L-500 Catalog
LP-Gas & Anhydrous Ammonia Equipment

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

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

1. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

2. Materials used for construction of products in this catalog are suitable for rated service pressure at temperatures of -40°F to +165°F, unless otherwise specified.

3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.
   a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no brass parts).
   b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service. These are of partial aluminum materials and are listed by Underwriters Laboratories (UL) for NH₃ service only.
   c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.
   d. SS” prefix—Hydrostatic relief valve with this prefix are suitable for NH₃ and LP-Gas service (i.e., they have stainless steel materials).

4. 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
- B — February
- C — March
- D — April
- E — May
- F — June
- G — July
- H — August
- I — September
- J — October
- K — November
- 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
- S — 1961
- T — 1962
- U — 1963
- V — 1964
- W — 1965
- X — 1966
- Y — 1967
- Z — 1968
- A — 1969
- B — 1970
- C — 1971
- D — 1972
- E — 1973
- F — 1974
- G — 1975
- H — 1976
- I — 1977
- J — 1978
- K — 1979
- L — 1980
- M — 1981
- N — 1982
- O — 1983
- P — 1984
- Q — 1985
- R — 1986
- S — 1987
- T — 1988
- U — 1989
- V — 1990
- W — 1991
- X — 1992
- Y — 1993
- Z — 1994
- A — 1995
- B — 1996
- C — 1997
- D — 1998
- E — 1999
- F — 2000
- G — 2001
- H — 2002
- I — 2003
- J — 2004
- K — 2005
- L — 2006
- M — 2007
- N — 2008
- O — 2009
- P — 2010
- Q — 2011
- R — 2012
- S — 2013
- T — 2014
- U — 2015
- V — 2016
- W — 2017
- X — 2018
- Y — 2019
- Z — 2020

EXAMPLE: DL = April of 1980

From 1985 to 1990 — Digit Date Code

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

Second 2 digits in date code are the year
- 86 — 1986
- 87 — 1987
- 88 — 1988
- 89 — 1989
- 90 — 1990
- 91 — 1991
- 92 — 1992
- 93 — 1993
- 94 — 1994
- 95 — 1995
- 96 — 1996
- 97 — 1997
- 99 — 1999

EXAMPLE: 5-87 = May of 1987

After 1990 — Digit-Letter-Digit Date Code

First digit in date code is the month
- 1 — January
- 2 — February
- 3 — March
- 4 — April
- 5 — May
- 6 — June
- 7 — July
- 8 — August
- 9 — September
- 10 — October
- 11 — November
- 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
- 92 — 1992
- 93 — 1993
- 94 — 1994
- 95 — 1995
- 96 — 1996
- 97 — 1997
- 99 — 1999

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 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 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.

Easy to Buy
Supported by the largest network of distributors worldwide.
Section 1
Application Illustrations
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.**

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Bulk Storage Plant Illustration
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Bobtail Delivery Truck Illustrations

Pressure Relief Valve (2) A8434G

Internal Valve
Single Flange A3217AR, A3217AL Series
Double Flange A3217DAR, A3217DAL Series
or Flomatic® A7883FK

Check Valve A3186

Pump

Internal Valve A3209D

Rotogage A9093TS A9094TS A9095TS

Globe Valve A7513AP

Check Valve A3176

Globe Valve A7509BP

Angle Valve A7506AP

Hydrostatic Relief Valve SS8021 Series

Globe Valve A7509BP

Hose End Valve
Filling Connector A7797A
Hose End Adapter 7577V 3179B 7576

Adapter 5765F

Excess Flow Valve 7574 3292

Globe Valve A7509BP
Emergency Shut Off Valves Illustration

Pull Away Coupling A2141A10
Angle Valve A7510BP

Vapor ESV A6010 with Rotary Actuator 6016RA

Pull Away Coupling A2141A16
Angle Valve A7514AP

Liquid ESV A6016 with Rotary Actuator 6016RA

Bulk Storage Tanks

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Domestic Installations Illustration

- Check Lok 7590U 7591U
- Multivalve PT7556R Series 7556R Series DPT Series
- Filler Valve L6579 *L7579 *SFL7579
- First Stage Regulator LV4403SR/TR Series LV3403TR
- Pressure Relief Valve 7583G 8684G 8685G
- Pigtail 913PS12 912PS12
- ASME Container

- Underground Multivalve PG8475RL Series G8475RL Series
- Twin Stage Regulator LV404B4 Series LV404B9 Series LV404B34 Series LV404B39 Series LV404Y Series

* Low Emissions  
** Bleeder
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Motor Fuel Illustrations

- Vent and Raincap
- Vent Valve with Dial
  - 3165CP
  - *3165DP
- Filler Valve *7647SC
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* Low Emission
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

ASME Vapor Multivalve
6532R/6542R

ASME Pressure Relief Valve
8544G Series

DOT

420 lbs.

ASME

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)

Liquid
9107K8A
*D9107K8A

Vapor
9103D
*D9103

Dual Purpose
8556

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

Liquid Multivalve
8555DL
*D8555DL

ASME
60 Gallons w.c.

DOT
100 lbs.

DOT
200 lbs.
Motor Fuel Illustrations

- Liquid Level Gauge
  - 3165CF
  - *3165D
  - *3165DF

- Filler Valve
  - *7647SC

- Forklift Cylinder

- Pressure Relief Valve
  - 8545AK
  - with Deflector
  - 7545-12/-14
  - and Rain Cap
  - 9103-54

- Cylinder Valve
  - 9101P5
  - 9101P5H

- Male Safety Connector
  - 7141M

- Female Safety Connector
  - 7141F

- Float Gauge

* Low Emission
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Recreational Illustrations

Automatic Changeover
7525B34 Series
7525B4 Series
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.

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Anhydrous Ammonia

- Pressure Gauge: A8400
- Safety Relief Valve: AA3130UA250, AA3130UA265
- Liquid Transfer Valve: A7551P, A7550P, A7550PX
- Hose End Valve: A7797A, A7708L with A7575L4, A7707L with A7575L4
- Liquid Withdrawal Valve: A8017D Series, A8012 Series
- Fixed Liquid Level Gauge: TSS3169
- Liquid Filler Valve: A8016DBC, A8016DP
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Section A
Regulators and Accessories
**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.
Foreword

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   - d. SS prefix—Hydrostatic relief valve with this prefix are suitable for NH3 and LP-Gas service (i.e., they have stainless steel materials).

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Caution

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

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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.

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.

<table>
<thead>
<tr>
<th>Type of System</th>
<th>Maximum Load</th>
<th>Suggested Regulator</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Stage in a Two Stage System</td>
<td>1,500,000</td>
<td>LV3403TR</td>
</tr>
<tr>
<td></td>
<td>2,500,000</td>
<td>LV4003SR Series</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LV4003TR Series</td>
</tr>
<tr>
<td></td>
<td>450,000</td>
<td>LV3403B Series</td>
</tr>
<tr>
<td></td>
<td>935,000</td>
<td>LV4403B Series</td>
</tr>
<tr>
<td></td>
<td>1,600,000</td>
<td>LV5503B4/B6</td>
</tr>
<tr>
<td></td>
<td>2,300,000</td>
<td>LV5503B8</td>
</tr>
<tr>
<td>Second Stage in a Two Stage System</td>
<td>1,000,000</td>
<td>LV4403Y4/Y46R</td>
</tr>
<tr>
<td></td>
<td>2,200,000</td>
<td>LV5503Y6/Y8</td>
</tr>
<tr>
<td>Second Stage in a 2 PSIG System</td>
<td>450,000</td>
<td>LV404B34/39 Series</td>
</tr>
<tr>
<td></td>
<td>525,000</td>
<td>LV404B4/B9 Series</td>
</tr>
<tr>
<td>Integral Twin Stage</td>
<td>800,000</td>
<td>LV404Y9</td>
</tr>
<tr>
<td></td>
<td>650,000</td>
<td>LV404Y39</td>
</tr>
<tr>
<td>Integral Twin Stage 2 PSIG Delivery</td>
<td>400,000</td>
<td>7525B34 Series</td>
</tr>
<tr>
<td></td>
<td>450,000</td>
<td>7525B4 Series</td>
</tr>
</tbody>
</table>

* 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 ratings (BTU or CFH) of all appliances in the installation. The total load is calculated by adding up the input ratings (BTU or CFH) of all appliances in the installation.

Example for a 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 LV4403TR Series, First Stage Regulator, shown below.

Example for a Second Stage Regulator

1. Find the line on the chart corresponding to the lowest anticipated winter tank pressure.
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.
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.

Section 4.4 Qualification of Personnel: "Persons whose duties fall within the scope of this code shall be
provided with training that is consistent with the scope of their job activities and that includes proper handling
and emergency response procedures... Refresher training shall be provided at least every 3 years, initial and
subsequent training shall be documented". These “RegO Safety Warnings” may be useful in training new
employees and reminding older employees of hazards that can occur. It is recommended that all employees
complete the Propane Education Research Council's Certified Employee Training Program.

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

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

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

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

Failure to fully follow these codes, regulations and
recommendations could result in hazardous installations.
Pamphlet 58 states “All regulators for outdoor installations, except
regulators used for portable industrial applications, shall be designed,
installed or protected so their operation will not be affected by
the elements (freezing rain, sleet, snow, ice, mud or debris). This
protection may be integral with the regulator.”

Failed and/or Inoperative Regulators
Failed regulators can cause three kinds of hazards:
• High pressure LP-Gas in a system downstream of the regulator; and
• Leaks of LP-Gas to atmosphere from the regulator itself.
• Loss of pressure due to a “freeze-up” in the orifice.

High Pressure LP-Gas in a System
Anything that prevents a regulator from regulating properly could
result in high pressure gas at the regulator outlet and thus in a
system.

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

The Causes of High Pressure Gas in a System are:
1. Regulator vents that are clogged or obstructed.
Vents must be clear and fully open at all times.
Many regulators are equipped with a pressure relief valve which
discharges to atmosphere through the vent. Ice, snow drifts, dirt,
bugs, paint, or other foreign material can clog the vents.
An obstructed vent may prevent the pressure relief valve from
operating properly.

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

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

2. Foreign material lodging between the regulator nozzle and
seat disc:
When this occurs, the regulator can remain open, allowing high
pressure gas into the system.
This material can come from system piping between the container shut-off valve and the regulator. Chips created during piping installation or dirty piping can create this hazard. Corrosion inside of copper pigtail 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 pigtail on new LP-Gas installations. Old pigtail 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.

5. Liquid propane in the regulator:

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

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

**Leaks of LP-Gas to Atmosphere**

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

These leaks can be caused by:

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

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

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

   If any corrosion is evident, replace the regulator.

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

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

Loss of Pressure

Freeze-up inside the regulator.

This will prevent the regulator from regulating properly.

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

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

Underground Installations

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

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

Refer to NPGA No. 401.

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.

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.
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.

Pressure at which liquid can form at various temperatures.

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

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

**Example 1**
Determine the sizes of piping or tubing required for the twin-stage LP-Gas installation shown.

Total piping length = 84 feet (use Table 3 @90 feet)
From a to b, demand = 103,000 BTU/hr; use ¾" pipe or ¾" tubing
From b to c, demand = 73,000 BTU/hr; use ½" pipe or ⅜" tubing
From c to d, demand = 35,000 BTU/hr; use ½" pipe or ⅜" 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, ⅜" 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 ½" pipe or ¼" tubing
From c to d, demand = 100,000 BTU/hr; use ¼" pipe or ⅛" tubing
From d to e, demand = 35,000 BTU/hr; use ½" pipe or ⅜" tubing
From b to f, demand = 200,000 BTU/hr; use ½" pipe
From c to g, demand = 38,000 BTU/hr; use ½" pipe or ¼" tubing
From d to h, demand = 65,000 BTU/hr; use ½" pipe or ⅜" tubing
Pipe and Tubing Selection Guide

Example 3
Determine the sizes of piping or tubing required for the 2 PSI LP-Gas installation shown.

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

From aa to a, demand= 338,000 BTU
use 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)

<table>
<thead>
<tr>
<th>Size of Pipe or Copper Tubing, Inches</th>
<th>Length of Pipe or Tubing in Feet*</th>
</tr>
</thead>
<tbody>
<tr>
<td>⅜</td>
<td>513 352 283 242 215 194 179 166 156 147 131 118 109 101 90 81 75 70</td>
</tr>
<tr>
<td>½</td>
<td>1,060 727 584 500 443 401 369 343 322 304 270 244 225 209 185 168 155 144</td>
</tr>
<tr>
<td>¾</td>
<td>2,150 1,480 1,190 1,020 901 816 751 699 655 614 594 549 497 456 426 377 342 314 292</td>
</tr>
<tr>
<td>1</td>
<td>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</td>
</tr>
</tbody>
</table>

Pipe Size

<table>
<thead>
<tr>
<th>Size of Plastic Tubing or Pipe</th>
<th>Length of Pipe or Tubing in Feet*</th>
</tr>
</thead>
<tbody>
<tr>
<td>⅜ T</td>
<td>7.00</td>
</tr>
<tr>
<td>½ T</td>
<td>9.33</td>
</tr>
<tr>
<td>¾ T</td>
<td>11.00</td>
</tr>
<tr>
<td>1 T</td>
<td>11.00</td>
</tr>
<tr>
<td>1 ½ T</td>
<td>11.00</td>
</tr>
<tr>
<td>2 T</td>
<td>11.00</td>
</tr>
</tbody>
</table>

* 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

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)

<table>
<thead>
<tr>
<th>Size of Plastic Tubing or Pipe</th>
<th>Length of Pipe or Tubing in Feet*</th>
</tr>
</thead>
<tbody>
<tr>
<td>⅜ T</td>
<td>7.00</td>
</tr>
<tr>
<td>½ T</td>
<td>9.33</td>
</tr>
<tr>
<td>¾ T</td>
<td>11.00</td>
</tr>
<tr>
<td>1 T</td>
<td>11.00</td>
</tr>
<tr>
<td>1 ½ T</td>
<td>11.00</td>
</tr>
<tr>
<td>2 T</td>
<td>11.00</td>
</tr>
</tbody>
</table>

* 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)

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

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### Pipe and Tubing Selection Guide

**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 (Between Second Stage (Low Pressure) Regulator and Appliance Shutoff Valve)

<table>
<thead>
<tr>
<th>Size</th>
<th>EDH** Flow Designation</th>
<th>Length of Tubing in Feet*</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼</td>
<td>13</td>
<td>72</td>
</tr>
<tr>
<td>½</td>
<td>13</td>
<td>99</td>
</tr>
<tr>
<td>⅝</td>
<td>13</td>
<td>211</td>
</tr>
<tr>
<td>¾</td>
<td>25</td>
<td>426,300</td>
</tr>
<tr>
<td>1</td>
<td>31</td>
<td>4,720</td>
</tr>
</tbody>
</table>

*Note: Table includes losses for the additional 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.

**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)

<table>
<thead>
<tr>
<th>Size</th>
<th>Pipe Size</th>
<th>Flow</th>
<th>Length of Pipe or Tubing in Feet*</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼</td>
<td>⅜ 608</td>
<td>32</td>
<td>45,210</td>
</tr>
<tr>
<td>½</td>
<td>⅜ 329</td>
<td>150</td>
<td>329,320</td>
</tr>
<tr>
<td>⅝</td>
<td>⅜ 291</td>
<td>100</td>
<td>291,200</td>
</tr>
<tr>
<td>¾</td>
<td>⅜ 229</td>
<td>135</td>
<td>229,182</td>
</tr>
<tr>
<td>1</td>
<td>⅜ 191</td>
<td>110</td>
<td>191,070</td>
</tr>
<tr>
<td>1¼</td>
<td>⅜ 1,150</td>
<td>45</td>
<td>1,150,761</td>
</tr>
<tr>
<td>1½</td>
<td>⅜ 2,250</td>
<td>110</td>
<td>2,250,130</td>
</tr>
</tbody>
</table>

**Table 5 - Maximum Capacity of CST**

11-in. Water Column and a Pressure Drop of 0.05-in. Water Column Drop (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)

<table>
<thead>
<tr>
<th>Size</th>
<th>Pipe Size</th>
<th>Flow</th>
<th>Length of Pipe or Tubing in Feet*</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼</td>
<td>⅜ 1,500</td>
<td>45</td>
<td>1,500,723</td>
</tr>
<tr>
<td>½</td>
<td>⅜ 3,000</td>
<td>90</td>
<td>3,000,144</td>
</tr>
<tr>
<td>⅝</td>
<td>⅜ 6,500</td>
<td>180</td>
<td>6,500,288</td>
</tr>
<tr>
<td>¾</td>
<td>⅜ 13,000</td>
<td>360</td>
<td>13,000,576</td>
</tr>
<tr>
<td>1</td>
<td>⅜ 26,000</td>
<td>720</td>
<td>26,000,115</td>
</tr>
</tbody>
</table>

**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)

<table>
<thead>
<tr>
<th>Size</th>
<th>Pipe Size</th>
<th>Flow</th>
<th>Length of Pipe or Tubing in Feet*</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼</td>
<td>⅜ 30,450</td>
<td>720</td>
<td>30,450,288</td>
</tr>
<tr>
<td>½</td>
<td>⅜ 60,900</td>
<td>1440</td>
<td>60,900,576</td>
</tr>
<tr>
<td>⅝</td>
<td>⅜ 121,800</td>
<td>2880</td>
<td>121,800,115</td>
</tr>
<tr>
<td>¾</td>
<td>⅜ 243,600</td>
<td>5760</td>
<td>243,600,230</td>
</tr>
<tr>
<td>1</td>
<td>⅜ 487,200</td>
<td>11,520</td>
<td>487,200,464</td>
</tr>
</tbody>
</table>

**Table 7 - Second Stage or Schedule 40 Pipe Sizing**

2 PSIG Inlet with a 0.5 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)

<table>
<thead>
<tr>
<th>Size</th>
<th>Pipe Size</th>
<th>Flow</th>
<th>Length of Pipe or Tubing in Feet*</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼</td>
<td>⅜ 20,000</td>
<td>400</td>
<td>20,000,210</td>
</tr>
<tr>
<td>½</td>
<td>⅜ 40,000</td>
<td>800</td>
<td>40,000,420</td>
</tr>
<tr>
<td>⅝</td>
<td>⅜ 80,000</td>
<td>1600</td>
<td>80,000,840</td>
</tr>
<tr>
<td>¾</td>
<td>⅜ 160,000</td>
<td>3200</td>
<td>160,000,168</td>
</tr>
<tr>
<td>1</td>
<td>⅜ 320,000</td>
<td>6400</td>
<td>320,000,336</td>
</tr>
</tbody>
</table>

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

Data Calculated per NFPA # 54 and NFPA # 58

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**Notes:**

1. Capacities shown in table can exceed maximum capacity for a selected regulator. Consult with regulator or tubing manufacturer for guidance.
2. DO NOT USE THIS TABLE.
3. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
4. Consult with regulator or tubing manufacturer for guidance.
5. Capacities shown in table can exceed maximum capacity for a selected regulator. Consult with regulator or tubing manufacturer for guidance.
6. DO NOT USE THIS TABLE.
7. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
8. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
9. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
10. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
11. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
12. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
13. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
14. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
15. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
16. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
17. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
18. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
19. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
20. Consult with regulator manufacturer for pressure drops and capacity factors. Pressure drops across a regulator may vary with flow rate.
RegO Regulator Designs

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

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 \( \frac{7}{16} \) NPT pressure gauge ports.

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

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

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

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

Molded Diaphragm Assembly
Molded synthetic rubber with a tough, flexible fabric gives a super sensitive response in a temperature range of -40°F 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 \( \frac{3}{4} \) 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.

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

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.

\( \frac{7}{16} \) pressure plug ports
Our \( \frac{7}{16} \) pressure plug ports conform to \( \frac{7}{16} \) hex wrenches.

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

Integral O-Ring
Minimizes tendency to vibrate or hum under extreme loads.
Compact First Stage Regulators
LV3403TR

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

Features
• Compact design can be connected to a service valve using either a POL adapter or a RegO product pigtail.
• Large threaded ¼” 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 ⅜” 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 ................................ Integrad Fabric and Synthetic Rubber

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr Propane*</th>
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<tbody>
<tr>
<td>LV3403TR</td>
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<td>Over Outlet</td>
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</table>

* Maximum flow based on inlet pressure 20 PSIG higher than the regulator setting and delivery pressure 20% lower than the regulator setting and delivery pressure 20% lower than the setting.
High Pressure First Stage Regulators
LV4403SR and TR Series

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

Features
• Incorporate integral relief valves for added system protection.
• Large vent helps prevent blockage and has 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 ¼” F.NPT outlet.
• Plug can be removed with a ¾” 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

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 ¼” F. NPT ¼” 5 1-5 Yes 2,500,000
LV4403TR4 ½” F. NPT ¼” F. NPT ½” 10 5-10
LV4403SR9 ½” F. NPT ¼” F. NPT ½” 10 5-10
LV4403TR9 ½” F. NPT ¼” F. NPT ½” 10 5-10
LV4403SR96 ¾” F.NPT ¼” F. NPT ⅛” 5 1-5
LV4403TR96 ¾” F.NPT ¼” F. NPT ⅛” 5 1-5

* 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 ½" F.NPT for vent piping.
- With 15 PSIG inlet pressure, regulator is designed to not pass more than 2 PSIG with the seat disc removed.
- Incorporates integral relief valves.
- Replaceable valve orifice and valve seat disc.
- Straight line valve closure reduces wear on seat disc.
- Unique bonnet vent profile minimizes vent freeze over when properly installed.
- Large molded diaphragm is extra sensitive to pressure changes.
- Built in pressure tap has plugged ½" F.NPT outlet. Plug can be removed with a ¾" 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

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure</th>
<th>Adjustment Range</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr. Propane*</th>
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<td>#28 Drill</td>
<td>11&quot; w.c. at 10 PSIG</td>
<td>9&quot; to 13&quot; w.c.</td>
<td>Over Inlet</td>
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</table>

* Backmount design
** Maximum flow based on 10 PSIG inlet and 9" w.c. delivery pressure.
New - Dielectric Second Stage Regulators
LV4403BD Series

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
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<th>Factory Delivery Pressure</th>
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<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr Propane</th>
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<td>Over Inlet</td>
<td>935,000</td>
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<td>9” to 13” w.c.</td>
<td>Over Inlet</td>
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<td>½&quot; F. NPT</td>
<td>Brass &amp; Plated Steel</td>
<td># 28 Drill</td>
<td>11” w.c. at 10 PSIG Inlet</td>
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<td># 28 Drill</td>
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<tr>
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<td>9” to 13” w.c.</td>
<td>Over Inlet</td>
<td>1,000,000</td>
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</tbody>
</table>

* 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 ¼" F.NPT outlet. Plug can be removed with a ⅜" 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

Ordering Information

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<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Delivery Pressure at 10 PSIG Inlet</th>
<th>Adjustment Range Inches w.c.</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr. Propane**</th>
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<td>12.5-19</td>
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</tbody>
</table>

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

** LV4403H Series
LV4403H

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 ¼" F.NPT outlet. Plug can be removed with a ⅜" 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

Ordering Information

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<th>Part Number</th>
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<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Delivery Pressure at 10 PSIG Inlet</th>
<th>Adjustment Range Inches w.c.</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr. Propane**</th>
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<td>⅜&quot; F.NPT</td>
<td>⅜&quot; F.NPT</td>
<td>14&quot; w.c.</td>
<td>12.5-19</td>
<td>Inlet</td>
<td></td>
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<tr>
<td>LV4403H4620</td>
<td>⅜&quot; F.NPT</td>
<td>⅜&quot; F.NPT</td>
<td>⅜&quot; F.NPT</td>
<td>20&quot; w.c.</td>
<td>15-35</td>
<td>Inlet</td>
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<tr>
<td>LV4403H6614</td>
<td>⅜&quot; F.NPT</td>
<td>⅜&quot; F.NPT</td>
<td>⅜&quot; F.NPT</td>
<td>14&quot; w.c.</td>
<td>12.5-19</td>
<td>Inlet</td>
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</table>

* Maximum flow based on 10 PSIG inlet 20% drop in delivery pressure (5/1/08)
New Compact “Back-Mount” Regulator
LV3403BR Series

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

Features
• Built in ¼” F.NPT pressure taps on both regulator inlet and outlet side of the regulator. Plugs can be removed with a ⅛” 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.

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure</th>
<th>Adjustment Range</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr *</th>
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</thead>
<tbody>
<tr>
<td>LV3403B44R</td>
<td>¼” F.NPT</td>
<td>⅜” F.NPT</td>
<td>7/32”</td>
<td>11” w.c. At 10 PSIG Inlet</td>
<td>9” to 13” w.c.</td>
<td>Over Inlet</td>
<td>450,000</td>
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<tr>
<td>LV3403B46R</td>
<td>⅜” F.NPT</td>
<td>⅛” F.NPT</td>
<td>⅛”</td>
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* 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.

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure</th>
<th>Adjustment Range</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr *</th>
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<td>LV3403B4</td>
<td>½” F.NPT</td>
<td>½” F.NPT</td>
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<td>9” to 13” w.c.</td>
<td>Inlet</td>
<td>450,000</td>
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</table>

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

?>
Low Pressure Second Stage Regulators
LV4403B66RA Series

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

Features
- 90 degree right angle inlet to outer connection for meter or standard installations.
- Large vent helps to prevent blockage and has 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 ¼” 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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure</th>
<th>Adjustment Range</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr. Propane*</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV4403B66RA</td>
<td>¾” F. NPT</td>
<td>¾” F. NPT</td>
<td>3/16”</td>
<td>11” w.c. at 10 PSIG Inlet</td>
<td>9” to 13” w.c.</td>
<td>Over Inlet</td>
<td>1,000,000</td>
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<tr>
<td>LV4403B66RAB**</td>
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* 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 plugged 1/8" 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

Application
LV5503B4, LV5503B6

Ordering Information

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<th>Part Number</th>
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<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure</th>
<th>Adjustment Range</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr. Propane</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV5503B4</td>
<td>½&quot; F. NPT</td>
<td>¾&quot; F. NPT</td>
<td>½&quot;</td>
<td>11&quot; w.c. at 10 PSIG Inlet</td>
<td>9&quot; - 13&quot; w.c.</td>
<td>Over Inlet</td>
<td>1,600,000</td>
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<tr>
<td>LV5503B6</td>
<td>¾&quot; F. NPT</td>
<td>1&quot; F. NPT</td>
<td>⅛&quot;</td>
<td></td>
<td></td>
<td></td>
<td>2,300,000</td>
</tr>
<tr>
<td>LV5503B8</td>
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</tbody>
</table>

Maximum flow is based on 10 PSIG inlet and 9" w.c. delivery pressure.
Low Pressure Second Stage Regulators - Special Settings
LV5503H Series

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

Features
- Incorporates integral relief valve.
- With 15 PSIG inlet pressure, regulator is designed to not pass 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 ¼” F.NPT outlet. Plug can be removed with a ¾” 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 .............................................. Die Cast Aluminum
Bonnet .............................................. Die Cast Aluminum
Nozzle Orifice .................................. Brass
Spring .................................................. Steel
Valve Seat Disc ................................. Resilient Rubber
Diaphragm ................................. Integrated Fabric and Synthetic Rubber

Ordering Information

<table>
<thead>
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<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure @10 PSIG Inlet</th>
<th>Adjustment Range Inches w.c.</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr.* Propane</th>
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<td>½” F. NPT</td>
<td>¾” F. NPT</td>
<td>¼”</td>
<td>14” w.c.</td>
<td>7-16</td>
<td>Inlet</td>
<td>1,600,000</td>
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<tr>
<td>LV5503H614</td>
<td>¼” F. NPT</td>
<td>¾” F. NPT</td>
<td>¼”</td>
<td>20” w.c.</td>
<td>11-28</td>
<td>Outlet</td>
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<tr>
<td>LV5503H620</td>
<td>¾” F. NPT</td>
<td>¼” F. NPT</td>
<td>¼”</td>
<td>40” w.c.</td>
<td>28-84</td>
<td>Outlet</td>
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<tr>
<td>LV5503H620V</td>
<td>1” F. NPT</td>
<td>¾” F. NPT</td>
<td>¼”</td>
<td>14” w.c.</td>
<td>7-16</td>
<td>Inlet</td>
<td>2,300,000</td>
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<tr>
<td>LV5503H640</td>
<td>1” F. NPT</td>
<td>¾” F. NPT</td>
<td>¼”</td>
<td>20” w.c.</td>
<td>11-28</td>
<td>Inlet</td>
<td></td>
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<tr>
<td>LV5503H814</td>
<td>1” F. NPT</td>
<td>¾” F. NPT</td>
<td>¼”</td>
<td>40” w.c.</td>
<td>28-84</td>
<td>Outlet</td>
<td></td>
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<td>LV5503H820</td>
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<td>¾” F. NPT</td>
<td>¼”</td>
<td>20” w.c.</td>
<td>11-28</td>
<td>Outlet</td>
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<td>LV5503H840</td>
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<td>¾” F. NPT</td>
<td>¼”</td>
<td>40” w.c.</td>
<td>28-84</td>
<td>Outlet</td>
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Maximum flow is based on 10 PSIG inlet 20% drop in delivery pressure (5/1/88)
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 reduces vent freeze over when properly installed.
- Large molded diaphragm is extra sensitive to pressure changes.
- Built in pressure tap has plugged ½” F.NPT outlet. Plug can be removed with a ¾” 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.

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Adjustment Range</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr. Propane***</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV4403Y4</td>
<td>½” F. NPT</td>
<td>½” F. NPT</td>
<td>¼”</td>
<td>2 PSIG @ 10 PSIG Inlet</td>
<td>Over Inlet</td>
<td>1,000,000</td>
</tr>
<tr>
<td>LV4403Y46R</td>
<td>½” F. NPT</td>
<td>¾” F. NPT</td>
<td>¼”</td>
<td>2 PSIG @ 10 PSIG Inlet</td>
<td>Over Inlet</td>
<td>1,000,000</td>
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<tr>
<td>LV5503Y6</td>
<td>¼” F. NPT</td>
<td>¾” F. NPT</td>
<td>¼”</td>
<td>2 PSIG @ 10 PSIG Inlet</td>
<td>Over Inlet</td>
<td>2,200,000</td>
</tr>
<tr>
<td>LV5503Y8</td>
<td>¾” F. NPT</td>
<td>1” F. NPT</td>
<td>9/32”</td>
<td>2 PSIG @ 10 PSIG Inlet</td>
<td>Over Inlet</td>
<td>2,200,000</td>
</tr>
</tbody>
</table>

Maximum flow is based on 10 PSIG inlet pressure and 1.5 PSIG delivery pressure.
Low Pressure Second Stage Tobacco Barn Regulator 
LV5503G4 Series

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

Features
- Similar to construction of the LV5503B Series. Provides the same stability, low lock-up, and sensitive performance.
- Equipped with integral relief valve.
- Built in pressure tap has plugged ¼" 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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure</th>
<th>Adjustment Range</th>
<th>Bonnet Vent Position</th>
<th>Vapor Capacity BTU/hr. Propane*</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV5503G4</td>
<td>½&quot; F. NPT</td>
<td>¾&quot; F. NPT</td>
<td>¼&quot;</td>
<td>15&quot; w.c. at 15 PSIG Inlet</td>
<td>8&quot; - 18&quot; w.c.</td>
<td>Above Inlet</td>
<td>1,750,000</td>
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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 ¼” F.NPT outlets. Plugs can be removed with a ¾” hex allen wrench.
- Select brown finish.

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

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 ¼” F.NPT outlets. Plugs can be removed with a ¾” hex allen wrench.
• Select brown finish.

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure</th>
<th>Adjustment Range 2nd Stage</th>
<th>Bonnet Vent Position 1st Stage</th>
<th>Bonnet Vent Position 2nd Stage</th>
<th>Capacity BTU/hr</th>
<th>Accessories</th>
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<tr>
<td>LV404B4</td>
<td>¼” F. NPT</td>
<td>½” F. NPT</td>
<td>¼” F. NPT</td>
<td>11” w.c. at 100 PSIG Inlet</td>
<td>9” - 13” w.c.</td>
<td>Down</td>
<td>Over Outlet</td>
<td>525,000</td>
<td>404PE</td>
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<td>½” F. NPT</td>
<td>¾” F. NPT</td>
<td>11” w.c. at 100 PSIG Inlet</td>
<td>9” - 13” w.c.</td>
<td>Down</td>
<td>Over Outlet</td>
<td>525,000</td>
<td>404PE</td>
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</tbody>
</table>

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

Maximum flow is based on 25 PSIG inlet pressure and 9” w.c. delivery pressure.
New Compact Twin Stage Regulators for LP-Gas
LV404B34 & LV404B39 Series

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

Features
• Large vent helps prevent vent blockage, the second stage regulator bonnet is tapped for 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 ¼” 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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure</th>
<th>Adjustment Range 2nd Stage</th>
<th>Bonnet Vent Position 1st stage</th>
<th>Bonnet Vent Position 2nd stage</th>
<th>Vapor Capacity BTU/hr *</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV404B34</td>
<td>¼” F.NPT</td>
<td>½” F.NPT</td>
<td>⅞”</td>
<td>11” w.c. @ 100 PSIG Inlet</td>
<td>9” to 13” w.c.</td>
<td>Rear</td>
<td>Outlet</td>
<td>450,000</td>
</tr>
<tr>
<td>LV404B39</td>
<td>F.POL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LV404B34V9</td>
<td>¼” F.NPT</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>LV404B39V9</td>
<td>F.POL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* 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.

