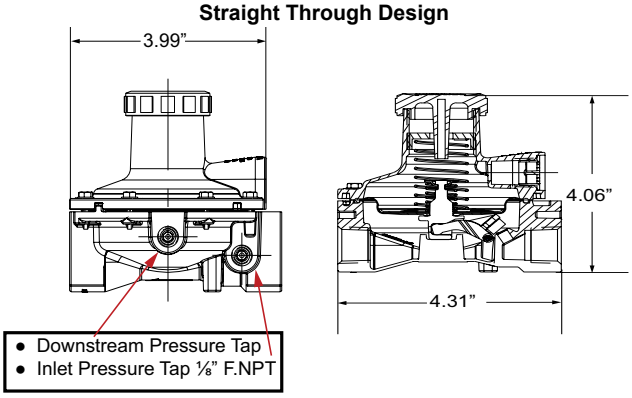
Materials

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

LV3403B Series



Straight Through Design



REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

Ordering Information

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

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

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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 ¾" 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 ⅛" 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.

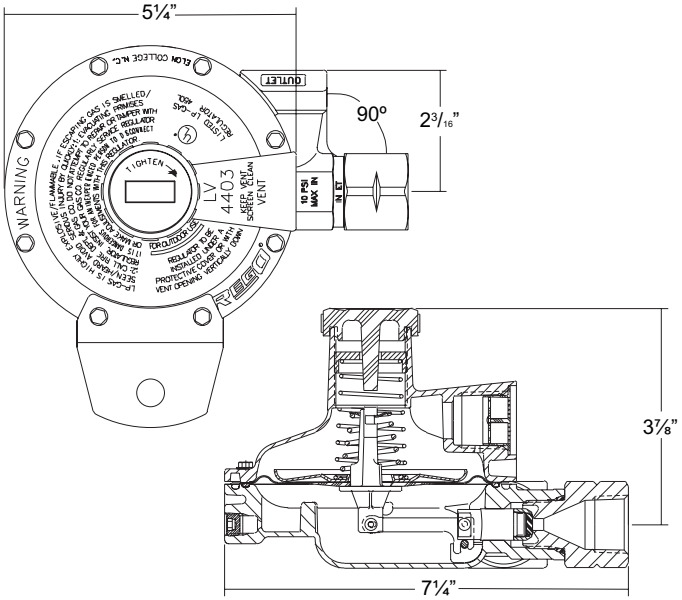
Materials

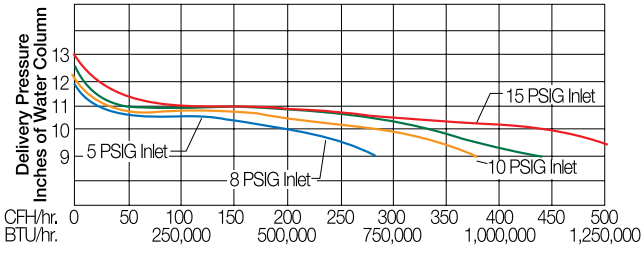
Body ..... Die Cast Zinc
Bonnet ..... Die Cast Zinc
Nozzle Orifice ..... Brass
Spring ..... Steel
Valve Seat Disc ..... Resilient Rubber
Diaphragm ..... Integrated Fabric and Synthetic Rubber

LV4403B66RA Series

Attached to Vapor Meter

w/ Mounting Bracket





REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

Ordering Information

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

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

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

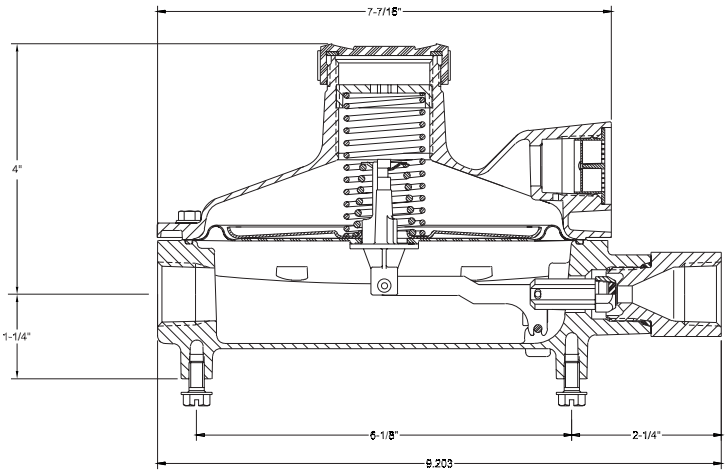
- Incorporates integral relief valve.
- With 15 PSIG inlet pressure, regulator is designed to not pass more than 2 PSIG with the seat disc removed.
- Replaceable valve orifice and valve seat disc.
- Straight line valve closure saves wear on seat disc and orifice.
- Built in pressure tap has plugged⅛" F.NPT outlet. Plug can be removed with a 3⁄16" 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

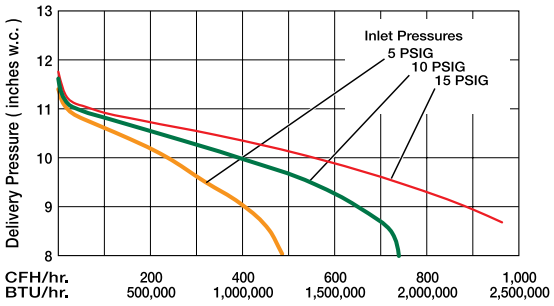
Body (LV5503B Series	Die Cast Aluminum
Bonnet (LV5503B Series)	Die Cast Aluminum
Nozzle Orifice	Brass
Spring	Steel
Valve Seat Disc	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber

A

LV5503B Series



LV5503B4, LV5503B6



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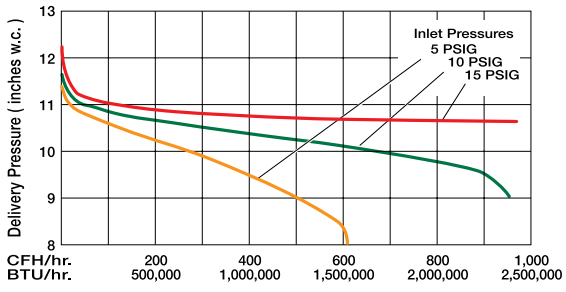

REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

Ordering Information

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

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

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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 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 plugged ⅛" F.NPT outlet. Plug can be removed with a 3⁄16" 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.

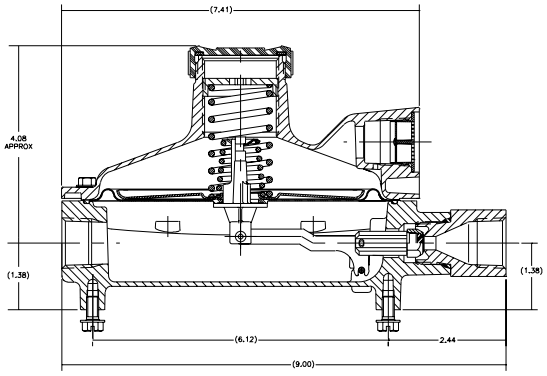
LV5503H Series

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 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY



Ordering Information

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	½" F. NPT	¾" F. NPT	¼"	14" w.c.	7-16	Inlet	1,600,000
LV5503H614	¾" F. NPT						
LV5503H620				20" w.c.	11-28		
LV5503H620V						Outlet	
LV5503H640				40"w.c.	28-84	Inlet	
LV5503H640V						Outlet	
LV5503H814		1" F. NPT	9/32"	14" w.c.	7-16	Inlet	2,300,000
LV5503H820				20" w.c.	11-28		
LV5503H840				40" w.c.	28-84		

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

A

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 ¾" 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.
- 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 ⅛" 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.

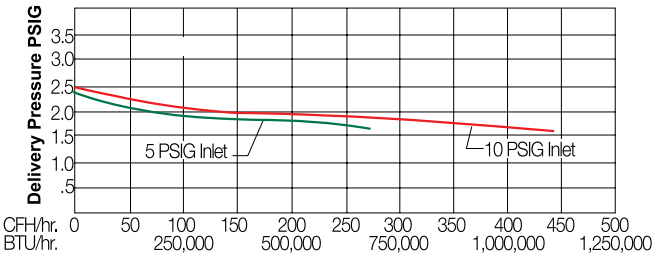
A

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

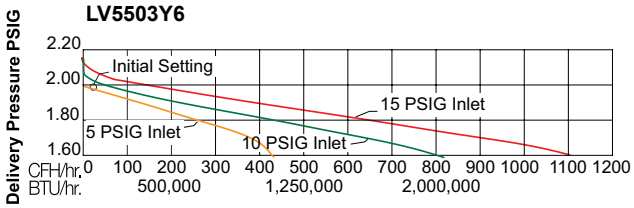
LV4403Y Series

LV5503Y Series

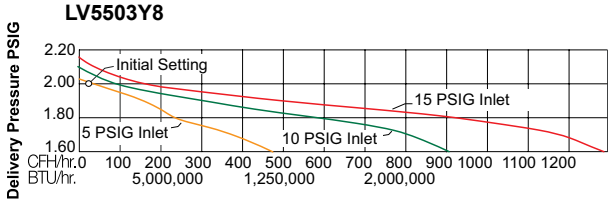
LV4403Y4, LV4403Y46R



LV5503Y6



LV5503Y8



REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Inlet Connection	Outlet Connection	Orifice Size	Adjustment Range	Bonnet Vent Position	Vapor Capacity BTU/hr. Propane***
LV4403Y4	½" F. NPT	½" F. NPT	¼"	2 PSIG @ 10 PSIG Inlet	Over Inlet	1,000,000
LV4403Y46R*	½" F. NPT	¾" F. NPT	¼"	2 PSIG @ 10 PSIG Inlet	Over Inlet	1,000,000
LV5503Y6	¾" F. NPT	¾" F. NPT	¼"	2 PSIG @ 10 PSIG Inlet	Over Inlet	2,200,000
LV5503Y8	¾" 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.

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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 ⅛" F.NPT outlet. Plug can be removed with a 3/16" hex allen wrench.
- Distinctive yellow finish.

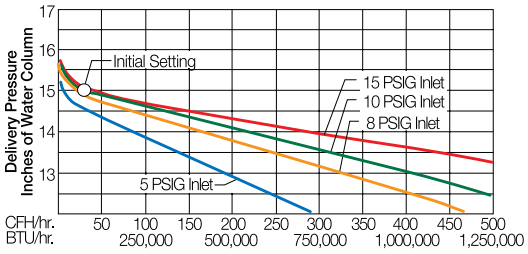
Materials

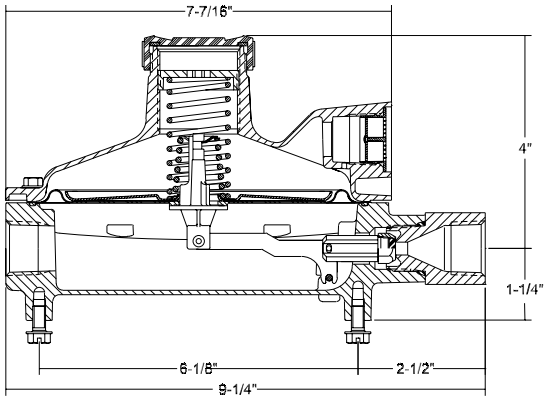
Body	Die Cast Aluminum
Bonnet	Die Cast Aluminum
Nozzle Orifice	Brass
Spring	Steel
Valve Seat Disc	Resilient Rubber
Diaphragm	Integrated Fabric and Synthetic Rubber

LV5503G4 Series

REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY





Ordering Information

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

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

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.

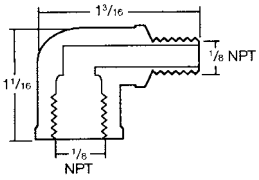
Features

- Incorporates integral relief valve.
- 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 ¾" F. NPT for vent piping.
- Compact size allows for easy installation — especially under container hoods and within collars.
- Vent on the first stage is consistently in the down position.
- Built in pressure taps on both first and second stage regulators have plugged ⅛" F.NPT outlets. Plugs can be removed with a 3⁄16" hex allen wrench.
- Select brown finish.

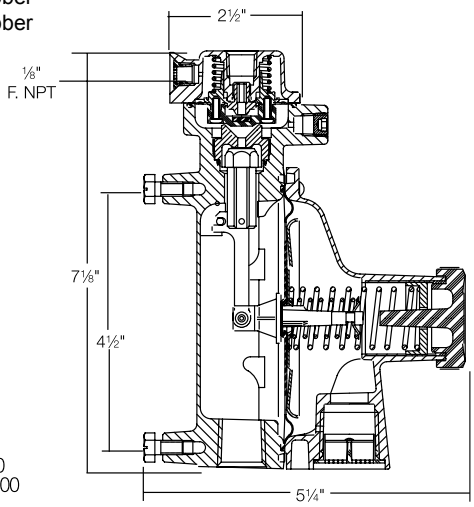
LV404B4 LV404B4V9 LV404B9

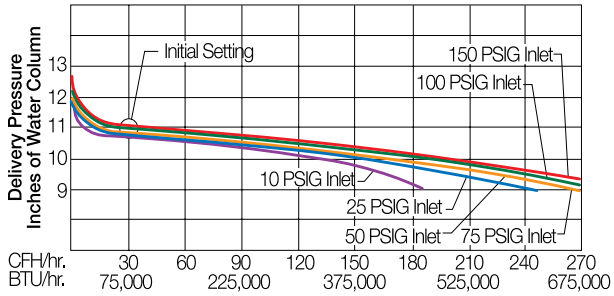
Materials

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



404PE Vent Pipe-away for first stage vent.





REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

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	¼" F. NPT	½" F. NPT	3/16"	11" w.c. at 100 PSIG Inlet	9" - 13" w.c.	Down	Over Outlet	525,000	404PE
LV404B4V9						9 o'clock	9 o'clock		
LV404B46		¾" F. NPT				Down	Over Outlet		
LV404B46V9						9 o'clock	9 o'clock		
LV404B9	F. POL	½" F. NPT				Down	Over Outlet		
LV404B9V9						9 o'clock	9 o'clock		
LV404B96		¾" F. NPT				Down	Over Outlet		
LV404B96V9						9 o'clock	9 o'clock		

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

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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.