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 Orifice .............................................. Brass
- Springs ................................................................. Steel
- Valve Seat Discs ......................................................... Resilient Rubber
- Diaphragms ............................................................. Integrated Fabric and Synthetic Rubber

Ordering Information

<table>
<thead>
<tr>
<th>Automatic Changeover Regulator</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Pigtails</th>
<th>Bracket</th>
<th>Capacity BTU/hr. Propane</th>
</tr>
</thead>
<tbody>
<tr>
<td>7525B34</td>
<td>¼” Inverted Flare</td>
<td>½” F. NPT</td>
<td>912FA20</td>
<td>2302-31</td>
<td>400,000</td>
</tr>
<tr>
<td>7525B34</td>
<td></td>
<td></td>
<td>912FS20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7525B4</td>
<td></td>
<td></td>
<td>912FA20</td>
<td>2503-22</td>
<td>450,000</td>
</tr>
<tr>
<td>7525B4</td>
<td></td>
<td></td>
<td>912FS20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Maximum flow is based on 25 PSIG inlet pressure and 9” w.c. delivery pressure.
Two PSIG Delivery Pressure Twin-Stage Regulators
LV404Y9 & Compact LV404Y39

Application
SPECIAL 2 PSIG DELIVERY pressure twin stage regulator is designed to reduce container pressure down to 2 PSIG. A line pressure regulator is required downstream to reduce the 2 PSIG to a nominal 11” w.c.

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Orifice Size</th>
<th>Factory Delivery Pressure (PSIG)</th>
<th>Adjustment Range (PSIG)</th>
<th>Bonnet Vent Position 1st Stage</th>
<th>2 PSIG Bonnet Vent Position</th>
<th>Capacity BTU/HR*</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV404Y9</td>
<td>F.POL (CGA 510)</td>
<td>1/4” F.NPT</td>
<td>7/16”</td>
<td>2</td>
<td>1.8 to 2.5</td>
<td>Down</td>
<td>Outlet</td>
<td>800,000</td>
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<tr>
<td>LV404Y39</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>650,000</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Kit Number</th>
<th>1st Stage Regulator Included</th>
<th>2nd Stage Regulator Included</th>
<th>Pigtails Included</th>
<th>Capacity BTU/hr. Propane</th>
</tr>
</thead>
<tbody>
<tr>
<td>5807</td>
<td>LV4403TR9 POL x ¼” NPT</td>
<td>LV4403B4 ¼” x ¼”</td>
<td>2503-22</td>
<td>913PS12 935,000</td>
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<tr>
<td>5808</td>
<td>LV4403B46R ¼” x ½”</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5820</td>
<td>LV4403TR96 POL x ¼” NPT</td>
<td>LV4403B66R ¼” x ¼”</td>
<td>Not Required</td>
<td></td>
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</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Kit Number</th>
<th>Twin Stage Regulator Included</th>
<th>Inlet x Outlet</th>
<th>Pigtails Included</th>
<th>Capacity BTU/hr. Propane</th>
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</thead>
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<tr>
<td>5828</td>
<td>LV404B4</td>
<td>¼” F. NPT</td>
<td>912JS12</td>
<td>525,000</td>
</tr>
<tr>
<td>5832</td>
<td>LV404B34V9</td>
<td>½” x ¾”</td>
<td></td>
<td>450,000</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Kit Number</th>
<th>Automatic Changeover Regulator Included</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Pigtails Included</th>
<th>Bracket Included</th>
<th>Capacity BTU/hr. Propane</th>
</tr>
</thead>
<tbody>
<tr>
<td>5726B34</td>
<td>7525B34</td>
<td>¼” Inverted Flare</td>
<td>½” F. NPT</td>
<td>912FA20</td>
<td>2302-31</td>
<td>400,000</td>
</tr>
<tr>
<td>5727B34</td>
<td>7525B34</td>
<td></td>
<td></td>
<td>912FS20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5754B4</td>
<td>7525B4</td>
<td></td>
<td></td>
<td>912FA20</td>
<td>2503-22</td>
<td>450,000</td>
</tr>
<tr>
<td>5755B4</td>
<td>7525B4</td>
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<td></td>
<td>912FS20</td>
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</tbody>
</table>
Compact Regulators
302 Series

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

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

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

Ordering Information

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

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

<table>
<thead>
<tr>
<th></th>
<th>Body</th>
<th>Bonnet</th>
<th>Springs</th>
<th>Valve Seat Discs</th>
<th>Diaphragms</th>
<th>Adjusting Screw</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Zinc</td>
<td>Zinc</td>
<td>Steel</td>
<td>Resilient Rubber</td>
<td>Integrated Fabric and Synthetic Rubber</td>
<td>Brass</td>
</tr>
</tbody>
</table>

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Adjustment Method</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Recommended Delivery Pressure Range (PSIG)</th>
<th>Capacity Determined at Set Pressure of PSIG*</th>
<th>Capacity BTU/hr. Propane**</th>
</tr>
</thead>
<tbody>
<tr>
<td>597FA</td>
<td>Tee Handle</td>
<td>¼” NPT</td>
<td>¼” NPT</td>
<td>1-15</td>
<td>10</td>
<td>1,750,000</td>
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<tr>
<td>597FB</td>
<td></td>
<td></td>
<td></td>
<td>10-30</td>
<td>20</td>
<td>3,000,000</td>
</tr>
<tr>
<td>597FC</td>
<td></td>
<td></td>
<td></td>
<td>20-45</td>
<td>30</td>
<td>3,500,000</td>
</tr>
<tr>
<td>597FD</td>
<td></td>
<td></td>
<td></td>
<td>40-100</td>
<td>40</td>
<td>4,500,000</td>
</tr>
</tbody>
</table>

* 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.
### 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

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Service</th>
<th>Adjustment Method</th>
<th>Inlet &amp; Outlet Connections</th>
<th>Recommended Delivery Pressure Range (PSIG)</th>
<th>A Width</th>
<th>B Height (max.)</th>
<th>Capacity Determined at Set Pressure of PSIG</th>
<th>Capacity**</th>
</tr>
</thead>
<tbody>
<tr>
<td>1584VN</td>
<td>LP-Gas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20 7,000,000 BTU/hr. LPG</td>
<td></td>
</tr>
<tr>
<td>1584VL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30 10,000,000 BTU/hr. LPG</td>
<td></td>
</tr>
<tr>
<td>1584VH</td>
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<td></td>
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<td></td>
<td></td>
<td>60 10,000,000 BTU/hr. LPG</td>
<td></td>
</tr>
<tr>
<td>AA1584VW</td>
<td>NH₃</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>20 4,500 CFH NH₃</td>
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</tr>
<tr>
<td>AA1584VL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>30 4,800 CFH NH₃</td>
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<td>AA1584VH</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>60 5,100 CFH NH₃</td>
<td></td>
</tr>
<tr>
<td>1586VN</td>
<td>LP-Gas</td>
<td>Tee Handle</td>
<td>½” F. NPT</td>
<td></td>
<td>3-30</td>
<td>2½”</td>
<td>20 7,500,000 BTU/hr. LPG</td>
<td></td>
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<tr>
<td>1586VL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25-50</td>
<td></td>
<td>30 14,000,000 BTU/hr. LPG</td>
<td></td>
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<tr>
<td>1586VH</td>
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<td>45-125</td>
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<td>AA1586VW</td>
<td>NH₃</td>
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<td>3-25</td>
<td>7”</td>
<td>20 7,700 CFH NH₃</td>
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<tr>
<td>AA1586VL</td>
<td></td>
<td></td>
<td></td>
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<td>20-50</td>
<td></td>
<td>30 8,900 CFH NH₃</td>
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</tr>
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<td>AA1586VH</td>
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<td>45-125</td>
<td></td>
<td>60 14,000,000 BTU/hr. LPG</td>
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</tr>
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<td>LP-Gas</td>
<td></td>
<td>1” F. NPT</td>
<td></td>
<td>3-30</td>
<td></td>
<td>20 7,500,000 BTU/hr. LPG</td>
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<tr>
<td>1588VL</td>
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<td>30 14,000,000 BTU/hr. LPG</td>
<td></td>
</tr>
<tr>
<td>1588VH</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>45-125</td>
<td></td>
<td>60 14,000,000 BTU/hr. LPG</td>
<td></td>
</tr>
</tbody>
</table>

* 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. NH₃ 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 / High Temperature Industrial / Commercial Pounds-to-Pounds Regulators X1584V, X1586V, and X1588V Series

**Application**

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

**Features**

- Special diaphragm and seat materials are suitable for up to 300°F temperatures.
- Large nozzle and straight through flow provides high capacity and resistance to freeze ups.
- Suitable for both liquid and vapor service.
- Can be fitted with high pressure gauge in ¼” F. NPT port. RegO recommends that these gauges use silver braze rather than soft solder construction.

**Materials**

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

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Service</th>
<th>Adjustment Method</th>
<th>A</th>
<th>B</th>
<th>Inlet &amp; Outlet Connections</th>
<th>Recommended Delivery Pressure Range (PSIG)</th>
<th>Capacity Determined at Set Pressure of PSIG</th>
<th>Capacity BTU/hr. Propane**</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1584VN</td>
<td>LP-Gas</td>
<td>Tee Handle</td>
<td>2⅞”</td>
<td>8⅞”</td>
<td>½” F. NPT</td>
<td>3-30</td>
<td>20</td>
<td>7,000,000</td>
</tr>
<tr>
<td>X1584VL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25-50</td>
<td>30</td>
<td>10,000,000</td>
</tr>
<tr>
<td>X1586VN</td>
<td></td>
<td></td>
<td>3⅞”</td>
<td>6⅞”</td>
<td>½” F. NPT</td>
<td>3-30</td>
<td>20</td>
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<tr>
<td>X1586VL</td>
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<td>25-50</td>
<td>30</td>
<td>14,000,000</td>
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<tr>
<td>X1588VN</td>
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<td></td>
<td>1”</td>
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<td>1” F. NPT</td>
<td>3-30</td>
<td>20</td>
<td>7,500,000</td>
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<tr>
<td>X1588VL</td>
<td></td>
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<td>25-50</td>
<td>30</td>
<td>14,000,000</td>
</tr>
</tbody>
</table>

* 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.

**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.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Set Pressure</th>
<th>Regulator Settings</th>
<th>Connection Size</th>
<th>Height</th>
<th>Width</th>
<th>Flow Capacity at 120% of Set Pressure (SCFH Propane)</th>
<th>Pipe Away Adapter</th>
</tr>
</thead>
<tbody>
<tr>
<td>3139-18</td>
<td>18 PSIG</td>
<td>10 PSIG</td>
<td>½” M. NPT</td>
<td>2</td>
<td>1 1/16”</td>
<td>1357*</td>
<td>3139-18</td>
</tr>
<tr>
<td>3139-26</td>
<td>26 PSIG</td>
<td>15 PSIG</td>
<td>¼” M. NPT</td>
<td>27/32”</td>
<td></td>
<td>1725**</td>
<td>3139-26</td>
</tr>
<tr>
<td>3139-38</td>
<td>38 PSIG</td>
<td>20 PSIG</td>
<td>⅜” M. NPT</td>
<td></td>
<td></td>
<td>2304***</td>
<td>3139-38</td>
</tr>
</tbody>
</table>

* 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

Straight Pigtails Ordering Information

<table>
<thead>
<tr>
<th>Connections</th>
<th>Approximate Length</th>
<th>⅛&quot; Tube</th>
<th>⅜&quot; Hex Short Nipple</th>
<th>¼&quot; Hex Long Nipple</th>
<th>⅜&quot; Hex Short Nipple</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.POL x M.POL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5&quot;</td>
<td>913JS05</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>12&quot;</td>
<td>912PS12</td>
<td>-</td>
<td>912PS20</td>
<td>913PS30</td>
<td></td>
</tr>
<tr>
<td>20&quot;</td>
<td>912PS30</td>
<td>-</td>
<td>912PS36</td>
<td>913PS36</td>
<td></td>
</tr>
<tr>
<td>30&quot;</td>
<td>912PS36</td>
<td>-</td>
<td>912PS48</td>
<td>913PS48</td>
<td></td>
</tr>
<tr>
<td>36&quot;</td>
<td>912FS12</td>
<td>-</td>
<td>912FS20</td>
<td>912FS30</td>
<td></td>
</tr>
<tr>
<td>48&quot;</td>
<td>912FS30</td>
<td>-</td>
<td>912FS48</td>
<td>913PS05</td>
<td></td>
</tr>
<tr>
<td>½&quot; Inverted Flare x M.POL</td>
<td>5&quot;</td>
<td>-</td>
<td>912JS05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12&quot;</td>
<td>912JS12</td>
<td>-</td>
<td>912JS20</td>
<td>912JS36</td>
<td></td>
</tr>
<tr>
<td>20&quot;</td>
<td>912JS20</td>
<td>-</td>
<td>912JS36</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>30&quot;</td>
<td>912JS36</td>
<td>-</td>
<td>912JS48</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>½&quot; M.NPT x M.POL</td>
<td>12&quot;</td>
<td>-</td>
<td>913JS05</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913JS05A</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913JS05A</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913PS12G</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913PS12H</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913PS12S</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913PS12G</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913PS12H</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913PS12S</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913PS12G</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913PS12H</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
<tr>
<td>90°</td>
<td>913PS12S</td>
<td>-</td>
<td>913PS12</td>
<td>913PS05A</td>
<td></td>
</tr>
</tbody>
</table>

Bent Pigtails Ordering Information

<table>
<thead>
<tr>
<th>Connections</th>
<th>Part Number</th>
<th>Approximate Length</th>
<th>⅛&quot; Tube</th>
<th>⅜&quot; Hex Short Nipple</th>
<th>Type/Degree of Bend</th>
</tr>
</thead>
<tbody>
<tr>
<td>⅛&quot; M. NPT x M. POL</td>
<td>5&quot;</td>
<td>913JS05A</td>
<td>90°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M. POL x M. POL</td>
<td>913PS05A</td>
<td>90°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>913PS12G</td>
<td>270° Right Hand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>913PS12H</td>
<td>270° Left Hand</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>913PS12S</td>
<td>360°</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dielectric Pigtails

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Approximate Length</th>
<th>Tube</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>970</td>
<td>Hard nose POL with wrench nut.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>970AX</td>
<td>Hard nose POL with wrench nut and excess flow.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>970AXS</td>
<td>Soft nose POL with wrench nut and excess flow.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>970WXS</td>
<td>Soft nose POL with Handwheel.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3199W</td>
<td>Heavy duty hard nose POL with wrench nut and excess flow.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>970AW</td>
<td>Soft nose POL with Handwheel.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>970HT</td>
<td>Soft nose POL with Handwheel and 60 DMS orifice.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>970S</td>
<td>Soft nose POL with wrench nut and 60 DMS orifice.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Inlet Fittings

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>970</td>
<td>Hard nose POL with wrench nut.</td>
</tr>
<tr>
<td>970AX</td>
<td>Hard nose POL with wrench nut and excess flow.</td>
</tr>
<tr>
<td>970AXS</td>
<td>Soft nose POL with wrench nut and excess flow.</td>
</tr>
<tr>
<td>970WXS</td>
<td>Soft nose POL with Handwheel.</td>
</tr>
<tr>
<td>3199W</td>
<td>Heavy duty hard nose POL with wrench nut and excess flow.</td>
</tr>
<tr>
<td>970AW</td>
<td>Soft nose POL with Handwheel.</td>
</tr>
<tr>
<td>970HT</td>
<td>Soft nose POL with Handwheel and 60 DMS orifice.</td>
</tr>
<tr>
<td>970S</td>
<td>Soft nose POL with wrench nut and 60 DMS orifice.</td>
</tr>
</tbody>
</table>
RegO Brackets are especially designed for use in installing RegO Regulators in applications requiring the use of a bracket.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>For Use With Regulator Model:</th>
</tr>
</thead>
<tbody>
<tr>
<td>2302-31</td>
<td>Cadmium Plated</td>
<td>LV3403, LV404B34, LV404B39</td>
</tr>
<tr>
<td>2503-22</td>
<td>Aluminum</td>
<td>LV404B4, LV404B9 Series, LV5503 Series, LV4403 Series</td>
</tr>
</tbody>
</table>

**Manifolds**

**Tee Check Manifolds**

**1350R and 1450R**

**Application**

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

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

**Features**

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

**Materials**

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connections</th>
<th>Outlet Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1350R</td>
<td>F. POL</td>
<td>M. POL</td>
</tr>
<tr>
<td>1450R</td>
<td>¼&quot; Inverted Flare</td>
<td>⅜&quot; M. NPT</td>
</tr>
</tbody>
</table>

**Multiple Cylinder Manifolds**

**1350E and 1450E**

**Application**

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

**Features**

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

**Materials**

Body ................................................................. Forged Brass

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connections</th>
<th>Outlet Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1350E</td>
<td>F. POL</td>
<td>M. POL</td>
</tr>
<tr>
<td>1450E</td>
<td>¼&quot; Inverted Flare</td>
<td>⅜&quot; M. NPT</td>
</tr>
</tbody>
</table>
Adjustable Flexible Vent Kit

### Test Kits

#### Low Pressure Test Set

**2434A Series**

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Contents</th>
<th>Adapters</th>
<th>Adapter size</th>
</tr>
</thead>
<tbody>
<tr>
<td>2434A</td>
<td>Test Kit</td>
<td>1328</td>
<td>¾&quot; OD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1331</td>
<td>⅝&quot; OD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1332</td>
<td>¾&quot; OD</td>
</tr>
</tbody>
</table>

#### Water Manometer Kit

**1212 Kit**

**Application**

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

**Features**

- Flexible tube rolls up for convenient storage with accessories in compact carry case.
- Magnetic clips allow easy attachment to metal surfaces.
- 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, ¾" rubber tube.
1—Rubber tubing adapter and ½" spud.
These adhesive warning labels are intended for application as close as possible to the LP-Gas regulator once the regulator has been installed.

### Accessories

#### High Pressure Gauge Adapter

**2962**

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Pressure Gauge Range (PSIG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2962</td>
<td>Soft Nose M. POL</td>
<td>F. POL</td>
<td>0 - 300</td>
</tr>
</tbody>
</table>

#### Adhesive Warning Labels

In addition to the LP-Gas regulator and valve equipment, RegO recommends the use of the following accessories to enhance safety:

- **Adhesive Warning Labels**

These labels are designed to be affixed to the LP-Gas regulator once it has been installed, providing important safety information.

---

**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.
Section B
Cylinder and Service Valves
LIMITED 10 YEAR WARRANTY

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

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

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

LIMITATION OF LIABILITY

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

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

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

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

WARNING

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

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

NOTICE TO USERS OF PRODUCTS

The Limited Warranty stated above is a factory warranty to the first purchasers of RegO products. Since most users have purchased these products from RegO distributors, the user must within thirty (30) days after the user’s discovery of what user believes is a defect, notify in writing and return the product to the distributor from whom he purchased the product/part. The distributor may or may not at the distributor’s option choose to submit the product/part 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 (NH₃). The following points are important to know for proper use of the catalog:

1. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

2. Materials used for construction of products in this catalog are suitable for rated service pressure at temperatures of -40°F to +165°F, unless otherwise specified.

3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.

   a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no brass parts).

   b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service. These are of partial aluminum materials and are listed by Underwriters Laboratories (UL) for NH₃ service only.

   c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.

   d. SS” prefix—Hydrostatic relief valve with this prefix are suitable for NH₃ and LP-Gas service (i.e., they have stainless steel materials).

4. 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.

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.

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.

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.

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
LP-Gas Cylinder and Service Valves

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.

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.

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.
Thread Specifications

Cylinder Valve Threads

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 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 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 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.

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.

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.
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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Fixed Liquid Level Valve</th>
<th>Dip Tube Length w/ Deflector</th>
<th>Pressure Relief Valve Setting</th>
<th>For Use in Cylinders w/Propane Capacity Up To</th>
<th>Approximate Filling Rate Liquid Flow, GPM</th>
<th>Accessories</th>
<th>Pressure Drop Across Valves</th>
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<tbody>
<tr>
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<td>100 lbs.</td>
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</tr>
</tbody>
</table>

* 72 Orifice low emission version is also available.
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.

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

NOTES: 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.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Fixed Liquid Level Vent Valve Style</th>
<th>Pressure Relief Valve Setting</th>
<th>For Use in Cylinders w/ Propane Capacity Up To:</th>
<th>Approximate Filling Rate Liquid Flow, GPM</th>
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</thead>
<tbody>
<tr>
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<td>Approximately Filling Rate Liquid Flow, GPM</td>
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<td>100 lbs.</td>
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</table>

NOTE: These valves incorporate an excess flow valve. Refer to L-500/Section F for complete information regarding selection, operation and testing of excess flow valves.
Cylinder Valve for RV and Small ASME System Vapor Withdrawal
9106CO

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

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

Materials
Body ................................................................. Forged Brass
Handwheel....................................................... Aluminum Die Cast
Stem .................................................................... Brass
Seat Disc .......................................................... Nylon
Relief Spring ..................................................... Stainless Steel

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Fixed Liquid Level Vent Valve Style</th>
<th>Pressure Relief Valve Setting</th>
<th>For Use In Cylinders w/ Propane Capacity Up To</th>
<th>Flow Capacity SCFM/ Air</th>
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<td>312 PSIG</td>
<td>ASME Tanks*</td>
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</table>

* 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

Ordering Information

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<th>Liquid Withdrawal Tube Length</th>
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<td>44”</td>
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</table>

* 72 Orifice low emission version is also available.

Pressure Relief Valve Setting
For Use in Cylinders w/Propane Capacity Up To:

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<thead>
<tr>
<th>Pressure Relief Valve Setting</th>
<th>For Use in Cylinders w/Propane Capacity Up To:</th>
<th>Approximate Filling Rate Liquid Flow, GPM</th>
<th>Closing Flow (LP-Gas) *</th>
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</thead>
<tbody>
<tr>
<td></td>
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<td>Pressure Drop Across Valves</td>
<td>Vapor</td>
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<td>25 PSIG</td>
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<td>375 PSI G</td>
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</table>

*Closing flows based on ½” O.D. withdrawal tube 44” long or less attached.

IMPORTANT: ½” O.D. pigtail or POL connections for ½” O.D. pigtail should not be used with these valves.

NOTES: To ensure proper functioning and maximum protection from excess flow valves, the cylinder valve should be fully opened and backseated when in use. These valves incorporate an excess flow valve. Refer to L-500 / Section F, for complete information regarding selection, operation and testing of excess flow valves.
Service Valves for ASME and DOT Containers or Vapor Fuel Line Applications
901C1, 901C1, 901D, 901R 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® assembly 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

**Ordering Information**

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</table>

*22 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 independent 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

Ordering Information

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<th>Part Number</th>
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<td>None</td>
<td>765**</td>
<td>1300**</td>
<td>3.6**</td>
</tr>
</tbody>
</table>

*Heavy-duty models
**Based on ¾” 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, ¾” O.D. pigtails or POL connections for ¼” O.D. should not be used with this valve.
****Based on ¾” O.D. pigtail; 20” long or less, connected to valve outlet. Also based on ¼” pipe size dip tube, 42” long or less, attached to special inlet connection. For longer pigtail lengths, the diameter of the pigtail must be increased.
NOTE: These valves incorporate an excess flow valve. Refer to L-500/Section F, for complete information regarding selection, operation and testing of excess flow valves.
Service Valves for DOT Fork Lift Containers
9101P5 and 9101P6 Series

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

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

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

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

Features
• Incorporates integral excess check valve and shut-off valve in one unit.
• Special 1.5 GPM closing flow on select valves provided especially for lift trucks and equipment with smaller engines.
• Double lead stem thread provides faster opening and closing.
• O-Ring stem seal design provides positive seal.
• Tapered and confined seat disc provides positive shut-off.
• Metal-to-metal back seat provides added protection against leakage while the valve is open.
• 9101P6 Series equipped with a ¼” NPT internal thread for the addition of a liquid withdrawal tube.

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Liquid Withdrawal Connection</th>
<th>Closing Flow (LP-Gas)</th>
<th>Approximate Filling Rate Liquid Flow, GPM</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Vapor</td>
<td>Pressure Drop Across Valve</td>
<td>ACME Check Connectors</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25 PSIG Inlet (SCFH)</td>
<td>50 PSIG Inlet (SCFH)</td>
<td>100 PSIG Inlet (SCFH)</td>
</tr>
<tr>
<td>9101P5</td>
<td>¾” M. NGT</td>
<td>¾” M. NPT</td>
<td>None</td>
<td>430</td>
<td>900</td>
<td>1.5</td>
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<tr>
<td>9101P5H</td>
<td></td>
<td></td>
<td></td>
<td>550</td>
<td>1050</td>
<td>2.6</td>
</tr>
<tr>
<td>9101P6</td>
<td></td>
<td></td>
<td>⅛” NPT</td>
<td>430</td>
<td>900</td>
<td>1.5</td>
</tr>
<tr>
<td>9101P6H</td>
<td></td>
<td></td>
<td></td>
<td>550</td>
<td>1050</td>
<td>2.6</td>
</tr>
</tbody>
</table>

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.
- ½” Markings.

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Fixed Liquid Level Valve Style</th>
<th>Dip Tube Length*</th>
<th>Pressure Relief Valve Setting</th>
<th>For use in Cylinders w/ Propylene Capacity up to</th>
</tr>
</thead>
<tbody>
<tr>
<td>9104PPA</td>
<td>¾&quot; M.NPT</td>
<td>F.POL - (CGA 510)</td>
<td>N/A</td>
<td>N/A</td>
<td>435 PSIG</td>
<td>100lbs</td>
</tr>
<tr>
<td>*9104PT10.1</td>
<td>3/8&quot; M NPT</td>
<td></td>
<td>Knurled</td>
<td>10.0&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*9104PT10.7</td>
<td>3/8&quot; M NPT</td>
<td></td>
<td></td>
<td>10.7&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

10 YEAR WARRANTY
**“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 ¾” O.D. stainless steel liquid withdrawal tube with a “T” dimension of 44”.

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

* 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.

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Fixed Liquid Level Vent Valve Style</th>
<th>Liquid Withdrawal Tube Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>8556</td>
<td>¾” M. NGT</td>
<td>F. POL (CGA 510)</td>
<td>CGA 555</td>
<td>None</td>
</tr>
</tbody>
</table>

**Pressure Relief Valve Setting**

<table>
<thead>
<tr>
<th>Pressure Relief Valve Setting</th>
<th>For Use in Cylinders w/Propane Capacity Up To:</th>
<th>Approximate Filling Rate Liquid Flow, GPM</th>
<th>Liquid Closing Flow* (LP-Gas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>375 PSIG</td>
<td>100 lbs.</td>
<td>6.6, 10.0, 14.5, 21.0, 2.3 GPM</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>901-400</td>
<td>Adhesive Label Primarily for Fork Lift Cylinders</td>
</tr>
<tr>
<td>903-400</td>
<td>Adhesive Label Primarily for Small DOT Cylinders</td>
</tr>
<tr>
<td>903-500</td>
<td>Adhesive Label Primarily for Cylinder and Service Valves</td>
</tr>
</tbody>
</table>

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!

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 OR STORE IN BUILDING OR ENCLOSED AREA. FOR OUTDOOR USE ONLY.

WARNING!

WHEN MAKING CONNECTIONS TO AN APPLIANCE:

1. Apply thread sealant to the external threads of the valve connection, to the threads of the appliance connection, and to the coupling. Do not allow any overfill.
2. Before connecting the Cylinder Valve outlet connection to an appliance, make sure the appliance is turned off and the unit is connected to the proper external power source
3. Shut off the service valve. Never operate the device with the service valve open.
4. Check for leaks with a non-corrosive leak detection solution before filling with LP-Gas.
5. Tighten the appliance connection approximately 1 to 1½ turns beyond the hand-tight insertion point using a wrench which never comes into contact with other parts of the valve.

DANGER!

NON-CORROSIVE LEAK DETECTION SOLUTIONS ARE AVAILABLE FROM REGO.

DO NOT REMOVE, DEFACE OR OBLITERATE THIS LABEL.

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

100 RegO Dr. Elon, NC 27244 USA • www.regoproducts.com • +1 (336) 449-7707
Section C
Multivalve ® Assemblies
LIMITED 10 YEAR WARRANTY
RegO warrants to the original purchasers the products and repair kits manufactured by it to be free from defects in materials and workmanship under normal use and service for a period of 10 years from the date of manufacture. If within thirty days after buyer’s discovery of what buyer believes is a defect, buyer notifies in writing and ships the product to RegO at 100 RegO Drive, Elon, NC 27244, RegO, at its option, and within forty-five days of receipt, will repair, replace F.O.B. point of manufacture, or refund the purchase price of that part or product found by RegO to be defective. Failure of buyer to give such written notice and ship the product within thirty days shall be deemed an absolute and unconditional waiver of any and all claims of buyer arising out of such defect.

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

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

LIMITATION OF LIABILITY
RegO’s total liability for any and all losses and damages arising out of any cause whatsoever shall in no event exceed the purchase price of the products or parts in respect of which such cause arises, whether such cause be based on theories of contract, negligence, strict liability, tort or otherwise. RegO shall not be liable for incidental, consequential or punitive damages or other losses. RegO shall not be liable for, and buyer assumes any liability for, all personal injury and property damage connected with the handling, transportation, possession, further manufacture, other use or resale of products, whether used alone or in combination with any other products or materials.

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

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

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

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

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

Because of a policy of continuous product improvement, RegO reserves the right to change designs, materials or specifications without notice.
This catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH₃). The following points are important to know for proper use of the catalog:

1. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

2. Materials used for construction of products in this catalog are suitable for rated service pressure at temperatures of -40°F to +165°F, unless otherwise specified.

3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.
   a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no brass parts).
   b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service. These are of partial aluminum materials and are listed by Underwriters Laboratories (UL) for NH₃ service only.
   c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.
   d. SS” prefix—Hydrostatic relief valve with this prefix are suitable for NH₃ and LP-Gas service (i.e., they have stainless steel materials).

4. 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 ecoli@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 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® assembly.

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.

General Information

Design Features of RegO Multivalves®
Design Features of the MultiBonnet® assembly

**Handwheel**
- Aluminum die cast handwheel.

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

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

**Internal O-ring**

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

**External O-ring**

**Nameplate**
- Provides easy identification of the RegO MultiBonnet® assembly.

**Teflon Backseat**
- Provides for upper packing isolation when valve is fully open.

**Machined Double Lead Threads**
- Provides for quick opening and closing of the valve.

**Shut-off Seat Disc**
- Tapered nylon disc is retained in a fully confined seat that helps ensure positive shut-offs.

### Application
The MultiBonnet® assembly 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® assembly 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® assembly 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® assembly 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.
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® assembly is standard on this valve.

Features

- The most complete Multivalve® assembly in the LP-Gas industry.
- Combines low emission double back check filler valve, vapor equalizing valve, pressure relief valve, service valve, fixed liquid level gauge, “junior” sized float gauge flange opening and a plugged pressure gauge opening.
- Double back check filler valve is low emission, 2.13cc at disconnection with no reduction in fill rates.
- Designed for installation of a ¼” FNPT pressure gauge or pressure gauge connection. The pressure test port will communicate to the downstream side of the service valve.
- PG8475RL Version: With the service valve closed the pressure test/Presto-Tap® port is isolated from the container. This will allow a high pressure leak test to be conducted without disconnecting the pigtail from the service valve. For more information see page C12.
- Vapor equalizing valve with excess flow has increased capacity matched to the filler valve.
- Internal threadings accommodate 2½" M. NPT riser pipe connection and a ¾" F. NPT connection for a customer furnished liquid baffle tube.
- The MultiBonnet® assembly 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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Filling Connection</th>
<th>Relief Valve Height</th>
<th>Vapor Equalizing Valve</th>
<th>Float Gauge Flange Opening</th>
<th>Fixed Liquid Level Valve</th>
<th>Dip Tube Length</th>
<th>Approximate Filling Rate Liquid Flow, GPM</th>
<th>Pressure Drop Across Valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>G8475RL</td>
<td>2½” F. NPT</td>
<td>F. POL (CGA 510)</td>
<td>1¾” M. ACME</td>
<td>6¾”</td>
<td>1½” M. ACME</td>
<td>4200 CFH @ 100 PSIG</td>
<td>Fits “JUNIOR” size</td>
<td>Yes</td>
<td>30”</td>
<td>10 PSIG 25 PSIG 50 PSIG 100 PSIG</td>
</tr>
<tr>
<td><strong>DG8475RL</strong></td>
<td><strong>PG8475RL</strong></td>
<td><strong>PG8475RL</strong></td>
<td><strong>G8475RL</strong></td>
<td><strong>G8475RL</strong></td>
<td><strong>G8475RL</strong></td>
<td><strong>G8475RL</strong></td>
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<td><strong>G8475RL</strong></td>
<td><strong>G8475RL</strong></td>
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</tr>
</tbody>
</table>

Approximate Flow Capacity

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Flow Capacity</th>
<th>Ready To Go™</th>
</tr>
</thead>
<tbody>
<tr>
<td>M3131G</td>
<td>2020 SCFM, air</td>
<td>Plugged</td>
</tr>
<tr>
<td>MV3132G</td>
<td>1939 SCFM, air</td>
<td>Plugged</td>
</tr>
</tbody>
</table>

* Dip tube not installed, may be cut by customer to desired length.
** 72 Orifice low emission version is also available.
ASME Multivalves® for Vapor Withdrawal

8593AL

**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® assembly 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 2¼" hex wrenching boss on center column provides ease of installation in tank coupling.
- MultiBonnet® assembly allows quick and easy repair of bonnet.

**Materials**

<table>
<thead>
<tr>
<th></th>
<th>Body</th>
<th>Handwheel</th>
<th>Valve Stem</th>
<th>O-Ring</th>
<th>Seat Disc (shut-off valve)</th>
<th>Seat Discs (other)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forged Brass</td>
<td>Aluminum Die Cast</td>
<td>Brass</td>
<td>Resilient Rubber</td>
<td>Nylon</td>
<td>Resilient Rubber</td>
</tr>
</tbody>
</table>

**Liquid Filling Rates**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Approximate Filling Rate Liquid Flow, GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>8593AL16.0</td>
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</tr>
<tr>
<td>10 PSIG</td>
<td></td>
</tr>
<tr>
<td>25 PSIG</td>
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</tr>
<tr>
<td>50 PSIG</td>
<td></td>
</tr>
<tr>
<td>100 PSIG</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Filling Connection</th>
<th>Vapor Equalizing Connection</th>
<th>Fixed Liquid Level Valve Style</th>
<th>Dip Tube Length</th>
<th>For Use In Containers w/ Surface Area Up To:</th>
</tr>
</thead>
<tbody>
<tr>
<td>8593AL16.0</td>
<td>1¼&quot; M. NPT</td>
<td>F. POL (CGA 510)</td>
<td>½&quot; M. ACME</td>
<td>½&quot; M. ACME</td>
<td>4200 CFH at 100 PSIG</td>
<td>Knurled</td>
<td>16&quot;**</td>
</tr>
</tbody>
</table>

* 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.
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.
- 1½” wrenching flats.

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

Approximate Filling Rate

<table>
<thead>
<tr>
<th>Approximate Filling Rate</th>
<th>Liquid Flow, GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure Drop Across Valve</td>
<td>10 PSIG</td>
</tr>
<tr>
<td>8555DL11.6</td>
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</table>

Liquid Filling Rates

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Filling Connection</th>
<th>Fixed Liquid Level Valve Style</th>
<th>Dip Tube Length w/ Deflector</th>
<th>Liquid Withdrawal Tube Length</th>
<th>Pressure Relief Valve Setting</th>
<th>For Use In Cylinders w/ Propane Capacity Up To:</th>
<th>Liquid Closing Flow (LP-Gas)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>8555DL11.6</td>
<td>¾” M. NGT</td>
<td>CGA 555*</td>
<td>1½” M. ACME Knurled</td>
<td>11.6”</td>
<td>44”</td>
<td>375 PSIG</td>
<td>100 lbs. **</td>
<td>1.7 GPM</td>
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</tr>
</tbody>
</table>

* Use adapter 12982 to connect to pipe threads.
** Per CGA Pamphlet S-1.1.
*** To ensure proper functioning and maximum protection from integral excess flow valves, the cylinder valve should be fully opened and backseated when in use.
****72 orifice low emission version is also available.
DOT & ASME Multivalves® for Vapor Withdrawal
6555R, 8555D and 8555R Series

**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.
- 1¾” wrenching flats.
- The MultiBonnet® assembly 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

**Liquid Filling Rates**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Approximate Filling Rate Liquid Flow, GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Approximate Filling Rate Liquid Flow, GPM</td>
</tr>
<tr>
<td></td>
<td>Pressure Drop Across Valve</td>
</tr>
<tr>
<td></td>
<td>10 PSIG</td>
</tr>
<tr>
<td><strong>6555D Series</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>8555R Series</strong></td>
<td>8</td>
</tr>
</tbody>
</table>

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Bonnet Style</th>
<th>Application</th>
<th>For Use In Containers with Size Up To:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>6555R10.6</strong></td>
<td>MultiBonnet® assembly</td>
<td>ASME Containers</td>
<td>25 ft² surface area or 60 gallons water capacity</td>
</tr>
<tr>
<td><strong>6555R11.6</strong></td>
<td>MultiBonnet® assembly</td>
<td>ASME Containers</td>
<td>25 ft² surface area or 60 gallons water capacity</td>
</tr>
<tr>
<td><strong>8555R12.0</strong></td>
<td>Standard</td>
<td>ASME Containers</td>
<td>25 ft² surface area or 60 gallons water capacity</td>
</tr>
<tr>
<td><strong>6555D10.6</strong></td>
<td>MultiBonnet® assembly</td>
<td>DOT Cylinders</td>
<td>200 lbs. Propane **</td>
</tr>
<tr>
<td><strong>8555R10.6</strong></td>
<td>MultiBonnet® assembly</td>
<td>DOT Cylinders</td>
<td>200 lbs. Propane **</td>
</tr>
<tr>
<td><strong>8555R11.6</strong></td>
<td>Standard</td>
<td>DOT Cylinders</td>
<td>200 lbs. Propane **</td>
</tr>
<tr>
<td><strong>8555R11.6</strong></td>
<td>MultiBonnet® assembly</td>
<td>DOT Cylinders</td>
<td>200 lbs. Propane **</td>
</tr>
</tbody>
</table>

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

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

**Liquid Filling Rates**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Approximate Filling Rate -- Liquid Flow, GPM</th>
<th>Pressure Drop Across Valve</th>
<th>For Use In Cylinders w/Propane Capacity Up To**</th>
<th>UL Flow Capacity @ 120% of set pressure SCPM (air)</th>
<th>Ready To Go™</th>
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<tbody>
<tr>
<td>6532A12.0/6532R12.0</td>
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<td>6542A12.0/6542R12.0</td>
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<td>6533A11.7/6533R11.7</td>
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**Ordering Information**

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<thead>
<tr>
<th>Part Number</th>
<th>Bonnet Style</th>
<th>Application</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Fixed Liquid Level Vent Valve Style</th>
<th>Dip Tube Length with Deflector</th>
<th>Pressure Relief Valve Setting</th>
<th>For Use In Cylinders w/Propane Capacity Up To**</th>
<th>UL Flow Capacity @ 120% of set pressure SCPM (air)</th>
<th>Ready To Go™</th>
</tr>
</thead>
<tbody>
<tr>
<td>6532A12.0</td>
<td>Standard</td>
<td>ASME*</td>
<td>¾&quot; M. NGT</td>
<td></td>
<td>12.0&quot;</td>
<td>250 PSIG</td>
<td>-</td>
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<tr>
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<td>1530</td>
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<td>6542A12.0</td>
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<td>¾&quot; M. NGT</td>
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<td>12.0&quot;</td>
<td>250 PSIG</td>
<td>-</td>
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<td>Plugged</td>
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<tr>
<td>6542R12.0</td>
<td>MultiBonnet® assembly</td>
<td>DOT (CGA 510)</td>
<td>1½” M. NGT</td>
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<td>1530</td>
<td>Plugged</td>
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<td>6533A10.5</td>
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<td>¾&quot; M. NGT</td>
<td></td>
<td>12.0&quot;</td>
<td>250 PSIG</td>
<td>-</td>
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<td>Standard</td>
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<td>¾&quot; M. NGT</td>
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<td>12.0&quot;</td>
<td>250 PSIG</td>
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<tr>
<td>6533R11.7</td>
<td>MultiBonnet® assembly</td>
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<td>Plugged</td>
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<td>Yes</td>
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<td>6543A11.1</td>
<td>Standard</td>
<td>ASME*</td>
<td>¾&quot; M. NGT</td>
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<td>12.0&quot;</td>
<td>250 PSIG</td>
<td>-</td>
<td></td>
<td></td>
<td>Plugged</td>
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<tr>
<td>6543R11.1</td>
<td>MultiBonnet® assembly</td>
<td>DOT (CGA 510)</td>
<td>1½” M. NGT</td>
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<td></td>
<td>1530</td>
<td>Plugged</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>6543A11.7</td>
<td>Standard</td>
<td>ASME*</td>
<td>¾&quot; M. NGT</td>
<td></td>
<td>12.0&quot;</td>
<td>250 PSIG</td>
<td>-</td>
<td></td>
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<td>Plugged</td>
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<tr>
<td>6543R11.7</td>
<td>MultiBonnet® assembly</td>
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<td>1½” M. NGT</td>
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<td></td>
<td>1530</td>
<td>Plugged</td>
<td></td>
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<td>Yes</td>
</tr>
</tbody>
</table>

**Notes:**
- **Per CGA Pamphlet S-1.1**.
- ** APPLICATION **
- ** Features 6542 and 6543 **
- ** Features 6532 and 6533 **
- ** Materials **
- ** Liquid Filling Rates **
- ** Ordering Information **

C10
100 RegO Dr. Elon, NC 27244 USA www.regoproducts.com +1 (336) 449-7707
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 ¼” M.NPT pressure gauge or pressure gauge connection. The pressure test port will communicate to the downstream side of the service valve.
• MultiBonnet® assembly 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

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.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Vapor Equalization Connection</th>
<th>Fixed Liquid Level Vent Valve</th>
<th>Dip Tube Length</th>
<th>Ready to Go™</th>
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</thead>
<tbody>
<tr>
<td>7556R12.0</td>
<td>¾” M. NGT</td>
<td>F. POL (CGA 510)</td>
<td>1¼” M. ACME</td>
<td>4200 CFH @ 100 PSIG</td>
<td>Yes</td>
<td>12”**</td>
</tr>
<tr>
<td>PT7556R12.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Plugged</td>
<td></td>
</tr>
</tbody>
</table>

* Since these Multivalves® have no integral pressure relief valves, they can be used on any ASME container with an independent relief device sufficient for that tank’s capacity.
** Other tube lengths available.
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.
3. Once the system has been leak tested successfully simply remove the 300 LB gauge and replace and snug the Gas Tight Cap.

Only trained qualified personnel should perform leak testing. As for any LP-Gas installation, service or repair it is required that time be taken to ensure safety and all federal, state and local regulations are met.
Adhesive Warning Label
903-500

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

This information is intended to be forwarded throughout the product distribution chain. Additional copies are available from RegO and Authorized Product Distributors.
Section D
Pressure Relief Valves
and Relief Valve Manifolds
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.
Foreword

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

1. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

2. Materials used for construction of products in this catalog are suitable for rated service pressure at temperatures of -40°F to +165°F, unless otherwise specified.

3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.
   a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no brass parts).
   b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service. These are of partial aluminum materials and are listed by Underwriters Laboratories (UL) for NH₃ service only.
   c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.
   d. SS” prefix—Hydrostatic relief valve with this prefix are suitable for NH₃ and LP-Gas service (i.e., they have stainless steel materials).

4. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

Caution

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

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

Warning

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

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

Notice

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

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

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

Filters

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

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

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

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

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

Scope

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

WARNING

What You Must Do:

- Read This Entire Warning
- Install Properly
- Inspect Regularly

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

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

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

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

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

To Properly Inspect A Pressure Relief Valve, Check For:

1. A rain cap. Check protective cap located in valve or at end of pipeaway for a secure fit. Protective caps help protect the relief valve against possible malfunction caused by rain, sleet, snow, ice, sand, dirt, pebbles, insects, other debris and contamination. REPLACE DAMAGED OR MISSING CAPS AT ONCE AND KEEP A CAP IN PLACE AT ALL TIMES.

2. Open weep holes. Dirt, ice, paint and other foreign particles can prevent proper drainage from the valve body. IF THE WEEP HOLES CANNOT BE CLEARED, REPLACE THE VALVE.

3. Deterioration and corrosion on relief valve spring. Exposure to high concentrations of water, salt, industrial pollutants, chemicals and roadway contaminants could cause metal parts to fail. IF THE COATING ON THE RELIEF VALVE SPRING IS CRACKED OR CHIPPED, REPLACE THE VALVE.

Replace Pressure Relief Valves In 10 Years Or Less

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

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

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

4. Physical damage. Ice accumulations and improper installation could cause mechanical damage. IF THERE ARE ANY INDICATIONS OF DAMAGE, REPLACE THE VALVE.

5. Tampering or readjustment. Pressure relief valves are factory set to discharge at specified pressures. IF THERE ARE ANY INDICATIONS OF TAMPERING OR READJUSTMENT, REPLACE THE VALVE.

6. Seat leakage. Check for leaks in the seating area using a noncorrosive leak detection solution. REPLACE THE VALVE IF THERE IS ANY INDICATION OF LEAKAGE. Never force a relief valve closed and continue to leave it in service. This could result in damage to the valve and possible rupture of the container or piping on which the valve is installed.

7. Corrosion and contamination. REPLACE THE VALVE IF THERE ARE ANY SIGNS OF CORROSION OR CONTAMINATION ON THE VALVE.

8. Moisture, foreign particles or contaminants in the valve. Foreign material such as paint, tar or ice in relief valve parts can impair the proper functioning of the valves. Grease placed in the valve body may harden over time or collect contaminants, thereby impairing the proper operation of the relief valve. DO NOT PLACE GREASE IN THE VALVE BODY. REPLACE THE VALVE IF THERE ARE ANY INDICATIONS OF MOISTURE OR FOREIGN MATTER IN THE VALVE.

9. Corrosion or leakage at container connection. Check container to valve connection with a non-corrosive leak detection solution. REPLACE THE VALVE IF THERE IS ANY INDICATION OF CORROSION OR LEAKAGE AT THE CONNECTION BETWEEN THE VALVE AND CONTAINER.

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

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

For Additional Information Read:

1. CGA Pamphlet S-1.1 Pressure Relief Standards - Cylinders, Section 9.1.1.
2. RegO Catalog L-500.
4. NPGA Safety Pamphlet 306 “LP-Gas Regulator and Valve Inspection and Maintenance” and “LP-Gas Training Guidebooks”.
5. NFPA # 58, “Storage and Handling of Liquefied Petroleum Gases”.
6. NFPA # 59, “LP-Gases at Utility Gas Plants”.
7. ANSI K61.1 Safety Requirements for Storage and Handling of Anhydrous Ammonia.
The reasons for this are two-fold:
If the relief valve is called upon to open, the resulting discharge produces an increased vaporization of the product in the container with the result that the liquid cools to a certain extent and the vapor pressure drops. A reading taken at this time would obviously not indicate what the pressure was when the relief valve opened.

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

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

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

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

Selection of RegO Pressure Relief Valves For ASME Containers
The rate of discharge required for a given container is determined by the calculation of the surface area of the container as shown in “Chart A” for LP-Gas and “Chart B” for anhydrous ammonia. See page D9.

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

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

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

Ordering RegO Pressure Relief Valves

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

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

Part Number Explanation

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

Safety Information - Relief Valves Don’t Last Forever

RegO Relief Valve for lift truck containers

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

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

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

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

Causes of Relief Valve Failure

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

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

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

- They may leak at pressures below the set pressure.
- They may open and fail to properly reseat.
- They may open at higher than the set pressure.

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

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

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

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

“Cementing” of relief valve parts has been caused by normal industrial atmospheres containing particles of dirt, iron oxide, metal chips, etc. combined with water, oil, or grease. Ice collecting in recessed valves could cause relief valves to fail to open. Paint and tar in relief valves also cause failure to function properly.
Debris on valve seats which prevents reseating can occur whenever the valve collects material in the relief valve opening which is not blown out when the relief valve opens.

**Inspection of Relief Valves**

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

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

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

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

Eye protection must be used when examining relief valves under pressure.

**Smaller Relief Valves**

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

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

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

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

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

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

Use of Protective Caps

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

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

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

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

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

**Summary Recommendations**

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

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

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

<table>
<thead>
<tr>
<th>Surface Area Sq. Ft.</th>
<th>Flow Rate SCFM Air</th>
<th>Surface Area Sq. Ft.</th>
<th>Flow Rate SCFM Air</th>
<th>Surface Area Sq. Ft.</th>
<th>Flow Rate SCFM Air</th>
<th>Surface Area Sq. Ft.</th>
<th>Flow Rate SCFM Air</th>
<th>Surface Area Sq. Ft.</th>
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<th>Surface Area Sq. Ft.</th>
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Surface area = Total outside surface area of container in square feet.

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

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

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

The rate of discharge may be interpolated for intermediate values of surface area. For containers with total outside surface area greater than 2000 square feet, the required flow rate can be calculated using the formula, Flow Rate-SCFM Air = 22.11 A0.82 where A = total outside surface area of the container in square feet.

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

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<th>Surface Area Sq. Ft.</th>
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<th>Surface Area Sq. Ft.</th>
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Surface area = Total outside surface area of container in square feet.

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

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

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

The rate of discharge may be interpolated for intermediate values of surface area. For containers with total outside surface area greater than 2,500 square feet, the required flow rate can be calculated using the formula, Flow Rate-SCFM Air = 22.11 A0.82 where A = outside surface area of the container in square feet.

Conversion Factor

\[
\text{ft}^2 \times 0.092903 = m^2
\]

\[
\text{SCFM x 0.028317 = m}^3/\text{min}
\]

\[
\text{ft} \times 0.3048 = m
\]
“Pop-Action” Pressure Relief Valves

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

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

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

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

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

Ordering Information

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<th>C Height Above Coupling (Approx.)</th>
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<td>No</td>
<td>A8436-11B</td>
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* Per NFPA Pamphlet #58, Appendix D. Area shown is for UL or ASME flow rating—whichever is larger.
Fully Internal “Pop-Action” Pressure Relief Valves for Motor Fuel Containers 8543, 8544 and 8546 Series

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

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Type</th>
<th>Start To Discharge Setting PSIG</th>
<th>A Container Connection M.NPT*</th>
<th>B Overall Height (Approx)</th>
<th>C Height Above Coupling (Approx)</th>
<th>D Hex Wrenching Section</th>
<th>Flow Capacity SCFM/Air****</th>
<th>Protective Cap (Included)</th>
<th>Accessories</th>
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<td>4½&quot;</td>
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<td></td>
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<td>NA</td>
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* 1" M. NPT outlet connection.
** 1½" M. NPT outlet connection.
*** Rating also applies to DOT requirements.
**** Flow rates shown are for bare relief valves. Adapters and pipeaway will reduce flow as discussed in the Foreword section.
Fully Internal "Pop-Action" Pressure Relief Valve for DOT Fork Lift Cylinders
8545AK

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

NFPA Pamphlet #58 requires that:
“All containers used in industrial truck (including forklift truck cylinders) service shall have the container pressure relief valve replaced by a new or unused valve within 12 years of the date of manufacture of the container and each 10 years thereafter.”

Features
• Positive stop in the upper body protects against improper insertion of a pipeaway adapter that might interfere with proper operation of the relief valve.

• Internal stem guide eliminates the need for a close fit between the body and poppet, which lessens the chance of clogging due to foreign material.

• Single piece cold-headed stem provides more accurate positioning of working parts for more consistent operation and precise adjustment.

• Two different deflector adapters and a protective cap are available as accessories to provide complete protection.

• “Pop-action” design keeps product loss at a minimum.

• Request RegO Relief Valves on all your original equipment forklift cylinders for reliable performance.

Materials
Body....................................................................................... Brass
Stem........................................................................ Stainless Steel
Spring........................................................................ Stainless Steel
Poppet.................................................................................... Brass
Guide....................................................................................... Steel
Seat Disc ........................................................................ Resilient Rubber
Adjusting Nut ...................................................................... Plated Steel

Ordering Information

<table>
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<tr>
<th>Part Number</th>
<th>Container Type</th>
<th>Start To Discharge psig</th>
<th>Start To Discharge Setting barg</th>
<th>Container Connection M. NPT</th>
<th>Flow Capacity SCFM, CPMS/Air**</th>
<th>Accessories (Order Separately)</th>
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<td>Dot</td>
<td>375</td>
<td>25.86</td>
<td>¾”</td>
<td>(RegO Rated at 480 psig 33.09 barg) SCFM</td>
<td>Protective Cap 45˚ Elbow 90˚ Elbow</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>RegO Rated at 480 psig 33.09 barg CPMS</td>
<td>11557-19 7545-14 7545-12</td>
</tr>
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* Classified by U.L. in accordance with Compressed Gas Association Pamphlet S-1.1 Pressure Device Standards for Cylinders. Meets requirements for use on DOT containers with 262 pounds or less weight of water or 105 pounds or less of LP-Gas.

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

*** Order protective cap #8545-41 or 7545-40.
Semi-Internal “Pop-Action” Pressure Relief Valves for ASME Portable Containers
7583, 8684 and 8685 Series

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

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

Materials
Body ................................................................. Brass
Spring .............................................................. Steel
Stem ............................................................ Stainless Steel
Seat Disc ........................................ Resilient Rubber

Ordering Information

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<tr>
<th>Part Number</th>
<th>Start To Discharge Setting PSIG</th>
<th>A: Container Connection M. NPT</th>
<th>B: Overall Height (Approx.)</th>
<th>C: Height Above Coupling (Approx.)</th>
<th>D: Wrench Hex Section</th>
<th>Flow Capacity SCFM/Air UL (At 120% of Set Pressure)</th>
<th>Flow Capacity SCFM/Air ASME (At 120% of Set Pressure)</th>
<th>Protective Cap (Included)</th>
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<td>250</td>
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<td>8½”</td>
<td>1¼”</td>
<td>1¾”</td>
<td>1980</td>
<td>1806</td>
<td>7583-40X</td>
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<td>8684G</td>
<td>1</td>
<td>1”</td>
<td>9⅜”</td>
<td>1½”</td>
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<td>2620</td>
<td>2565</td>
<td>8684-40</td>
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<tr>
<td>8685G</td>
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<td>1¹/₁₆”</td>
<td>1¹/₁₆”</td>
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<td>3½”</td>
<td>4365</td>
<td>4035</td>
<td>7585-40X</td>
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</table>

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

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

Materials
Body ................................................................. Brass
Spring .............................................................. Steel
Stem ............................................................ Stainless Steel
Seat Disc ........................................ Resilient Rubber

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Start To Discharge Setting PSIG</th>
<th>Container Connection M. NPT</th>
<th>Flow Capacity SCFM/Air*</th>
<th>Accessories</th>
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<td>125</td>
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<td>6,025</td>
<td>Protective Cap 7534-40X</td>
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<td>7534G</td>
<td>250</td>
<td>2”</td>
<td>11,675</td>
<td>Pipeaway Adapter 7534-20**</td>
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* Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow as discussed in the the Foreword section.
** 3” F. NPT outlet connection.
*** Other seat materials are available.
Application
Designed for use as a primary relief valve on ASME above ground and underground containers, bulk plant installations and skid tanks. The 3131 Series may also be used as a primary or secondary relief valve on DOT cylinders, or as a hydrostatic relief valve. All working components of these relief valves are outside the container connection, so the valves must be protected from physical damage.

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

Materials

<table>
<thead>
<tr>
<th>Description</th>
<th>313, 3132, 3133, 3135</th>
<th>AA3126</th>
<th>AA3130</th>
<th>AA3135</th>
<th>A3149</th>
</tr>
</thead>
<tbody>
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<td>Aluminum Rod*</td>
<td>Upper Cold Rolled Steel</td>
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<td>Spring</td>
<td>Corrosion Resistant Steel</td>
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<td>Stainless Steel or Coated Steel</td>
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<td>Seat Disc</td>
<td>Resilient Synthetic Rubber</td>
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Ordering Information

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<th>B Overall Height (Approx.)</th>
<th>C Wrench Hex Section</th>
<th>Flow Capacity SCFM/Air (a)</th>
<th>Protective Cap</th>
<th>Pipeaway Adapter</th>
<th>Weep Hole Deflector</th>
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<td>¾&quot; (b)</td>
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<td>3½&quot;</td>
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<td>-</td>
<td>3050</td>
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</tbody>
</table>

(a) Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow as discussed in the Foreword section.
(b) Not UL or ASME rated. .059 square inch effective area.
(c) Not UL or ASME rated. RegO rated at 120% of set pressure.
(g) Cap supplied with chain.
(h) Outlet 3½-8N (F) thread, will accept 3" M. NPT pipe thread.
(j) Weep hole deflector is Part No. A3134-11B.
External “Pop-Action” Supplementary Pressure Relief Valves for Small ASME Containers and DOT Cylinders 3127 and 3129 Series

**Application**

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

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

**Features**

- “Pop-action” design keeps product loss at a minimum.
- Relief valve designed to automatically reseat firmly after discharge.
- Resilient seat disc provides a “bubble-tight” seal.

**Materials**

Body ................................................................. Brass  
Spring ........................................................... Stainless Steel  
Seat Disc ........................................................ Resilient Rubber

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Type</th>
<th>Start To Discharge Connection M. NPT</th>
<th>A Overall Height (Approx.)</th>
<th>B Overall Height (Approx.)</th>
<th>C Wrench Section</th>
<th>Flow Capacity SCFM/Air</th>
<th>RegO Rated at 480 PSIG**</th>
<th>Suitable for Tanks w/Surface Area Up To**</th>
<th>Protective Cap</th>
<th>Pipeaway Adapter</th>
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<tbody>
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<td>ASME</td>
<td>250</td>
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<td>¾&quot;</td>
<td>295</td>
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<td>3129-40P, 3129-10 ½&quot; F. NPT</td>
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<tr>
<td>3127K</td>
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<td>295</td>
<td>¼&quot;</td>
<td>1¼&quot;</td>
<td>¾&quot;</td>
<td>295</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3129-40P, 3129-10 ½&quot; F. NPT</td>
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<td>780</td>
<td>100 lbs./Propane</td>
<td>9103-54</td>
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<td>3129-40P, 3129-10 ½&quot; F. NPT</td>
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* Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow as discussed in the Foreword section.
** Not UL or ASME rated. RegO rated at 480 PSIG.
*** Meets DOT requirements.
External Hydrostatic Relief Valves
3125, 3127, 3129, SS8001, SS8002, SS8021 and SS8022 Series

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

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

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

Ordering Information

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<th>Part Number</th>
<th>Start To Discharge Setting PSIG</th>
<th>Valve Body Material</th>
<th>Container Connection M. NPT</th>
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<th>Accessories</th>
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<tr>
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<tr>
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<td>⅜” NPSM Thds</td>
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<td>⅜” NPSM Thds</td>
<td>Piping Cap</td>
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</table>

* ⅜” F. NPT outlet connection.
DuoPort® Pressure Relief Valve Manifolds for Small Storage Containers
8542 Series

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

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

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

Relief Valve Materials
Body ............................................................. Forged Aluminum*
Spring Guide ................................................... Aluminum
Spring ............................................................. Coated Steel
Seat Disc ........................................................ Resilient Synthetic Rubber

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Start to Discharge Setting PSIG</th>
<th>Application</th>
<th>Container Connection M. NPT</th>
<th>Relief Valve Included</th>
<th>Flow Capacity SCFM/Air** (at 120% of set pressure)</th>
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<td>LP-Gas</td>
<td>NH₃</td>
<td>Quantity</td>
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<td>8542G</td>
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<td>Yes</td>
<td>No</td>
<td>2</td>
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<td>8542AG</td>
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* 2” F. NPT outlet connection.

** Flow rating based on number of relief valves indicated in parenthesis ( ). Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow rates as discussed in the Foreword section.
Delta Port™ Relief Valve Manifolds
8530/AA8530 Series

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

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

Relief Valve Materials
Body (3135) ......................................................... Brass
Spring Guide (3135) ........................................... Brass
Body (AA3135) .................................................... Aluminum
Spring Guide (AA3135) ........................................ Aluminum
Spring (3135 & AA3135) .................................... Stainless Steel
Seat Disc (3135 & AA3135) .................. Resilient Synthetic Rubber

Ordering Information

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<th>Application</th>
<th>Container Connection M.NPTF</th>
<th>Qty.</th>
<th>Relief Valve</th>
<th>Inlet Connection M.NPT</th>
<th>Accessories</th>
<th>ASME Flow Rating SCFM (air) @ 120% of Set Pressure</th>
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* Flow rating based on number of relief valves indicated in parentheses ( ).
Flow rates shown are for bare relief valves. Adapters and pipe-aways will reduce flow rates as discussed in forwarding information in L-500 catalog. ** 2” F. NPT outlet connection.
**Multiport® Pressure Relief Valve Manifold Assemblies for Large Storage Containers A8560, A8570 and AA8570 Series**

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

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

**Materials**
- Body: Ductile Iron
- Resilient Parts: Teflon
- Clapper Disc: Stainless Steel
- Bleeder Valve: Stainless Steel

**Bolt Stud and Nut Assemblies**

<table>
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<th>For Use With</th>
<th>For Connection To</th>
<th>Number Required</th>
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<td>Modified 3&quot; - 300# and 4&quot;-ANSI 300# Welding Neck Flange Manhole Cover Plate</td>
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NOTE: Studs and Nuts are not included.

**Relief Valve Materials**

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<tr>
<th>Description</th>
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<tr>
<td>Body</td>
<td>Upper Cold Rolled Steel Lower Ductile Iron</td>
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<td>Liner</td>
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<td>Spring</td>
<td>Coated Steel</td>
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<tr>
<td>Seat Disc</td>
<td>Resilient Synthetic Rubber</td>
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</tbody>
</table>

*A special coating is applied to the inlet threads to minimize possibility of electrolytic action.*
Typical RegO Multiport® Pressure Relief Valve Manifold

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

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

Resilient Seat Disc
Assures positive shut-off.

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

Instruction Plate
For relief valve replacement.

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

Flange Dimensions

<table>
<thead>
<tr>
<th>Manifold Series</th>
<th>Flange Size</th>
<th>Flange Drilling</th>
<th>Port Diameter</th>
<th>Flange Gasket</th>
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<td>Modified 3&quot; 300# (4&quot; Port Dia)</td>
<td>(8) ¼&quot; Bolt Holes on a 6½&quot; Bolt Circle Diameter Flat Faced.</td>
<td>4&quot;</td>
<td>3&quot; 7564-48</td>
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<td>A8570 AA8570</td>
<td>4&quot; ANSI 300#</td>
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Ordering Information

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<th>Container Flange Connection</th>
<th>Relief Valve</th>
<th>Flow Capacity SCFM/Atm** At 120% of Set Pressure</th>
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* For use with modified 300# ANSI flange with 4" port.
** Flow rating based on number of relief valves indicated in parentheses ( ). Flow rates shown are for bare relief valves. Adapters and pipeaways will reduce flow rates as discussed in the Foreword section.

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

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

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

Bleeder Valve
Shown in “closed” position to bleed off pressure trapped between relief valve and clapper disc prior to removal of relief valve.

Ductile Iron Body
Rugged. Has corrosion resistant lacquered finish.

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

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

Gasket
Johns-Manville Flexitallic flange gasket furnished with each manifold assembly.
Adhesive Warning Label
8545-500

The following warning information, Part Number 8545-500, is included with each shipment of pressure relief valves and relief valve manifolds to the first purchaser of the product from the factory.

This information is intended to be forwarded throughout the product distribution chain. Additional copies are available from RegO and Authorized Product Distributors.
Section E
Globe and Angle Valves
LIMITED 10 YEAR WARRANTY

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

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

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

LIMITATION OF LIABILITY

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

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

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

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

WARNING

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

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

NOTICE TO USERS OF PRODUCTS

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

Because of a policy of continuous product improvement, RegO reserves the right to change designs, materials or specifications without notice.
This catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH₃). The following points are important to know for proper use of the catalog:

1. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

2. Materials used for construction of products in this catalog are suitable for rated service pressure at temperatures of -40°F to +165°F, unless otherwise specified.

3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.
   
   a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no brass parts).
   
   b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service. These are of partial aluminum materials and are listed by Underwriters Laboratories (UL) for NH₃ service only.
   
   c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.
   
   d. SS” prefix—Hydrostatic relief valve with this prefix are suitable for NH₃ and LP-Gas service (i.e., they have stainless steel materials).

4. 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.

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**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.

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**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.

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**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.

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**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**

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

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

**Nature of Warnings**

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

**Loosen filling valve from filler valve very slowly.**

**If there is a leak, know procedure to follow.**

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

**Hose-End Filling Valves With ACME Connectors**

Hose-end valves must never be dragged over the ground or dropped or banged into the truck when the hose is reeled in. They could open accidentally or they could be damaged. Dragging will cause abnormal wear and eventual valve failure. Foreign material will lodge in the connector which can cause failure of the filler valve.

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

- Always wear gloves and eye protection.
- Check for foreign material in hose-end valve and the filler valve, and if present, remove with extreme care. If material cannot be safely removed, do not proceed with filling and replace valve.
- Make sure the ACME connector spins on easily by hand.
- If leak is noticed when filling is started, stop the operation and correct the leaking condition.
- After filling, bleed the gas trapped between the filler valve and hose-end valve by using the vent on the hose-end valve or by slightly loosening coupling nut to vent the gas before disconnecting.
- If gas does not stop venting, then filler valve or hose-end valve is leaking. Do not disconnect filling connector. This is a hazardous situation and your company procedure for handling this problem must be carefully followed.

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

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

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

**Larger Filler and Filling Valves**

For 2¼” and 3¼” valves with ACME connections, use only the special wrenches designed for the purpose.

**General Warning**

All RegO products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion and aging components made of materials such as rubber and metal. The environment and conditions of use will determine the safe service life of these products. Periodic inspection and maintenance are essential. Because RegO products have a long and proven record of quality and service, LP-Gas dealers may forget the hazards that can occur because a filler valve or a filling valve is used beyond its safe service life. Life of these valves is determined by the environment in which they “live.” The LP-Gas dealer knows better than anyone what this environment is. Note: There is a developing trend in state legislation and in proposed national legislation to make the owner of products responsible for replacing products before they reach the end of their safe useful life. LP-Gas dealers should be aware of the legislation which could affect them.

Loosen slowly. If gas continues to vent, retighten ACME connector and follow company emergency procedures.