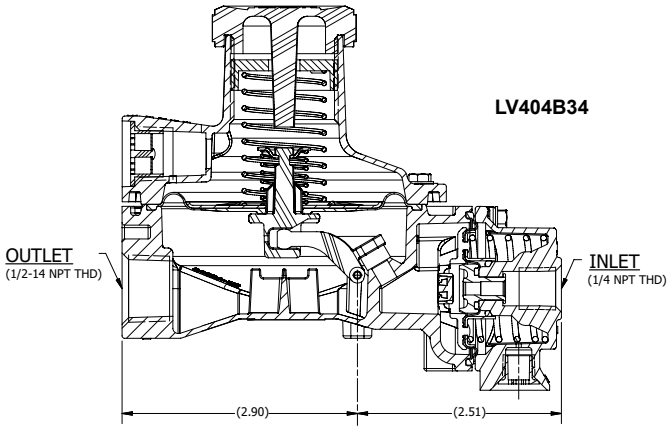
Features

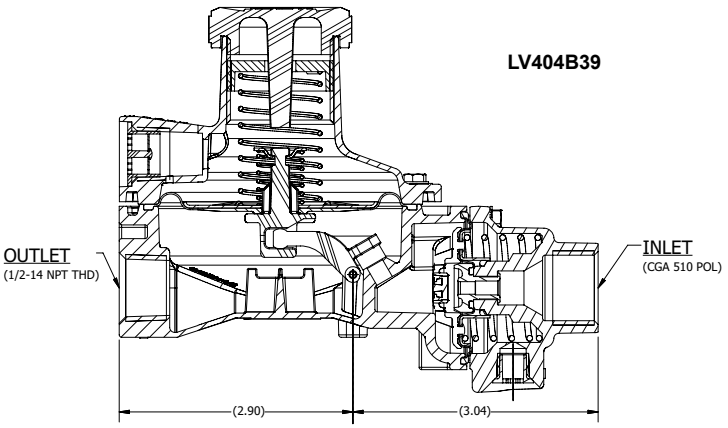
- Large vent helps prevent vent blockage, the second stage regulator bonnet is tapped for ⅜" F.NPT for vent piping, the high pressure regulator is tapped with ⅛" F.NPT for vent piping.
- With 15 PSIG inlet pressure, the regulator is designed to not pass more than 2 PSIG downstream with the seat disc removed.
- Incorporates an integral relief valve on second stage.
- 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 ⅛" 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.

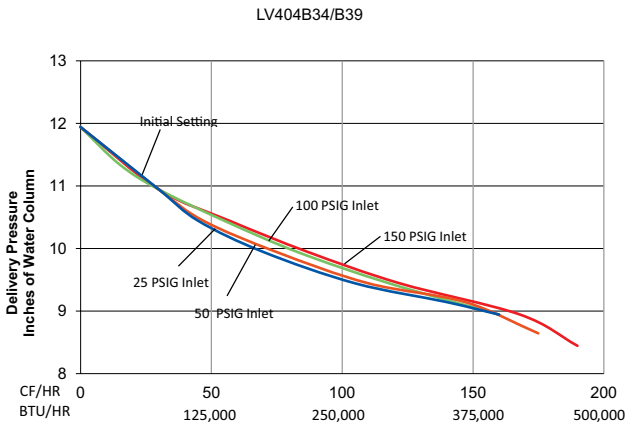
Materials

Body First Stage (LV404B39)..... Brass
Body First Stage (LV404B34)..... 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

LV404B39 LV404B34







REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

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	¼" F.NPT	½" F.NPT	7/32"	11" w.c. @ 100 Psig Inlet	9" to 13"w..c.	Rear	Outlet	450,000
LV404B39	F.POL							
LV404B34V9	¼" F.NPT					Left	9:00	
LV404B39V9	F.POL							

* 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.

REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

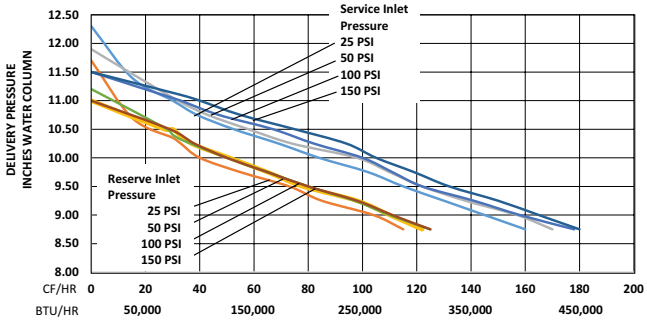
7525B34 7525B4

Materials

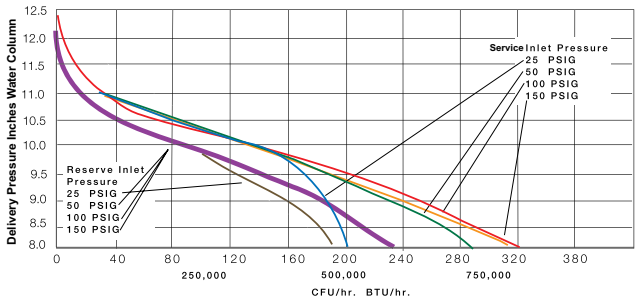
Body (First Stage)	Die Cast Zinc
Body (Second Stage)	Die Cast Zinc
Bonnet First Stage	Die Cast Zinc
Bonnet, Second Stage	Die Cast Zinc
First Stage Nozzle Orrifice	Brass
Springs	Steel
Valve Seat Discs	Resilient Rubber
Diaphragms	Integrated Fabric and Synthetic Rubber

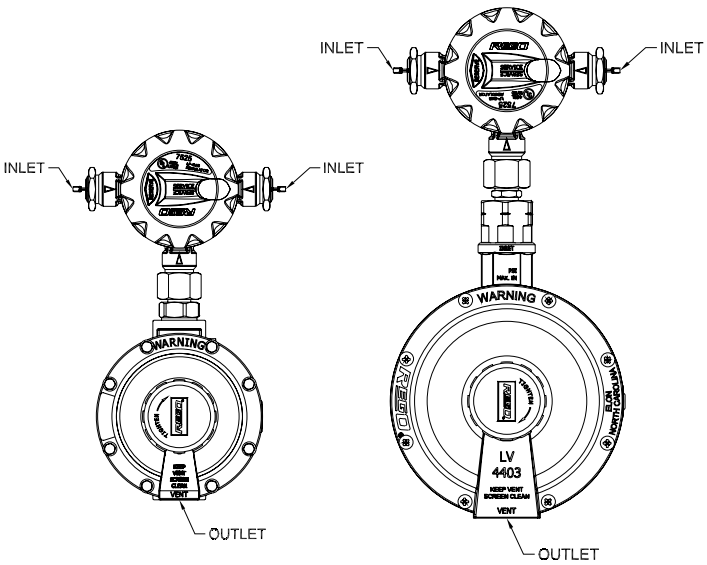
A

7525B34



7525B4





Ordering Information

Automatic Changeover Regulator	Inlet	Outlet	Pigtails	Bracket	Capacity BTU/hr. Propane
7525B34	¼" Inverted Flare	½" F. NPT	912FA20	2302-31	400,000
7525B34			912FS20		
7525B4			912FA20	2503-22	450,000
7525B4			912FS20		

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

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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

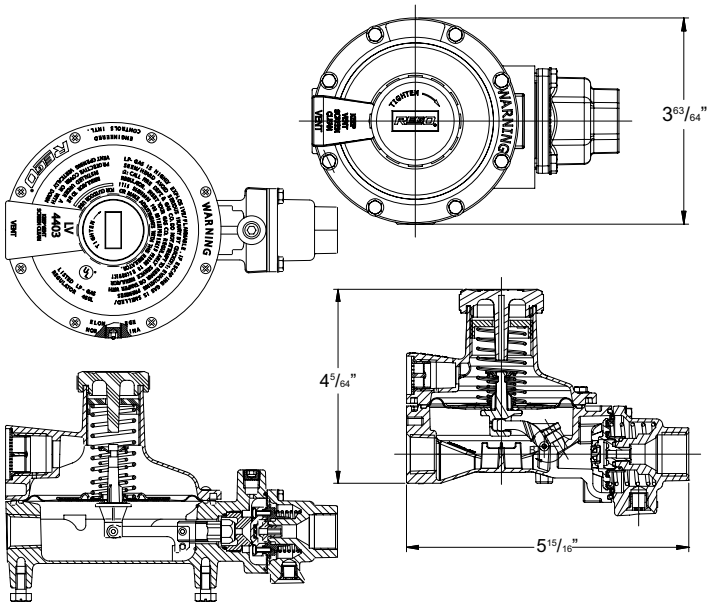
- Incorporates an integral relief valve in the 2 PSIG stage portion of the regulator.
- Designed to pass no more than 5 PSIG with the seat disc removed.
- Large vent helps prevent blockage and is tapped with a FNPT thread for piping away.
- Compact Design
- Built in pressure taps. Plugs can be removed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

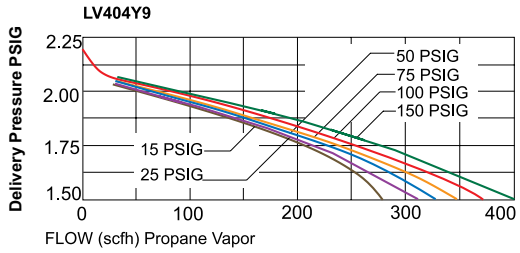
LV404Y39

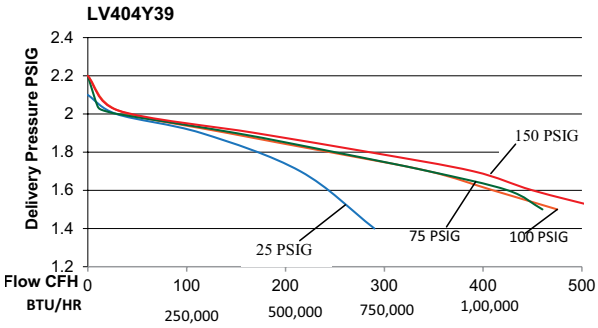
LV404Y9

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







REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

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 (CGA 510)	½" F.NPT	7/32"	2	**1.8 to 2.5**	Down	Outlet	800,000
LV404Y39								650,000

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

Two Stage Regulator Outfits
5807, 5808, 5820 Series

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

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


LV4403TR9 LV4403B Series


913PS12


2503-22

Twin Stage Regulator Outfits 5828 and 5832

Application
This outfit contains the equipment required to provide twin-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

Kit Number	Twin Stage Regulator Included	Inlet F. NPT	Outlet F. NPT	Pigtails Included	Capacity BTU / hr. Propane
5828	LV404B4	¼"	½"	912JS12	525,000
5832	LV404B34V9				450,000


LV404B4 LV404B34V9


912JS12


2503-22

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.

Ordering Information

Kit Number	Automatic Changeover Regulator Included	Inlet	Outlet	Pigtails Included-2	Bracket Included	Capacity BTU/hr. Propane
5726B34	7525B34	¼" Inverted Flare	½" F. NPT	912FA20	2302-31	400,000
5727B34	7525B34			912FS20		
5754B4	7525B4			912FA20	2503-22	450,000
5755B4	7525B4			912FS20		


912FA20


7525B4

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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.

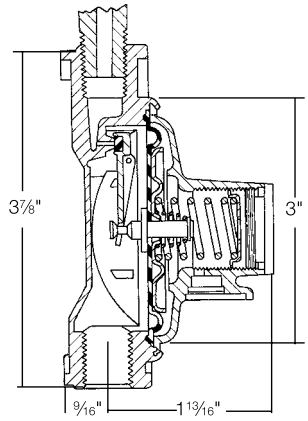
Features

- 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.

302

Materials

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



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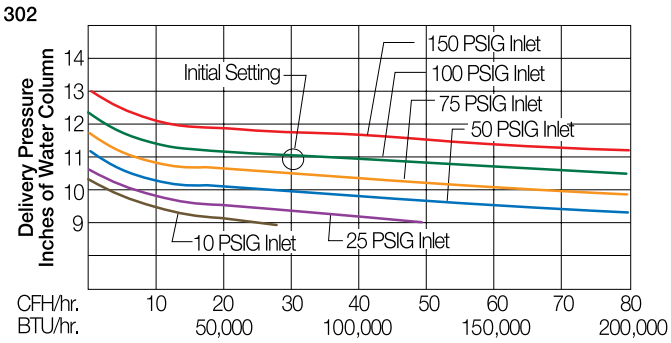


302V

REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

Ordering Information

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

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

A

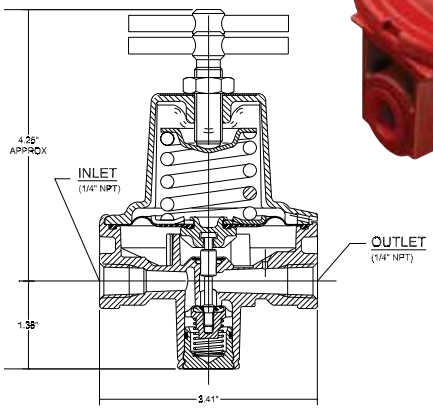
High Pressure Industrial / Commercial Pounds-to-Pounds Regulators
597F Series

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 ¼" 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.

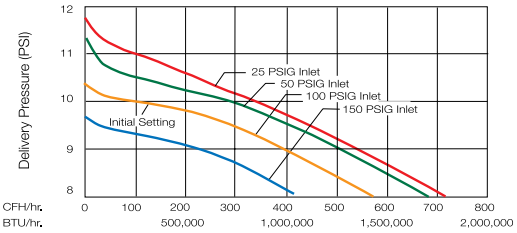


Materials

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

A

597FA



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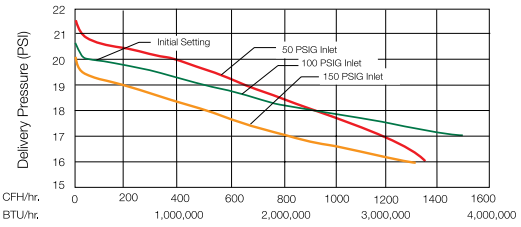

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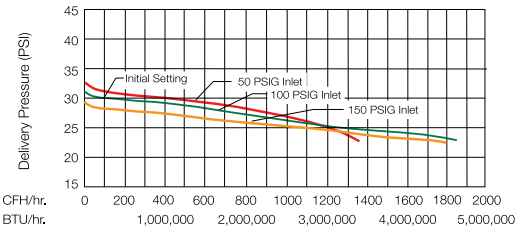

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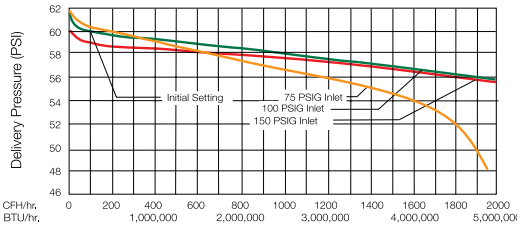

REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

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	Tee Handle	¼" NPT	¼" NPT	1-15	10	1,750,000
597FB				10-30	20	3,000,000
597FC				20-45	30	3,500,000
597FD				40-100	40	4,500,000

* Set pressure established at 100 PSIG inlet and a flow of 250,000 BTU/hr.
** Capacity determined at actual delivery pressure 20% less than set pressure with inlet pressure 20 PSIG higher than the set pressure.

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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 ¼” F. NPT port.

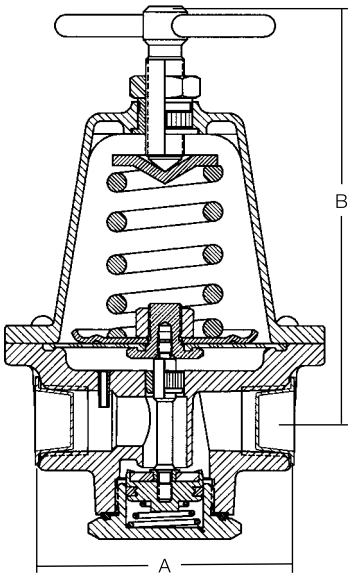
Materials

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

REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

1580V



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	LP-Gas	Tee Handle	½” F. NPT	3-30	2 15/16”	4 7/8”	20	7,000,000 BTU/hr. LPG
1584VL				25-50			30	10,000,000 BTU/hr. LPG
1584VH				45-125			60	10,000,000 BTU/hr. LPG
AA1584VW	NH3			3-25			20	4,500 CFH NH_3
AA1584VL				20-50			30	4,800 CFH NH_3
AA1584VH				45-125			60	5,100 CFH NH_3
1586VN	LP-Gas		¾” F. NPT	3-30	3 ½”	7”	20	7,500,000 BTU/hr. LPG
1586VL				25-50			30	14,000,000 BTU/hr. LPG
1586VH				45-125			60	14,000,000 BTU/hr. LPG
AA1586VW	NH3			3-25			20	7,700 CFH NH_3
AA1586VL				20-50			30	
AA1586VH				45-125			60	8,900 CFH NH_3
1588VN	LP-Gas		1” F. NPT	3-30			20	7,500,000 BTU/hr. LPG
1588VL				25-50			30	14,000,000 BTU/hr. LPG
1588VH				45-125			60	14,000,000 BTU/hr. LPG

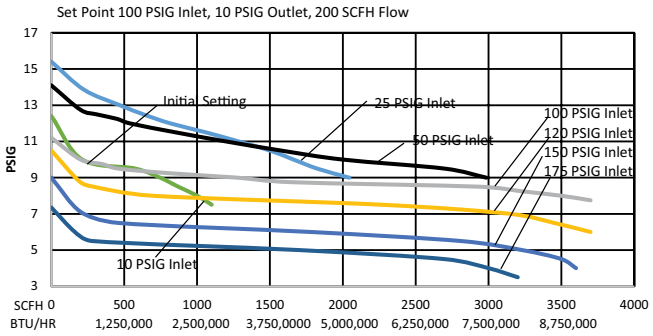
* Set pressure is established with 100 PSIG inlet pressure and a flow of 500,000 BTU/hr. propane for 1580V Series, and 180 CFH/hr. NH_3 for AA1584V and AA1586V Series.

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

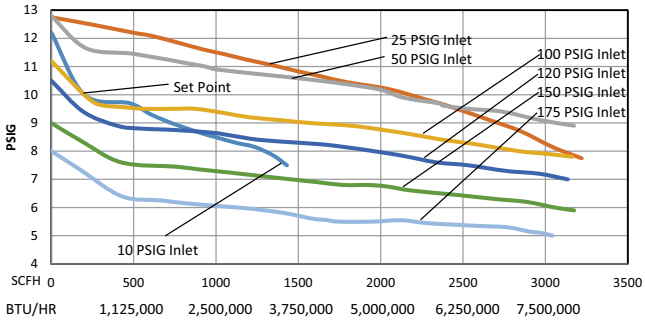
NOTE: Care must be taken to prevent re-liquification of propane at normal temperatures by heat tracing or other effective means. Use of a relief valve upstream or downstream of these regulators is recommended in accordance with NFPA 58.

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

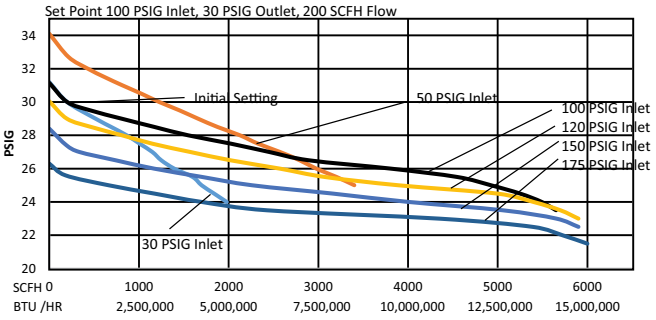
1584/X1584 VN



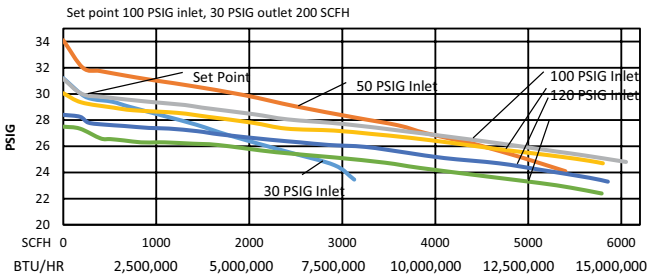
1586/X1586/1588 VN



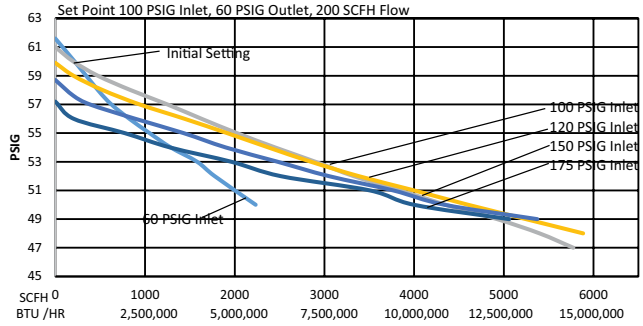
1584/X1584 VL



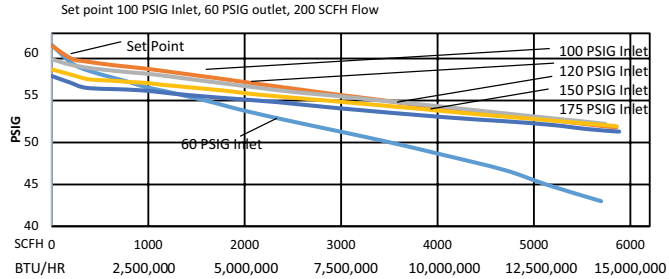
1586/X1586/1588 VL



1584/X1584 VH



1586/X1586/1588 VH



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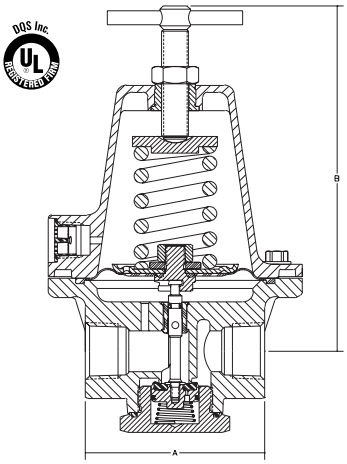
High Pressure / High Temperature Industrial / Commercial Pounds-to-Pounds Regulators X1584V, X1586V, and X1588V Series

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 300ºF. Also ideal as a first stage regulator in large multiple operations.

Features

- Special diaphragm and seat materials are suitable for up to 300ºF. 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 ¼" F. NPT port. RegO recommends that these gauges use silver braze rather than soft solder construction.



X1584

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

REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Service	Adjustment Method	A	B	Inlet & Outlet Connections	Recommended Delivery Pressure Range (PSIG)	Capacity Determined at Set Pressure of PSIG*	Capacity BTU/hr. Propane**
X1584VN	LP-Gas	Tee Handle	2⅞"	8⅞"	½" F. NPT	3-30	20	7,000,000
X1584VL						25-50	30	10,000,000
X1586VN			3 5/16"	6⅞"	¾" F. NPT	3-30	20	7,500,000
X1586VL						25-50	30	14,000,000
X1588VN					1" F. NPT	3-30	20	7,500,000
X1588VL						25-50	30	14,000,000

* 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 systems to comply with NFPA 58 requirements.
- Install a tee downstream from the regulator outlet to ensure maximum flow from the relief valve.
- Brass body and seat disc assembly.

3139-18 3139-26 3139-38

REGO 25 YEAR SILVER SERVICE LIFE

REGO 10 YEAR 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	¼" M. NPT	2 27/32"	1 1/16"	1357*	B-009412-2B
3139-26	26 PSIG	15 PSIG				1725**	
3139-38	38 PSIG	20 PSIG				2304***	

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

Copper Pigtails
912 and 913 Series

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.

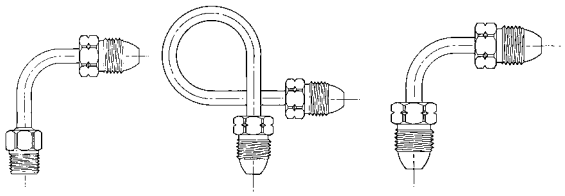
Note: RegO recommends a new pigtail be installed with every new and replaced regulator.

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

Materials
Tubing..... Copper
Connection ..... Brass

913PS12

REGO 10 YEAR WARRANTY



913JS05A 913PS12G 913PS05A

Bent Pigtails Ordering Information

Connections	Approximate Length	Part Number ⅜" Tube ⅞" Hex Short Nipple	Type/Degree of Bend
¼" M. NPT x M. POL	5"	**913JS05A**	90°
		913PS05A	
M. POL x M. POL	12"	**913PS12G**	270° Right Hand
		913PS12H	270° Left Hand
		913PS12S	360°

Straight Pigtails Ordering Information

Connections	Approximate Length	Part Number ¼" Tube ⅞" Hex Short Nipple	¼" Tube 1⅛" Hex Long Nipple	⅜" Tube ⅞" Hex Short Nipple
M.POL x M.POL	5"	-	½"	**913JS05**
	12"	**912PS12**	-	**913PS12**
	20"	**912PS20**	**912PA20**	**913PS20**
	30"	**912PS30**	-	**913PS30**
	36"	**912PS36**	**912PA36**	**913PS36**
	48"	**912PS48**	**912PA48**	**913PS48**
¼" Inverted Flare x M.POL	12"	**912FS12**	-	-
	20"	**912FS20**	**912FA20**	-
	30"	**912FS30**	-	-
	36"	**912FS36**	-	-
¼" M.NPT x M.POL	5"	-	-	**913JS05**
	12"	**912JS12**	-	-
	20"	**912JS20**	-	-
	36"	**912JS36**	-	-
½" M.NPT x M.Pol	12"	-	-	**913LS12**
½" M.NPT x ⅜" M.NPT	12"	-	-	**913KL12**

Dielectric Pigtails

D912

Part Number	Approximate Length	Tube	Connections
D912P12	12"	¼"	M.POL x M.POL
D912P20	20"		
D912P30	30"		
D912J12	12"		¼" M.NPT x M.POL
D912J20	20"		
D912J30	30"		
D913P12	12"	⅜"	M.POL x M.POL
D913P20	20"		
D913P30	30"		
D913J12	12"		¼" M.NPT x M.POL
D913J20	20"		
D913J20	30"		

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	
3199W	Heavy duty hard nose POL with wrench nut and excess flow.
970AW	Soft nose POL with Handwheel.
970HT	Soft nose POL with Handwheel and 60 DMS orifice.
970S	Soft nose POL with wrench nut and 60 DMS orifice.

These inlet fittings are available for assembly into either first stage of single stage regulators. All have ¼" M. NPT connections and are machined from brass.

3199W

970 970AX 970AXS 970AW 970HT 970S

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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 LV4403 Series
2503-19	Aluminum	

REGO 10 YEAR WARRANTY

2503-19

2503-22

2302-31

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.

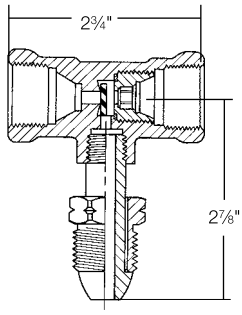
- Floating disc check minimizes discharge of gas to the atmosphere when empty cylinder is being replaced.

Features

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

REGO 10 YEAR WARRANTY

1350R

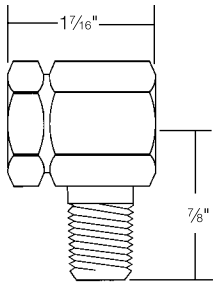


Materials

Body ..... Forged Brass
Seat Discs ..... Resilient Rubber

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

1450R



Multiple Cylinder Manifolds

1350E and 1450E

Application

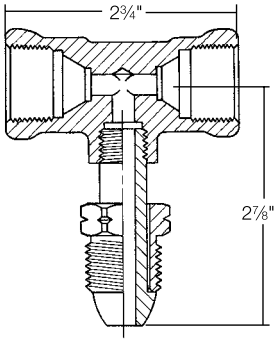
Use with suitable pigtails to connect multiple cylinders together. Ideal for loads that require more than one cylinder to be in service at a time.