**Inspection of Quick Acting Filling Valves**

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

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

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

If any problems are evident, valves should be immediately replaced or repaired.
Quick-Acting Minimum Loss Hose-End Valves for Bobtail Delivery Trucks and Dispensing Stations A7793A and A7797A

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection (F. NPT)</th>
<th>Outlet Connection (F. ACME)</th>
<th>Locking Handle</th>
<th>Flow at 1 PSIG (Cv) Pressure Drop* (GPM/Propane)</th>
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* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: A7797 @ 9 PSIG = 16.0 x √9 = 48.0 GPM/propane. For NH₃ flow, multiply propane flow by 0.90.
Quick-Acting Hose-End Valves for Bobtail Delivery Trucks and Dispensing Stations A7707L and A7708L

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

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

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

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

Ordering Information

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<th>Flow at 1 PSIG Pressure Drop (Cv) (GPM/Propane)**</th>
<th>Accessories</th>
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* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: A7708L @ 9 PSIG = 22.0 x \( \sqrt{9} \) = 66.0 GPM/propane. For NH3 flow, multiply propane flow by .90.

** See appropriate catalog section for additional information.
New 2” ACME Low Emission Hose End Valve for Loading Bobtails and Transports A7914A

**Application**
The A7914A Low Emission valve is designed to reduce the amount of product vented when disconnecting bobtail and transport loading hoses. This valve provides a full-on flow when pressing the release trigger and the lifting of an easy grip handle. Lowering the handle will immediately stop flow and lock the lever in the closed position. This valve can be used with any standard 3½” Male ACME connector, or our 6588LE and 6589LE minimum loss filler valves.

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

**Materials**
Body ................................................................. Ductile Iron
“V” –Rings............................................................ Teflon
Stem ................................................................. Stainless Steel
Acme Connector ...............................................Plated Ductile Iron
Seal Housing ..................................................... Stainless Steel
Bonnet ................................................................. Plated Steel
Lever ................................................................. Stainless Steel
Seat Disc ............................................................ Synthetic Rubber

**Ordering Information**

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<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
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<th>Flow at 10 PSIG</th>
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<td>3½” F.Acme</td>
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*To obtain approximate flow at other than 1 PSIG drop, multiply flow in table by square root of pressure drop. Example A7914 @ 9PSIG drop = 55 X √9 = 165 GPM/propane
Quick-Acting Valves for Crop Driers and Charging Manifold Hoses

7554 Series

Application

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

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

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

Features

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

Materials

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

Ordering Information

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<tr>
<th>Part Number</th>
<th>Inlet &amp; Outlet Connection (F. NPT)</th>
<th>Locking Handle</th>
<th>Flow At 1 PSIG (Cv) Pressure Drop* (GPM/Propane)</th>
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<tr>
<td>7554S/AV</td>
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<td>7554L/V</td>
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<td>11.3</td>
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</table>

* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: 7554LV @ 9 PSIG = 11.5 X √9 = 34.5 GPM/ propane.
Quick-Acting Valves for Cylinder Charging Hoses
7053T and 7901T Series

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

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

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

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

Ordering Information

<table>
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<tr>
<th>Part Number</th>
<th>Inlet Connection (F. NPT)</th>
<th>Outlet Connection (F. NPT)</th>
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<th>Flow At 1 PSIG (CV) Pressure Drop* (GPM/Propane)</th>
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<tr>
<td>7901TB</td>
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<td>Brass</td>
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</tr>
<tr>
<td>7901TC</td>
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<tr>
<td>7053T</td>
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<td>⅜&quot;</td>
<td>Brass</td>
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</tbody>
</table>

* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: 7901T @ 9 PSIG = √95 x 9 = 5.85 GPM/propane. For NH3 flow, multiply propane flow by .90.
Quick-Acting Valves for Dispensing Hoses
7901TL Series

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

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

Materials
Body ................................................. Forged Brass
O-Ring .................................. Resilient Synthetic Rubber
Bonnet Assembly ........................ Brass
Seat Disc ................................. Resilient Synthetic Rubber
Handle ................................................ Brass
Springs ......................................... Stainless Steel

Ordering Information

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<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection (F. NPT)</th>
<th>Outlet Connection (F. NPT)</th>
<th>Body Material</th>
<th>Flow At 1 PSIG (CV) Pressure Drop* (GPM/Propane)</th>
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<td>7901TLC</td>
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</table>

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection (F. NPT)</th>
<th>Outlet Connection (F. NPT)</th>
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<tr>
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<td>Type 1 Connection (17/32&quot;) F. ACME</td>
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“V”-Ring Seal Globe and Angle Valve Information

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

These ductile iron valves are available in both threaded and flanged connections. Threaded connections are available in ½” F. NPT to 3” F. NPT sizes. Flanged connections are available in 1½”, 2” and 3” pipe sizes.

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

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

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

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

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

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

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

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

Downstream Accessory Boss
These RegO valves incorporate a plugged ¼” F. NPT boss on the downstream side of the body for attaching either a hydrostatic relief valve or vent valve. Boss size on the 2” and 3” valves has been increased to allow a ¾” drilling for accommodation of a standard by-pass valve or jumper lines.

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

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

Replace Gate Valves with Flanged Valves
Except for standard flange sizes, RegO Flanged Globe and Angle Valves are smaller and lighter than contemporary valves, thus reducing price and shipping costs and making them far easier to install. RegO face-to-face flange dimensions conform to gate valve dimensions, making replacement of most gate or plug valves with RegO valves simple and easy.
“V”-Ring Seal Globe and Angle Valves for Bulk Storage Containers, Transports, Bobtails and Plant Piping A7500 Series and TA7500 Series

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

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

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

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

*Teflon seat discs on valves built to order.
**300# ANSI R.F. Flange.
***To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in chart by square root of pressure drop.

*Example: 7514FP @ 9 PSIG = 133 x 9 = 399 GPM/Propane. For NH₃ flow, multiple propane flow by .90.

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet and Outlet Connection</th>
<th>Flow at 1 PSIG Pressure Drop (CV)/(GPM/Propane)***</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve Stem</td>
<td>Globe</td>
<td>Angle</td>
<td>Angle</td>
</tr>
<tr>
<td>A7505AP</td>
<td>TA7034P</td>
<td>TA7034LP</td>
<td>¼&quot; F. NPT</td>
</tr>
<tr>
<td>A7506AP</td>
<td>TA7505AP</td>
<td>TA7506AP</td>
<td>¾&quot; F. NPT</td>
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<tr>
<td>A7507AP</td>
<td>TA7507AP</td>
<td>-</td>
<td>1&quot; F. NPT</td>
</tr>
<tr>
<td>A7509BP</td>
<td>TA7509BP</td>
<td>TA7510BP</td>
<td>1½&quot; F. NPT</td>
</tr>
<tr>
<td>A7511AP</td>
<td>TA7511AP</td>
<td>TA7512AP</td>
<td>1½&quot; F. NPT</td>
</tr>
<tr>
<td>A7511FP</td>
<td>TA7511FP</td>
<td>-</td>
<td>1½&quot; Flange**</td>
</tr>
<tr>
<td>A7513AP</td>
<td>TA7514AP</td>
<td>TA7513AP</td>
<td>2&quot; F. NPT</td>
</tr>
<tr>
<td>A7513FP</td>
<td>TA7513FP</td>
<td>TA7514FP</td>
<td>2&quot; Flange**</td>
</tr>
<tr>
<td>A7517AP</td>
<td>TA7517AP</td>
<td>-</td>
<td>3&quot; F. NPT</td>
</tr>
</tbody>
</table>
## Globe and Angle Valve Dimensions

<table>
<thead>
<tr>
<th>Drawing</th>
<th>Valve Number (A or TA Prefix)</th>
<th>Inlet &amp; Outlet</th>
<th>Port Diameter</th>
<th>Dimensions</th>
<th>Flanges</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="7034P.png" alt="Diagram" /></td>
<td>7034P</td>
<td>½&quot; F. NPT</td>
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<td>3¾&quot;</td>
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<tr>
<td><img src="7505AP.png" alt="Diagram" /></td>
<td>7505AP</td>
<td>¾&quot; F. NPT</td>
<td>-</td>
<td>4½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7507AP.png" alt="Diagram" /></td>
<td>7507AP</td>
<td>1&quot; F. NPT</td>
<td>¹⁄₈&quot;</td>
<td>4½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7034LP.png" alt="Diagram" /></td>
<td>7034LP</td>
<td>¼&quot; F. NPT</td>
<td>³⁄₄&quot;</td>
<td>1½&quot;</td>
<td>-</td>
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<tr>
<td><img src="7506AP.png" alt="Diagram" /></td>
<td>7506AP</td>
<td>¼&quot; F. NPT</td>
<td>-</td>
<td>1¼&quot;</td>
<td>-</td>
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<tr>
<td><img src="7508AP.png" alt="Diagram" /></td>
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<td>1&quot; F. NPT</td>
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<td>2&quot;</td>
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</tr>
<tr>
<td><img src="7509BP.png" alt="Diagram" /></td>
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<td>1½&quot; F. NPT</td>
<td>1½&quot;</td>
<td>4½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7511AP.png" alt="Diagram" /></td>
<td>7511AP</td>
<td>1½&quot; F. NPT</td>
<td>1½&quot;</td>
<td>5½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7513AP.png" alt="Diagram" /></td>
<td>7513AP</td>
<td>2&quot; F. NPT</td>
<td>2&quot;</td>
<td>5½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7517AP.png" alt="Diagram" /></td>
<td>7517AP</td>
<td>3&quot; F. NPT</td>
<td>3½&quot;</td>
<td>9&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7510BP.png" alt="Diagram" /></td>
<td>7510BP</td>
<td>1¼&quot; F. NPT</td>
<td>1¼&quot;</td>
<td>2½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7512AP.png" alt="Diagram" /></td>
<td>7512AP</td>
<td>1¼&quot; F. NPT</td>
<td>1¼&quot;</td>
<td>2½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7514AP.png" alt="Diagram" /></td>
<td>7514AP</td>
<td>2&quot; F. NPT</td>
<td>2&quot;</td>
<td>2½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7518AP.png" alt="Diagram" /></td>
<td>7518AP</td>
<td>3&quot; F. NPT</td>
<td>3¼&quot;</td>
<td>4&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7511FP.png" alt="Diagram" /></td>
<td>7511FP</td>
<td>1½&quot; Flange</td>
<td>1½&quot;</td>
<td>7½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7513FP.png" alt="Diagram" /></td>
<td>7513FP</td>
<td>2&quot; Flange</td>
<td>2&quot;</td>
<td>8½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7517FP.png" alt="Diagram" /></td>
<td>7517FP</td>
<td>3&quot; Flange</td>
<td>3½&quot;</td>
<td>11¾&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7514FP.png" alt="Diagram" /></td>
<td>7514FP</td>
<td>2&quot; Flange</td>
<td>2&quot;</td>
<td>7½&quot;</td>
<td>-</td>
</tr>
<tr>
<td><img src="7518FP.png" alt="Diagram" /></td>
<td>7518FP</td>
<td>3&quot; Flange</td>
<td>3½&quot;</td>
<td>11¾&quot;</td>
<td>-</td>
</tr>
</tbody>
</table>

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

## Flange Dimensions

<table>
<thead>
<tr>
<th>Valve Number (A or TA Prefix)</th>
<th>Size</th>
<th>Flange Drilling</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>7511FP</td>
<td>1½&quot;</td>
<td>⁷⁄₈&quot; Bolt Holes on a 4½&quot; Bolt Circle Diameter</td>
<td>6¼&quot;</td>
<td>1¾&quot;</td>
<td>2¾&quot;</td>
<td>²⁄₈&quot;</td>
</tr>
<tr>
<td>7513FP</td>
<td>2&quot;</td>
<td>⁷⁄₈&quot; Bolt Holes on a 5&quot; Bolt Circle Diameter</td>
<td>6½&quot;</td>
<td>⁷⁄₈&quot;</td>
<td>³⁄₄&quot;</td>
<td>⁹⁄₁₆&quot;</td>
</tr>
<tr>
<td>7514FP</td>
<td>3&quot;</td>
<td>⁷⁄₈&quot; Bolt Holes on a 6&quot; Bolt Circle Diameter</td>
<td>⁸⁄₁₆&quot;</td>
<td>¹¾&quot;</td>
<td>⁵&quot;</td>
<td>¹¾&quot;</td>
</tr>
</tbody>
</table>

* Reducing screwed flanges are available for reducing 1½" flange to 1 or 1¼" pipe thread and 3" flange to 2½" pipe thread. Order from your local piping supplier.
2” & 3” Globe/Angle valves with Built-in Automatic Back Check
HA7513AP/HA7514AP and HA7517AP/HA7518AP

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

**Features**
- V-ring spring loaded pressure stem seal provides for leak-proof operation. No packing to retighten or replace.
- Circular bridge in globe design and a dropped seat in the angle design achieve greater flow with less pressure drop.
- Swivel seat disc assembly minimizes wear which provides for good alignment and long seat life.
- ¼" F.NPT plugged holes on upstream and downstream sides of the valve.
- Heavy duty rolled ACME stem threads provide quick action and long service life.
- Seat Disc assembly incorporates an automatic back check valve, eliminating the need for a separate hydrostatic relief valve.

**Materials**
- Body: Ductile Iron
- Stem: Stainless Steel
- Seat: Stainless Steel
- Seat Disc: Synthetic Rubber
- Return Spring: Stainless Steel

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet/Outlet Connection</th>
<th>Port Diameter</th>
<th>Flow at 1 PSIG Pressure drop GPM Propane</th>
</tr>
</thead>
<tbody>
<tr>
<td>HA7513AP</td>
<td>2”-FNPT</td>
<td>2”</td>
<td>Globe: 75.0, Angle: 88.5</td>
</tr>
<tr>
<td>HA7517AP</td>
<td>3¾”-FNPT</td>
<td>3½”</td>
<td>Globe: 197.0, Angle: 303.0</td>
</tr>
</tbody>
</table>

*REGO 10 YEAR WARRANTY*
Flange Seal Globe and Angle Valve Information

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

Leak-tight performance is assured and periodic adjustment is not required. The synthetic rubber construction provides smooth operating performance with long service life. These valves all incorporate a plugged ¼" NPT side boss on the downstream side of the valve that can be equipped with a hydrostatic relief valve or vent valve.

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

General Features
- Rugged quick-acting ACME threads on stem.
- Threads are under flange ring...dust, sand and grit can't reach them.
- Swivel seat cannot grind during valve opening or closing.
- Synthetic Rubber Seat Disc
- Nylon bearing surrounds stem to prevent galling.
- Rubber flange ring stem seal effectively prevents gas escape. The higher the pressure, the tighter the seal.
- Metal to metal back seat permits replacement of flange ring with valve in service.

Valve body made of shell molded ductile iron. Highly resistant to cracking or fracturing from wrenching, dropping or hammer blows. Bonnet and seal cap are steel on "A" prefix valves.
Flange Seal Globe and Angle Valves for Bulk Storage Containers, Filling Hoses and Plant Piping 7704, 7705 and 7706 Series

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

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

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

Materials

<table>
<thead>
<tr>
<th>Body</th>
<th>Bonnet (7704, 05, 06)</th>
<th>Bonnet (A7704, 05, 06)</th>
<th>Stem (7704-05-06)</th>
<th>Stem (A7704-05-06)</th>
<th>Flange Ring</th>
<th>Seat Disc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ductile Iron</td>
<td>Brass</td>
<td>Steel</td>
<td>Bronze</td>
<td>Stainless Steel</td>
<td>Synthetic Rubber</td>
<td>Synthetic Rubber</td>
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</table>

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet &amp; Outlet Connection (F. NPT)</th>
<th>Flow at 1 PSIG Pressure Drop (Cv) (GPM/Propane)*</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>7704P</td>
<td>⅜&quot;</td>
<td>7.3</td>
<td>12.3</td>
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<tr>
<td>A7704P</td>
<td>A7704P</td>
<td>11.5</td>
<td>17.7</td>
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</table>

* To obtain approximate flow at other than 1 PSIG pressure drop, multiply flow in table by square root of pressure drop. Example: A7704LP @ 9 PSIG = 12.3 x √9 = 36.9 GPM/propane. For NH₃ flow, multiply propane flow by .90.
Flange Seal Liquid Transfer Angle Valves for Bulk Storage Containers 7550 and 7551 Series

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

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

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

When equipped with an integral excess flow valve (7550PX), the valve should be mounted in a forged steel 3000 lb. half coupling. When mounted in a 1¾" x ½" NPT reducing coupling, the ½" female thread in this coupling must be full length — equivalent to a forged steel 3000 lb. half coupling.

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

Features
- Flange seal stem design provides for leak-proof operation. No packing to retighten or replace.
- Large, unrestricted interior ports reduce pressure drop through the valve, increasing capacity and preventing cavitation.
- Resilient swivel seat disc ensures longer seat life and easy, positive shut-off.
- Plugged ¼" NPT outlet boss accommodates hydrostatic relief valve or vent valve.
- Specifically designed for liquid transfer of LP-Gas with the Chek-Lok®.

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection (M. NPT)</th>
<th>Outlet Connection (F. NPT)</th>
<th>Integral Excess Flow</th>
<th>Flow at 1 PSIG (Cv) Pressure Drop* (GPM/Propane)</th>
<th>Excess Flow Approximate Closing Flow** (GPM/Propane)</th>
<th>Accessories</th>
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<tbody>
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<td>7550P</td>
<td>¾&quot;</td>
<td>¾&quot;</td>
<td>No</td>
<td>13.3</td>
<td>-</td>
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<tr>
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<td>¾&quot;</td>
<td>Yes</td>
<td>-</td>
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<tr>
<td>7550PX</td>
<td>½&quot;</td>
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<td>8.9</td>
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<td>SS8001J</td>
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<td>A7551P</td>
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<td>½&quot;</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
<td>SS8001J</td>
</tr>
</tbody>
</table>

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

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

REGO 10 YEAR WARRANTY

100 Rego Dr. Elon, NC 27244 USA  www.regoproducts.com +1 (336) 449-7707
High Capacity Liquid Withdrawal Valves For NH3
A8012 Series

Application
The A8012 Series is designed especially for use as a high capacity liquid withdrawal valve on anhydrous ammonia nurse tanks or risers. This valve incorporates an integral excess flow valve; when the valve is in operation the handwheel must be completely open and back-seated to allow the excess flow valve to function properly as explained in the excess flow section of our L-500 and L-102 catalogs.

Features
- Excess flow valve designed for high flow and low pressure drop.
- Excess flow seat fully contained in the container coupling for maximum protection in the event of external damage to the valve.
- Resilient disc assembly with swivel seat is fully contained for bubble-tight shut-off and long service life.
- “V”-ring spring loaded stem seal design requires no field adjustment.
- ¼” F.NPT port that accommodates a vent valve or hydrostatic relief valve.
- UL Listed for LP-Gas and anhydrous ammonia.

Materials
Body ................................................................................ Ductile Iron
Bonnet .............................................................................Ductile Iron
Stem ...........................................................................Stainless Steel
Seat Disc ..................................................................................Nitrile
“V”-Rings.........................................................................Teflon
Excess Flow Valve ......................................................Stainless Steel
Springs .......................................................................Stainless Steel

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Approximate Closing Flow GPM</th>
<th>Accessories for NH3 Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>A8012D</td>
<td>1½” M.NPT</td>
<td>1¼” F.NPT</td>
<td>72 GPM NH3*</td>
<td>SS8001J</td>
</tr>
<tr>
<td>A8012C</td>
<td></td>
<td></td>
<td>45 GPM NH3*</td>
<td>TSS3169</td>
</tr>
</tbody>
</table>

* When installed in a horizontally flowing system.
Multipurpose Valve for Filling of NH₃ Containers
A8016DBC

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

**Features**
- Positive seating back check valve opens for maximum flow at minimum pressure drop when filling — regardless of the type of coupling in which the valve is installed.
- Back Check seat is fully contained in the tank coupling for maximum protection in the event of external damage to the valve.
- Resilient seat disc assembly is fully contained on three sides for bubble-tight shut-off and long service life.
- “V”-ring spring-loaded stem seal design requires no repacking or field adjustment.
- Specially machined break-away groove beneath ACME threads will shear-off with excessive pull on the hose and leave the valve body intact.
- Plugged ¼” NPT boss accommodates vent valve or hydrostatic relief valve.

**Materials**
- Body ................................................................. Ductile Iron
- Bonnet ............................................................... Steel
- “V”-Rings ............................................................ Teflon
- Stem ................................................................. Stainless Steel
- Seat Disc .......................................................... Resilient Synthetic Rubber
- Back Check Valve ...... Stainless Steel, Steel and Synthetic Rubber
- Springs ......................................................... Stainless Steel

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Filling Connection</th>
<th>Filling Capacity at 20 PSIG Pressure Drop GPM/NH₃</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>A8016DBC</td>
<td>1¼”</td>
<td>1¼”</td>
<td>95</td>
<td>SS8001J</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TSS3169</td>
</tr>
</tbody>
</table>
Multipurpose Valve for Filling of NH₃ Containers
A8016DP

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

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

Features
- Positive-acting excess flow valve opens for maximum flow at minimum pressure drop when filling — regardless of the type of coupling in which the valve is installed.
- Excess flow seat is fully contained in the tank coupling for maximum protection in the event of external damage to the valve.
- Resilient seat disc assembly is fully contained on three sides for bubble-tight shut-off and long service life.
- “V”-ring spring-loaded stem seal design requires no repacking or field adjustment.
- Specially machined break-away groove beneath ACME threads will shear-off with excessive pull on the hose and leave the valve body intact.
- Plugged ¼” NPT boss accommodates vent valve or hydrostatic relief valve.

Materials
Body .............................................. Ductile Iron
Bonnet .............................................. Steel
“V”-Rings ........................................ Teflon
Stem ................................................ Stainless Steel
Seat Disc ........................................ Resilient Synthetic Rubber
Excess Flow Valve .......... Stainless Steel—Steel Body
Springs ........................................ Stainless Steel

Excess Flow Valve ................................ Stainless Steel—Steel Body

Materials

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection (M. NPT)</th>
<th>Filling Connection (M. ACME)</th>
<th>Filling Capacity At 20 PSIG Pressure Drop GPM/NH₃*</th>
<th>Liquid* GPM/NH₃</th>
<th>Vapor** CFH/NH₃</th>
<th>Hydrostatic Relief Valve</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>A8016DP</td>
<td>1½”</td>
<td>1½”</td>
<td>95</td>
<td>44</td>
<td>24,000</td>
<td>SS8001J</td>
<td>TSS3169</td>
</tr>
</tbody>
</table>

* Determined at 9.5 to 12 PSIG differential.
** Determined at 100 PSIG inlet.
Multipurpose Valves for Liquid Withdrawal of LP-Gas and NH₃ Containers

**A8017D & A8020D**

**Application**

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

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

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

**Features**

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

**Materials**

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

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection (M. NPT)</th>
<th>Outlet Connection (F. NPT)</th>
<th>Approximate Excess Flow Liquid Closing Flow** (GPM/Propane)</th>
<th>Accessories</th>
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<tr>
<td>A8017DH*</td>
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<td>A8017DLP</td>
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<td>49</td>
<td>SS8001J</td>
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<tr>
<td>A8020D</td>
<td>1¼&quot;</td>
<td>1&quot;</td>
<td>78</td>
<td>TSS3169</td>
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</tbody>
</table>

* * Built-in back pressure check valve incorporated into shut-off valve.
** Determined at 11.5 to 13.5 PSIG differential for ¾" outlet and 9 to 12 PSIG differential for 1" outlet. For NH₃ flow, multiply by .90.
**Application**

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

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

**Features**

- Functions as both a filler valve and liquid transfer valve, in one unit.
- Positive acting excess flow valve opens for maximum flow at minimum pressure drop when filling — regardless of the type of coupling in which the valve is installed.
- Excess flow seat is fully contained in the tank coupling for maximum protection in the event of external damage to the valve.
- Specially machined break-away groove beneath ACME thread of filler valve will shear-off with excessive pull on the hose and leave the valve body intact.
- Triple guide filler valve check provides for dependable shut-off performance when filling ceases.
- Resilient seat disc assembly is fully contained on three sides for bubble-tight shut-off and long service life.
- “V”-ring spring loaded stem seal design requires no repacking or field adjustment.
- Plugged ¼” NPT boss accommodates vent valve or hydrostatic relief valve.

**Materials**

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

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection (M. NPT)</th>
<th>Outlet Connection (F. NPT)</th>
<th>Filling Connection (M. ACME)</th>
<th>Filling Capacity At 20 PSIG Pressure Drop GPM/NH3</th>
<th>Approximate Excess Flow Liquid Closing Flow GPM/NH3</th>
<th>Accessories</th>
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<tr>
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</table>

* Determined at 9 to 12 PSIG differential.
Multipurpose Filler Valves
8118P and 8117

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

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

Features
• Designed as a filler valve for LP-Gas with upper check and manual shut-off.
• Excess flow valve allows for maximum filling rates regardless of the length of the coupling the valve is installed in.
• Excess flow seat is fully contained in the tank coupling for maximum protection in the event of external damage to the valve.
• Breakaway groove protects the ACME in the case of a drive-away with the filler hose still connected.
• V-ring spring loaded stem assembly requires no repacking of field adjustment.
• Plugged ½" NPT boss allows for a pressure gauge to be installed.
• The one-inch outlet port plugged.

Materials
- Body: Brass
- Inlet Connection: Brass
- Outlet Connection: Brass
- Spring: Stainless Steel
- Seat Disc: Synthetic Rubber
- V-rings: Teflon
- Excess Flow Valve: Stainless Steel

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Outlet Connection</th>
<th>Filler Connection</th>
<th>Plug</th>
<th>Filling Capacity at 20 PSIG Pressure Drop</th>
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<td>8118P</td>
<td></td>
<td></td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

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

903-500

The following warning information, Part Number 903-500, is included with each shipment of Quick-Acting and Tank Car Valves to the first purchaser of the product from the factory.

This information is intended to be forwarded throughout the product distribution chain. Additional copies are available from RegO and Authorized Product Distributors.
Section F
Excess Flow, Check, Filler and Vapor Equalizing Valves
LIMITED 10 YEAR WARRANTY

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

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

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

LIMITATION OF LIABILITY

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

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

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

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

WARNING

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

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

NOTICE TO USERS OF PRODUCTS

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

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

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

1. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

2. Materials used for construction of products in this catalog are suitable for rated service pressure at temperatures of -40°F to +165°F, unless otherwise specified.

3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.
   a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no brass parts).
   b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service. These are of partial aluminum materials and are listed by Underwriters Laboratories (UL) for NH₃ service only.
   c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.
   d. “SS” prefix—Hydrostatic relief valve with this prefix are suitable for NH₃ and LP-Gas service (i.e., they have stainless steel materials).

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

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

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

Selection and Installation

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

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

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

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

Causes of Failure to Close

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

1. The piping system restrictions (due to pipe length, branches, reduction in pipe size or number of other valves) decrease the flow rate to less than the valve’s closing flow.
2. The break or damage to the downstream line is not large enough to allow enough flow to close the valve.

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

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

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

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

**Testing**

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

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

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

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

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

**General Warning**

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

The environment and conditions of use will determine the safe service life of these products. Periodic testing at least once a year when tank pressures are low and maintenance, as required, are essential.

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

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

Periodical Inspections for Excess Flow Valves

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

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

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

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

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

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

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

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

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

1. Not a Clean Break

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

2. Line Restriction Too Great

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

3. Improper Operating Practice

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

4. Improper Selection

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

5. Tampering with Excess Flow Valves

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

6. Impurities in the Line

Dirt, weld slag, broken drill taps, and various other foreign objects have been found jammed between the valve disc and valve seat to prevent excess flow valves from closing. A pre-test of the system would also discover this.
Excess flow check valves have been of help in limiting gas loss in many incidents involving breakage of hoses and transfer piping. Thus, they do provide a useful safety function in LP-Gas systems. However, there have also been transfer system accidents where excess flow valves have been ineffective in controlling gas loss due to a variety of conditions and to the inherent limitations of these valves. This bulletin explains what protection excess flow valves can offer, points out conditions which can interfere with that protection, and offers suggestions for effective excess flow valve installation.

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

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

1. The piping system restrictions (due to pipe length, branches, reduction in pipe size, or number of other valves) decrease the flow rate to less than the valve’s closing flow. (Valve should be selected by closing flow rating — not just by pipe size).

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

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

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

5. Foreign matter (such as welding slag) is lodged in the valve and prevents its closing.

6. A buildup of process material (sludge), which may be found in LP-Gas, may occur over a period of time and cause the valve to stick open.

7. The piping break or damage occurs upstream of an in-line excess flow valve, so the escaping product is not passing through the valve.

8. The flow through the valve is in the wrong direction. (Excess flow valves only respond to flow in one direction.)

9. The excess flow valve has been damaged, or is otherwise not in operating condition.

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

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

1. They are installed in the correct direction — the arrow on the valve indicates the shut-off direction.

2. The flow rating on the valve is proper for the installation. The rating must be above the normal system flow, but not higher than necessary to prevent “nuisance” closing in normal conditions. If the manufacturer’s catalog information is not sufficient, the valve suppliers can provide sizing assistance.

3. In-line excess flow valves are installed so likely piping damage will occur downstream of the valve and will not separate the valve from the upstream piping.

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

Testing of Excess Flow Valves

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

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

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

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

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

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

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

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

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

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

**An Explanation and Warning**

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

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

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

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

**How They Work**

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

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

**Proper Installation**

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

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

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

All installations must be in accordance with NFPA Standards 58 and 59, as well as state, provincial and local regulations.
Excess Flow Valves for Liquid or Vapor Service
1519C Series

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

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

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

Materials
1519C2
Body ................................................................. Brass
Valve Poppet w/Stem ................................................ Brass
Spring ............................................................... Stainless Steel
Guide ................................................................. Brass

1519C4
Body ................................................................. Brass
Valve Disc .................................................. Cadmium Plated Steel
Stem ............................................................. Stainless Steel
Spring ............................................................... Stainless Steel
Guide ............................................................. Ductile Iron

Performance

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A Inlet Connection NPT</th>
<th>B Outlet Connection F NPT</th>
<th>C Wrench Hex Flats</th>
<th>D Effective Length (Approx.)</th>
<th>E Threaded End to Port</th>
<th>Approximate Closing Flows**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Liquid (GPM Propane)</td>
<td>Vapor SCFH (Propane)</td>
</tr>
<tr>
<td>1519C2</td>
<td>1½&quot; Male*</td>
<td>1'</td>
<td>2¾&quot;</td>
<td>2½&quot;</td>
<td>25</td>
<td>5,000</td>
</tr>
<tr>
<td>1519C4</td>
<td>2&quot; Female</td>
<td>2'</td>
<td>3&quot;</td>
<td>4½&quot;</td>
<td>-</td>
<td>170</td>
</tr>
</tbody>
</table>

* 1" Female Dip Pipe Connection
** Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

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

100 Rego Dr. Elon, NC 27244 USA  www.regoproducts.com  +1 (336) 449-7707
Excess Flow Valves for Liquid or Vapor Line Service
1519A Series, 1519B Series and A1519 Series

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

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

Materials
1519A Series and 1519B Series
Body ................................................................. Brass
Valve Poppet w/Stem .............................................. Brass
Spring ................................................................. Stainless Steel
Guide ................................................................. Brass

A1519 Series
Body ................................................................. Cadmium Plated Steel
Valve Disc ............................................................ Cadmium Plated Steel
Stem ................................................................. Stainless Steel
Spring ................................................................. Stainless Steel
Guide ................................................................. Ductile Iron

Typical Installation

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A Inlet Connection NPT</th>
<th>B Outlet Connection F.NPT</th>
<th>C Wrench Hex Flats</th>
<th>D Effective Length (Approx)</th>
<th>Approximate Closing Flows*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Liquid (GPM Propane)</td>
<td>Vapor SCFH (Propane)</td>
<td></td>
<td>25 PSIG Inlet</td>
<td>100 PSIG Inlet</td>
</tr>
<tr>
<td>1519A2</td>
<td>Brass</td>
<td>1”</td>
<td>1”</td>
<td>1¾”</td>
<td>25</td>
</tr>
<tr>
<td>A1519A2</td>
<td>Steel</td>
<td>1½”</td>
<td>1½”</td>
<td>2½”</td>
<td>60</td>
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<tr>
<td>1519A3</td>
<td>Brass</td>
<td>2”</td>
<td>2”</td>
<td>3”</td>
<td>100</td>
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<tr>
<td>1519A4</td>
<td>Steel</td>
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<td>2”</td>
<td>3”</td>
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<td>3”</td>
<td>4”</td>
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* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

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

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

100 RegO Dr. Elon, NC 27244 USA  www.regoproducts.com  +1 (336) 449-7707
Excess Flow Valves for Liquid or Vapor 3272 Series, 3282 Series, 3292 Series, A3272 Series, A3282 Series, A3292 Series, 7574 and 12472

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

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

Materials
Series 3272, 3282, 3292, 7574, 12472
Body ........................................ Brass
Seat Disc ........................................ Brass
Stem ........................................ Brass
Spring ........................................ Stainless Steel
Guide (12472 ONLY) ................................. Plastic

Series A3272, A3282, A3292
Body ........................................ Cadmium Plated Steel
Seat Disc ........................................ Cadmium Plated Steel
Stem ........................................ Cadmium Plated Steel
Spring ........................................ Stainless Steel

Performance
Closing Flow Range
A - 3272E F - 3282A
B - 3272E F - 3282B
C - 3272F G - 3282C
D - 3272G A3282C

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Brass or Steel</th>
<th>A Inlet Connection (M. NPT)</th>
<th>B Outlet Connection (F. NPT)</th>
<th>C Wrench Hex Flats</th>
<th>D Effective Length (Approx.)</th>
<th>Liquid (GPM Propane)</th>
<th>Vapor SCFH (Propane)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12472</td>
<td>Brass</td>
<td>½˝</td>
<td>¼˝</td>
<td>1½˝</td>
<td>1½˝</td>
<td>4</td>
<td>1,050 1,700</td>
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<tr>
<td>3272E</td>
<td>Brass</td>
<td>½˝</td>
<td>¼˝</td>
<td>1½˝</td>
<td>1½˝</td>
<td>10</td>
<td>2,100 3,700</td>
</tr>
<tr>
<td>3272F</td>
<td>Brass</td>
<td>½˝</td>
<td>¼˝</td>
<td>1½˝</td>
<td>1½˝</td>
<td>15</td>
<td>2,800 5,000</td>
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<tr>
<td>3272G</td>
<td>Steel</td>
<td>½˝</td>
<td>¼˝</td>
<td>1½˝</td>
<td>1½˝</td>
<td>20</td>
<td>3,700 6,900</td>
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<tr>
<td>A3272G</td>
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<td>1¼˝</td>
<td>1¾˝</td>
<td>2”</td>
<td>1¾˝</td>
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<td>5,850 10,000</td>
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<tr>
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<td>1¼˝</td>
<td>1¾˝</td>
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<td>1¾˝</td>
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<td>7,600 13,600</td>
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<td>2”</td>
<td>1¾˝</td>
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<td>9,000 16,300</td>
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<td>1¾˝</td>
<td>2”</td>
<td>1¾˝</td>
<td>70</td>
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<td>2”</td>
<td>1¾˝</td>
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<td>15,200 28,100</td>
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<td>1¾˝</td>
<td>2¾˝</td>
<td>1¾˝</td>
<td>75</td>
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<tr>
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<td>2¾˝</td>
<td>1¾˝</td>
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<td>18,100 32,700</td>
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<tr>
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<td>2”</td>
<td>2¾˝</td>
<td>2”</td>
<td>122</td>
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<tr>
<td>A3292A</td>
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<td>2”</td>
<td>2¾˝</td>
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<td></td>
</tr>
<tr>
<td>A3292B</td>
<td>Steel</td>
<td>2”</td>
<td>2”</td>
<td>2¾˝</td>
<td>2”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A3292C</td>
<td>Steel</td>
<td>2”</td>
<td>2”</td>
<td>2¾˝</td>
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<td></td>
<td></td>
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</tbody>
</table>

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.
Excess Flow Valve for Autogas Dispensing Systems
3272H

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

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

**Materials**
- Body: Brass
- Spring: Stainless Steel
- Seat: Brass

**Typical Installation**

---

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Wrench Hex Flats</th>
<th>Effective Length (Approx.)</th>
<th>Liquid (GPM Propane)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3272H</td>
<td>¾”</td>
<td>¾”</td>
<td>1¾”</td>
<td>1¼”</td>
<td>29</td>
</tr>
</tbody>
</table>
Excess Flow Valves for Container Service
A7537 Series, A7539 Series, A8523 and A8525

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

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

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

Ordering Information

<table>
<thead>
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<th>Part Number</th>
<th>For Use With This Type Coupling</th>
<th>A Inlet Connection M. NPT</th>
<th>B Outlet Connection NPT</th>
<th>C Wrench Hex Flats</th>
<th>D Effective Length (Approx.)</th>
<th>Approximate Closing Flow*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Liquid (GPM Propane) 25 PSIG Inlet</td>
<td>Vapor SCFH (Propane) 100 PSIG Inlet</td>
</tr>
<tr>
<td>A8523</td>
<td>Half</td>
<td>½&quot;</td>
<td>¾&quot; Male</td>
<td>1½&quot;</td>
<td>1½&quot;</td>
<td>15</td>
</tr>
<tr>
<td>A8525</td>
<td>Half</td>
<td>1½&quot;</td>
<td>1½&quot; Male</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
<td>35</td>
</tr>
<tr>
<td>A7537L4</td>
<td>Half</td>
<td>2&quot;</td>
<td>2&quot; Male</td>
<td>2½&quot;</td>
<td>2½&quot;</td>
<td>75</td>
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<tr>
<td>A7537L4F</td>
<td>Full</td>
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<td>150</td>
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<tr>
<td>A7537P4</td>
<td>Half</td>
<td>3&quot;</td>
<td>3&quot; Male and 2&quot; Female</td>
<td>3½&quot;</td>
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<td>200</td>
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<tr>
<td>A7539R6</td>
<td>Half</td>
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<td></td>
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<tr>
<td>A7539V6</td>
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<tr>
<td>A7539V6F</td>
<td>Full</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

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

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.
Excess Flow Valves for Vapor or Liquid
A2137 Series and 2139 Series

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

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

Materials
A2137 Series
Body ............................................................. Cadmium Plated Steel
Disc ............................................................... Cadmium Plated Steel
Stem ......................................................................... Stainless Steel
Spring ............................................................... Stainless Steel
Guide ............................................................ Cadmium Plated Steel

2139 Series
Body ....................................................................................... Brass
Disc ......................................................................................... Brass
Stem ......................................................................... Stainless Steel
Spring ............................................................... Stainless Steel
Guide ...................................................................................... Brass

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A Inlet Connection</th>
<th>B Outlet Connection</th>
<th>C Wrench Hex Flats</th>
<th>D Effective Length (Approx.)</th>
<th>Approximate Closing Flows***</th>
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<tr>
<td></td>
<td>NPT</td>
<td>F. NPT</td>
<td></td>
<td></td>
<td>Liquid (GPM Propane)</td>
</tr>
<tr>
<td>A2137</td>
<td>2&quot;**</td>
<td>2&quot; Male and 1¾’ Female</td>
<td>2½&quot;''</td>
<td>1¼''</td>
<td>50</td>
</tr>
<tr>
<td>A2137A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>70</td>
</tr>
<tr>
<td>2139</td>
<td>3***</td>
<td>3” Male and 2” Female</td>
<td>3½”</td>
<td>1¼”</td>
<td>125</td>
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<tr>
<td>2139A</td>
<td></td>
<td></td>
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<td>160</td>
</tr>
</tbody>
</table>

* 1½” F. NPT Dip Pipe Connection
** 2” F. NPT Dip Pipe Connection
*** Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.

NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.
Excess Flow Valves for Flange Mounting in Container Service
A3500 Series and A4500 Series

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

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

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

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

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

Flanged Installation In Container
NOTE: The opening in the tank flange should be machined with a ¼"-45° chamfer at the outer edge. The thread should be tapped one or two turns large as checked by a plug gauge. This and the undersize thread on the valve should permit the valve to be installed so that its outer face is at least flush with the outer edge of the flange.

The valve is screwed into this opening by fitting a ¼" flat metal piece into the slot and turning until hand tight. A lubricant may be used, but a luting compound is not necessary since this joint does not have to be gas tight.

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A Inlet Connection NPT</th>
<th>B For Installation</th>
<th>C Effective Thread (Approx.)</th>
<th>D Threaded End To Port</th>
<th>Approximate Closing Flows*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A3500L4</td>
<td>2&quot;</td>
<td>Slotted Body</td>
<td>3⁄8&quot;</td>
<td>11⁄16&quot;</td>
<td>Liquid (GPM) 25 PSIG 13,000 Inlet 100 PSIG 22,500</td>
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<tr>
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<td></td>
<td>Vapor SCFH (Propane) 75</td>
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<td>3&quot;</td>
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</tbody>
</table>

Key

- A Valve Size (NPT) 2" 3" 4"
- B Tank Opening 3½" 4½" 5½"
- C Thickness (min.) 1" 1½" 1⅛"
- D Outside Diameter 6½" 8½" 10"
- E Pipe Thread (NPT) 2" 3" 4"
- F Bolt Circle Dia. 5" 6½" 7½"
- G Number of Bolt Holes 8 8 8
- H Bolt Hole Thread 45° 90° NC - 2 90° - 10 NC - 2 90° - 10 NC - 2
- I Bolt Hole Thread (min. eff.) 3½" 1" 1½"

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

* Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.
Excess Flow Valves for Liquid or Vapor Withdrawal
2723C and A8013D Series

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

Features
- 2723C provides a ¾” dip pipe inlet connection for top-mounted liquid or bottom-mounted vapor requirements.
- A8013D Series features a 2-position floating valve disc for faster, more efficient container filing.
- Precision machined.
- Stainless steel spring provides consistent closing flow and long service life.
- Generous flow channels provide low pressure drop.

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

Performance

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A. Inlet Connection</th>
<th>B. Outlet Connection</th>
<th>C. Wrench Hex Flats</th>
<th>D. Effective Length (Approx.)</th>
<th>E. Threaded End To Port</th>
<th>Approximate Closing Flow**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M. NPT</td>
<td>NPT</td>
<td></td>
<td></td>
<td></td>
<td>Liquid (GPM Propane)</td>
</tr>
<tr>
<td>A8013D</td>
<td>1¼”</td>
<td>¾”</td>
<td>1¾”</td>
<td>1½”</td>
<td>-</td>
<td>39</td>
</tr>
<tr>
<td>A8013DA</td>
<td>1”</td>
<td>¾”</td>
<td>1¾”</td>
<td>1½”</td>
<td>-</td>
<td>44</td>
</tr>
<tr>
<td>A8013DB</td>
<td>1¼”</td>
<td>¾”</td>
<td>1¾”</td>
<td>1½”</td>
<td>1½”</td>
<td>55</td>
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<tr>
<td>2723C</td>
<td>1¼”</td>
<td>½”</td>
<td>1¾”</td>
<td>1½”</td>
<td>1½”</td>
<td>20</td>
</tr>
</tbody>
</table>

* ¾” F. NPT Dip Pipe Connection
** Based on horizontal installation of excess flow valve. Flows are slightly more when valves are installed with outlet up; slightly less when installed with outlet down.
NOTE: Multiply flow rate by .94 to determine liquid butane flow and by .90 to determine liquid anhydrous ammonia flow.
Application
Designed for container use in pressure gauge installations to minimize excess gas discharge in the event the pressure gauge is sheared. A suitable shut-off valve should be installed between this valve and the pressure gauge to allow convenient gauge replacement.

Features
- Precision machined.
- Suitable for use with all ½” M.NPT pressure gauges.

Materials
Body ................................................................. Brass
Valve ................................................................. Brass
Spring .............................................................. Stainless Steel
Pin ................................................................. Stainless Steel

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A. Inlet Connection</th>
<th>B. Outlet Connection</th>
<th>C. Wrench Hex Flats</th>
<th>D. Effective Length (Approx.)</th>
<th>E. Threaded End To Port</th>
<th>Liquid (GPM Propane)</th>
<th>Vapor SCFH (Propane)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2884D</td>
<td>¾”</td>
<td>¼”</td>
<td>1¼”</td>
<td>¾”</td>
<td>¾”</td>
<td>N/A</td>
<td>60</td>
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</tbody>
</table>

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

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

Excess Flow Valve for DOT Cylinders
3199W

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A. Inlet Connection</th>
<th>B. Outlet Connection</th>
<th>C. Wrench Hex Flats</th>
<th>D. Effective Length (Approx.)</th>
<th>Liquid (GPM Propane)</th>
<th>Vapor SCFH (Propane)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3199W</td>
<td>Male POL</td>
<td>¾”</td>
<td>½”</td>
<td>2¼”</td>
<td>.95</td>
<td>265</td>
</tr>
</tbody>
</table>

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

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

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

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

NFPA Pamphlet 58 standards require: 1) containers with 125 gallons water capacity, or more, have a connection for liquid evacuation which is at least ¾” NPT, and 2) containers designed for stationary use, have no more propane than 5% of their water capacity in liquid form during transportation. These rules apply to containers manufactured after July 1, 1961.

Chek-Lok® Operation

Instructions to Open Chek-Lok®

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

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

2. Before beginning withdrawal, securely connect a RegO 7550P angle valve or suitable shut-off valve to the adapter. Fully open the shut-off valve – the valve’s handwheel must be fully opened before connecting adapter to tank.

3. Completely thread the adapter and shut-off valve assembly onto the Chek-Lok by turning adapter’s coupling nut clockwise until it is tight. Immediately close the shut-off valve. Listen for an audible click to signal that the Chek-Lok has opened and is actuated for liquid withdrawal. The flow can now be controlled by the transfer valve.

4. Check the coupling nut and adapter assembly for leaks using a suitable leak detection solution.

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

Instructions to Close Chek-Lok®

1. To re-lock the Chek-Lok, container pressure must be in excess of 35 PSIG. Close shut-off valve and disconnect the hose or piping.

2. Open shut-off valve fully. Liquid discharging to the atmosphere should cause the excess flow feature of the Chek-Lok to close, provided tank pressure is 35 PSIG or more.

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

3. After the excess flow valve closes, remove the Adapter and Shut-Off Valve Assembly.

4. Clean face of Chek-Lok and install the Cap with a gasket.

   IMPORTANT: Only use the proper Chek-Lok Cap. Do not use a standard pipe cap.

Connecting the 7590U or 7591U Chek-Lok®

Connecting the 7572FC or 7580FC Chek-Lok®

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

Chek-Lok® Mounting

Chek-Lok® Valves may be either top mounted with a dip tube or bottom mounted. For bottom mounting, it is preferable to position the coupling in the head or slightly off of the bottom. This helps prevent the accumulation of sludge, etc. around the valve which could affect the proper operation of the excess flow valve.
Chek-Lok® Excess Flow Valves
7590U and 7591U Series

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

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

**Features**
- Extra strength connection between body and adapter provides increased strength.
- Weep hole in cap provides indicator to verify Chek-Lok® is closed before cap removal.
- Heavy duty brass cap requires at least 3½” full turns for removal.
- O-ring seal on adapter provides a gas tight seal before the adapter opens the equalizing stem.
- Eliminates need for individual transfer valves at each container.
- UL listed.

**Ordering Information**

<table>
<thead>
<tr>
<th>Chek-Lok® Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>A. Body Wrench Hex Flats</th>
<th>B. Approximate Effective Length</th>
<th>C. Cap Wrench Hex Flats</th>
<th>Approximate Closing Flow, Liquid GPM (Propane)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>7590U</td>
<td>¾” M. NPT</td>
<td>1¼” UNF</td>
<td>13⁄16”</td>
<td>17⁄16”</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>7591U</td>
<td>1¼” M. NPT</td>
<td></td>
<td>13⁄16”</td>
<td>17⁄16”</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>

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

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

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

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

**Ordering Information**

<table>
<thead>
<tr>
<th>Adapter Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>A Wrench Hex Flats</th>
<th>B Approximate Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>7590U-20</td>
<td>1¾-12 UNF</td>
<td></td>
<td>3⁄8”</td>
<td>4 1/4”</td>
</tr>
</tbody>
</table>
**Application**

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

**Features**

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

**Ordering Information**

<table>
<thead>
<tr>
<th>Adapter Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Approximate Length</th>
<th>Wrench Hex Flats</th>
</tr>
</thead>
<tbody>
<tr>
<td>7580F-20</td>
<td>¾&quot; M. NPT</td>
<td>¾&quot; F. NPT</td>
<td>4½&quot;</td>
<td>1¼&quot;</td>
</tr>
</tbody>
</table>

**Union Style Adapters for 7590U and 7591U Valves**

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

**Ordering Information**

<table>
<thead>
<tr>
<th>Adapter Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>A. Wrench Hex Flats</th>
<th>B. Approximate Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>7590U-10</td>
<td>¾&quot; M. NPT</td>
<td>¾&quot; F. NPT</td>
<td>1½&quot;</td>
<td>1½&quot;</td>
</tr>
</tbody>
</table>

**Adapters for 7572FC and 7580FC Valves**

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

**Ordering Information**

<table>
<thead>
<tr>
<th>Adapter Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>A. Wrench Hex Flats</th>
<th>B. Approximate Effective Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>7572C-14A</td>
<td>¾&quot; M. NPT</td>
<td>¾&quot; F. NPT</td>
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<td>1&quot;</td>
</tr>
<tr>
<td>7572C-15A</td>
<td>¾&quot; M. NPT</td>
<td>½&quot; M. NPT</td>
<td>½&quot;</td>
<td>½&quot;</td>
</tr>
</tbody>
</table>
Double-Check Filler Valves

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

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

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

Spare Gasket Ordering Information

<table>
<thead>
<tr>
<th>ACME</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>1¼&quot;</td>
<td>A2797-20R</td>
</tr>
<tr>
<td>1¾&quot;</td>
<td>A2697-20R</td>
</tr>
<tr>
<td>2¼&quot;</td>
<td>A3184-8R</td>
</tr>
<tr>
<td>3¼&quot;</td>
<td>A3194-8R</td>
</tr>
</tbody>
</table>

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A. ACME Hose Connection</th>
<th>B. Tank Connection M. NPT</th>
<th>C. Wrench Hex Flats</th>
<th>Propane Liquid Capacity at Various Differential Pressures (GPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L7579</td>
<td>L7579C</td>
<td></td>
<td></td>
<td>5 PSIG  10 PSIG  25 PSIG  50 PSIG  75 PSIG</td>
</tr>
<tr>
<td>7579P*</td>
<td>1¼&quot;</td>
<td></td>
<td>1½&quot;</td>
<td>1½&quot;</td>
</tr>
<tr>
<td>L6579**</td>
<td>L6579C**</td>
<td></td>
<td>1½&quot;</td>
<td>1½&quot;</td>
</tr>
<tr>
<td>L6579</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Incorporates ¾ F. NPT dip pipe connection
** Swing-away lower back check valve design for higher filling rate. NOTE: Multiply flow rate by .94 to determine liquid butane capacity.

Materials
Upper Body…………………………………… Brass
Lower Body…………………………………. Brass
Springs……………………………………… Stainless Steel
Washer and Seat Disc………………Synthetic Rubber
Cap…………………………………………Plastic
New Low Emission Filler Valve with Manual Shutoff Feature
7501L & 7502L

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>ACME Hose Connection</th>
<th>Propane Liquid Capacity at Various Differential Pressures</th>
</tr>
</thead>
<tbody>
<tr>
<td>7501L</td>
<td>1½” M.NPT</td>
<td>1½” M.ACME</td>
<td>62 GPM, 90 GPM, 125 GPM</td>
</tr>
<tr>
<td>7502L</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Application**
This combined filler valve and overfill protection device is designed to provide fast filling and protection against overfilling of Vertical above ground small bulk type containers. The SF7647V Series offers good fill rates and an overfill prevention device that will stop* the flow of product into the container when the liquid level reaches 80-83% of its capacity.

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

**Materials**
Upper body ................................................................. Brass
Lower body ............................................................... Brass
Springs ................................................................. Stainless Steel
Washer and seat disc .............................................. Synthetic Rubber
Cap ............................................................................... Plastic
OPD check .......................................................... Nylon
OPD lever and riser ................................................ Nylon
OPD float .......................................................... Closed Cell Nitrile

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Propane Liquid Capacity at 20 PSIG differential pressure gallons/minute</th>
<th>Propane Liquid Capacity at 30 PSIG differential pressure gallons/minute</th>
<th>Propane Liquid Capacity at 50 PSIG differential pressure gallons/minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF7647V11.0</td>
<td>19</td>
<td>24</td>
<td>50</td>
</tr>
<tr>
<td>SF7647V11.1</td>
<td>19</td>
<td>24</td>
<td>50</td>
</tr>
</tbody>
</table>
Combination Low Emission Filler and Overfill Protection Device (OPD)
SFL7579V Series

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

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

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

Materials
Upper body ................................................................. Brass
Lower body ................................................................. Brass
Springs ................................................................. Stainless Steel
Washer and seat disc ................................................. Synthetic Rubber
Cap ................................................................. Resilient Molded Plastic
OPD check ................................................................. Nitrile
OPD lever and riser .................................................... Nylon
OPD float ................................................................. Closed Cell Nitrophenolic

Ordering Information

<table>
<thead>
<tr>
<th>Part Number**</th>
<th>ACME Hose Connection</th>
<th>Tank Connection</th>
<th>Wrench Hex Flats</th>
<th>Length A*</th>
<th>Propane Liquid Capacity at Various Differential Pressures GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1 PSI</td>
<td>25 PSI</td>
</tr>
<tr>
<td>SFL7579V13.8</td>
<td>1¼&quot; Male</td>
<td>1¼&quot;</td>
<td>1¼&quot;</td>
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<tr>
<td>SFL7579V13.0</td>
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<td>11.73&quot;</td>
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<tr>
<td>SFL7579V10.6</td>
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<td></td>
<td></td>
<td>11.23&quot;</td>
<td></td>
</tr>
</tbody>
</table>

* Distance from center thread to float at closure.
** Suffix number indicates dip tube length (Fixed liquid level gauge) different lengths available upon request.
Double Check Low Emission Filler Valves for Forklift and DOT Containers
7647 Series

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

Features
- Resilient seat disc in lower check designed to provide a gas tight seal without leakage.
- Double back check provides added system protection.
- 7647SA has 30° angle on hose connection. Makes connection and disconnection easier for certain engine fuel applications.
- Large 1¾” wrench flats on 7647SC allow use of socket wrench for easy installation.
- Specify RegO Filler Valves on all your original tank purchases to ensure quality and dependable performance.

Materials
Upper Body................................................................. Brass
Lower Body................................................................. Brass
Springs ................................................................. Stainless Steel
Washer and Seat Discs .................. Resilient Synthetic Rubber
Cap................................................................. Plastic

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A Hose Connection</th>
<th>B Tank Connection M. NPT</th>
<th>C Wrench Flats</th>
<th>D Effective Length (Approx.)</th>
<th>Propane Liquid Capacity at Various Differential Pressures (GPM)**</th>
</tr>
</thead>
<tbody>
<tr>
<td>7647DC</td>
<td>1¾” ACME + F. POL</td>
<td>¾”</td>
<td>1⅛”</td>
<td>2⅛”</td>
<td>10 PSIG 20 30 40 50</td>
</tr>
<tr>
<td>7647SC*</td>
<td>1¾” ACME</td>
<td>1¼”</td>
<td>1⅛”</td>
<td>1⅛ ⅛”</td>
<td>14 20 24 27 50</td>
</tr>
</tbody>
</table>

* Large 1⅛” hex wrench flats.
** Multiply flow rate by .94 to determine liquid butane capacity.
Double Check Filler Valves for Delivery Truck Tanks and Large Storage Containers 7579S, 6587EC and 3197C

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

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A. ACME Hose Connection</th>
<th>B. Tank Connection</th>
<th>C. Wrench Hex Flats</th>
<th>D. Effective Length (Approx.)</th>
<th>Propane Liquid Capacity at Various Differential Pressures (GPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 PSIG</td>
</tr>
<tr>
<td>7579S</td>
<td>1¾”</td>
<td>1½”</td>
<td>2”</td>
<td>2¾”</td>
<td>44</td>
</tr>
<tr>
<td>6587EC*</td>
<td>2¼”</td>
<td>2”</td>
<td>2¼”</td>
<td>4¾”</td>
<td>92</td>
</tr>
<tr>
<td>3197C</td>
<td>3½”</td>
<td>3”</td>
<td>4”</td>
<td>6½”</td>
<td>148</td>
</tr>
</tbody>
</table>

* Swing-away lower back check valve design for higher filling rates.
NOTE: Multiply flow rate by .94 to determine liquid butane capacity.
Single Check Filler Valves for Storage Tanks with Supplementary Back Check Valves 3174C, 3194C and 6584C

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

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>ACME Hose Connection</th>
<th>Outlet Connection M.</th>
<th>Wrench Hex Flats</th>
<th>S PSIG</th>
<th>10 PSIG</th>
<th>25 PSIG</th>
<th>50 PSIG</th>
<th>For Use With Back Check Valve</th>
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<tr>
<td>3174C</td>
<td>1¼&quot;</td>
<td>1¼&quot;</td>
<td>1½&quot;/16&quot;</td>
<td>23</td>
<td>33</td>
<td>52</td>
<td>74</td>
<td>3176</td>
</tr>
<tr>
<td>6584C*</td>
<td>2¼&quot;</td>
<td>2&quot;</td>
<td>2¾&quot;/16&quot;</td>
<td>156</td>
<td>220</td>
<td>348</td>
<td>492</td>
<td>A3186</td>
</tr>
<tr>
<td>3194C</td>
<td>3¼&quot;</td>
<td>3&quot;</td>
<td>3½&quot;/16&quot;</td>
<td>147</td>
<td>208</td>
<td>329</td>
<td>465</td>
<td>A3196</td>
</tr>
</tbody>
</table>

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

Vapor Equalizing Valves

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

RegO Vapor Equalizing Valves are designed for use in both ASME and DOT containers.
Double Check Vapor Equalizing Valves for ASME and DOT Containers
7573 Series and 3183AC

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

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

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

**Materials**
- Body: Brass
- Spring: Stainless Steel
- Upper Check Seat + ACME: Synthetic Rubber
- Body Gasket: Copper
- Cap: Plastic

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A. ACME Hose Connection</th>
<th>B. Tank Connection M. NPT</th>
<th>C. Wrench Hex Flats</th>
<th>D. Effective Length (Approx.)</th>
<th>Approx. Closing Flow at 100 PSIG Inlet Pressure (SCFH/Propane)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7573D</td>
<td>7573DC</td>
<td>1¼&quot;</td>
<td>⅜&quot;</td>
<td>115/32&quot;</td>
<td>4,100</td>
</tr>
<tr>
<td>-</td>
<td>3183AC</td>
<td>1¾&quot;</td>
<td>1¼&quot;</td>
<td>2⅜&quot;</td>
<td>10,000</td>
</tr>
</tbody>
</table>

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

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

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

**Materials**
- Body: Brass
- Spring: Stainless Steel
- Seat Disc: Synthetic Rubber
- Seal: Synthetic Rubber
- Cap: Plastic

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A. ACME Connection</th>
<th>B. Tank Connection MNPT</th>
<th>C. Wrench Hex Flats</th>
<th>D. Effective Length (Approx.)</th>
<th>Approximate Closing Flow at 100 PSIG Inlet Pressure (SCFH/Propane Vapor)</th>
<th>For Use With Excess Flow Valve:</th>
</tr>
</thead>
<tbody>
<tr>
<td>3170</td>
<td>-</td>
<td>1¼&quot;</td>
<td>⅜&quot;</td>
<td>1¼&quot;</td>
<td>7,600</td>
<td>3272E</td>
</tr>
<tr>
<td>-</td>
<td>3180C</td>
<td>1¾&quot;</td>
<td>1¼&quot;</td>
<td>1½&quot;</td>
<td>10,000</td>
<td>3282A</td>
</tr>
</tbody>
</table>
Back Pressure Check Valves

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

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

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

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

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

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

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

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

RegO Back Pressure Check Valves are designed to allow flow in one direction only. The check, normally held in the closed position by a spring, precludes the possibility of flow out of the container. When flow starts into the container, the pressure overcomes the force of the spring to open the check. When the flow stops or reverses, the check closes.
Swing-Away Back Pressure Check Valves for Container or Line Applications
6586D and A6586D

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

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

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

Features
- Swing-away check design offers faster flow rates.
- Heavy-duty construction for long service life.

Materials
- Body (6586D) ........................................ Brass
- Body (A6586D) ........................................ Steel
- Disc .................................................. Stainless Steel
- Stem Assembly ........................................ Stainless Steel
- Spring ................................................ Stainless Steel
- Screw ................................................ Stainless Steel

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A Outlet Connection M. NPT</th>
<th>B Outlet Connection M. NPT</th>
<th>C Wrench Hex Flats</th>
<th>D Effective Length (approx.)</th>
<th>Propane Liquid Capacity at Various Differential Pressures (GPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A6586D</td>
<td>2&quot;</td>
<td>2&quot;</td>
<td>2½&quot;</td>
<td>2½&quot;</td>
<td>5 PSIG 10 PSIG 25 PSIG 50 PSIG</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Multiply flow rate by .9 to determine liquid butane capacity and by .90 to determine liquid anhydrous ammonia capacity.
Back Pressure Check Valves for Flanged Installation A3400L4 and A3400L6

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

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

Features
- Speeds up filling operations in bulk tanks.
- All steel and stainless steel construction ensures long service life.

Materials
Body ............................................................. Cadmium Plated Steel
Stem ............................................................ Stainless Steel
Spring ........................................................... Stainless Steel
Disc ............................................................. Cadmium Plated Steel
Guide ............................................................ Stainless Steel
Roll Pin .......................................................... Stainless Steel

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Propane Liquid Capacity at Various Differential Pressures (GPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Flange Connection M. NPT</td>
<td>Wrench Hex Flats</td>
<td>Overall Length</td>
<td>Threaded End To Port</td>
<td>5 PSIG</td>
</tr>
<tr>
<td>A3400L4</td>
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<td>Slotted</td>
<td>5/4&quot;</td>
<td>1/4&quot;</td>
<td>223</td>
</tr>
<tr>
<td>A3400L6</td>
<td>3&quot;</td>
<td></td>
<td>5/4&quot;</td>
<td>1/4&quot;</td>
<td>424</td>
</tr>
</tbody>
</table>

NOTE: For installation in flange tank connections with internal threads, see the “Flanged Installation in Container” section under “Excess Flow Valves.”

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

Adhesive Warning Labels 903-500 and 7572-400

The following warning information, Part Number 903-500, is included with each shipment of Excess Flow, Check, Filler and Vapor Equalizing Valves to the first purchaser of the product from the factory.

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

These adhesive warning labels are intended for application as close as possible to the Chek-Lok® once the Chek-Lok® is installed.

The basic information contained on the label is intended for the benefit of the user of the Chek-Lok® and is not intended to be an “all-inclusive” product warning.

This label is printed on a heavy duty material with pressure sensitive adhesive backing. The ultra-violet ink stands up well when exposed to the environment.

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.

Check container valve connection with a non-corrosive leak detection solution before filling with LP-Gas. If container valve before filling with LP-Gas refer to the RegO LP-Gas Gasmen’s Manual for recommended procedure.

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

Check container valve connection for leaks after taking off valve from tank. Check for gas leakage from valve only. If gas leakage is detected, do not return valve to the tank. If gas leakage is detected, return valve to RegO for repair or replacement.

If container is not reconnected in service of the previous filling, check valve connection in selecting a label for posting at the installation site, consult RegO Part number 500-400 along with your own “REGO” and others.

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.

CAUTION: Use the Chek-Lok® connection only for liquid evacuation before moving tank in accordance with NFPA Flammable Code 58, which is the law in many states. This publication is available from NFPA, Batterymarch Park, Quincy, MA 02269. Read and follow RegO product instruction number 7570FC-001.

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

NG03000
Section G
Internal Valves and Accessories
LIMITED 10 YEAR WARRANTY
RegO warrants to the original purchasers the products and repair kits manufactured by it to be free from defects in materials and workmanship under normal use and service for a period of 10 years from the date of manufacture. If within thirty days after buyer’s discovery of what buyer believes is a defect, buyer notifies in writing and ships the product to RegO at 100 RegO Drive, Elon, NC 27244, RegO, at its option, and within forty-five days of receipt, will repair, replace F.O.B. point of manufacture, or refund the purchase price of that part or product found by RegO to be defective. Failure of buyer to give such written notice and ship the product within thirty days shall be deemed an absolute and unconditional waiver of any and all claims of buyer arising out of such defect.

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

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

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

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

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

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

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

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

NOTICE TO USERS OF PRODUCTS
The Limited Warranty stated above is a factory warranty to the first purchasers of RegO products. Since most users have purchased these products from RegO distributors, the user must within thirty (30) days after the user’s discovery of what user believes is a defect, notify in writing and return the product to the distributor from whom he purchased the product/part. The distributor may or may not at the distributor’s option choose to submit the product/part 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/part 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 (NH₃). The following points are important to know for proper use of the catalog:

1. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

2. Materials used for construction of products in this catalog are suitable for rated service pressure at temperatures of -40°F to +165°F, unless otherwise specified.

3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.
   a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no brass parts).
   b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service. These are of partial aluminum materials and are listed by Underwriters Laboratories (UL) for NH₃ service only.
   c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.
   d. SS” prefix—Hydrostatic relief valve with this prefix are suitable for NH₃ and LP-Gas service (i.e., they have stainless steel materials).

4. 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.
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 internal valve and excess flow valve failures to perform are not simple. They need to be fully understood. If there is a simple warning, it would be:

Make sure that the internal valve’s excess flow feature really closes when the flow exceeds rated closing flow, and that the valve will shut-off.

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

Internal valves must be closed on Cargo Vehicles when traveling on public roads and highways. The valve should only be open when pumping. Per MC 330 or 331, internal valves must also be equipped with remote closure system when used on transports orbobtails.

There are two types of internal valves being used on storage tanks, transports and bobtails — spring loaded internal valves and differential pressure internal valves. They both provide positive shut-off when product is not being withdrawn and may include excess flow protection for the system during transfer operations.

Spring Loaded Internal Valves
Spring loaded internal valves are manually opened by levers, by means of fuse linked cable mechanisms or pneumatic or hydraulic actuators. They incorporate an excess flow feature that will close the valve when the flow through the valve exceeds its rate of flow. These valves should never be locked open by means of wires, chains, pegs or other devices.

Testing
Testing should be completed on a periodic basis.

1. To check operation of a spring loaded valve, activate the remote control to close the valve while unit is pumping. If the meter indicator flow continues, the valve should be repaired immediately.

2. Testing excess flow feature.
The National Propane Gas Association Safety Bulletin #113-78 states: "In order to test an excess flow valve in a piping system, the flow through the valve must be made to exceed the valve’s closing rating."