Features

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

REGO 10 YEAR WARRANTY

1350E

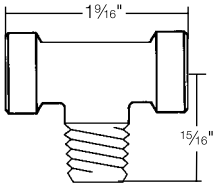


Materials

Body ..... Forged Brass

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

1450E



A

Adjustable Flexible Vent Kit

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

REGO 10 YEAR WARRANTY

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
2434A	Test Kit	1328	3/8" OD
		1331	1/2" OD
		1332	5/8" OD

2434A

1328 Adapter

REGO 10 YEAR WARRANTY

A

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.

REGO 10 YEAR WARRANTY

Features

- Flexible tube rolls up for convenient storage with accessories in compact carry case.
- Magnetic clips allow easy attachment to metal surfaces.
- 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—¾ oz. bottle of Fluorescein Green color concentrate.
2—⅛" pipe thread barbed tubing adapters.
1—3 foot, 3/16" rubber tube.
1—Rubber tubing adapter and 7/16" spud.

1212 KIT

Part Number	Description
1212 KIT	Flexible Tube Water Manometer Kit

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

REGO 10 YEAR WARRANTY

2962

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

DANGER **WARNING**

LP-GAS IS EXTREMELY FLAMMABLE AND EXPLOSIVE

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

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

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

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

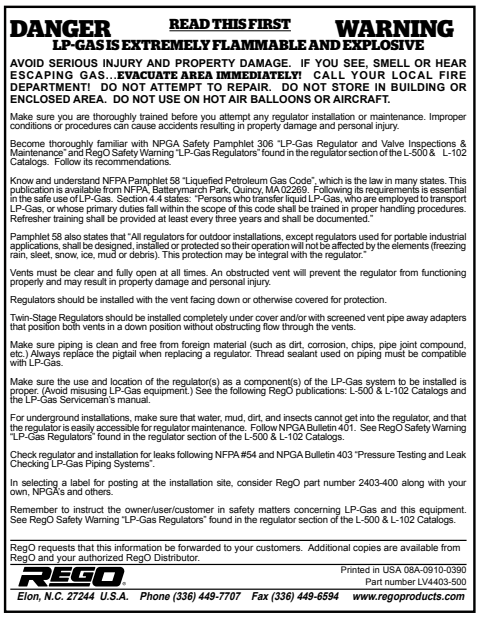
ADDITIONAL SAFETY INFORMATION IS AVAILABLE FROM

REGO

Printed in U.S.A. 04-0994-1189
Part Number LV4403-400

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

LV4403-400



DANGER READ THIS FIRST **WARNING**

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

Make sure you are thoroughly trained before you attempt any regulator installation or maintenance. Improper conditions or procedures can cause accidents resulting in property damage and personal injury.

Become thoroughly familiar with NPGA Safety Pamphlet 306 "LP-Gas Regulator and Valve Inspections & Maintenance" and RegO Safety Warning "LP-Gas Regulators" found in the regulator section of the L-500 & L-102 Catalogs. Follow its recommendations.

Know and understand NFPA Pamphlet 58 "Liquefied Petroleum Gas Code", which is the law in many states. This publication is available from NFPA, Batterymarch Park, Quincy, MA 02269. Following its requirements is essential in the safe use of LP-Gas. Section 4.4 states: "Persons who transfer liquid LP-Gas, who are employed to transport LP-Gas, or whose primary duties fall within the scope of this code shall be trained in proper handling procedures. Refresher training shall be provided at least every three years and shall be documented."

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

Vents must be clear and fully open at all times. An obstructed vent will prevent the regulator from functioning properly and may result in property damage and personal injury.

Regulators should be installed with the vent facing down or otherwise covered for protection.

Twin-Stage Regulators should be installed completely under cover and/or with screened vent pipe away adapters that position both vents in a down position without obstructing flow through the vents.

Make sure piping is clean and free from foreign material (such as dirt, corrosion, chips, pipe joint compound, etc.) Always replace the pigtail when replacing a regulator. Thread sealant used on piping must be compatible with LP-Gas.

Make sure the use and location of the regulator(s) as a component(s) of the LP-Gas system to be installed is proper. (Avoid misusing LP-Gas equipment.) See the following RegO publications: L-500 & L-102 Catalogs and the LP-Gas Serviceman's manual.

For underground installations, make sure that water, mud, dirt, and insects cannot get into the regulator, and that the regulator is easily accessible for regulator maintenance. Follow NPGA Bulletin 401. See RegO Safety Warning "LP-Gas Regulators" found in the regulator section of the L-500 & L-102 Catalogs.

Check regulator and installation for leaks following NFPA #54 and NPGA Bulletin 403 "Pressure Testing and Leak Checking LP-Gas Piping Systems".

In selecting a label for posting at the installation site, consider RegO part number 2403-400 along with your own, NPGA's and others.

Remember to instruct the owner/user/customer in safety matters concerning LP-Gas and this equipment. See RegO Safety Warning "LP-Gas Regulators" found in the regulator section of the L-500 & L-102 Catalogs.

RegO requests that this information be forwarded to your customers. Additional copies are available from RegO and your authorized RegO Distributor.

REGO

Printed in USA 08A-0910-0390
Part number LV4403-500

Elon, N.C. 27244 U.S.A. Phone (336) 449-7707 Fax (336) 449-6594 www.regoproducts.com

LV4403-500

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.

A

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Section B
Cylinder and Service Valves

B

Limited 10 Year Warranty and Limitation Of Liability

LIMITED 10 YEAR WARRANTY

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

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

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

B

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.

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Foreword

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

Safety Warnings

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 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.

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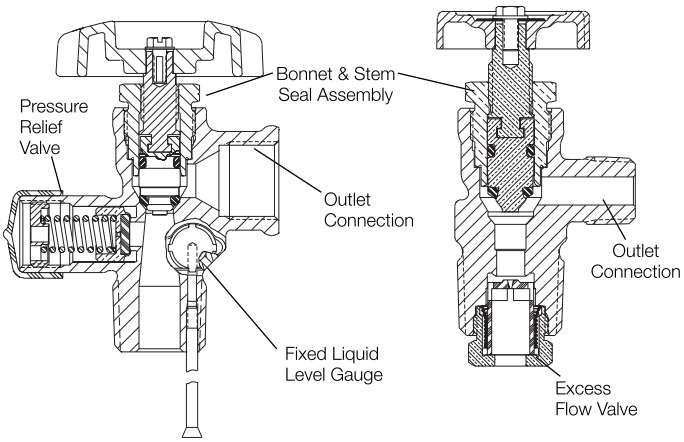
The bulletin is not intended to be an exhaustive treatment of the subject of cylinder valves and certainly does not cover all safety practices that should be followed in installation, operation and maintenance of LP-Gas systems which include cylinder valves.



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.

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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.

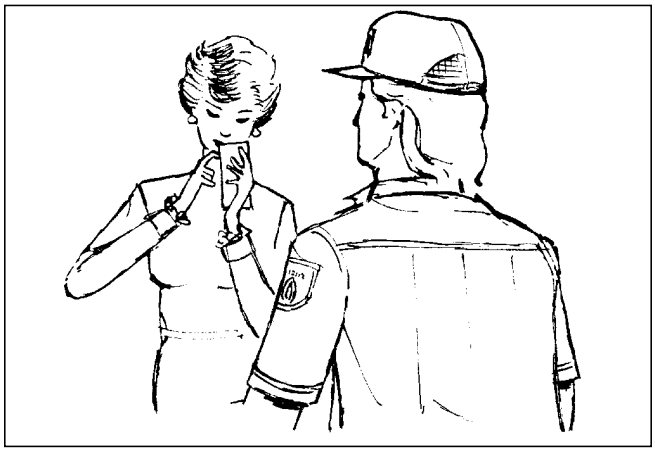
6. The fixed liquid level gauge on a cylinder valve is, when present, essential to prevent overfilling the cylinder. The gauging valve must operate freely, venting vapor when loosened, and sealing gas-tight easily when tightened with the fingers. Gauge valves meant for use with a socket key or screwdriver 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

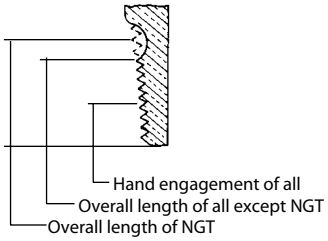
All RegO Products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion and aging of components made of materials such as metal and rubber.

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 quality 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.

Cylinder Valve Threads

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.

Inlet Connections

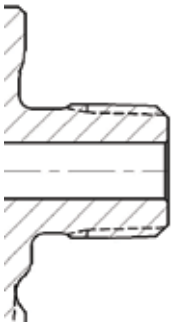


NGT and NPT Threads
The NGT (National Gas Taper) thread is the commonly used valve-to-cylinder connection. The male thread on the valve has about two more threads at the large end than the NPT in order to provide additional fresh threads if further tightening is necessary. Additionally, the standard 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.

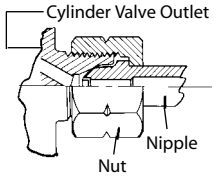
Outlet Connections

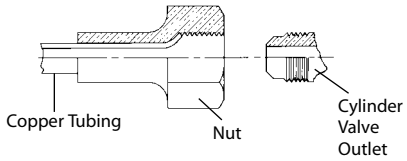
CGA Outlets
The CGA (Compressed Gas Association) outlets are standard for use with various compressed gases. The relation of one of these outlets to another is fixed so as to minimize undesirable connections. They have been designed to prevent the interchange of connections which may result in a hazard.

3/8"-18 NPT Thread Connection
This connection is also used for vapor or liquid withdrawal. It has a 3⁄8" diameter thread, and 18 threads per inch, National Pipe Taper Outlet form.

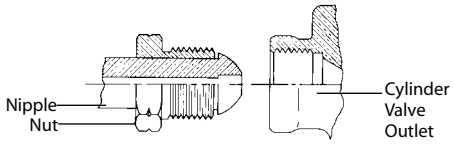


CGA 555
CGA 555 is the standard cylinder valve outlet connection for liquid withdrawal of butane and/or propane. Thread specification is .903" – 14 NGO – LH – EXT, which means .903" diameter thread, 14 threads per inch, National Gas Outlet form, left-hand external thread.





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.

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 trouble-free 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 heavy-duty 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.

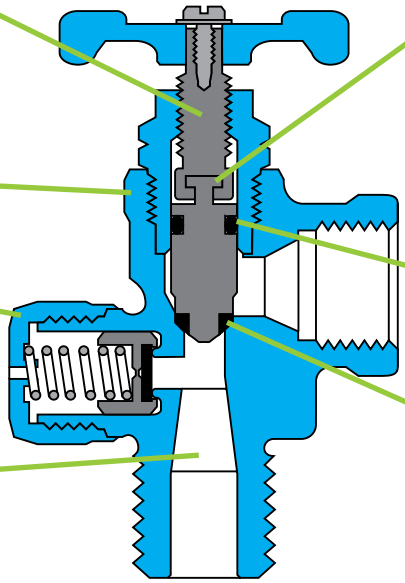
Design Features of RegO Cylinder Valves

Valve Stems On 901, 9101, 9102 and 9103 Valves
Are machined with a double lead thread for quick opening and closing as well as high lift.

Forged Brass Body

Pressure Relief
Provides quick discharge of excess pressure. Relief seat disc is special resilient composition rubber.

Tapered Seat Openings On 9101,9102 and 9103 Valves
Permit increased flow rates resulting in faster charging.



Back Seat On 901, 9101, 9102 and 9103 Valves
Is metal-to-metal seating to provide added protection against leakage while the valve is open. Back seat the valve while in operation.

O-Rings
For positive leak-proof seals under temperature and pressure variations.

Seat Disc
Is a tapered nylon in a fully confined seat to ensure easy, leak-free, positive shutoffs. Seat disc also provides a separate swivel action to minimize scoring by impurities.

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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.

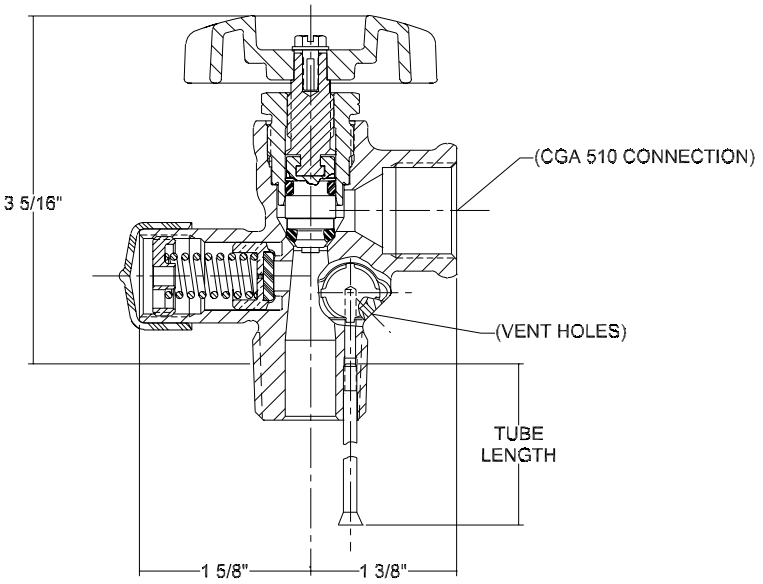
Features

- 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	Nylon
Relief Spring	Stainless Steel

9103D



REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Container Connection	Service Connection	Fixed Liquid Level Vent Valve	Dip Tube Length w/ Deflector	Pressure Relief Valve Setting	For Use in Cylinders w/Propane Capacity Up To:	Approximate Filling Rate Liquid Flow, GPM				Accessories
							Pressure Drop Across Valves				POL Plug
							10 PSIG	25 PSIG	50 PSIG	100 PSIG	
*9103D10.6	¾" M NGT	F. POL (CGA 510)	Yes	10.6"	375 PSIG	100 lbs.	12.7	20.3	29.0	41.3	N970P
*9103D11.6				11.6"							

* 72 Orifice low emission version is also available.

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

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.