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

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

3. Tight Shut-Off — A test should be made to ensure the internal valve will give a gas tight seal when the valve is in the closed position. This will require removal of all product downstream from the internal valve, to ensure the valve will give 100% seal when in the closed position. If the internal valve does not give 100% seal the valve should be repaired immediately.
Pressure Differential Internal Valves (Flomatics®)

Pressure differential valves (Flomatics®) open by pump pressure and close when the pump stops. These valves must never be locked open by means of wires, chains, pegs or other devices.

Testing

Testing should be completed on a periodic basis.

1. To check operation of a differential pressure internal valve activate the remote control shut-off valve while the unit is pumping. If the meter indicates that flow continues the valve should be repaired immediately.

2. Since the differential pressure internal valve requires at least 18 psi to open and 8 psi over container pressure to keep open, a test may be performed to check for closure. With the PTO disengaged, connect delivery hose to a container with very low pressure. Then with hose end valve open, engage PTO. The internal valve should remain closed, no flow should be detected through the meter. If flow continues through the meter the valve should be repaired immediately.

3. Tight Shut-Off — A test should be made to ensure the internal valve will give a gas tight seal when the valve is in the closed position. First ensure the pump prime valve is closed by turning clockwise until it seats. Then with the valve closed (PTO disengaged) the product downstream from the internal valve will have to be safely removed. If the internal valve does not give 100% seal, the valve should be repaired immediately.

General Warning

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

The environment and conditions of use will determine the safe service life of these products. Periodic testing at least once a year when tank pressures are low and maintenance, as required, are essential.

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

NOTE: There is a developing trend in state legislation and in proposed national legislation to make the owners of products responsible for replacing products before they reach the end of their safe useful life. LP-Gas dealers should be aware of legislation which could effect them.
**A3200 Series**

**General Information**

Manual Internal Valves are designed for a variety of uses in LP-Gas and anhydrous ammonia service. In addition, accessories allow most of them to be actuated manually, by cable or with air.

Installation, usage and maintenance of this product must be in compliance with all RegO instructions, as well as requirements and provisions of NFPA # 58, DOT, ANSI, and all applicable federal, state, provincial, and local standards, codes, regulations and laws. These valves must remain in the closed position except during product transfer. A line break downstream of the pump may fail to actuate the excess flow valve as the pump may limit flow. If break occurs in the system, or the excess flow closes, immediately shut down the system.

**How The Valves Work**

Refer to the drawings. View "A" shows the valve held closed without leakage by tank pressure and the valve’s closing spring. Actuation of the operating handle alone does not open the valve, it only allows pressure to equalize between the inlet and outlet of the valve by rapid bleeding of the product downstream. This equalized pressure then allows the valve to open via the internal spring.

The valve opens by moving the handle to mid-point, see view "B". This position allows the actuator to put the equalizing portion of the valve stem in the pilot opening, allowing more product to bleed downstream than if the handle was fully open.

In a few seconds, the tank and downstream pressure will be nearly equal. The excess flow spring will push the main poppet to the open position, see view "C", the handle should then be moved to the fully open position.

If at first, the handle is quickly moved to the fully opened position, the pilot valve allows a small amount of bleed downstream, but much less than during rapid bleed (view "B"). This results in a longer pressure equalizing time before the main valve can open.

**NOTE:** The main poppet will not open until outlet pressure approximates tank pressure!

Once the main poppet is open, flow greater than the excess flow rating, or a sufficient surge in flow, forces the main poppet closed against the excess flow spring, as seen in view "D". The pilot valve in this position is open and allows a small amount of bleed downstream, but much less than during rapid bleed (view "B"). When the operating handle is moved to the closed position, the valve closes and a leak-tight seal is re-established as seen in view "A".

**NOTE:** To provide excess flow protection, the flow rating of the pump, piping, valves, fittings, and hose on the inlet and outlet sides of the valve must be greater than the flow rating of the valve. Any restrictions that reduce the flow to less than the excess flow valve rating will result in the excess flow valve not operating when required.

**Valve Operation and Precautions**

1. Valve must be opened before starting pump, and before opening valve on pump outlet.

2. Leave pumping system "wet" to avoid drying of seals and to reduce time involved in opening valve. Drain piping only when required by codes or safe operating practices.

3. When piping is dry or at lower pressure than the tank, open valve half-way for a few seconds to allow line pressure to equalize before fully opening the valve handle. The main poppet may not open immediately if the handle is placed in the open position too quickly.

4. Flow surges may close the built-in excess flow valve and should be avoided. If the valve slams shut, immediately stop the pump, close the nearest downstream valve, and move handle to midpoint position to equalize pressure until valve reopens with a click, then restart pump and open downstream valve slowly.

5. Always keep valve closed except during product transfer.

6. Completely open all valves during pumping. Partially closed or throttle type valves may prevent excess flow valve from closing when required, even in a properly designed piping system.

7. All personnel must be aware of remote closure locations and their operation in case of emergency. They must also be aware of the equalizing opening through which bleeding can occur after the excess flow valve closes. If this bleed is not stopped by closing a downstream valve, a hazard may occur.

8. Never, under any circumstances, permanently wire open the operating handle of the internal valve.

**Cable Control System**

The cable control system employed must meet the requirements and be in accordance with the provisions of NFPA #58, DOT, ANSI, and all applicable federal, state, provincial and local codes.

**Troubleshooting**

1. **Internal Valve Will Not Open.** Causes may be excess leakage downstream, pump engaged too quickly, excessive wear of valve, or ice freezing of poppet.

   When there is excessive volume downstream, a greater amount of time is required to equalize tank and downstream pressure.

   To determine if the pilot seat is opening, install a pressure gauge downstream of valve outlet, open any hand valves between valve and pressure gauge, and open valve. Pilot seat is not opening if pressure does not build up to tank pressure. Perform this test with pump off. A broken internal part may cause pilot seat not to open.

   If operating handle rotates past the full open position, there is internal malfunctioning, and the valve must be disassembled and repaired.

2. **Premature Valve Closure.**

   First, check to see that operating lever is properly connected and fully opens valve. Premature closure may also be a result of engaging pump too quickly, sudden line surges, an underrated excess flow spring or an obstructed inlet port.

3. **Valve Will Not Close.**

   Usually a result of faulty or sticking actuator. First, check the actuator to see that it works freely by disconnecting it from valve handle and cycling it several times. Also, operate valve handle manually. If it sticks in the open position, replace the packing and bushings. This should free the operating mechanism providing the valve has no internal damage.

4. **Low Flow Capacity**

   Downstream piping may be too small and/or long, screen or strainer may be plugged, possible restriction downstream, or a bypass valve stuck in the open position are causes of low flow. Also, the bypass valve may be set too low and prematurely opening. Check for high differential pressure across the bypass valve. If bypass valve is open, the differential across the valve should not exceed 5 to 6 psig.
Potential problems may be eliminated with preventive internal valve maintenance. Perform the following steps once a month:

1. Check to see that the operating lever moves freely and smoothly. There should be no leakage around the lower stem or seal housing. Leakage requires replacement of the seal housing packing. A sticking lever indicates trapped foreign material or mechanism wear.

2. Check both seat discs for tight closure. Close valve and exhaust downstream pressure. Be sure piping is warmed to an ambient temperature. Close the first downstream valve and note pressure buildup between the closed valves with a pressure gauge. If leakage occurs, replace both seat discs.

3. Inspect, clean and oil all operating controls. Check controls to see that they open fully, but do not overtravel the valve operating lever. See that they work freely to close the valve. Worn parts should be replaced.

4. Remove valve if the tank is to be steam cleaned. Heat may damage the valve’s seals.

5. Valve is not designed for water service. After tank is hydrostatically tested, immediately remove all water and allow tank to thoroughly dry out before installing valve.
**Application**

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

**Features**

- Valve is compact, with one piece body construction.
- Spring loaded V-packing with heavy duty wiper ring on operating shaft for dependable leak-free construction.
- Nylon bearing supported operating shaft provides smooth, easy operation.
- Simple operating lever allows for easy connection of cable controls.
- Built in excess flow valve
- Return spring forces the valve to the closed position when the lever is released.
- All critical operating components are located in the valve body and inside the container coupling for maximum protection against damage.
- Midway stem position allows for quick pressure equalization.
- Equipped with 212°F, UL listed fuse link for thermal protection.

**Materials**

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body</td>
<td>Ductile Iron</td>
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<tr>
<td>Operating Lever</td>
<td>Cadmium Plated Carbon Steel</td>
</tr>
<tr>
<td>Stem</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>Springs</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>Seat Disc</td>
<td>Resilient Synthetic Rubber</td>
</tr>
<tr>
<td>Shaft Bearing</td>
<td>Nylon</td>
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**Ordering Information**

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<tr>
<th>Part Number</th>
<th>Inlet Connection M. NPT</th>
<th>Outlet Connection F. NPT</th>
<th>Closing Flow</th>
<th>LP-Gas Vapor Capacity** (SCFH/Propane)</th>
<th>Accessories</th>
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* T-Body Design
1¼” Threaded Internal Valve with Electric Actuator for Small Capacity Pumping Systems and Bobtail Vapor Equalization A3209E Series

**Application**
Designed primarily for use with LP-Gas as a main valve on small capacity pumping systems such as auto gas dispensers. It may also be installed in the vapor equalizing opening on bobtail delivery trucks. Installation is quick and easy, and it fits in both full and half couplings, as well as, in-line applications. The valve comes fully assembled with the electric actuator, ready to install.

**Features**
- Valve is compact, with one piece body construction.
- Spring loaded V-packing with heavy duty wiper ring on operating shaft for dependable leak-free construction.
- Nylon bearing supported operating shaft provides smooth, easy operation.
- Simple operating lever allows for easy connection of cable controls.
- Built in excess flow valve
- Return spring forces the valve to the closed position when the lever is released.
- All critical operating components are located in the valve body and inside the container coupling for maximum protection against damage.
- Midway stem position allows for quick pressure equalization.
- Equipped with 212° F, UL listed fuse link for thermal protection.

**Materials**
- Body: Ductile Iron
- Operating Lever: Cadmium Plated Carbon Steel
- Stem: Stainless Steel
- Springs: Stainless Steel
- Seat Disc: Resilient Synthetic Rubber
- Shaft Bearing: Nylon

**Ordering Information**

<table>
<thead>
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* T-Body Design
**Data for full flow in half coupling.
Application
Designed primarily for use with LP-Gas and anhydrous ammonia as a main valve on pumping systems, and in-line installations. Installation is quick and easy and it fits in both full and half couplings, as well as, in-line applications. The valve may be opened manually by hand or pneumatic actuator.

Features
• Valve is compact, with one piece body construction.
• Spring loaded V-packing with heavy duty wiper ring on operating shaft for dependable leak-free construction.
• Nylon bearing supported operating shaft provides smooth, easy operation.
• Simple operating lever allows for easy connection of cable controls.
• Built in excess flow valve
• Return spring forces the valve to the closed position when the lever is released.
• All critical operating components are located in the valve body and inside the container coupling for maximum protection against damage.
• Midway stem position allows for quick pressure equalization.
• Equipped with 212° F, UL listed fuse link for thermal protection.

Materials
Body ................................................................. Ductile Iron
Operating Lever ........................................... Cadmium Plated Carbon Steel
Stem ............................................................... Stainless Steel
Springs ............................................................ Stainless Steel
Shaft Bearing .................................................. Nylon
Seat Disc ....................................................... Synthetic Rubber

Ordering Information

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Drop Through Valve PSI

A3211D Series

10 YEAR WARRANTY

LP-GM - Propane
3” Flanged Internal Valves for Bobtail Delivery Trucks, Transports and Large Stationary Storage Containers A3217A & A3217DA

**Application**

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

**Features**

**Provides More Efficient Operation**

- Flow passages designed to allow substantially higher without cavitation or loss of efficiency—saving time and money.
- Simple operating lever facilitates easy adaptation of all cable controls.
- Lever available on right or left side to allow for installation without the use of an extra pulley.
- Nylon bearing supported operating shaft provides smooth, easy operation.

**Less Frequent-Easier Maintenance**

- Stainless steel screws resist rusting and are easily removed during valve disassembly.
- Heavy duty rod wiper helps minimize dirt and foreign material from entering operating shaft and hampering operation.

**Durable Construction**

- Cadmium plating helps resist corrosion during storage and use.
- All ferrous materials with a temperature range of -40° F. to +165° F. and a pressure rating of 400 psi.
- Sturdy retaining ring secures operating cam to provide for more durable, slack-free operation.
- Built-in excess flow valve.
- Specify RegO Internal Valves on your next new tank or when your truck is rebuilt.

**Ordering Information**

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</tr>
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</table>

* Valve supplied with 16 nuts and 8 studs for mounting.
**Modified bore=4⅝” diameter with 5⅛” diameter raised face.
3” Flanged Internal Valves for Bobtail Delivery Trucks, Transports, and Large Stationary Storage Tanks

A3217ARPA and A3217ALPA Pneumatic Actuators
These Pneumatic Actuators are designed specifically for use with the A3217 Series 3” Internal Valves. The diaphragm design provides a convenient means of opening and closing the valve from a remote location, using either air or nitrogen.

Features
- Diaphragm type—no seals to leak.
- Easily installed on internal valve “in-line.”
- Utilizes standard air brake chamber with proven performance over many years of heavy-duty truck/trailer applications.
- Compatible with existing air interlock systems.
- Operates with pressures of 50-150 psig.
- Thermal Fuse installed complies with DOT thermal protection requirements.

Materials
Body and Valve Cage ......................... Cadmium Plated Ductile Iron
Seat ...................................................... Nickel Chrome Plated Steel
Strainer ............................................ Stainless Steel
Shaft ................................................. Stainless Steel
Pilot Valve Stem .................................. Stainless Steel
Springs ............................................. Stainless Steel
Actuator Cam ................................... Stainless Steel
Lever .................................................. Cadmium Plated Carbon Steel
Seat Disc .................................. Resilient Synthetic Rubber

Typical Valve Installation

[Diagram showing typical valve installation]

A3217A & FA Series

[Graph showing GPM vs. PSI]

3” Flanged Internal Valves for Bobtail Delivery Trucks, Transports, and Large Stationary Storage Tanks

A3217ARPA and A3217ALPA Pneumatic Actuators
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- Operates with pressures of 50-150 psig.
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Seat ...................................................... Nickel Chrome Plated Steel
Strainer ............................................ Stainless Steel
Shaft ................................................. Stainless Steel
Pilot Valve Stem .................................. Stainless Steel
Springs ............................................. Stainless Steel
Actuator Cam ................................... Stainless Steel
Lever .................................................. Cadmium Plated Carbon Steel
Seat Disc .................................. Resilient Synthetic Rubber

Typical Valve Installation

[Diagram showing typical valve installation]

A3217A & FA Series

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

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

## Features
**Provides More Efficient Operation**
- Flow passages designed to allow higher pumping rates without cavitation or loss of efficiency—saves time and money.
- One piece, stainless steel pilot valve provides more accurate alignment for dependable operation.
- Remote release lever allows cables to run directly to opposite ends of vessel without pulleys or tubing.

**Protects Your Pump**
- Main disc retaining screws are installed from the top down to help minimize loose screws from entering and damaging the pump.
- Back-up cotter pin is designed to minimize the chance of a loosened actuator nut and washer from entering and damaging the pump.

**Less Frequent-Easier Maintenance**
- Easily replaceable chrome plated seat insert eliminates need for expensive remachining of valve body when overhauled.
- Stainless steel screws resist rusting and are easily removed during valve disassembly.
- Strainer completely covers the top of the valve to help keep out sediment and foreign material.
- Strainer seats at the top flange of the valve’s seat insert, making removal of the valve easier.

**Durable Construction**
- Cadmium plating helps resist corrosion during storage and use.
- Taper pin lock secures the operating shaft to provide for more precise, trouble-free actuation.
- Built-in excess flow valve and thermal protection.
- Specify RegO Internal Valves on your next new tank body or rebuild.

## Materials
<table>
<thead>
<tr>
<th>Body and Valve Cage</th>
<th>Handle</th>
<th>Seat</th>
<th>Strainer</th>
<th>Stem</th>
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## Ordering Information

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<td>Modified bore × 5 7/8&quot; diameter with 7&quot; diameter raised face.</td>
<td>-</td>
<td>-</td>
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<tr>
<td>A3219FA400W</td>
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<tr>
<td>A3219FA600W</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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</tbody>
</table>

* Valve supplied with 16 nuts and 8 studs for mounting.
** Modified bore = 5 7/8" diameter with 7" diameter raised face.
*** Other closing flows available
Application
A3219FPA Pneumatic Actuator
The A3219FPA Pneumatic Actuator is designed especially for use with the A3219FA Series Flanged Internal Valves. The diaphragm type A3219FPA provides a convenient means of opening and closing the valve from a remote location, using either air or nitrogen, on LP-Gas and NH3 transport trailers and stationary tanks.

Features
- Diaphragm type—no seals to leak.
- Easily installed on internal valve "in-line."
- Utilizes standard brake actuator with time proven performance in heavy-duty truck/trailer applications.
- Compatible with existing air interlock systems.
- Operate with pressures of 50-150 psig.
- Thermal fuse installed in actuator complies with DOT thermal protection requirements.

Typical Valve Positioning

Typical Valve Installation

A3219FA600L

GPM - Propane

Drop Through Valve PSI
**Remote Thermal Release for DOT MC331 Pressure Vessel A3219RT**

**Application**
Designed especially for use with Internal Valves installed in DOT MC331 pressure vessels. The A3219RT provides a remote means of mechanical closure along with thermal protection, as required by DOT MC331. The A3219RT is connected by cable to the internal valve(s) on the vessel. In the event of extreme heat (over 212° F.), the fuse link will melt, causing the spring to contract and pull the cable. When properly installed the cable will trip the internal valve release lever(s) allowing the connected handle(s) to move to the closed position.

**Materials**
- Body: Galvanized Steel
- Springs: Stainless Steel

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>For Use With</th>
<th>Release Temperature</th>
<th>Spring Load</th>
<th>Minimum Number Required By MC331</th>
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<td>212° F.</td>
<td>=100 lbs.</td>
<td>=60 lbs. 2</td>
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</table>

**Features**
- Meets DOT MC331 requirements.
- Easily installed, rugged formed steel bracket has open bottom to minimize dirt and water build-up.
- Heavy, shouldered pins lock into position.
- Stainless steel spring provides dependable performance with 100 lb. load.
- Heavy-duty chain adapts easily to standard cable and fittings.
- Fuse link has 212° F. release temperature.
- Adapts easily to standard cables and fittings.

**Remote Cable Controls for Internal Valves 3200C and 3200L**

**Application**
The 3200C Remote Cable Kit is designed especially for use with the 3200L Remote Operating Lever to operate internal valves from a remote location. The internal valve is opened by pulling back the remote operation lever and closed by returning the lever to its original position. A remote release is provided to close the internal valve from a different remote location.

**Features**
- Metal construction provides durability in heavy duty applications.
- Toggle action of operating lever allows for quick closure without extra springs and latches.
- The unique clamping nut and cable clamps provide easy installation.
- Fuse connections allow internal valves to close if connections are exposed to fire.
- Versatile design permits installation on bobtails and stationary tanks at bulk plants.
- Provides necessary remote closure system for bobtails required by DOT regulation on MC330/MC331 tanks and NFPA #58.

**Ordering Information**

<table>
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<tr>
<th>Part Number</th>
<th>Description</th>
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<tr>
<td>3200C</td>
<td>Remote Cable Kit</td>
<td>100 Foot Cable, 6 Cable Clamps, Quick Link, Sign, Fuse Link, Steel Nut and Bolt</td>
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<tr>
<td>3200L</td>
<td>Operating Lever</td>
<td>Lever Assembly</td>
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</table>

**Materials**
- Body: Galvanized Steel
- Springs: Stainless Steel
Threaded Internal Valves For Bobtail Delivery Trucks, Transports and Stationary Storage Tanks  A3213D Series

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

Features
• May be installed in full and half couplings.
• Nylon bearing supported operating shaft provides smooth, easy operation.
• Simple operating lever facilitates easy adaptation of all cable controls.
• Midway stem position allows for quicker pressure equalization.
• All critical operating components are located in the valve body inside the container coupling for maximum protection against physical damage.
• Built-in excess flow valve.
• Return spring returns the valve to the closed position when the handle is released.
• Specify RegO Internal Valves on your next new tank body or when your tank is rebuilt.
• A3213PA pneumatic actuator provides a convenient means of opening and closing the valve from a remote location, using either air or nitrogen for A3213D service valves.

Materials
Body .......................................................... Ductile Iron
Operating Lever ....................................... Cadmium Plated Steel
Stem .......................................................... Stainless Steel
Springs .................................................... Stainless Steel
Seat Disc .............................................. Resilient Synthetic Rubber
Shaft Bearing ........................................... Nylon

Ordering Information

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<th>Part Number</th>
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<th>Outlet Connection</th>
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<th>Closing Flow Full Coupling (GPM)</th>
<th>Vapor Clos. Flow (SCFH)</th>
<th>Accessories</th>
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<td>M.NPT</td>
<td>F.NPT</td>
<td>LPG NH₃</td>
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<td>3&quot;</td>
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<td>150 135</td>
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<td>400 325</td>
<td>325 293</td>
<td>71,400</td>
<td>A3213TA</td>
</tr>
</tbody>
</table>

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

**Features**
- May be installed in full and half couplings.
- Nylon bearing supported operating shaft provides smooth, easy operation.
- Simple operating lever facilitates easy adaptation of all cable controls.
- Midway stem position allows for quicker pressure equalization.
- All critical operating components are located in the valve body inside the container coupling for maximum protection against physical damage.
- Built-in excess flow valve.
- Return spring returns the valve to the closed position when the handle is released.
- Specify RegO Internal Valves on your next new tank body or when your tank is rebuilt.
- A3213PA pneumatic actuator provides a convenient means of opening and closing the valve from a remote location, using either air or nitrogen for both the A3212R & A3213A service valves.

**Materials**
- Body: Ductile Iron
- Operating Lever: Cadmium Plated Steel
- Stem: Stainless Steel
- Springs: Stainless Steel
- Seat Disc: Resilient Synthetic Rubber
- Shaft Bearing: Nylon

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Closure Flow (GPM) Full Coupling</th>
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<td>105</td>
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<td>2” T-body</td>
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<td>2” T-body</td>
<td>250</td>
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* For the old A3212A Series please use the A3213PA Pneumatic Actuator.
Flomatic® Internal Valves for Bobtail Delivery Trucks, Transports and Large Stationary Storage Tanks A7883FK

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

Features
Fully Automatic
- Operates on pressure differential from the pump to open and close.
- Automatically closes should downstream line rupture causing loss of pump differential pressure required to keep the valve open.
- Problems of improperly sized excess flow valves slugging shut during liquid transfer are eliminated.

Faster Unloading
- Straight through flow design provides minimum pressure drop and large flow capacity to the pump, resulting in higher flow rates and greater pump efficiency.
- Unloading is quicker and turn-around faster to provide more profitable operation.

Greater Protection
- Fully automatic operation virtually eliminates operator errors such as forgetting to close the valve after product transfer.
- Fully internal design reduces possibility of spillage that may result from a collision.
- Built-in visual indicator lets the operator know whether the valve seat is in the open or closed position.
- Never a cable problem. These valves cannot be held open by wire or any other means as the valve will not close as expected when the pump is shut-off.

Less Maintenance
- Easily replaceable, high efficiency external filter removes contaminants as small as 20 microns. Filter virtually eliminates orifice clogging, excessive internal filter maintenance and service downtime.
- No need to check or replace air lines, cables or cable connections.

Economical
- Completely equipped with mounting bolts, flange gaskets, quick acting valve and filter - all in one purchase price.
- No need to purchase additional mounting equipment or actuating accessories.
- Specify RegO Internal Valves on your next new tank body or when your tank is rebuilt.

Materials
Body ................................................................. Cast Steel
Valve Stem ..................................................... Stainless Steel
Operating Stem ............................................... Stainless Steel
Piston .............................................................. Aluminum
Cylinder ........................................................ Stainless Steel
Screen .......................................................... Stainless Steel
Seats .................................................... Resilient Synthetic Rubber

Ordering Information

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<th>Part Number</th>
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<th>Outlet Connection ANSI Flange</th>
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<th>Base Width</th>
<th>Overall Height (Approx)</th>
<th>Height from Indicator to Base</th>
<th>Accessories (included with Flomatic®)</th>
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<tbody>
<tr>
<td>A7883FK*</td>
<td>3”-300#**</td>
<td>3”-300#</td>
<td>4⅞”</td>
<td>8⅞”</td>
<td>10⅞”</td>
<td>4⅞”</td>
<td>Filter A7884-201, 3-Way Valve A7853A</td>
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</table>

*Supplied with A7853A 3-way valve, A7884-201 filter, studs, nuts and gaskets.
**With 4⅞” diameter bore.
**General Information**

RegO piston type Flomatic Internal Valves are normally closed and use pressure differential to provide completely automatic service. Mounted directly between the tank body and pump, the Flomatic® uses the pressure differential developed by the pump to open the valve and it closes automatically when the differential no longer exists.

This means the RegO Flomatic opens when the pump is on and closes when the pump is shut off – fully automatic.

**3. Pump On – Valve Open**

The force below the pilot stem forces the piston up to open the valve; rotating the INDICATOR SLOT to its vertical (valve open) position. Pump differential pressure in area D holds the PILOT STEM and PISTON open. Approximately 20 psig pump differential pressure is required to open the valve; approximately 8 psig differential pressure will hold the valve open.

**4. Pump Off – Valve Closes**

With the pump shut off, the pressure in area D which holds the valve open, bleeds out through the #60 DRILL ORIFICE. This loss of pressure permits the SPRING to push the PILOT STEM down to reseat at point E. Since pressures are equal above and below the PISTON, with no sustaining pressure in area D, the SPRING forces the valve closed. The INDICATOR SLOT rotates to the horizontal (valve closed) position.

---

**1. Normally Closed**

When the valve is closed, liquid flows into the INLET PORTS, through a channel in the PISTON, and into area A. It also flows down through the PRIMING CHANNEL in the valve body, into area B beneath the valve seat, and into area C to prime the PUMP.

**2. Pump On – Valve Opening**

When the pump is started, differential pressure transmits through the ¼" piping into chamber D, lifting the PILOT STEM. This opens the seat between the stem and piston at E. Pump suction then evacuates the tank pressure in area A, which becomes equal to the pump suction pressure.
$\frac{3}{4}$" Three-Way Quick-Acting Valve

A7853A

Flow Characteristics

Typical Installation

Flomatic Valve

Tank Flange

Tank Gasket Flange

Tee

Pump

Control Cable (with Fuse link and return spring)

A7853A Three Way Valve

Flomatic filter

(To Pump Station
$\frac{3}{4}$" Vent Line)

$\frac{3}{4}$" High Pressure Hose

Ordering Information

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<th>C</th>
<th>D</th>
<th>Accessories</th>
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<td>5¼&quot;</td>
<td>6¾&quot;</td>
<td>8⅛&quot;</td>
<td>A7853PAF, A7853PA</td>
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</table>

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

**With 4¼" diameter bore.
Introduction
Efficient, profitable transport and delivery truck operations depend on keeping the equipment working safely and efficiently under changing conditions. It is important to know how to eliminate expensive delays by handling unloading problems as they arise.

The purpose of this technical guide is to provide basic information on the Flomatic® valve, along with simple, appropriate steps to follow in the event things go wrong.

The Flomatic® valve is mounted on the bottom of your transport or delivery truck tank, with the pump mounted immediately downstream. When the pump starts to push the liquid down the piping, the Flomatic® Valve opens automatically, allowing you to unload the tank, and closes when the pump stops pushing. It takes at least 20 pounds per square inch of "push" at the pump to open the valve.

Your flanged Flomatic® valve has an indicating shaft on it that shows whether it's open or closed (Figure 1). If the indicating shaft is horizontal, the valve is closed. If it's vertical, the valve is open.

A threaded type, diaphragm-operated Flomatic® valve has an indicating shaft on the bottom, covered by a clear plastic hood. The indicating shaft projects down when the valve is closed and is concealed when the valve is open (Figure 2).

Important Facts About Pressure
When handling propane or anhydrous ammonia, storage and transport tank pressures vary from about 20 pounds per square inch or less when it's cold to 200 pounds per square inch or more in hot weather (Figure 3). If you're hauling butane, tank pressures will be 50 pounds per square inch or less.

The transport or delivery truck tank pressure may be higher than the storage tank pressure when you are ready to unload (Figure 4). This is because your rig may have been freshly loaded at the terminal or bulk plant without a vapor equalizing line and hasn't had time to get back to normal. Also, the storage tank pressure tends to drop when a lot of LP-Gas is being used.

Troubleshooting on the Job
O.K. So you follow your procedures, hook up your hoses, open the required valves and start your pump. The indicating shaft on the Flomatic® valve moves to the open position and the liquid goes in to storage. Great! You’re happy and so is the boss, and so are we.

But, let’s say you do these things, start the pump and the liquid doesn't move. Now, how do you find out what is wrong?

---

**Figure 1. Flanged Flomatic Valve**

**Figure 2. Threaded, Diaphragm-operated Flomatic Valve**

**Figure 3. Weather Conditions Affect Pressure**

**Figure 4. Unloading Conditions Affect Pressure**
On-The-Job Service Guide for the Flomatic® Valve

Step 1
Immediately shut down the pump so you don’t cause possible damage to the seals or valves. Next:

1. Check all manual valves in the system to make certain they are open or closed as required for proper operation.

2. Check the liquid level in the transport or delivery tank. If the level is low, it may slow the transfer rate.

3. Check to ensure that the pump rotates normally when power is applied. If not, inspect and repair as needed the power takeoff, universal joints, drive shaft and clutch, etc.

4. Make sure the lever is straight out on the ¼" operating valve in the line between the pump discharge line and the Flomatic® valve (Figure 5). If it isn’t, the Flomatic® valve will remain closed.

5. Make certain the priming valve on the side of the Flomatic® valve is open (Figure 6).

6. Ice in the system may prevent proper operation, as will a collapsed or kinked sensing line or a clogged sensing line filter. If you found the trouble within STEP 1, just start the pump and continue unloading. If not, proceed accordingly.

   a. New Models with T-handle: To adjust to the proper position, push in the end of the valve stem and tighten the needle valve clockwise until it seats. Then, turn counterclockwise ½ turns.

   b. Old Models with Plug: To adjust to the proper position, carefully remove the plug. A small amount of liquid LP-Gas may be discharged when plug is loosened. Insert a small screwdriver and tighten the needle valve clockwise until it seats. Then turn it counterclockwise 1 turn only. **CAUTION: Do not open needle valve more than 1 turn as it might blow out!**

   c. Threaded Models with Internal Priming Channel. The internal priming channel normally self-actuates. To be sure the system is primed, remove the plastic hood and push the travel indicator up about ⅛” and hold for at least 15 seconds.

Figure 5. Operating Lever Positions

Figure 6. Priming Procedures

For Transport Trailer Trucks Only (Figure 7a)

1. Check the difference between the pressure in your transport and the storage tank. If there’s 15 or 20 pounds per square inch more pressure in the transport tank than in the storage tank, chances are the Flomatic® valve won’t open. This is because the pump can’t develop enough “push.”

   If you have a good bypass valve on your rig to send the extra liquid back into the tank, you can merely close the liquid shut-off valve in the discharge line and restart your pump (Figure 8a). Now, the Flomatic® indicating shaft should move to the open position (see Figures 1 and 2).

2. Slowly open the liquid shut-off valve in the discharge line and the liquid will start to move out of the transport. If the Flomatic® valve indicating shaft starts to move toward the closed position once you’ve opened this liquid shut-off valve all the way, throttle the valve for a while until the transport tank pressure drops to where the Flomatic® valve indicating shaft will stay open. Then, open the liquid shut-off valve all the way until you finish unloading.

Figure 7a. Unloading Diagram of Transport Trailer Truck

The liquid flows out of the transport tank through the Flomatic® valve, into the pump and through the delivery hose to the storage tank. The vapor line allows vapor to flow from storage back to the transport so that the storage tank pressure won’t build up too much and make the pump work harder than necessary.
3. If your pump system doesn't have a bypass valve, the liquid shut-off valve in the discharge line should be left partially open when you restart the pump. Just be sure that the pump is pushing at least 20 pounds per square inch, so the Flomatic® valve can open.

Don't worry about how much it may slow up your loading speed when you pinch down the liquid shut-off valve to get the Flomatic® valve open. Your pump is running at constant RPM and will move liquid at almost the same rate, even when pushing harder. (It's a lot like using engine braking on a downhill grade, except, in this case, the pump keeps the liquid moving at a constant flow rate.)

For Delivery Trucks Only (Figure 7b)

1. Check the pump bypass piping. If your truck is equipped with a manual bypass valve, close it and try the pump again. (Figure 8b). If the Flomatic® valve indicating shaft moves to the open position, the problem is that the pump can't develop 20 pounds per square inch or more to "push" open the Flomatic® valve with the bypass valve open. You can prevent this in the future by not opening the manual bypass valve too wide.

2. If the delivery truck is not equipped with a manual bypass valve, merely start the pump. Slowly close the shut-off valve between the back-to-tank bypass valve and tank. If the Flomatic® valve indicating shaft moves to the open position as you close the valve, the back-to-tank bypass valve may be stuck open, adjusted too low, or the spring may be broken. CAUTION: Don't close the shut-off valve all the way, because excessive pressures and pump damage may occur.

3. If the Flomatic® valve indicating shaft remains in the closed position, the problem is either in the pump or the Flomatic® valve.

Figure 8a. Unloading Diagram of Transport Trailer Truck with Back-to-tank Bypass Valve
You must have a separate back-to-tank bypass valve if the pump is to be run with the liquid shut-off valve closed.

Figure 7b. Unloading Diagram of Delivery Truck
The liquid flows out of the truck tank, through the Flomatic® valve and into the pump, where it is then pushed through the meter and delivery hose into the storage tank. The liquid normally enters the vapor space of the storage tank to minimize pressure buildup, so a vapor equalizing line is usually not needed. The back-to-tank bypass valve opens to divert excess pump capacity back to the truck tank, preventing the pump from creating too much pressure.
USE EXTREME CARE AT ALL TIMES WHEN WORKING AROUND YOUR VEHICLE!
Watch out for drive shafts and moving parts. It is common knowledge that serious injury can result if any part of one’s body or clothing is caught in moving machinery.

If you manually open the Flomatic® valve, you are responsible for safely unloading the liquid and closing the valve when you’re through. If this procedure is being followed, under no circumstances must the valve be left unattended. The valve must never be permanently held in the open position.

If you are not able to cause the Flomatic® valve indicating shaft to move to the open position after completing the preceding steps, a complete detailed diagnosis will have to be made.

In the meantime, you can actuate the flanged Flomatic® valve by using a special wrench and attempt to unload manually (Figure 9).

If you still can’t unload by following the preceding steps, it is suggested that you unload by an alternate method, such as through the valve normally used for liquid filling.

In any event, if you haven’t solved the problem and the unit still doesn’t operate properly, immediately take it out of service, have a complete analysis made and repair as needed.

Be sure to obtain and keep available for quick referral the Manufacturers’ Operation and Service Manuals for the valves, pump, meter and all operating equipment in the system.
Pumping System Troubleshooting Guide

Introduction
Most LP-Gas and anhydrous ammonia systems use pumps to move liquid from one location to another. Unloading transport trailer tanks into plant storage, loading delivery trucks, filling bulk tanks, engine fuel tanks, portable cylinders, etc. and pressurizing LP-Gas vaporizers are only a few of many such applications. A well-designed and properly installed pumping system will perform well for some time, but eventually problems occur requiring attention.

Finding out what is wrong, and getting it working again, can be a time-consuming and confusing experience, unless one knows clearly how to proceed.

The purpose for this technical guide is to provide simple, step-by-step guidelines for correcting LP-Gas and anhydrous ammonia pumping difficulties.

The procedure includes a preliminary checklist to help find out if the difficulty can be corrected without taking anything apart. Then, it shows how to zero in on more serious problems by using a few pressure gauges to pinpoint the cause.

It is recommended that the pumping system be equipped for easy pressure gauge installation before trouble occurs. Small manual shutoff valves can be installed at proper locations, with plugs inserted in the outlets.

This would allow pressure gauges to be put in easily without removing the LP-Gas or anhydrous ammonia from the system at the time trouble occurs, saving a lot of time and unnecessary expense. Pressure gauges should be installed temporarily at the time the system is first installed, and pressure readings recorded while the system is working properly. Then, in many cases, merely comparing pressures with original readings may tell what the trouble is.

NOTE: The figure below shows where pressure gauges should be installed. Pressure gauge readings from the original tests should be recorded for each gauge.

It is recommended that the pressure gauges not be used continuously, because vibrations and the ravages of weather cause their damage or ruin. Therefore, as soon as the initial tests are complete, it is best to (1) close the shutoff valves, (2) remove the gauges, (3) plug the valves and (4) keep the gauges in a safe place, ready for troubleshooting when really needed. It is easier to diagnose a problem if the original test results are available, but don’t panic if they aren’t. You can still solve the problem without this information, but it requires more time and effort.

**NOTE:** The figure below shows where pressure gauges should be installed. Pressure gauge readings from the original tests should be recorded for each gauge.
Pumping System Troubleshooting Guide

Be sure to obtain and keep available for quick referral the Manufacturer's Operation and Service Manuals for the valves, pump, meter and all operating equipment in the system.

To avoid delays, maintain a complete stock of recommended spare parts on hand for quick repairs.

Follow the steps as shown. Don’t assume the answer is known beforehand, or skip any applicable steps. Rather, be thorough and methodical and in most instances, you will solve the problem. On the other hand, if you have done all of this and still haven’t worked out your problem, feel free to call your local distributor or RegO direct. We will do our best to help. Perhaps, between us, we will be able to solve your problem and add something new to the procedure which could help everyone in the future.

**Basic Assumptions**

The pumping system did work OK, but now the transfer rate is considerably less, or the system won't pump at all.

**Preliminary Review**

- Check the supply tank liquid level. The transfer rate could be considerably reduced if the level is low, due to vapor bubbles in the line, because of insufficient liquid head, or a vortex effect in the tank. Remember, reduction in the pumping rate from these causes will be more extreme in cold weather when tank pressures are low.
- Examine the pump drive to make sure the pump is rotating properly. Inspect for loose drive belts, damaged or broken flexible couplings or universal joints, broken drive keys and damaged or inoperative power take-off or pump clutch, etc.
- If the system is equipped with the Fomatic Valve:
  - Make sure the three-way valve handle is straight out, allowing the valve to open.
  - Check the position indicator on the Fomatic Valve when the pump is running. If the indicator shows that the valve is open, the trouble must be downstream of the valve.
- Make sure the priming valve is open, allowing pressure to equalize between the tank and pump inlet.
- If the system is equipped with internal valves, make sure the operating lever moves to a full open position. Loosen if needed.
- Make sure all valves in the system are either open or closed as required for normal operation. Check each valve in sequence, starting from the supply tank, making sure that no valve element is missed.
- If the cause of the problem cannot be determined during preliminary review, it will be necessary to conduct diagnostic tests, using pressure gauges at key points in the system. (See Introduction, Page 1.)

**Diagnostic Tests**

- Open all valves as required for proper pumping operation.
- Gauges should show tank pressure, pump net pressure, pump outlet pressure and meter pressure to be equal.
- Start the pump and observe all pressure gauges. Match results with conditions A, B, C, or D. Follow the appropriate steps.

**Final Results**

- Make repairs or adjustments as needed, and test the system’s operation. Record a new set of test pressures for future reference, and order replacements for all spare parts used.
- The system is now ready to return to service.

**Final Results**

- Make repairs or adjustments as needed, and test the system’s operation. Record a new set of test pressures for future reference, and order replacements for all spare parts used.
- The system is now ready to return to service.

**Problem is most likely somewhere downstream of the pump. Look for a closed valve, or some type of blockage in the discharge line. It could be:**

- The meter or the meter vapor eliminator or meter differential valve. If it could be:
  - 1. The meter’s or vapor eliminator may be malfunctioning. If the valve at the outlet of the vapor eliminator does not seat when the valves have been purged, the differential valve downstream of the meter will not open. Such failure could be caused by a damaged vapor eliminator or meter relief, foreign material blocking the vapor eliminator valve seat, in the ball float, or a jammed or binding linkage between the float and valve. The trouble is most likely in the meter vapor eliminator or meter differential valve. It could be:
  - 2. The diaphragm could be ruptured, or other parts could be damaged or broken in the differential valve downstream of the meter.

If you are dealing with a delivery truck application, move to another tank, and see whether the problem still exists. If not, it may be a problem with one specific tank, rather than the pumping system.

- Some delivery trucks are equipped with a quick-acting valve immediately upstream of the hose reel. Make sure that this valve is open.

- Some delivery trucks are equipped with various flow valves between the pump and reel. Improper setting, a weak spring, or other valve damage can cause this valve to close prematurely, effectively stopping the flow.

- If the delivery truck is equipped with a back-to-tank by-pass, it is possible that the back-to-tank by-pass valve is not set high enough to compensate for vapor pressure buildup in the tank being filled. This can be solved either by adjusting the by-pass valve as a slight higher adjustment. Warning, Do not raise the back-to-tank by-pass setting high enough to cause the internal relief valve in the pump to activate. If this should happen, it could cause excessive cavitation, loss of capacity and premature pump wear.

**Final Results**

- Make repairs or adjustments as needed, and test the system’s operation. Record a new set of test pressures for future reference, and order replacements for all spare parts used.
- The system is now ready to return to service.
Section H
Adapters, Connectors and Fittings
LIMITED 10 YEAR WARRANTY

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

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

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

LIMITATION OF LIABILITY

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

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

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

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

WARNING

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

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

NOTICE TO USERS OF PRODUCTS

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

Because of a policy of continuous product improvement, RegO reserves the right to change designs, materials or specifications without notice.
This catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-Gas and anhydrous ammonia (NH₃). The following points are important to know for proper use of the catalog:

1. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

2. Materials used for construction of products in this catalog are suitable for rated service pressure at temperatures of -40°F to +165°F, unless otherwise specified.

3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.
   a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no brass parts).
   b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service. These are of partial aluminum materials and are listed by Underwriters Laboratories (UL) for NH₃ service only.
   c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.
   d. SS” prefix—Hydrostatic relief valve with this prefix are suitable for NH₃ and LP-Gas service (i.e., they have stainless steel materials).

4. We manufacture valves and adapters designed to be used on LP-Gas and Anhydrous Ammonia systems, we do not design systems or consult in system design. For this type of information consult a professional Engineer.

---

**Caution**

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

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

**Warning**

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

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

**Notice**

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

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

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

**Filters**

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

The use of an in-line filter should be considered when other system components may be unclean and the system contaminated by rust, scale, dirt, debris or other foreign material.
Extended Type Hose Couplings for Vapor and Liquid Service
A7571 and A7575 Series

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

Features
- Lightweight aluminum handle is contoured and ribbed for added comfort, easy handling allows for easy make-up.
- Free swivel action between tailpiece and handle allows for easy make-up.
- Simplified design eliminates an extra joint and provides smooth, uninterrupted flow.

Materials
Handle ................................................................. Aluminium
ACME Threads .................................................. Steel Inlet
Restraining Ring ............................................... Stainless Steel

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Type of Service</th>
<th>A. Hose Connection (M. NPT)</th>
<th>B. Coupling Connection (F. ACME)</th>
<th>C. Approx. Length</th>
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<tr>
<td>A7575L2*</td>
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<td>7&quot;</td>
</tr>
<tr>
<td>A7575L3</td>
<td>Liquid</td>
<td>¾&quot;</td>
<td>1½&quot;</td>
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<tr>
<td>A7575L4</td>
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<td>1&quot;</td>
<td>1½&quot;</td>
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</tr>
<tr>
<td>A7575L5**</td>
<td>Liquid</td>
<td>1¼&quot;</td>
<td>1½&quot;</td>
<td></td>
</tr>
<tr>
<td>A7571LA</td>
<td>Vapor</td>
<td>½&quot;</td>
<td>1½&quot;</td>
<td></td>
</tr>
<tr>
<td>A7571LB</td>
<td>Vapor</td>
<td>¾&quot;</td>
<td>1½&quot;</td>
<td></td>
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* Includes 7199-33 adapter, shipped loose.
** Includes A7575L5-1 adapter, shipped loose.
Short Type Hose Couplings for Vapor and Liquid Service
3171, 3175, 3181, 3185 and 3195 Series

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Style</th>
<th>A. Hose Connection (M. NPT)</th>
<th>B. Coupling Connection (F. ACME)</th>
<th>C. Tailpiece Bore</th>
<th>D. Hose End To Nut</th>
<th>E. Overall Length</th>
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<td>½&quot;</td>
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<td>2½&quot;</td>
</tr>
<tr>
<td>3175A</td>
<td>Brass</td>
<td>A</td>
<td>⅜&quot;</td>
<td>1</td>
<td>⅜&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
</tr>
<tr>
<td>3185</td>
<td>Brass Nut &amp; Steel Nipple</td>
<td>B</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
<td>3½&quot;</td>
</tr>
<tr>
<td>3195</td>
<td>Brass Nut &amp; Steel Nipple</td>
<td>B</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
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<td>⅜&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
</tr>
<tr>
<td>A3175A</td>
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<td>¾&quot;</td>
<td>1½&quot;</td>
<td>⅜&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
</tr>
<tr>
<td>A3185</td>
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<td>⅜&quot;</td>
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<td>⅜&quot;</td>
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<td>2½&quot;</td>
</tr>
<tr>
<td>A3195</td>
<td>Steel</td>
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<td>⅜&quot;</td>
<td>1½&quot;</td>
<td>⅜&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
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<tr>
<td>3171</td>
<td>Brass</td>
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<td>1½&quot;</td>
<td>⅜&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
</tr>
<tr>
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<td>⅜&quot;</td>
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<tr>
<td>3181</td>
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<td>1½&quot;</td>
<td>⅜&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
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<tr>
<td>3181A</td>
<td>Brass</td>
<td>C</td>
<td>⅜&quot;</td>
<td>1½&quot;</td>
<td>⅜&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
</tr>
<tr>
<td>3191</td>
<td>Brass</td>
<td>D</td>
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<td>2½&quot;</td>
<td>1½&quot;</td>
<td>2½&quot;</td>
<td>3½&quot;</td>
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</tbody>
</table>
ACME Check Connectors for Lift Trucks
7141F and 7141M

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

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>A. Inlet</th>
<th>B. Outlet</th>
<th>Protective Cap*</th>
</tr>
</thead>
<tbody>
<tr>
<td>7141M</td>
<td>Service Valve</td>
<td>½” F. NPT</td>
<td>⅜” M. ACME</td>
<td>7141M-40</td>
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<tr>
<td>7141F</td>
<td>Fuel Line</td>
<td>¹/₁₆” F. ACME</td>
<td>¼” F. NPT</td>
<td>7141FP</td>
</tr>
</tbody>
</table>

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

Unloading Adapters for Container Evacuation 3119A, 3120 and 3121

Application
Designed to provide an efficient means of evacuating an LP-Gas container for relocation or repair. They thread directly onto the 1¾” ACME male hose connection of RegO Filler Valves used on RegO Double Check Filler Valves and Multi valves®.

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

Features
• Available in either angle or in-line type configurations.
• Built-in vent valve provides for a controlled release of gas which may be trapped within the unit after use and also helps to indicate closure of the Filler Valve.
• Integral plunger has two different lengths of travel, ¼” and ½”, depending on which way the lever is turned. Can be used with all RegO Filler Valves.

Materials
Body ................................................................. Brass
Plunger .............................................................. Steel

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Style</th>
<th>A. Filler Valve Connection</th>
<th>B. Hose Connection</th>
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<tbody>
<tr>
<td>3119A</td>
<td>In-Line</td>
<td>1 ⅜” F. ACME</td>
<td>1⅜” M. ACME</td>
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<td>3120</td>
<td>Angle</td>
<td>1⅜” F. ACME</td>
<td>1⅜” M. ACME</td>
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<tr>
<td>3121</td>
<td></td>
<td></td>
<td>⅜” F. NPT</td>
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</tbody>
</table>
Left Hand Thread ACME Connectors for Vapor Withdrawal Industrial Cylinders 7142LF and 7142LM

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

Features
• The 7142LM couples directly to the service valve.
• An integral O-ring is designed to seal before the internal check opens, aiding in product loss prevention.
• A gasket at the ACME thread when the connectors are tightened together.
• The 7142LF accepts the vapor fuel line adapter and couples directly with the 7142LM.
• The O-ring seal in the 7142LM is designed to seal before the internal check opens to allow product to pass through the connection.
• The knurled coupling nut proves for easy make-up even against LP-Gas vapor pressure.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Inlet</th>
<th>Outlet</th>
<th>Protective Cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>7142LM</td>
<td>Vapor Service Valve</td>
<td>¼” F.NPT</td>
<td>1¼” M.ACME –left hand</td>
<td>7141M-40</td>
</tr>
<tr>
<td>7142LF</td>
<td>Vapor Fuel Line</td>
<td>1¼” F.ACME –left hand</td>
<td>¼” F.NPT</td>
<td></td>
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</tbody>
</table>
These adapters are designed with minimal flow restriction and recommended for use on the outlet of the LP-Gas delivery truck filler hose. If the controlled bleed off of the connection indicates the filler valve on the tank being filled has failed to close, the hose adapter should be left in place on the filler valve and disconnection should be made at the regular filler hose coupling. (Repair of the filler valve must be made as soon as possible). An integral check valve in these adapters helps prevent further loss of product. The standard filler valve cap should be attached to these adapters when left on the container.

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Built-in Vent Valve</th>
<th>A Filler Valve Connection</th>
<th>B Hose Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>7577V</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3179B</td>
<td>No</td>
<td>1¾” F. ACME</td>
<td></td>
</tr>
<tr>
<td>7576</td>
<td>Yes</td>
<td>1¾” M. ACME</td>
<td></td>
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</tbody>
</table>

### POL Plugs

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

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

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>N970P</td>
<td>Cycolac</td>
<td>M. POL (CGA 510)</td>
</tr>
<tr>
<td>10538P</td>
<td>Brass</td>
<td>M. POL (CGA 510)</td>
</tr>
<tr>
<td>3705RC</td>
<td></td>
<td>M. POL (CGA 510)</td>
</tr>
</tbody>
</table>
Specifically designed to withstand the everyday abuse given to hose end valves on delivery trucks and hose end couplings on risers in bulk plants, these rugged plugs protect the coupling tip as well as prevent the entrance of dirt, dust, snow and rain. They also prevent possible gas contamination from these same sources. The heavily ribbed outer surface permits hand-tight make-up.

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

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

Not intended for use as pressure closures.
### ACME Adapters

#### Ordering Information

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<tr>
<th>Part Number</th>
<th>Material</th>
<th>A M. ACME</th>
<th>B M. FNPT</th>
<th>C Hex</th>
<th>D Overall Length</th>
<th>E Diameter</th>
<th>For Spare Gasket Order Part No.</th>
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<td>¼&quot;</td>
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<td>1¾&quot;</td>
<td>¾/8&quot;</td>
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<td>1½&quot;</td>
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<td>2&quot;</td>
<td>¾/8&quot;</td>
<td>A3194-8R</td>
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<td>5764D</td>
<td>Brass</td>
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<td>1½&quot;</td>
<td>3¾&quot;</td>
<td>⅛&quot;</td>
<td>¾/8&quot;</td>
<td>A3194-8R</td>
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<tr>
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<td>1&quot;</td>
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<td>⅜&quot;</td>
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#### Ordering Information

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<th>B M. NPT</th>
<th>C Hex</th>
<th>D Overall Length</th>
<th>E Diameter</th>
<th>For Spare Gasket Order Part No.</th>
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<th>B Hex</th>
<th>C Overall Length</th>
<th>D Diameter</th>
<th>For Spare Gasket Order Part No.</th>
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* ¾/16 UNC Thread.
### Application
Designed to prevent debris from impeding the action of valves and components of LPG piping systems at bulk plants and industrial plants.

### Features
- Meets NFPA 58 requirements for liquid transfer
- Stainless steel screen
- Vent valve available in brass or stainless steel

### Materials
Body ........................................... Brass
Screen ........................................... Stainless Steel
Gasket ........................................ Resilient Rubber

### Ordering Information

<table>
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<tr>
<th>Part Number</th>
<th>Style</th>
<th>Gasket Qty</th>
<th>Vent Valve</th>
<th>Hex Size</th>
<th>Thread</th>
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<tr>
<td>5769VSS</td>
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<td>TSS3169</td>
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Low Emission ACME Connector For Transports and Bobtails
6588LE & 6589LE

**Application**
Designed to provide fast filling of bobtails, transports and large bulk storage tanks while providing for low emission of LPG when disconnecting.

**Features**
- 3¼” Male Acme Connector with reduced emissions, 90% less than current RegO ACME adapters.
- 10.5 cubic centimeters of liquid discharged at disconnect
- UL Listed as a Filler Valve.
- Safety groove is designed to shear below ACME threads leaving the valve seat closed and unaffected if the vehicle pulls away with the hose connected.
- Seat disc is made of synthetic composition and is mechanically held in place by a seat disc retainer.
- Stainless Steel return spring.
- One-piece poppet stem for smooth operation.
- Will connect to any standard female 3¼” ACME adapter.
- Hydrostatic relief valve included (3125L).

**Materials**
- Upper Body: Brass
- Lower Body: Brass
- Poppet & Stem Assembly: Brass
- Spring: Stainless Steel
- Gasket: Resilient Synthetic Rubber
- Seat Disc: Resilient Synthetic Rubber

**Ordering Information**

<table>
<thead>
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<th>ACME Connection</th>
<th>Outlet Connection MNPT</th>
<th>Wrench Flats</th>
<th>Hydrostatic Relief Valve</th>
<th>Propane Capacity at Various Differential Pressures (GPM)</th>
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<td>3¼”</td>
<td>2”</td>
<td>3½”</td>
<td>3125L</td>
<td>5 PSIG: 138, 10 PSIG: 223, 25 PSIG: 349</td>
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<td></td>
<td>3125L</td>
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REGO
10 Year Warranty
Male POL Swivel Adapters

Ordering Information

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<th>C Drill</th>
<th>D Overall Length</th>
<th>Vapor at 100 PSI Inlet (SCFH)</th>
<th>Liquid (GPM)</th>
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<td>2⅝”</td>
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Note: All nipples incorporate wrench hex section.

CGA 555 Swivel Adapters

Ordering Information

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<td>12962</td>
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<td>½” M. NPT</td>
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100 RegO Dr. Elon, NC 27244 USA   www.regoproducts.com  Phone (336) 449-7707
**POL Adapters**

**Ordering Information**

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<tr>
<th>Part Number</th>
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<th>B</th>
<th>C</th>
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<td>⅜&quot;</td>
<td>⅞&quot;</td>
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**Male POL x Female NPT**

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**Female POL x Female NPT and Female POL**

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<td>⅜&quot;</td>
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**Hose Adapter**

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

**Ordering Information**

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**Pressure Gauge Adapter**

**Ordering Information**

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<th>B</th>
<th>C</th>
<th>D Diameter</th>
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<tbody>
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**1¼" Min**

**Female Inverted Flare x Male NPT**

**Ordering Information**

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**Part Number Material A B C D Diameter**

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<td>⅜&quot;</td>
<td>⅞&quot;</td>
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<td>⅜&quot;</td>
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**Part Number Material A B C D Diameter**

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<th>C</th>
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**Part Number Material A B C D Diameter**

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**Part Number Material A B C D Diameter**

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<th>C</th>
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<td>Brass</td>
<td>⅝&quot; SAE Male Flare</td>
<td>⅝&quot; SAE Female Flare</td>
<td>⅝&quot;</td>
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<tr>
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<td>Brass</td>
<td>⅝&quot; SAE Male Flare</td>
<td>⅝&quot; SAE Female Flare</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
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<td>1332</td>
<td>Brass</td>
<td>⅝&quot; SAE Male Flare</td>
<td>⅝&quot; SAE Female Flare</td>
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**Part Number Material A B C D E F**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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<tbody>
<tr>
<td>1328</td>
<td>Brass</td>
<td>⅝&quot; SAE Male Flare</td>
<td>⅝&quot; SAE Female Flare</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
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</tr>
<tr>
<td>1331</td>
<td>Brass</td>
<td>⅝&quot; SAE Male Flare</td>
<td>⅝&quot; SAE Female Flare</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
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<tr>
<td>1332</td>
<td>Brass</td>
<td>⅝&quot; SAE Male Flare</td>
<td>⅝&quot; SAE Female Flare</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
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**Part Number Material A B C D E F**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Material</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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</tr>
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<tbody>
<tr>
<td>1328</td>
<td>Brass</td>
<td>⅝&quot; SAE Male Flare</td>
<td>⅝&quot; SAE Female Flare</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
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</tr>
<tr>
<td>1331</td>
<td>Brass</td>
<td>⅝&quot; SAE Male Flare</td>
<td>⅝&quot; SAE Female Flare</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
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<tr>
<td>1332</td>
<td>Brass</td>
<td>⅝&quot; SAE Male Flare</td>
<td>⅝&quot; SAE Female Flare</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
<td>⅝&quot;</td>
</tr>
</tbody>
</table>
Copper Pigtails

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

**Materials**
- Tubing: Copper
- Connections: Brass

---

**Straight Pigtails**

<table>
<thead>
<tr>
<th>Connections</th>
<th>Approximate Length</th>
<th>¼&quot; Tube</th>
<th>⅜&quot; Tube</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.POL x M.POL</td>
<td>5&quot;</td>
<td>-</td>
<td>913PS05</td>
</tr>
<tr>
<td>12&quot;</td>
<td>912PS12</td>
<td>913PS12</td>
<td></td>
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<tr>
<td>20&quot;</td>
<td>912PS20</td>
<td>912PA20</td>
<td>913PS20</td>
</tr>
<tr>
<td>30&quot;</td>
<td>912PS30</td>
<td>-</td>
<td>913PS30</td>
</tr>
<tr>
<td>36&quot;</td>
<td>912PS36</td>
<td>912PA36</td>
<td>913PS36</td>
</tr>
<tr>
<td>48&quot;</td>
<td>912PS48</td>
<td>912PA48</td>
<td>913PS48</td>
</tr>
<tr>
<td>⅛&quot; Inverted Flare x M.POL</td>
<td>12&quot;</td>
<td>912FS12</td>
<td>-</td>
</tr>
<tr>
<td>20&quot;</td>
<td>912FS20</td>
<td>912FA20</td>
<td>-</td>
</tr>
<tr>
<td>30&quot;</td>
<td>912FS30</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>36&quot;</td>
<td>912FS36</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>⅛&quot; M.NPT x M.POL</td>
<td>12&quot;</td>
<td>912JS12</td>
<td>-</td>
</tr>
<tr>
<td>20&quot;</td>
<td>912JS20</td>
<td>912JA20</td>
<td>913JS12</td>
</tr>
<tr>
<td>36&quot;</td>
<td>912JS36</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>½&quot; M.NPT x M.Pol</td>
<td>12&quot;</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>⅜&quot; M.NPT x ¼&quot; M.NPT</td>
<td>12&quot;</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Bent Pigtails**

<table>
<thead>
<tr>
<th>Connections</th>
<th>Approximate Length</th>
<th>¼&quot; Tube</th>
<th>Type/degree of Bend</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼&quot; M. NPT x M. POL</td>
<td>5&quot;</td>
<td>913JS05A</td>
<td>90°</td>
</tr>
<tr>
<td>⅜&quot; M. NPT x M. POL</td>
<td>12&quot;</td>
<td>913PS12G</td>
<td>270° Right Hand</td>
</tr>
<tr>
<td>⅜&quot; M. POL x M. POL</td>
<td>12&quot;</td>
<td>913PS12H</td>
<td>270° Left Hand</td>
</tr>
<tr>
<td>½&quot; M. POL x M. POL</td>
<td>12&quot;</td>
<td>913PS12S</td>
<td>360°</td>
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</tbody>
</table>

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Section J
Miscellaneous Equipment
(Including Rotogages and ESVs)
LIMITED 10 YEAR WARRANTY

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

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

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

LIMITATION OF LIABILITY

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

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

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

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

WARNING

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

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

NOTICE TO USERS OF PRODUCTS

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

Because of a policy of continuous product improvement, RegO reserves the right to change designs, materials or specifications without notice.
This catalog describes a complete line of equipment available from RegO® for use with Liquid Propane (LP)-
Gas and anhydrous ammonia (NH₃). The following points are important to know for proper use of the catalog:

1. Illustrations and drawings of individual products are representative of “product groups” and all products
within a product group are similar in construction.

2. Materials used for construction of products in this catalog are suitable for rated service pressure at
temperatures of -40°F to +165°F, unless otherwise specified.

3. Products in this catalog are only intended for use in LP-Gas and/or anhydrous ammonia service as follows.
   a. “A” or “AA” prefix — Products with this prefix are suitable for NH₃ service (i.e., contain no
      brass parts).
   b. “AA” prefix on relief valves — These valves are NOT suitable for use with LP-Gas service.
      These are of partial aluminum materials and are listed by Underwriters Laboratories (UL)
      for NH₃ service only.
   c. All other products including “A” prefix are suitable for use with LP-Gas & NH₃ service.
   d. SS prefix—Hydrostatic relief valve with this prefix are suitable for NH3 and LP-Gas service
      (i.e., they have stainless steel materials).

4. 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.

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**Notice**

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

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

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

---

**Filters**

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

The use of an in-line filter should be considered when other system components may be unclean and the system
contaminated by rust, scale, dirt, debris or other foreign material.
1" Rotogages® for Large Mobile and Stationary Containers
A9090 Series

**Application**
Rotogages® are designed to provide an accurate determination of LP-Gas or anhydrous ammonia container contents. They mount in a standard 1" NPT coupling on large mobile or stationary containers.

To operate the Rotogages®, the vent valve is opened and the dip tube rotated slowly from the container vapor space to the liquid space. The difference in appearance of the discharge indicates when the liquid level is reached. Dial readings then indicate the percentage of product in the container.

**Features**
- Supported design (TS Models) eliminates whipping and the need for internal support hangers.
- Resistance-free nylon bearing inserts reduce friction and promote operating ease.
- Dial face is dual calibrated to provide greater accuracy in reading contents in containers which are not level.
- Interchangeable accessory dials permit interchangeable service between LP-Gas and anhydrous ammonia.

**Materials**
- Body: Steel
- Stem: Steel
- Dip Tube: Stainless Steel
- Indicator: Malleable Iron
- Dial Plate: Aluminium
- Vent Stem: Stainless Steel

**Tubes for use with A9090 Series Rotogages**
Cut to length required.

<table>
<thead>
<tr>
<th>Service</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 48&quot;</td>
<td>A9091-M24.0</td>
</tr>
<tr>
<td>Up to 72&quot;</td>
<td>A9091-M36.0</td>
</tr>
<tr>
<td>Up to 96&quot;</td>
<td>A9091-M48.0</td>
</tr>
<tr>
<td>Up to 120&quot;</td>
<td>A9091-M60.0</td>
</tr>
<tr>
<td>Up to 144&quot;</td>
<td>A9091-M72.0</td>
</tr>
</tbody>
</table>

**Rotogage® Dials**

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Service</th>
<th>Container Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>A9091-18L</td>
<td>LP-Gas</td>
<td>All Sizes</td>
</tr>
<tr>
<td>A9091-18LX*</td>
<td>LP-Gas</td>
<td>Over 1200 U.S. gallons</td>
</tr>
<tr>
<td>A9091-18N</td>
<td>NH3</td>
<td>All Sizes</td>
</tr>
</tbody>
</table>

* Dial permits higher filling level, per NFPA 58.*
### 1” Rotogages® for Large Mobile and Stationary Containers

#### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>For Stationary Containers Only</th>
<th>Side Mounted</th>
<th>End Mounted</th>
<th>Side Mounted</th>
<th>End Mounted</th>
</tr>
</thead>
<tbody>
<tr>
<td>A9091R</td>
<td>-</td>
<td>30’ - 45’</td>
<td>30’ - 75’</td>
<td>30’ - 45’</td>
<td>30’ - 45’</td>
</tr>
<tr>
<td>A9092R</td>
<td>-</td>
<td>48’ - 61’</td>
<td>76’ - 108’</td>
<td>46’ - 61’</td>
<td>46’ - 61’</td>
</tr>
<tr>
<td>A9093TS*</td>
<td>A9093RS</td>
<td>62’ - 79’</td>
<td>-</td>
<td>62’ - 79’</td>
<td>-</td>
</tr>
<tr>
<td>A9094TS*</td>
<td>A9094RS</td>
<td>80’ - 99’</td>
<td>-</td>
<td>80’ - 99’</td>
<td>-</td>
</tr>
<tr>
<td>A9095TS*</td>
<td>A9095RS</td>
<td>100’ - 147’</td>
<td>-</td>
<td>100’ - 147’</td>
<td>-</td>
</tr>
</tbody>
</table>

* Supported Design

**NOTE:** The dip tube must be cut to the required length (1/2” of container inside diameter minus 5 1/4”).

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For Small Mobile or Stationary Containers

A9091R and A9092R Series

For Large Stationary Containers

9093RS, 9094RS and 9095RS Series

For Large Mobile or Stationary Containers

A9093TS, A9094TS and A9095TS Series
### Application

Rotogages® are designed to provide accurate determination of LP-Gas container contents. They may be end or side mounted in a standard \( \frac{3}{4} \)" NPT coupling on stationary or mobile containers. To guarantee accurate measurement, they should not be used on stationary containers that exceed 60" I.D. or on mobile containers, subject to vibration, with an I.D. of more than 24".

### Features

- Provides long, trouble-free performance and ease of operation.
- Polished stems ensure bind-proof operation.
- Dial face is dual calibrated to provide greater accuracy in reading contents in containers which are not level.

### Materials

- **Body**: Brass
- **Stem**: Brass Tubing
- **Dip Tube**: Seamless Brass Tubing
- **Dial Plate**: Aluminium
- **Indicator**: Malleable Iron

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Dip Tube</th>
<th>For Containers with Inside Diameter</th>
<th>Tank Connection</th>
<th>Valve Seat Orifice</th>
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</thead>
<tbody>
<tr>
<td>2070C0</td>
<td>2071-L25.7, 2071-L39.7</td>
<td>Up to 40&quot;</td>
<td>( \frac{3}{4} ) M. NPT</td>
<td>No. 54 Drill Size</td>
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<tr>
<td></td>
<td></td>
<td>Up to 60&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** The dip tube must be cut to the required length (1½ of container inside diameter minus \( \frac{3}{4} \)), when mounted on center line of tank.
Pull-Away Valves for Transfer Operations
A2141 Series

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

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

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

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

Features
- Heavy-duty construction for long service life.
- A “true” pull-away type valve which simply reconnects by snapping together without unnecessary downtime or need for new parts.
- Buna-N seals provide leak tight operation.
- 400 PSIG operating pressure.