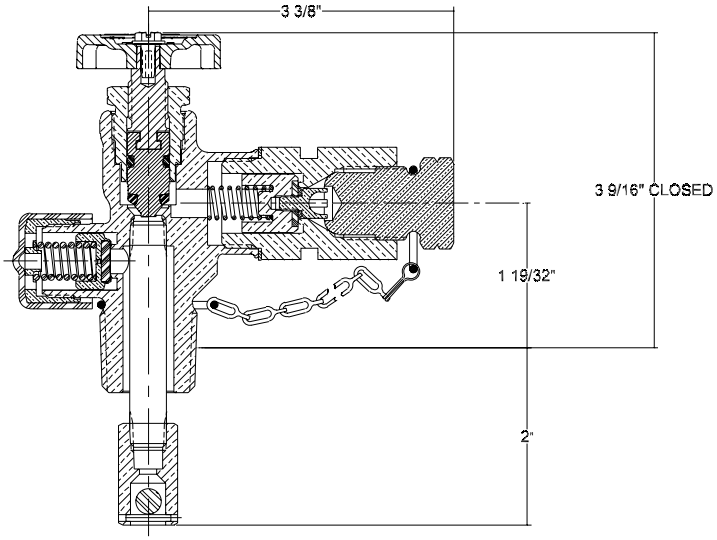
Features

- 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.
- Nylon tapered seat design provides positive closure.

9103T9F

Materials

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



REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Container Connection	Service Connection	Fixed Liquid Level Vent Valve Style	Pressure Relief Valve Setting	For Use in Cylinders w/ Propane Capacity Up To:	Approximate Filling Rate Liquid Flow, GPM			
						Pressure Drop Across Valves			
						10 PSIG	25 PSIG	50 PSIG	100 PSIG
9103T9F	¾" 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.

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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.

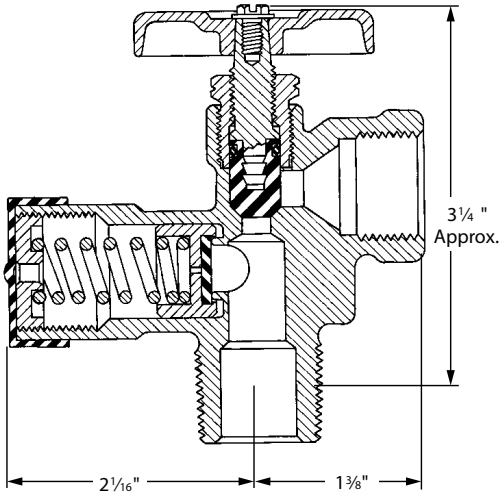
Features

- 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	Aluminum Die Cast
Stem	Brass
Seat Disc	Nylon
Relief Spring	Stainless Steel



REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Container Connection	Service Connection	Fixed Liquid Level Vent Valve Style	Pressure Relief Valve Setting	For Use In Cylinders w/ Propane Capacity Up To	Flow Capacity SCFM/Air
9106CO	¾" 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

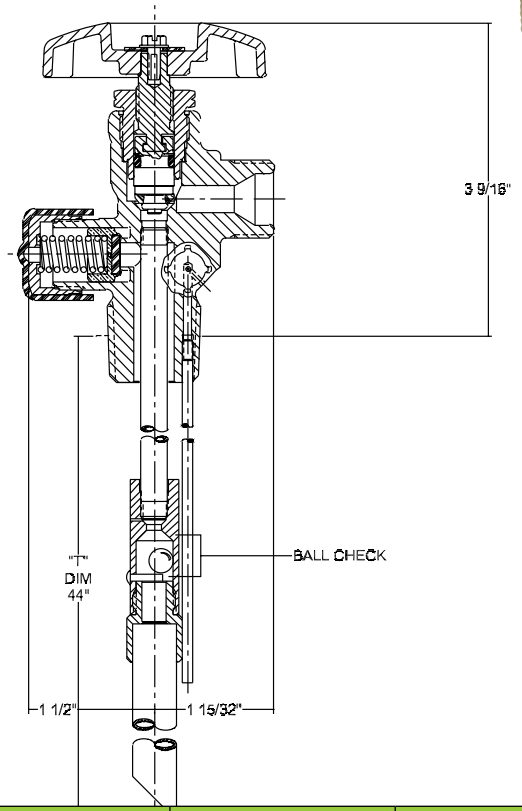
Equipped with excess flow valves and liquid withdrawal tubes, they are designed for liquid withdrawal of DOT cylinders up to 100 lbs. propane capacity. They are most often used with heavy BTU loads found in industrial uses.

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 ½" O.D. brass withdrawal tube with "T" dimension of 44".

Materials

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



9107K8A

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Container Connection	Service Connection	Fixed Liquid Level Vent Valve	Dip Tube Length	Liquid Withdrawal Tube Length
*9107K8A	¾" M. NGT	CGA 555	Included	11.6"	44"

* 72 Orifice low emission version is also available.

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

*Closing flows based on ⅜" O.D. withdrawal tube 44" long or less attached.

IMPORTANT: ¼" O.D. pigtails or POL connections for ¼" 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.

B

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

Application

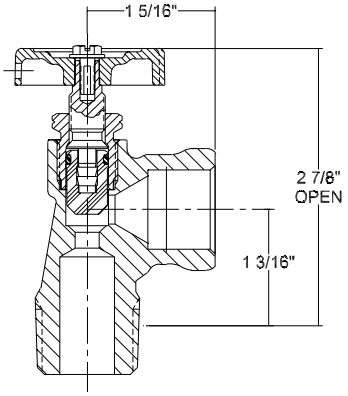
Designed for vapor withdrawal service on ASME and DOT containers or in fuel line applications. Since none of these valves have an integral pressure relief valve, they may only be used as an accessory valve on containers that have an independent pressure relief valve sufficient for that container's capacity.

Features

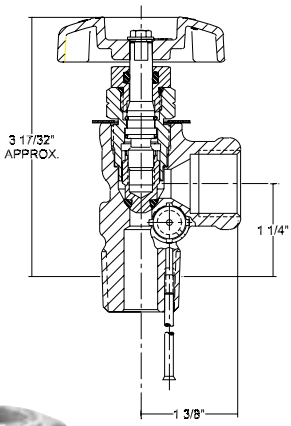
- O-Ring stem seal design provides positive seal.
- Metal-to-metal back seat provides added protection against leakage while the valve is open.
- Valves with fixed liquid level gauges permit operator to quickly determine when the maximum permitted filling level of the container is reached.
- 9101R Series 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..... Aluminum Die Cast
Stem ..... Brass
O-Rings ..... Resilient Synthetic Rubber
Seat Disc ..... Nylon



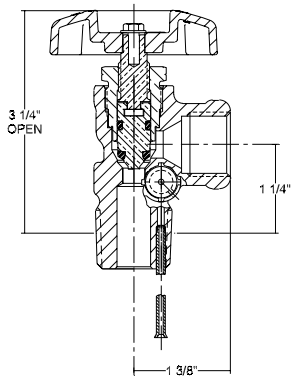
901C1



9101R1

PT9102

9101D



REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Bonnet Style	Container Connection	Service Connection	Fixed Liquid Level Vent Valve	Approximate Filling Rate Liquid Flow, GPM — Pressure Drop Across Valve				Ready To Go™
					10 PSIG	25 PSIG	50 PSIG	100 PSIG	
901C1	Standard	¾" M. NGT	F. POL CGA 510	No	5.3	8.2	10.8	14.2	NA
9101C1					8.8	12.4	15.8	21.7	
*9101D11.1				Yes	8.6	12.7	16.3	22.3	
*9101D11.7									
9101R1	MultiBonnet			No	7.6	11.7	15.2	20.6	No
*9101R11.1				Yes					
*9101R11.7									Plugged
9102D11.1									
9102R11.7									
*PT9102R1				No					Yes
*PT9102R11.1				Yes					
*PT9102R11.7									

* 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.

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.

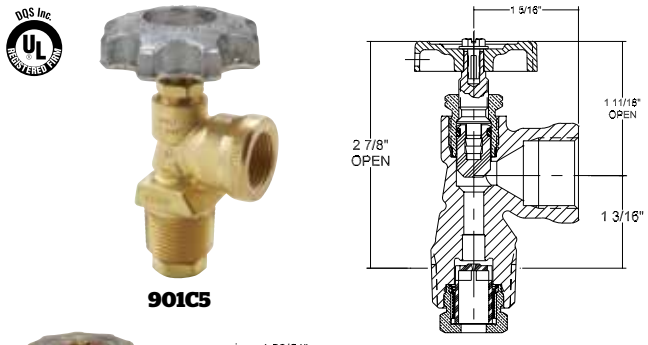
To ensure proper functioning and maximum protection from integral excess flow valves, these service valves should be fully opened and backseated when in use.

Features

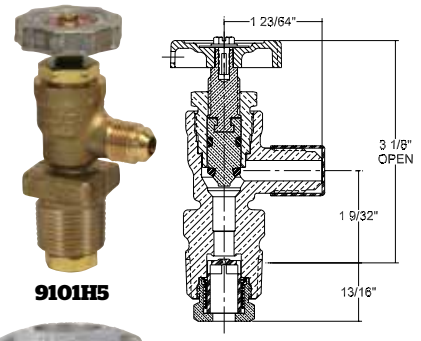
- Incorporates integral excess flow valve and shut-off valve in one unit.
- Double lead thread provides faster opening and closing.
- O-Ring stem seal design provides positive seal.
- Tapered and confined seat disc provides positive shut off.
- Metal-to-metal back seat provides added protection against leakage while the valve is open.
- 9101H6 equipped with a ¼" 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

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

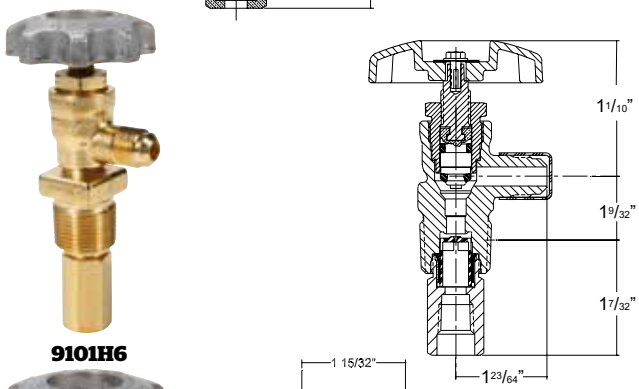


901C5

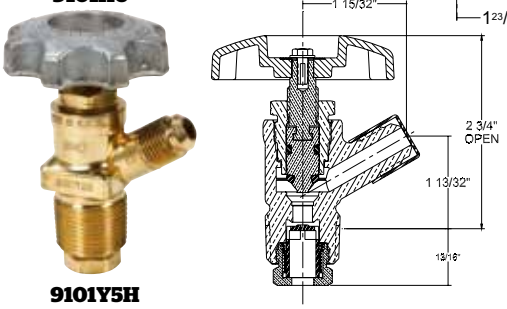


9101H5

REGO 10 YEAR WARRANTY



9101H6



9101Y5H

Ordering Information

Part Number	Container Connection	Service Connection	Liquid Withdrawal Connection	Closing Flow (LP-Gas)		
				Vapor		
				25 PSIG Inlet (SCFH)	100 PSIG Inlet (SCFH)	Liquid GPM
901C3	¾"M. NGT	F. POL CGA 510	None	350***	605***	1.5***
901C5				550***	1050***	2.6***
9101H3		⅜" SAE Flare		430**	800**	1.5**
9101H5*				765**	1300**	3.6**
9101H6*			¼" NPT	550****	1050****	2.6****
9101Y5H*		60° Angle ⅜" SAE Flare	None	765**	1300**	3.6**

* Heavy-duty models
** Based on ⅜" 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 ⅜" 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.

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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.

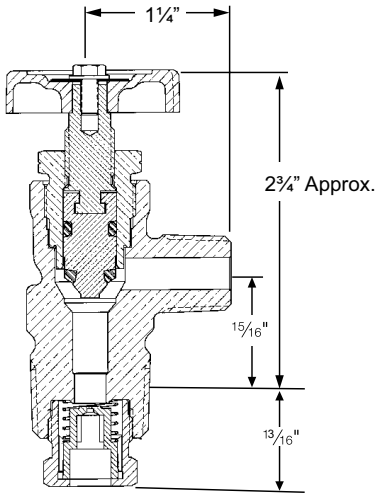
The integral excess flow valve found in all these service valves helps prevent excessive product loss in the event of fuel line rupture.

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.

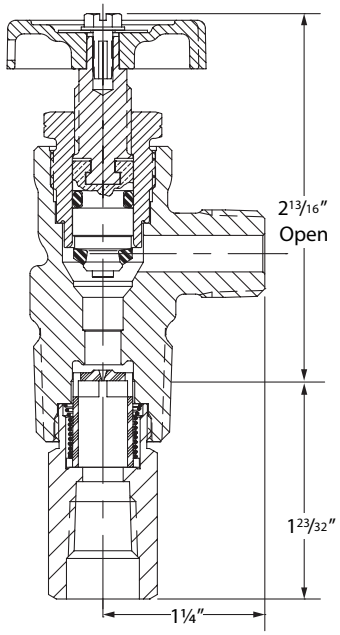
To ensure proper functioning and maximum protection for integral excess flow valves, these service valves should be fully opened and backseated when in use.

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 ¼" NPT internal thread for the addition of a liquid withdrawal tube.



9101P5
9101P5H



9101P6
9101P6H

REGO 10 YEAR WARRANTY

Materials

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

Ordering Information

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

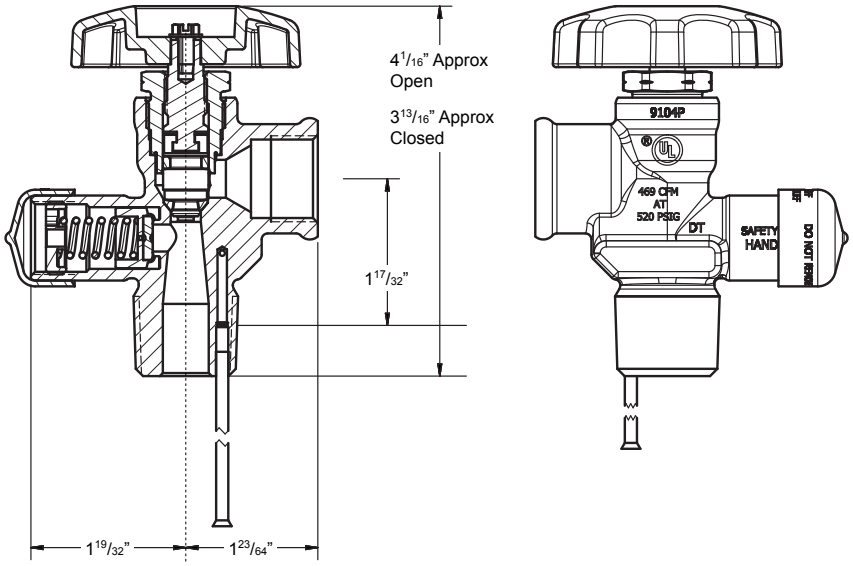
Note: These valves incorporate an excess flow valve. Refer to L-500/Section F, for complete information regarding selection, operation and testing of excess flow valves.

Cylinder Valve for Propylene Service
9104PT and 9104PPA

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.
- 435 PSIG Relief Valve Setting.
- Meets TB27 requirements.
- 3/32" Markings.

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



9104PT

9104PPA

REGO 10 YEAR WARRANTY

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	¾" M.NPT	F.POL - (CGA 510)	N/A	N/A	435 PSIG	100lbs
*9104PT10.1			Knurled	10.0"		
*9104PT10.7				10.7"		

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

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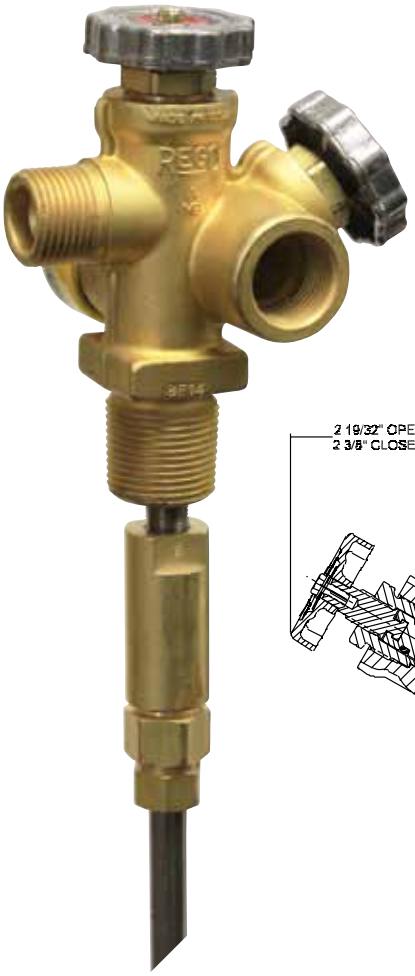
"Dual" Cylinder Valve for Simultaneous Liquid and Vapor Withdrawal 8556

Application

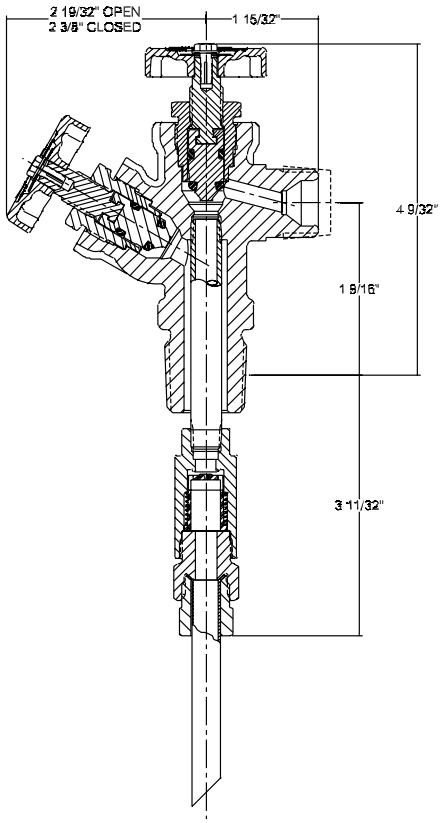
This dual cylinder valve was designed especially for industrial uses. It increases the cylinder's flexibility by permitting DOT cylinders up to 100 lbs. propane capacity to be used interchangeably or simultaneously for either liquid or vapor withdrawal.

Features

- Two separate flow channels in the body permit vapor and/or liquid withdrawal alternately, or simultaneously.
- Outlet connections have two different fittings.
- Handwheels are equipped with appropriate "liquid" or "vapor" identification labels.
- Furnished with a ⅜" O.D. stainless steel liquid withdrawal tube with a "T" dimension of 44".



8556



Materials

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

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Container Connection	Service Connection		Fixed Liquid Level Vent Valve Style	Liquid Withdrawal Tube Length
		Vapor	Liquid		
8556	¾" M. NGT	F. POL (CGA 510)	CGA 555	None	44"

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

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

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

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

DANGER LP-GAS IS EXTREMELY FLAMMABLE AND EXPLOSIVE KEEP CYLINDER OUT OF THE REACH OF CHILDREN **WARNING**

AVOID SERIOUS INJURY AND PROPERTY DAMAGE. IF YOU SEE, SMELL, OR HEAR THIS HISS OF ESCAPING GAS... IMMEDIATELY GET AWAY FROM THIS CYLINDER! CALL YOUR LOCAL FIRE DEPARTMENT! DO NOT ATTEMPT TO REPAIR. DO NOT USE OR STORE IN BUILDING OR ENCLOSED AREA. FOR OUTDOOR USE ONLY.

This container is filled with highly flammable LP-Gas under pressure. A serious fire or explosion can result from leaks and misuse or mishandling of the container and its valves. Do not move, hold or lift the container by any of its valves. Do not expose to fire or temperature above 120°F (49°C). Do not over fill.

This container incorporates a pressure relief valve. The pressure relief valve can expel a large jet of LP-Gas into the air if the container is (1) exposed to high temperatures over 120°F (49°C) or (2) overfilled and exposed to a temperature higher than the temperature at the time it was filled.

The pressure relief valve is equipped with a protective cover. The protective cover must remain in place at all times except when inspecting the valve. CAUTION... Use eye protection. If dust, dirt, moisture or other foreign material collect in the valve, it may not function properly to prevent container rupture or minimize product loss after opening.

Each time the container is filled, the pressure relief valve must be checked to ensure that it is completely unobstructed and that it has no physical damage. If there is any doubt about the condition of the valve, the container must be removed from service and the pressure relief valve must be replaced.

Only trained personnel should be permitted to fill this container. Before the container is filled for the first time, it must be purged of air. The total liquid volume of LP-Gas must never exceed the amount designated by applicable filling density regulations for this container.

Make sure the protective cap is in place on the ACME threaded filler valve at all times. Never insert a screwdriver or other tool into the valve as it can damage the seal or guide and cause an uncontrolled leak.

Do not allow any overfill. If the fixed liquid level gauge is used during filling, filling should stop the moment a white LP-Gas cloud is emitted from its bleed hole. Keep the vent close tightly at all other times. Each time the container is filled, it must be checked for leaks (with a leak detection solution...leaks cause bubbles to grow).

Do not disconnect or connect this container without first reading the instructions accompanying the vehicle or appliance with which this container is intended to be used. CAUTION... No smoking while connecting or disconnecting this container.

Make sure the service valve is shut of tightly before beginning to assemble or disassemble the coupling. Liquid LP-Gas may flow or leak from the coupling. This liquid can cause skin burns, frost bite and other serious injury in addition to those caused by fire and explosion. CAUTION... Wear proper skin and eye protection. Any gasket or o-ring in the coupling must be routinely checked for wear and replaced as required.

After connecting this coupling, make sure the connection is leak tight. Check for leaks with a leak detection solution (leaks cause bubbles to grow). If the connection leaks after tightening, close the service valve, disconnect the coupling and remove from service.

When not in use, keep the service shut-off valve closed. When in use, keep the service valve fully open. Keep this equipment out to the reach of children.

This container must be used only in compliance with all applicable laws and regulations, including National Fire Protection Association Publication #58, which is the law in many states. A copy of this publication may be obtained by writing NFPA, Batterymarch Park, Quincy, MA 02269.

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

ADDITIONAL SAFETY INFORMATION IS AVAILABLE FROM: REGO Elon, NC 27244 USA • www.regoproducts.com Phone (336) 449-7707 • Fax (336) 449-6594 Printed in U.S.A. 04-0414-0386 Warning 901-400

901-400

DANGER! LP-GAS IS EXTREMELY FLAMMABLE AND EXPLOSIVE KEEP CYLINDER OUT OF THE REACH OF CHILDREN **WARNING!**

AVOID SERIOUS INJURY AND PROPERTY DAMAGE. IF YOU SEE, SMELL, OR HEAR THIS HISS OF ESCAPING GAS... IMMEDIATELY GET AWAY FROM THIS CYLINDER! CALL YOUR LOCAL FIRE DEPARTMENT! DO NOT ATTEMPT TO REPAIR. DO NOT USE OR STORE IN BUILDING OR ENCLOSED AREA. FOR OUTDOOR USE ONLY.

This cylinder contains highly flammable LP-Gas under pressure. A serious fire or explosion can result from leaks and misuse or mishandling of the cylinder and its valve. **Do not carry, hold or lift the cylinder by its valve. Do not expose to fire or temperatures above 120°F (49°C).**

The Cylinder Valve incorporates a Shut-Off Valve and Pressure Relief Valve. The Pressure 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 exposed to a temperature higher than the temperature at the time it was filled.

Never attempt to fill this cylinder yourself. Do not tamper with it or attempt repairs.

Only trained LP-Gas Dealer personnel should be permitted to fill this cylinder and to repair or replace its valve. Each time the cylinder is filled, the entire Cylinder Valve must be checked for leaks (with a leak detection solution... leaks cause bubbles to grow). The Shut-Off Valve and Fixed Liquid Level Gauge (if incorporated) must be checked for proper operation. The Pressure Relief Valve must be checked to ensure that is it completely unobstructed and that it has no physical damage. **CAUTION**...eye protection must be worn when examining relief valve. The valve cannot be repaired. If it is destructed, the entire cylinder valve must be replaced.

The Shut-Off Valve may require periodic repair or replacement.

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.

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.

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, frostbite and other serious injuries in addition to those caused by fire or explosion.

When not in use: Close the Shut-Off Valve. Insert a protective plug (P.O.L. plug) into the Cylinder Valve outlet. (CAUTION...counterclockwise thread.) The P.O.L. plug must be inserted whenever the cylinder is stored, manually moved, or transported by vehicle.

WHEN MAKING CONNECTIONS TO AN APPLIANCE:

1. Do not use this cylinder without first reading the instructions accompanying the appliance with which this cylinder is intended to be used.
2. Before connecting the Cylinder Valve outlet connection to an appliance, make sure the connection does not contain dirt or debris. These may cause the connection to leak or may impair the functioning of the regulator, creating a hazardous condition.
3. When connecting the Cylinder Valve outlet to an appliance (CAUTION...counterclockwise thread), make sure the connection is tight. Check for leaks with a high quality leak detection solution (leaks cause bubbles to grow). If the connection leaks after tightening, close cylinder valve, disconnect it from the appliance, insert the P.O.L. plug and immediately return the cylinder, with the Cylinder Valve attached to your LP-Gas Dealer for examination.

This cylinder must be used only in compliance with all applicable laws and regulations, including National Fire Protection Association Publication #58, which is the law in many states. A copy of this Publication may be obtained by writing NFPA, Batterymarch Park, Quincy, MA 02269.

DO NOT REMOVE, DEFACE OR OBLITERATE THIS LABEL! DO NOT FILL THIS CYLINDER UNLESS THIS LABEL IS READABLE!

ADDITIONAL SAFETY INFORMATION IS AVAILABLE FROM: REGO Elon, NC 27244 USA • www.regoproducts.com Phone (336) 449-7707 • Fax (336) 449-6594 Printed in U.S.A. 06-0414-0384 Warning 903-400

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.

DANGER READ THIS FIRST **WARNING**

LP-GAS IS EXTREMELY FLAMMABLE AND EXPLOSIVE

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

Make sure you are thoroughly trained before you attempt any valve installation, maintenance or repair. Improper conditions or procedures can cause accidents resulting in property damage and personal injury.

Become thoroughly familiar with NPGA Safety Pamphlet 306 “LP-Gas Regulator and Valve Inspections & Maintenance” and RegO Safety Warnings “LP-Gas Cylinder Valves”, “LP-Gas Excess Flow Valves”, and “LP-Gas Filler and Hose End Filling Valves” found in the cylinder valve, excess flow valve, and filler valve sections of the L-500 & L-102 Catalogs. Follow their recommendations.

Know and understand NFPA Pamphlet 58 “Liquefied Petroleum Gas Code”, which is the law in many states. This publication is available from NFPA, Batterymarch Park, Quincy, MA 02269. Following its requirements is essential in the safe use of LP-Gas. Section 4.4 states: “Persons who transfer liquid LP-Gas, who are employed to transport LP-Gas, or whose primary duties fall within the scope of this code shall be trained in proper handling procedures. Refresher training shall be provided at least every three years and shall be documented.”

Make sure this valve is the proper one for this installation. Avoid misusing LP-Gas equipment.

Apply thread joint compound compatible with LP-Gas on valve external threads only. Make sure compound never comes into contact with other parts of the valve.

Install valves by applying force to wrenching flats only.

Tighten pipe threads approximately 1 to 1½ turns beyond the hand-tight insertion point using a wrench which avoids damage to other valve parts.

Check for damage and proper operation after valve installation. Check that the valve is clean and free of foreign material.

Check container-valve connection with a non-corrosive leak detection solution before filling with LP-Gas.

Purge container before filling with LP-Gas (refer to the RegO LP-Gas Serviceman’s Manual for recommended procedure).

Test excess flow check valve for proper operation before placing into service. See NPGA Bulletin 113 for recommended procedure.

Check outlet connection make-up for leaks with a non-corrosive leak detection solution when placing into service.

RegO Filler Valves: To prevent damage to the internal checks when it is necessary to utilize an unloading adapter, use ONLY RegO 3119A, 3120 and 3121 Unloading Adapters with RegO Filler Valves. Carefully follow the instructions supplied with these unloading adapters.

If container is not being placed into service at the present time, insert plug or cap onto the outlet connection.

In selecting a label for posting at the installation site, consider RegO part number 901-400 or 903-400 along with your own, NPGA’s and others.

Remember to instruct the owner/user/customer in safety matters concerning LP-Gas and this equipment. See RegO Safety Warnings “LP-Gas Cylinder Valves”, “LP-Gas Excess Flow Valves”, and “LP-Gas Filler and Hose End Filling Valves” found in the cylinder valve, excess flow valve, and filler valve sections of the L-500 & L-102 Catalogs.

RegO requests that this information be forwarded to your customers. Additional copies are available from RegO and your authorized RegO Distributor.

REGO Printed in USA 09A-0910-0686 Part number 903-500

Elon, N.C. 27244 U.S.A. Phone (336) 449-7707 Fax (336) 449-6594 www.regoproducts.com

903-500

B

Section C
Multivalve® Assemblies

C

Limited 10 Year Warranty and Limitation Of Liability

LIMITED 10 YEAR WARRANTY

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

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

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

LIMITATION OF LIABILITY

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

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

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

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

WARNING

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

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

NOTICE TO USERS OF PRODUCTS

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

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

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Foreword

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

RegO Multivalve® Assemblies

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 —

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

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 —

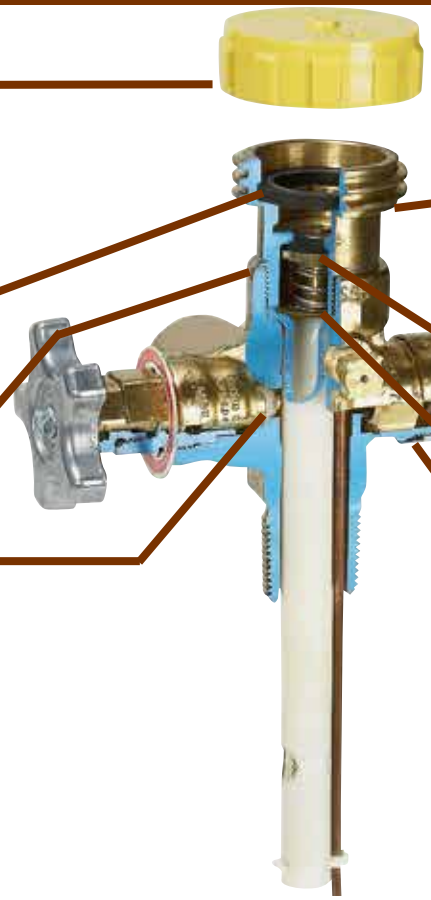
- Standardization of parts makes it possible for one repair kit to maintain the bonnet assemblies of RegO cylinder valves, service valves, motor fuel valves, and Multivalves®.

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.

C

Design Features of RegO Multivalves®



Seal Cap
Molded from tough, resilient plastic to protect threads and internal working parts. Designed to protect the filler opening against dirt and other foreign materials. Also acts as a secondary pressure seal.

Long Wearing Gasket
Permits leak-free, hand-tight connection of the hose coupling to the filler valve.

Forged Brass Body

MultiBonnet®
Designed to allow quick and easy repair of bonnet packings on Multivalves® on active propane systems.

UL Shear Point
Provides for a shear just below the ACME threads to protect the container in case of a pullaway while the hose is connected. The ACME connection should shear off on an angle pull, leaving the body and check assembly of the valve still in place.

Filler Seat Disc
Fabricated of special synthetic composition and made extra thick for longer life.

Valve Guide
A precision machined "stem" to ensure positive alignment

"Pop Action" Pressure Relief
Provides quick release of excess pressure. Relief seat disc is special resilient composition rubber designed to resist bonding to the valve seat even after years of service.

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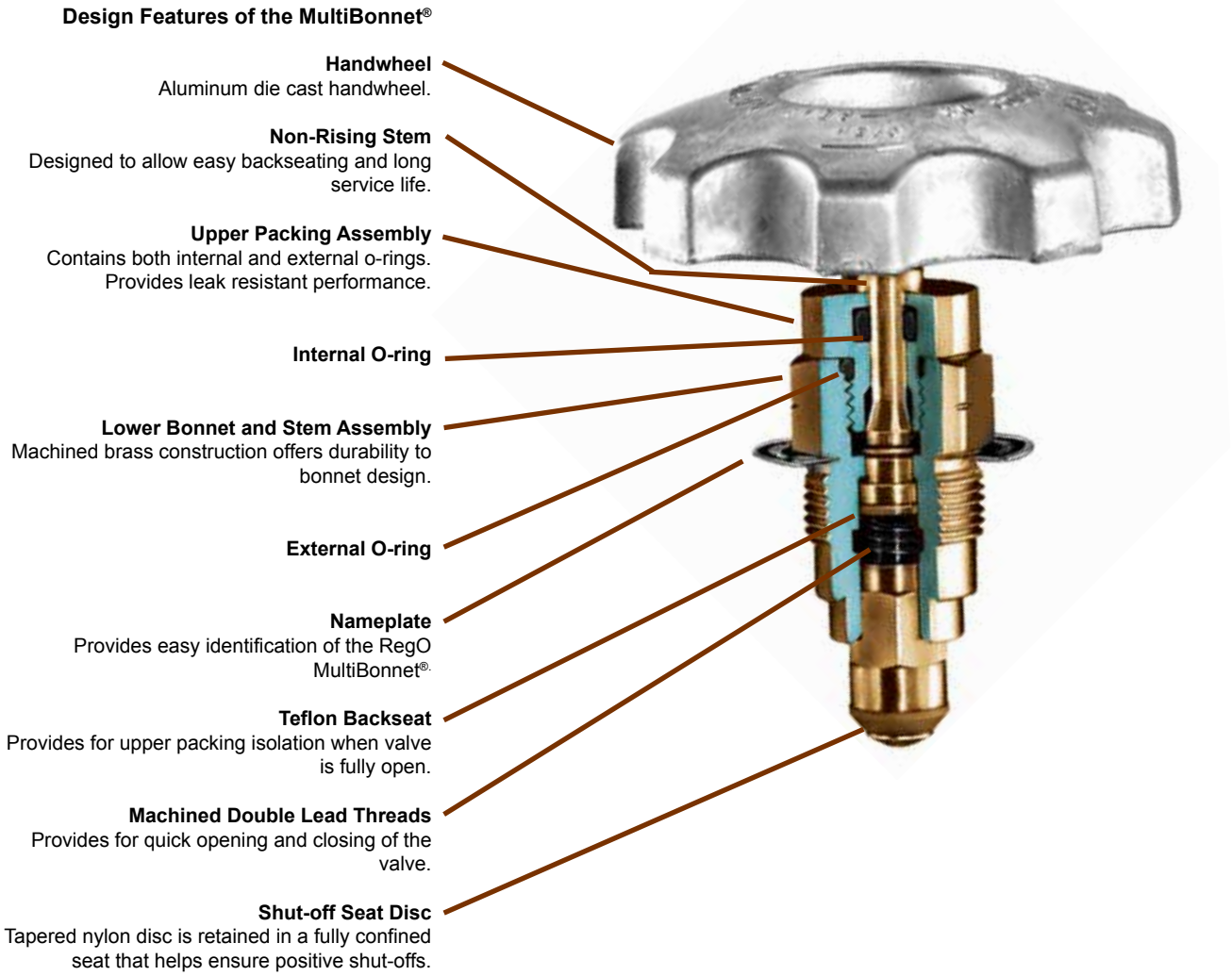
RegO Multibonnet® Assemblies



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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.

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

Features

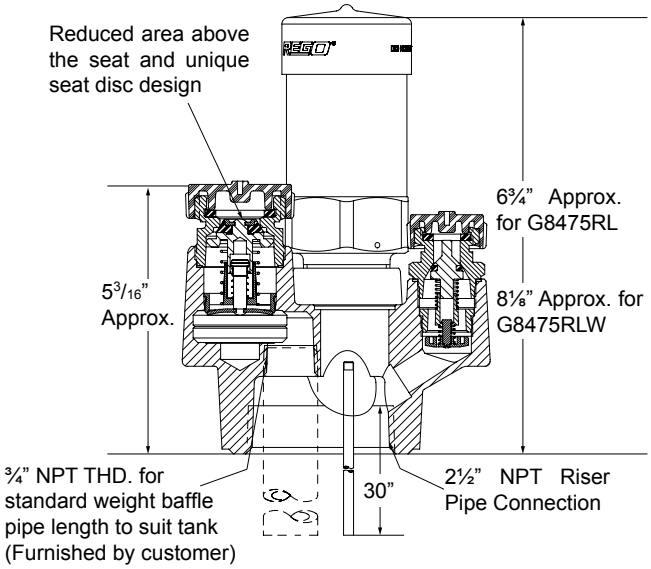
- The most complete Multivalve® assembly in the LP-Gas industry.
- Combines low emission double back check filler valve, vapor equalizing valve, pressure relief valve, service valve, fixed liquid level gauge, "junior" sized float gauge flange opening and a plugged pressure gauge opening.
- Double back check filler valve is low emission, 2.13cc at disconnection with no reduction in fill rates.
- **Designed for installation of a ⅛" 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 2½" M. NPT riser pipe connection and a ¾" F. NPT connection for a customer furnished liquid baffle tube.
- MultiBonnet® allows quick and easy repair of bonnet.

Materials

Body	Forged Brass
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

REGO 10 YEAR WARRANTY

PG8575RL



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

Ordering Information

Part Number	Container Connection	Service Connection	Filling Connection	Relief Valve Height	Vapor Equalizing Connection – Size	Vapor Equalizing Connection – UL Listed Closing Flow	Float Gauge Flange Opening	Fixed Liquid Level Vent Valve	Dip Tube Length	Pressure Relief Valve – Setting	Pressure Relief Valve – Part Number	Pressure Relief Valve – Flow Capacity – UL	Pressure Relief Valve – Flow Capacity – ASME	Ready To Go™
G8475RL	2½" F. NPT	F. POL (CGA 510)	1¾" M. ACME	6¾"	1¼" M. ACME	4200 CFH @ 100 PSIG	Fits "JUNIOR" size	Yes	30"*	250 PSIG	M3131G	2020 SCFM, air	1939 SCFM, air	Plugged
**DG8475RL														
PG8475RL														Yes
**DP8475RL														
*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.

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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

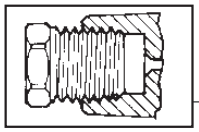
- Combines low emission double back check filler valve, vapor equalizing valve, service valve, fixed liquid level and a plugged pressure gauge opening.
- Double back check filler valve is low emission, 2.13cc at disconnection with no reduction in fill rates.
- Includes plugged, ¼" F. NPT gauge boss.
- "Y" shape configuration allows for ease of operation with all valves and gauges easily accessible at all times.
- Large 2 1/16" hex wrenching boss on center column provides ease of installation in tank coupling.
- MultiBonnet® allows quick and easy repair of bonnet.

8593AL

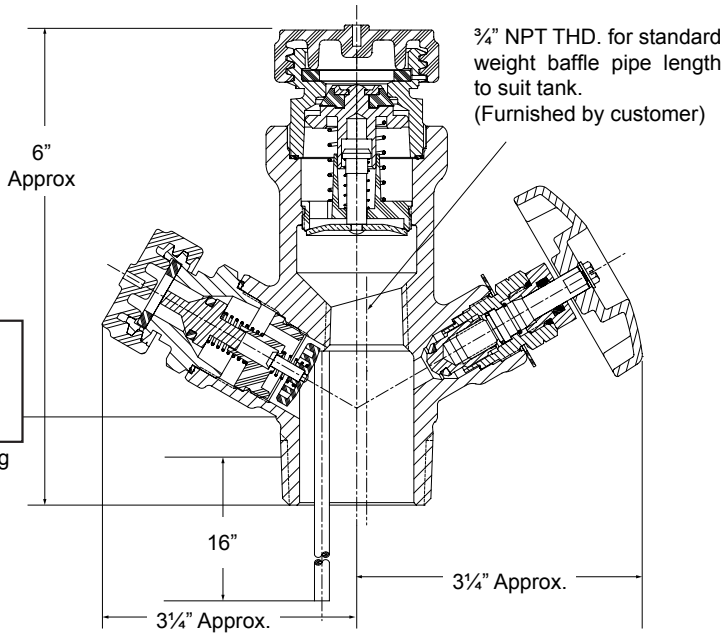
Materials

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

REGO 10 YEAR WARRANTY



¼ NPT steel plug installed



Liquid Filling Rates

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

Ordering Information

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

*Dip tube not installed, may be cut by customer to desired length.
**Since these Multivalves® have no integral pressure relief valves, they can be used on any ASME container with an independent relief device sufficient for that tank's capacity.

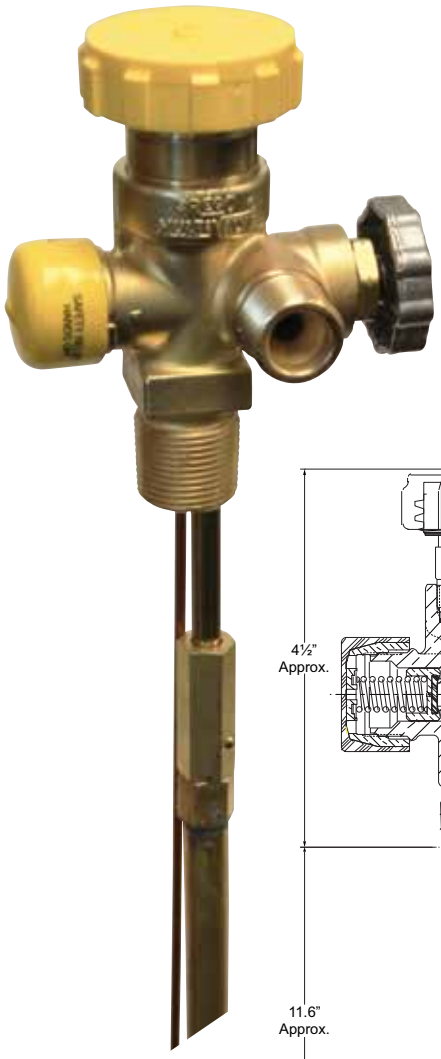
DOT Multivalve® for Liquid Withdrawal
8555DL

Application

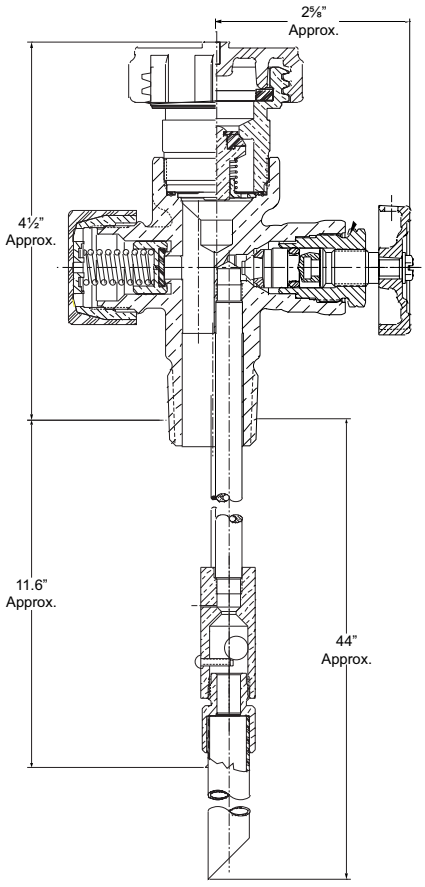
These Multivalves® permit liquid withdrawal from DOT cylinders with up to 100 lbs. propane capacity. They eliminate unnecessary cylinder handling when servicing high volume loads and allow on-site filling into the vapor space without interrupting gas service.

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, ½" 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.



8555DL



Materials

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

REGO 10 YEAR WARRANTY

Liquid Filling Rates

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

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	¾" M. NGT	CGA 555*	1¾" M. ACME	Knurled	11.6"	44"	375 PSIG	100 lbs. **	1.7 GPM

* Use adapter 12982 to connect to pipe threads.
** Per CGA Pamphlet S-1.1.
*** To ensure proper functioning and maximum protection from integral excess flow valves, the cylinder valve should be fully opened and backseated when in use.
****72 orifice low emission version is also available.

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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.

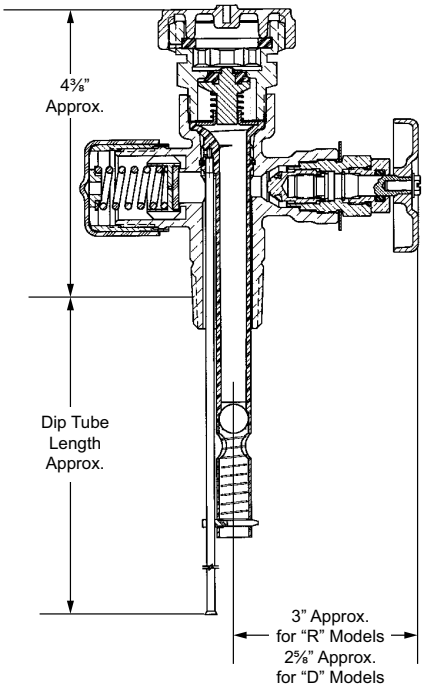
Features

- 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 easy, leak-free, positive shut-off.
- 1⅛" wrenching flats.
- The MultiBonnet® option allows quick and easy repair of bonnet.

8555R

Materials

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

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

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Bonnet Style	Application	For Use In Containers with Size Up To:	Dip Tube Length w/ Deflector	Container Connection	Service Connection	Filling Connection	Fixed Liquid Level Vent Valve	Pressure Relief Valve		
									Setting	Flow Capacity* UL Listing	Flow Capacity* ASME
**6555R10.6	MultiBonnet®	ASME Containers	25 ft² surface area or 60 gallons water capacity	10.6"	¾" M. NGT	F. POL (CGA 510)	1¾" M. ACME	Yes	250 PSIG	793 SCFM, air	700 SCFM, air
**6555R11.6	MultiBonnet®			11.6"							
**6555R12.0	MultiBonnet®			12.0"							
**8555D10.6	Standard	DOT Cylinders	200 lbs. Propane **	10.6"					375 PSIG	n/a	n/a
**8555R10.6	MultiBonnet®										
**8555D11.6	Standard			11.6"							
**8555R11.6	MultiBonnet®										

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

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

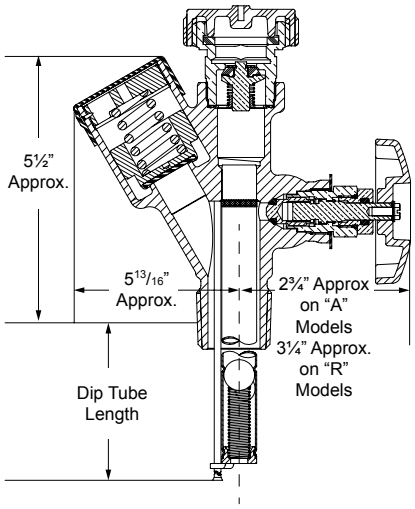
- Incorporates high capacity filler valve with double back checks, service valve, fixed liquid level gauge, pressure relief valve and built-in baffle tube into one compact unit.
- Higher filling capacity is combined with back check protection by placing the secondary back check at the bottom of the baffle tube, creating a larger flow area through the body.
- Pre-drilled hole in 1¼" 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 ¾" 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

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



PT6543R

REGO 10 YEAR WARRANTY

Liquid Filling Rates

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

Ordering Information

Part Number	Bonnet Style	Application	Container Connection	Service Connection	Filling Connection	Fixed Liquid Level Vent Valve Style	Dip Tube Length with Deflector	Pressure Relief Valve Setting	For Use In Cylinders w/Propane Capacity Up To:**	UL Flow Capacity @ 120% of set pressure SCFM (air)	Ready To Go™
6532A12.0	Standard	ASME*	¾" M. NGT	F. POL (CGA 510)	1¾" M. ACME	Knurled	12.0"	250 PSIG	-	1180	Plugged
6532R12.0	MultiBonnet®										
6542A12.0	Standard		1" M. NGT							1530	
PT6542A12.0											Yes
6542R12.0	MultiBonnet®										Plugged
PT6542R12.0											Yes
6533A10.5	Standard	DOT	¾" M. NGT				10.5"	375 PSIG	420 lbs. Propane	-	Plugged
6533R10.5	MultiBonnet®										
6533A11.7	Standard						11.7"				
6533R11.7	MultiBonnet®										
6543A11.1	Standard		1" M. NGT				11.1"				
PT6543A11.1											Yes
6543R11.1	MultiBonnet®										Plugged
PT6543R11.1											Yes
6543A11.7	Standard						11.7"				Plugged
PT6543A11.7											Yes
6543R11.7	MultiBonnet®										Plugged
PT6543R11.7											Yes

** Per CGA Pamphlet S-1.1.

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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 ⅛" 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..... Aluminum Die Cast
Valve Stems..... Brass
O-Rings ..... Resilient Rubber
Seat Disc (shut-off valve) ..... Nylon
Seat Disc (others)..... Resilient Rubber

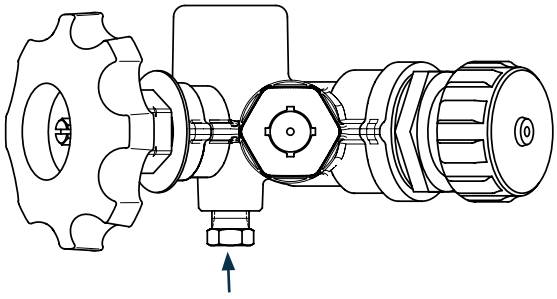
REGO 10 YEAR WARRANTY

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

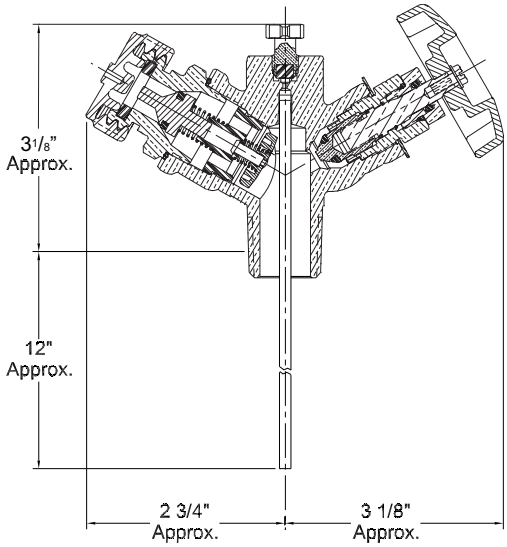
PT7556R

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 ⅛" FNPT pressure test port.



⅛" F.NPT Pressure Test Port is isolated from the container when the service valve is closed.



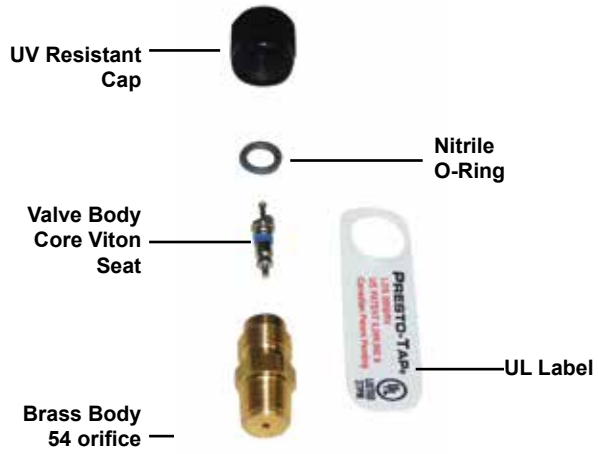
Ordering Information

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

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

DOT and ASME Multivalves® Info Page

Patented LDS200RV Design Features



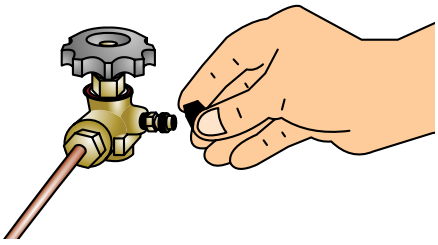
US Patent # 6,209,562

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.

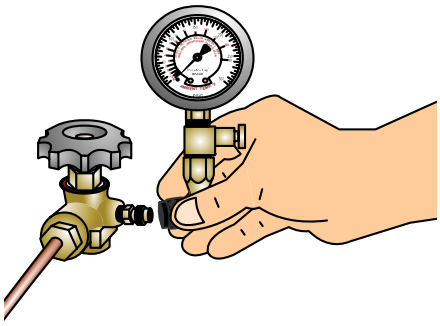
- Patented & UL Listed.
- Provides instant ROI after only one use.
- Will reduce fugitive emissions by up to 90%.
- Can be installed into valves, regulators & appliances.
- Eliminates the need to break the system to perform a leak test.

Presto-Tap System Leak Test Procedure

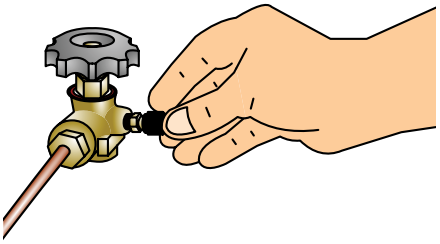
The Presto-Tap fitting installed into the test port located on the downstream side of the service valve is designed to allow quick and easy access when performing a system leak test. It eliminates the need to break the system to install expensive test block apparatus. The following PT9102R series service 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.



1
Remove Gas Tight Cap from pressure fitting.



2
Attach 300 LB Gauge to pressure fitting. Perform System Leak Test Per NFPA 58 - Your Company Policy.



3
Once the system has been leak tested successfully simply remove the 300 LB gauge and replace and snug the Gas Tight Cap.

PG8475RL Series

PT7556 Series

PT9102R Series

PT6543 Series
PT6542 Series

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.

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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

DANGER **READ THIS FIRST** **WARNING**

LP-GAS IS EXTREMELY FLAMMABLE AND EXPLOSIVE

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

Make sure you are thoroughly trained before you attempt any valve installation, maintenance or repair. Improper conditions or procedures can cause accidents resulting in property damage and personal injury.

Become thoroughly familiar with NPGA Safety Pamphlet 306 "LP-Gas Regulator and Valve Inspections & Maintenance" and RegO Safety Warnings "LP-Gas Cylinder Valves", "LP-Gas Excess Flow Valves", and "LP-Gas Filler and Hose End Filling Valves" found in the cylinder valve, excess flow valve, and filler valve sections of the L-500 & L-102 Catalogs. Follow their recommendations.

Know and understand NFPA Pamphlet 58 "Liquefied Petroleum Gas Code", which is the law in many states. This publication is available from NFPA, Batterymarch Park, Quincy, MA 02269. Following its requirements is essential in the safe use of LP-Gas. Section 4.4 states: "Persons who transfer liquid LP-Gas, who are employed to transport LP-Gas, or whose primary duties fall within the scope of this code shall be trained in proper handling procedures. Refresher training shall be provided at least every three years and shall be documented."

Make sure this valve is the proper one for this installation. Avoid misusing LP-Gas equipment.

Apply thread joint compound compatible with LP-Gas on valve external threads only. Make sure compound never comes into contact with other parts of the valve.

Install valves by applying force to wrenching flats only.

Tighten pipe threads approximately 1 to 1½ turns beyond the hand-tight insertion point using a wrench which avoids damage to other valve parts.

Check for damage and proper operation after valve installation. Check that the valve is clean and free of foreign material.

Check container-valve connection with a non-corrosive leak detection solution before filling with LP-Gas.

Purge container before filling with LP-Gas (refer to the RegO LP-Gas Serviceman's Manual for recommended procedure).

Test excess flow check valve for proper operation before placing into service. See NPGA Bulletin 113 for recommended procedure.

Check outlet connection make-up for leaks with a non-corrosive leak detection solution when placing into service.

RegO Filler Valves: To prevent damage to the internal checks when it is necessary to utilize an unloading adapter, use ONLY RegO 3119A, 3120 and 3121 Unloading Adapters with RegO Filler Valves. Carefully follow the instructions supplied with these unloading adapters.

If container is not being placed into service at the present time, insert plug or cap onto the outlet connection.

In selecting a label for posting at the installation site, consider RegO part number 901-400 or 903-400 along with your own, NPGA's and others.

Remember to instruct the owner/user/customer in safety matters concerning LP-Gas and this equipment. See RegO Safety Warnings "LP-Gas Cylinder Valves", "LP-Gas Excess Flow Valves", and "LP-Gas Filler and Hose End Filling Valves" found in the cylinder valve, excess flow valve, and filler valve sections of the L-500 & L-102 Catalogs.

RegO requests that this information be forwarded to your customers. Additional copies are available from RegO and your authorized RegO Distributor.

REGO

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Part number 903-500

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