Materials
Body (¾”, 1”)........................................................................ Cadmium Plated Steel
Body (1¼”, 2”)........................................................................ Cadmium Plated Steel
Seals....................................................................................... Buna-N Rubber
Cables ........................................... Nylon Coated, Galvanized Steel

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet/Outlet Connections NPT F</th>
<th>Disconnect Force Approx-lbs</th>
<th>Reconnect Force Approx-lbs</th>
<th>Length A</th>
<th>Length B</th>
<th>LP-Gas Liquid Flow Capacity at Various Differential Pressures (GPM)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2141A6</td>
<td>¾”</td>
<td>130</td>
<td>80</td>
<td>¾”</td>
<td>3/4”</td>
<td>5 PSIG: 11 10 PSIG: 16 25 PSIG: 25 50 PSIG: 36</td>
</tr>
<tr>
<td>A2141A6L**</td>
<td>⅜”</td>
<td>75</td>
<td>50</td>
<td>1/8”</td>
<td>1 1/16”</td>
<td>5 PSIG: 21 10 PSIG: 30 25 PSIG: 47 50 PSIG: 67</td>
</tr>
<tr>
<td>A2141A8</td>
<td>1”</td>
<td>30</td>
<td>25</td>
<td>5”</td>
<td>5/8”</td>
<td>5 PSIG: 52 10 PSIG: 75 25 PSIG: 120 50 PSIG: 170</td>
</tr>
<tr>
<td>A2141A8L**</td>
<td>⅞”</td>
<td>160</td>
<td>50</td>
<td>5/8”</td>
<td>15/16”</td>
<td>5 PSIG: 250 10 PSIG: 350 25 PSIG: 550 50 PSIG: 750</td>
</tr>
</tbody>
</table>

* To determine NH3 liquid flow capacity, multiply by .90.
LP-Gas Emergency Shut-Off Valves (ESV’s)

Why and how they should be used for Bobtail Filling and Transport Unloading.

General Information
The primary purpose of Emergency Shut-Off Valves in bobtail filling and transport unloading is to allow quick shut-off of liquid and vapor flow in the event there is an accidental pull-away of a truck or a hose rupture, both of which could cause a fire.

A system using Emergency Shut-Off Valves will not prevent any spillage of liquid and vapor, but the total system should be constructed so this spillage will be kept to a minimum.

This can be accomplished either by making possible, quick action by the driver or plant personnel in closing the valves by manual remote or pneumatic remote actuation; or in case of a pull-away, by automatic closing of the liquid valve by means of a cable connected to the liquid hose.

By minimizing the presence of liquid and vapor, the chance of a fire or explosion will be reduced. In case of a fire, thermal links at the valves or at other appropriate locations could close the valves and prevent further release of liquid and vapor.

The valve closing systems will be discussed later in this section. The user should decide which system is most appropriate, depending on the piping configuration and the general layout of the filling/unloading area.

ESV Application for Bobtail Loading and Transport Unloading
A very important function of the typical LP-Gas storage plant is to transfer LP-Gas into bobtails for delivery to customers. How efficiently and rapidly these bobtails can be filled often determines the number of customers that can be served each day, as well as how many bobtails are required to satisfactorily serve all customers. Therefore, the selection of an ESV for the bobtail liquid loading line should be done with care so as to maximize efficiency in filling and have year-round dependability.

The RegO 2” (A6016) and 3” (A6024) liquid ESVs have a full open port so that the restrictions of flow would be no more than you would expect through an equivalent length of schedule 80 pipe. To improve the overall efficiency of the system, the valves were designed as an operating valve so it could replace an existing globe or angle valve already installed at the end of the fixed piping. Thus, installing a RegO ESV could actually result in a more efficient pumping operation than the existing system.

Equally important in the consideration of an ESV is its performance in an emergency, especially bobtail pull-aways. Therefore, when selecting the proper ESV for bobtail filling, also consider the dependability of performance, and simplicity of operation and maintenance.

The RegO ESVs clearly indicate to the operator its open or closed position. It allows full manual control by the operator and provides means for remote operation in emergencies from either in front of the valve or in the rear.

No complicated systems of pulleys and cables are necessary since direct, straight pulls will close the valve. Means are even provided to secure a length of cable to the transfer hose so as to produce direct, straight pulls will close the valve. Means are even provided to secure a length of cable to the transfer hose so as to produce straight pulls will close the valve. Means are even provided to secure a length of cable to the transfer hose so as to produce

NFPA Provisions (2014)
The pertinent provisions of NFPA Pamphlet 58, as they apply to Emergency Shut-Off Valves and how they are to be installed are below (for complete information refer to NFPA 58):

Section 5.12.2.4 states where fusible elements are used; the melting point cannot exceed 250°F (121°C).

This provision sets for the basic criteria for the emergency shutoff valve, a key valve in the protection of many liquid transfer operations. Actuating means for remote control may be electrical, mechanical or pneumatic.

Many systems use a pneumatic system where the tubing itself acts as a fusible element releasing the pressure holding the valve open. With respect to the feature of manual shutoff at the installed location, it is recommended that this valve be operated occasionally. Also, the system should be tested periodically to determine that it will function properly.

Section 6.12.1 covers new and existing installations, stationary container storage systems with an aggregate water capacity of more than 4000 gal (15.1m³) utilizing a liquid transfer line that is 1½ in. (39 mm) or larger and pressure equalizing lines 1¼ in (32 mm) or larger, must be equipped with emergency shutoff valves.

Section 6.12.2 describes where an emergency shutoff valve must be installed in the transfer lines of the fixed piping transfer system within 20 ft (6m) of lineal pipe from the nearest end of the hose or swivel-type piping connections.

Section 6.12.5 covers installations where there are two or more liquid or vapor lines with hoses or swivel-type piping connected of the sizes designated in 6.12.1, an emergency shutoff valve or a backflow check valve, where allowed, must be installed in each leg of the piping.

Section 6.12.6 states the requirements for thermal protection; emergency shutoff valves must be installed so that the temperature-sensitive element in the valve, or a supplemental temperature-sensitive element that operates at a maximum temperature or 250°F (121°C) that is connected to actuate the valve. It also states maximum distance this can be which is not more than 5ft (1.5m) from the nearest end of the hose or swivel-type piping connected to the line in which the valve is installed.

Section 6.12.7 requires that the temperature-sensitive elements of emergency shutoff valves cannot be painted, or can they have any ornamental finishes applied after manufacture.

Section 6.12.8 emergency shutoff valves or backflow check valves must be installed in the fixed piping in a manner to protect them so that any breaks resulting from a pull will occur on the hose or swivel-type piping side of the connection; allowing the valves and piping on the plant side of the connection to remain intact.

Section 6.12.9 emergency shutoff valves that are required to be installed in accordance with 6.12.2, that a means must be incorporated to actuate the emergency shutoff valves in the event of a break of the fixed piping resulting from pulling of the hose.

Section 6.12.10 states that all emergency shutoff valves required by the code be annually tested for the functions required in 5.12.2.3 (2) Manual shutoff from a remote location, (3) Manual shutoff at the installed location; the results of the test are documented.


Section 6.12.12.1 requires that the emergency shutoff valve shall have at least one clearly identified and accessible manually operated remote shutoff device.

Section 6.12.12.2 states that the remote shutoff device for an emergency shutoff valve must be located not less than 25ft (7.6m) or more than 100 ft. (30 m) in the path away from the emergency shutoff valve.

Section 6.12.12.3 describes the requirements when an emergency shutoff valve is used in place of an internal valve in compliance with 5.7.4.2(D) the remote shutoff device have to be installed in accordance with 6.11.4 and 6.11.5.

The provisions above and others covered in NFPA 58 can assist in determining how bobtail filling and transport unloading stations are to be configured. The diagrams shown here offer general information, they should not be used as an installation guide.
LP-Gas Emergency Shut-Off Valves (ESV’s)

Installation Compliance with NFPA Requirements

A valve that is approved as an ESV may be installed in the fixed piping up to a distance of 20 feet (along the pipe) from the point where the transfer hose is attached to the fixed piping.

However, when the ESV is located more than five feet from the end of the fixed piping, an additional fusible element must be installed within five feet of the point of attachment of the hose, and be connected to the ESV valve in such a manner that it will cause the ESV to close in the event of a fire.

The ideal location of the ESV is as close to the end of the fixed piping as possible. This position eliminates the need for an additional fusible element and cable, and it may also permit the elimination of a restrictive valve already installed at the end of the fixed piping.

To this point, our comments have been principally concerned with ESV protection of the liquid line at bulk plants because this is the area of greatest potential danger in the event of a pull-away or hose rupture.

However, regulations also require an ESV in the vapor transfer line when the vapor hose is 1 ¼” or larger. A helpful rule of thumb in determining whether or not an ESV control valve is required in your vapor system is this: If the vapor flow is out of the storage tank, an ESV is required. ESV systems are designed to protect the storage tank contents against uncontrolled release.

Therefore, a bobtail loading system could use a 1 ¼” or larger back pressure check valve in the vapor system since the flow of vapor is always from the bobtail being filled back to the storage tank. To improve transfer rates, the use of the RegO 6586D back check valve at this location would provide protection at minimum pressure drop.

If the bobtail vapor line is also used when unloading transports, then the RegO A6010 ESV should be used. The A6010 provides thermal protection, manual closing and a remote emergency closing system similar to the RegO 2” liquid ESV, A6016.

Remote Control Systems

Usually in transfer loading operations, the valve handles and cables are located in close proximity to the area of greatest potential danger during an emergency. Therefore, each bobtail filling system or transport unloading system should have installed in it at least one readily accessible, alternate remote operating device.

A6010, A6016, A6024 ESVs

Figure 2
RegO ESV’s with Remote Pneumatic
and Transfer Hose Cable Release
Systems Typical Installation
**Application**

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

**Features**

- Fusible Element is located in the thermal fuse assembly which acts at the latch open and close trigger. When exposed to fire, the element melts at 212° F allowing the shaft to return to the closed position.

- Valve can be opened by use of operating lever, if a pneumatic actuator is used it will open with the actuator.

- Valve can be closed by remote cable or pneumatic actuator.

- Valve can be closed by simply pushing the operating lever down, it is not necessary to trip the close trigger.

- Seat Disc is retained by a metal seat to minimize leakage in case of direct fire impingement.

- Quick closing regardless if the pump is running or not.

**Sturdy Rugged Construction**

- Will withstand hydraulic shock of sudden closings, piping strains, and temperature variations.

- Valve has only two moving parts, stem and close/thermal trigger.

- A6016 is UL listed for use in LP-Gas as an emergency and operating shut-off valve.

- Stem seals are spring loaded for leak free performance at low temperatures/pressures.

**Materials**

- Body: Ductile Iron Cad Plated
- Stem: Stainless Steel
- Seat: Stainless Steel
- Seat Disc (VA6016/VA6024): High Temperature Viton
- Seat Disc (A6016/A6024): Nitrite
- Springs: Stainless Steel
- Gaskets: Teflon

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Seat</th>
<th>Inlet and Outlet Connections</th>
<th>Liquid Flow Capacity at 10 PSIG Drop (GPM)</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA6016</td>
<td>Viton</td>
<td>2&quot; F.NPT</td>
<td>711 (LP-Gas)</td>
<td>Remote Close Pneumatic 6016–60D</td>
</tr>
<tr>
<td>A6016</td>
<td>Buna-N</td>
<td>2&quot; F.NPT</td>
<td>640 (NH₃ or LP-Gas)</td>
<td>Remote Open/Close Pneumatic 6016-60C</td>
</tr>
<tr>
<td>VA6024</td>
<td>Viton</td>
<td>3&quot; F.NPT</td>
<td>1325 (LP-Gas)</td>
<td>Remote Open/Close Rotary 6016RA</td>
</tr>
<tr>
<td>A6024</td>
<td>Buna-N</td>
<td>3&quot; F.NPT</td>
<td>1173 (NH₃ or LP-Gas)</td>
<td></td>
</tr>
</tbody>
</table>
**1¼” Swing-Check ESV for Bulk Plants**

**VA6010 and A6010**

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

**Features**
Meets NFPA 58 and UL requirements

- Fusible Element is located in the thermal fuse assembly, which acts at the latch open and close trigger. When exposed to fire, the element melts at 212 degrees F. allowing the shaft to return to the closed position.
- Valve can be opened by use of operating lever. If a pneumatic actuator is used it will open with the actuator.
- Valve can be closed by remote cable or pneumatic actuator.
- Valve can be closed by simply pushing the operating lever down; it is not necessary to trip the close trigger.

**Sturdy Rugged Construction**
- Will withstand hydraulic shock of sudden closings, piping strains, and temperature variations.
- Valve has only two moving parts, stem and close/thermal trigger.
- A6010 is UL listed for use in LP-Gas as an emergency and operating shut-off valve.
- Stem seals are spring loaded for leak free performance at low temperatures/pressures.
- Seat Disc is retained by a metal seat to minimize leakage in case of direct fire impingement.
- Quick closing regardless if the pump is running or not.

**Materials**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Seat Inlet and Outlet Connections</th>
<th>Accessories</th>
<th>Liquid Flow Capacity @ 10 PSIG Pressure Drop (GPM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA6010</td>
<td>Viton 1¼” F. NPT</td>
<td>6016-60D</td>
<td>259 (LP-Gas)</td>
</tr>
<tr>
<td>A6010</td>
<td>Buna-N 1¼” F. NPT</td>
<td>6016-60C</td>
<td>233 (NH₃ or LP-Gas)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6016RA</td>
<td></td>
</tr>
</tbody>
</table>

**Ordering Information**

- **REGO 10 YEAR WARRANTY**

[Image of the product with specifications and features]
Flanged ESVs for Bulk Plants
FA6010, FA6016 and FA6024

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

Features
- Fusible Element is located in the thermal fuse assembly which acts at the latch open and close trigger. When exposed to fire, the element melts at 212° F allowing the shaft to return to the closed position.
- Valve can be opened by use of operating lever, if a pneumatic actuator is used it will open with the actuator.
- Valve can be closed by remote cable or pneumatic actuator.
- Valve can be closed by simply pushing the operating lever down. It is not necessary to trip the close trigger.
- Seat Disc is retained by a metal seat to minimize leakage in case of direct fire impingement.
- Quick closing regardless if the pump is running or not.

Sturdy Rugged Construction
- Will withstand hydraulic shock of sudden closings, piping strains, and temperature variations.
- Valve has only two moving parts, stem and close/thermal trigger.
- UL listed for use in LP-Gas as an emergency and operating shut-off valve.
- Stem seals are spring loaded for leak free performance at low temperatures/pressures.

Materials
Body ............................................................ Ductile Iron Cad Plated
Stem ............................................................. Stainless Steel
Seat ............................................................. Stainless Steel
Seat Disc (FVA6010/16/24) ........................ High Temperature Viton
Seat Disc (FA6010/16/24) ........................................................ Nitrile
Springs ......................................................... Stainless Steel
Stem Seals ...................................................... Teflon

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Seat</th>
<th>Inlet and Outlet Connections</th>
<th>Liquid Flow Capacity at 10 PSIG Drop (GPM)</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>FVA6010</td>
<td>Viton</td>
<td>1¼&quot; - 300# ANSI RF Flange</td>
<td>233 (NH3)</td>
<td>FA6016-60D</td>
</tr>
<tr>
<td>FA6010</td>
<td>Buna-N</td>
<td>1¼&quot; - 300# ANSI RF Flange</td>
<td>259 (LP-Gas)</td>
<td>*</td>
</tr>
<tr>
<td>FVA6016</td>
<td>Viton</td>
<td>2&quot; - 300# ANSI RF Flange</td>
<td>640 (NH3)</td>
<td>6016-60C</td>
</tr>
<tr>
<td>FA6016</td>
<td>Buna-N</td>
<td>2&quot; - 300# ANSI RF Flange</td>
<td>711 (LP-Gas)</td>
<td>6016RA</td>
</tr>
<tr>
<td>FVA6024</td>
<td>Viton</td>
<td>3&quot; - 300# ANSI RF Flange</td>
<td>1173 (NH3)</td>
<td>1325 (LP-Gas)</td>
</tr>
<tr>
<td>FA6024</td>
<td>Buna-N</td>
<td>3&quot; - 300# ANSI RF Flange</td>
<td>1325 (LP-Gas)</td>
<td></td>
</tr>
</tbody>
</table>

* Not Available
Application
RegO Emergency Shut-Off Valves modified for remote pneumatic shutdown operation retain all the operating features of the standard valves.

Once equipped with pneumatic cylinders and then pressurized, the pneumatic cylinder piston rod disengages from a striker plate, allowing the ESV to be manually opened and the striker plate to act as a latch and hold the valve open. Release of the control system pressure for any reason closes the ESV for fail-safe operation.

Features
Convenience
• Closes the liquid and vapor ESV from a convenient remote location.
• Independent closed loop system allows the ESV to be pneumatically charged, but opened or closed manually or with cable controls to conserve pressurized gas.

Reliability
• Independent closed loop system will continue to hold pressure and close ESV in an emergency - even if supply pressure is cut off.

Security
• Any loss of pressure from the control line, such as accidents or the line melting from fire, automatically shuts down the liquid and vapor ESV.
• ESV must be reset after automatic shutdown.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6016-60D</td>
<td>Cylinder assembly kit to convert 6016 ESVs to pneumatic shutdown.</td>
</tr>
<tr>
<td>6016PN-50</td>
<td>Pneumatic remote shutdown system kit, complete with 100’ of tubing, fittings, 1 charging valve assembly and 1 remote shutdown valve assembly</td>
</tr>
<tr>
<td>6016PN-80</td>
<td>Bypass kit for pneumatic actuators.</td>
</tr>
<tr>
<td>7605A-BT</td>
<td>100’ roll of ¼” pneumatic tubing.</td>
</tr>
<tr>
<td>7605AP-16</td>
<td>¼” tubing tee, with nuts.</td>
</tr>
<tr>
<td>7605AP-15</td>
<td>¼” NPT x ¼” tubing, straight connector.</td>
</tr>
<tr>
<td>6016RM</td>
<td>Remote Close Cable Kit</td>
</tr>
</tbody>
</table>

6016PN-50 Pneumatic Remote Control Kit
Control kit with components for connecting and charging the pneumatic controls from a source of compressed gas (air or nitrogen) to a RegO liquid or vapor ESV. Includes charging valves with low pressure indicator, operating valves, 100 feet of ¼” plastic tubing and tube fittings.
Hydraulic Automatic Cylinder Filling System
7194MD and 7194HD

Application
Designed to provide accurate, economical filling of LP-Gas, DOT and fork lift cylinders by weight. Filling stops automatically as the total weight of the cylinder reaches the amount pre-set on the scale. One individual can efficiently handle up to four cylinder filling operations simultaneously to maximize profits, increase efficiency and allow servicing of more customers.

The RegO automatic cylinder filling system is designed for use with these scales only:

FAIRBANKS-MORSE SCALES
New Style - 1280A Double Beam Scale or Single Beam Scales 1124A and 1174A.
Old Style - 1280 Double Beam Scale or Single Beam Scale 1123 with or without Howe No. 12108 “Over or Under” Indicator.

HOWE SCALES
(with or without Howe No. 8325 Balance Indicator)
—No. 54X Wood Pillar and Shelf Scale.
—No. 57 Steel Pillar and Shelf Scale (single beam).
—No. 57X Steel Pillar and Shelf Scale (double beam).

Features
• Completely self-contained with no electrical source or wiring required.
• Works hydraulically, like brakes on a car.
• Filling stops automatically when cylinders reach pre-set weight.
• Up to four stations can be handled by one individual.

How It Works
The scale beam weight is adjusted to the desired filled weight and the empty cylinder is placed on the scale. The loading hose is connected to the cylinder valve, and the lever on the master cylinder is moved to the vertical position. When the quick-acting valve on the loading hose is opened, the cylinder will rapidly fill. The master cylinder lever is designed to trip, move to a horizontal position and automatically shut-off the control valve as soon as the scale reaches the pre-set filled weight.

Components may be ordered separately with piping done by the installer. Two completely assembled manifold configurations are also available.

Ordering Information

<table>
<thead>
<tr>
<th>Key No.</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assembly for Fairbanks-Morse. Includes items 1 thru 8 below.</td>
<td></td>
<td>7194MD</td>
</tr>
<tr>
<td>Assembly for Howe. Includes items 1 thru 8</td>
<td></td>
<td>7194HD</td>
</tr>
<tr>
<td>1</td>
<td>Propane Control Valve</td>
<td>½&quot; NPT Female, with ⅛&quot; NPT Female Hydraulic Connection</td>
</tr>
<tr>
<td>2</td>
<td>Master Cylinder, with Actuator Lever</td>
<td>¼&quot; NPT Hydraulic Connection</td>
</tr>
<tr>
<td>3</td>
<td>Hydraulic Hose Assembly</td>
<td>⅜” I.D. with ⅛” NPT Male Ends, 43½” Overall Length</td>
</tr>
<tr>
<td>1-3</td>
<td>Valve, Cylinder and Hose Assembly for Fairbanks-Morse Scales</td>
<td></td>
</tr>
<tr>
<td>1-3</td>
<td>Valve, Cylinder and Hose Assembly for Howe Scales</td>
<td></td>
</tr>
<tr>
<td>4A</td>
<td>Bracket Kit for Fairbanks Morse Scales, Complete with Screws, Washers, Nuts and Instructions</td>
<td></td>
</tr>
<tr>
<td>4B</td>
<td>Bracket Kit for Howe Scales, Complete with Screws, Washers, Nuts and Instructions</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Can of Hydraulic Fluid, Complete with Filling Spout</td>
<td>1½ ounce</td>
</tr>
<tr>
<td>6</td>
<td>Propane Filling Hose Assembly</td>
<td>⅜” I.D., with ⅛” NPT Male Ends, 50½” Overall Length</td>
</tr>
<tr>
<td>7</td>
<td>Quick-acting Shut Off Valve</td>
<td>¼” NPT Inlet X ⅛” NPT Outlet</td>
</tr>
<tr>
<td>8*</td>
<td>Soft Nose Cylinder Connector</td>
<td>⅜” NPT Male X POL Male</td>
</tr>
</tbody>
</table>

Hydraulic self-contained system. No external power required.
3” Heavy Duty Swing Check with Flow Indicator A7624

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

**Features**
- Easy-to-read flow indicator
- Heavy duty spring loaded swing check design
- Resilient synthetic rubber seat disc
- High flow rates with low pressure drop
- May be installed either horizontally or vertically
- ¼” F.NPT plugged boss on top of body

**Materials**
- Body: Ductile Iron
- Stem: Stainless Steel
- Seat: Stainless Steel
- Seat Disc: Resilient synthetic rubber
- Return Spring: Stainless Steel

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>For Use With:</th>
<th>Inlet &amp; Outlet Connections</th>
<th>Liquid Capacity at 10 PSIG Drop GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>A7624</td>
<td>LPG &amp; NH3</td>
<td>3” F.NPT</td>
<td>1325-GPM(LPG) 1173-GPM(NH3)</td>
</tr>
</tbody>
</table>

2” Heavy Duty Swing Check with Flow Indicator A7616

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

**Features**
- Easy-to-read flow indicator
- Heavy duty spring loaded swing check design
- Resilient synthetic rubber seat disc
- High flow rates with low pressure drop
- May be installed either horizontally or vertically
- ¼” F.NPT plugged boss on top of body

**Materials**
- Body: Ductile Iron
- Stem: Stainless Steel
- Seat: Stainless Steel
- Seat Disc: Resilient synthetic rubber
- Return Spring: Stainless Steel

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>For Use With:</th>
<th>Inlet &amp; Outlet Connections</th>
<th>Liquid Capacity at 10 PSIG Drop GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>A7616</td>
<td>LPG &amp; NH3</td>
<td>2” F.NPT</td>
<td>711-GPM(LPG) 640-GPM(NH3)</td>
</tr>
</tbody>
</table>
**Sight Flow Indicators for Bulk Plants**
**A7794 and A7796**

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

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

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

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

**Features**
- Durable ductile iron body ensures long, trouble-free operation with design working pressure of 400 PSIG.
- Glass is polished, ground and tempered after fabrication for maximum strength up to 2,500 PSIG.
- Set screws minimize loosening of glass retainer rings.
- O-ring glass seals provide for leak-tight operation.

**Materials**
Body ................................................................. Ductile Iron
Swing Check ........................................................ Stainless Steel
Check Seat Disc ........................................... Resilient Synthetic Rubber
Glass ....... Polished, Ground, Tempered and tested to 2,500 PSIG

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A Inlet/Outlet Connections</th>
<th>B Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>A7794</td>
<td>2” F. NPT</td>
<td>5¾”</td>
</tr>
<tr>
<td>A7796</td>
<td>3” F. NPT</td>
<td>7½”</td>
</tr>
</tbody>
</table>
Hose End Adapters for DOT Cylinder Filling
7193D-10 and 7193U-10

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

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Applications</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>7193D-10</td>
<td>Filling of DOT Cylinders with POL Connections</td>
<td>¼” M. NPT</td>
<td>M. POL (CGA 510)</td>
<td>Brass &amp; Stainless Steel</td>
</tr>
<tr>
<td>7193U-10</td>
<td>Filling of DOT Cylinders with Type I Connections</td>
<td>¼” M. NPT</td>
<td>Type 1 Connection (1⅛” F. ACME)</td>
<td>Brass</td>
</tr>
</tbody>
</table>

Connector for DOT Cylinder Filling Adapter
7193T-10

Application
The 7193T-10 Connector is designed for use on the 7193D-10 Filling Adapters. Connector allows quick connection to the Type I 1⅛” M. ACME threads for operators that fill both POL and Type I valves.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Applications</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>7193T-10</td>
<td>Converts 7193D-10 Adapters from POL to a Type 1 Connection</td>
<td>F. POL CGA 510</td>
<td>Type 1 Connection (1⅛” F. ACME)</td>
<td>Brass</td>
</tr>
</tbody>
</table>
New Patented Low Emission Hose End Safety Adapter 7193D-10L

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

**Features**
- Meets CARB Low Emission Standards.
- Light weight, easy-to-use.
- Soft Nose M.POL connection.
- Redundant Safety Feature – will only open when connected to valve.

**Materials**
Body ......................................................... Brass – Knurled
Shaft ..................................................... Stainless Steel – ¼” M.NPT x M.POL (CGA 510)
O-Ring .................................................... Synthetic Rubber

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>7193D-10L</td>
<td>Filling of DOT cylinders with POL Connections</td>
<td>¼” M. NPT</td>
<td>M. POL (CGA 510)</td>
<td>Brass &amp; Stainless Steel</td>
</tr>
</tbody>
</table>

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

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

**Features**
- Meets CARB Low Emission Standards
- Light weight, easy-to-use type 1 Fitting
- Liquid release directed away from operator
- Redundant Safety Feature – will only open when connected to valve.

**Materials**
Body ......................................................... Brass - Knurled
Shaft ..................................................... Stainless Steel – ¼” M.NPT x Type 1 (15/16” M. ACME)
O-Ring .................................................... Synthetic Rubber

**Ordering Information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>7193U-10L</td>
<td>Filling of DOT cylinders with Type 1 Connections</td>
<td>¼” M. NPT</td>
<td>Type 1 Connection (1⅝”) F. ACME</td>
<td>Brass</td>
</tr>
</tbody>
</table>
Hose End Adapter for Lift Truck Cylinder Filling
7193L-10A

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Body Material</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>7193L-10A</td>
<td>Filling of Fork Lift Cylinders*</td>
<td>¼&quot; M. NPT</td>
<td>1¼&quot; F. ACME</td>
<td>Brass</td>
<td>5760A</td>
</tr>
</tbody>
</table>

*The 7193L-10A is intended to be permanently attached to the filling hose.

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

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

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

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

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

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

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Application</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>7193K-10B</td>
<td>Lever Operated for Quick Filling of Fork Lift Cylinders</td>
<td>¼&quot; F. NPT</td>
<td>Quick Disconnect Yoke*</td>
<td>Brass and Steel</td>
</tr>
</tbody>
</table>

*For use with RegO 7141M check connector.
Combination Valve for Bulk Storage Containers
A2805C

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

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

For fixed liquid level gauging, the valve can be mounted at the maximum permitted filling level. When equipped with a dip tube threaded ¼” M.NPT, it can be installed at any convenient level.

Materials
Body A2805C.................................................................   Ductile Iron
Bonnet .................................................................   Steel
Valve Stem ...............................................................  Stainless Steel
Vent Stem .................................................................  Stainless Steel
Valve Stem Seal ....................................  Resilient Synthetic Rubber
Vent Seal ...............................................  Resilient Synthetic Rubber
Valve Seat ......................................................................  Nylon

Ordering Information
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Container Connection</th>
<th>Service Connection</th>
<th>Liquid Level Vent</th>
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<tbody>
<tr>
<td>A2805C</td>
<td>¾” M. NPT</td>
<td>¼” F. NPT for Gauge Mounting</td>
<td>Tee Handle</td>
</tr>
</tbody>
</table>

*Has ¼” F. NPT opening for installing separate dip tube.

Gritrol Fuel Line Filters
12802

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

Ordering Information
<table>
<thead>
<tr>
<th>Part Number</th>
<th>Inlet Connection</th>
<th>Outlet Connection</th>
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<tbody>
<tr>
<td>12802</td>
<td>¼” F. NPT</td>
<td>¾” M. NPT</td>
</tr>
</tbody>
</table>
Vent Valves 3165C, 3165D, 3165S and TSS3169

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

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

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

Materials
- Body (3165) ............................................................... Brass
- Body (TSS3169) ................................................... Stainless Steel
- Seat Disc (3165) .............................................. Resilient Synthetic Rubber
- Seat Disc (3169) ............................................... Teflon

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Service</th>
<th>Connection</th>
<th>Actuation</th>
<th>Accessories</th>
<th>Warning Plate Kit</th>
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</thead>
<tbody>
<tr>
<td>3165C</td>
<td>LP-Gas Only</td>
<td>¼” M. NPT</td>
<td>Ribbed</td>
<td></td>
<td>2550-40P</td>
</tr>
<tr>
<td>3165D</td>
<td></td>
<td></td>
<td>Slotted</td>
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<tr>
<td>3165S</td>
<td></td>
<td></td>
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<tr>
<td>TSS3169</td>
<td>LP-Gas &amp; NH3</td>
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</tbody>
</table>

Fixed Liquid Level Gauges 3165 Series and TA3169F

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

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

Materials
- Body (3165) ............................................................... Brass
- Body (TA3169) ................................................... Stainless Steel
- Seat Disc (3165) .............................................. Resilient Synthetic Rubber
- Seat Disc (TA3169) ............................................... Teflon

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Service</th>
<th>Connection</th>
<th>Actuation</th>
<th>Dip Tube Length</th>
<th>Accessories</th>
<th>Warning Plate Kit</th>
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<tr>
<td>3165CF*</td>
<td>LP-Gas Only</td>
<td>¼” M. NPT</td>
<td>Ribbed</td>
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<td>2550-40P</td>
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<tr>
<td>3165DF*</td>
<td></td>
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<td>Slotted</td>
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<tr>
<td>3165CF12.0</td>
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<tr>
<td>3165DF12.0</td>
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<tr>
<td>TA3169F12.0</td>
<td>LP-Gas &amp; NH3</td>
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</tbody>
</table>
Spanner Wrench for ACME Connectors
3195-50

Application
This aluminum spanner wrench is especially designed for use with 2¼" and 3¼" ACME couplings, adapters and caps.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>For Use With ACME Connector Size</th>
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</thead>
<tbody>
<tr>
<td>3195-50</td>
<td>2¼&quot; &amp; 3¼&quot;</td>
</tr>
</tbody>
</table>

Pressure Gauges

Application
Especially designed in a variety of sizes and construction for the LP-Gas and anhydrous ammonia industry.

Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Service</th>
<th>Case Material</th>
<th>Maximum Pressure</th>
<th>Inlet Connection</th>
<th>Case Size</th>
<th>Increment Divisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2434A-2*</td>
<td>LP-Gas Only</td>
<td>Steel</td>
<td>35&quot; w.c. and 20 oz. (Dual)</td>
<td>2½&quot;</td>
<td>1&quot; w.c. and 1 oz.</td>
<td></td>
</tr>
<tr>
<td>2434-2**</td>
<td></td>
<td>Brass</td>
<td>30 PSIG</td>
<td></td>
<td></td>
<td>½ PSI</td>
</tr>
<tr>
<td>3226A-3</td>
<td></td>
<td>Steel</td>
<td>60 PSIG</td>
<td>¼&quot;</td>
<td>2&quot;</td>
<td>1 PSI</td>
</tr>
<tr>
<td>2411</td>
<td></td>
<td>Brass</td>
<td>100 PSIG</td>
<td>⅜&quot;</td>
<td>2&quot;</td>
<td>5 PSI</td>
</tr>
<tr>
<td>5575</td>
<td>LP-Gas Only</td>
<td>Steel</td>
<td>300 PSIG</td>
<td>⅜&quot;</td>
<td>2&quot;</td>
<td>5 PSI</td>
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<tr>
<td>5547</td>
<td>NH3 and LP-Gas</td>
<td>Brass</td>
<td>60 PSIG</td>
<td>⅜&quot;</td>
<td>2&quot;</td>
<td>5 lb.</td>
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<tr>
<td>5576</td>
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<td>Steel</td>
<td>150 PSIG</td>
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<td>1286</td>
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<td>Brass</td>
<td>400 PSIG</td>
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<td>5 PSI</td>
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<td>2&quot;</td>
<td>5 PSI</td>
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<tr>
<td>946B</td>
<td>NH3 and LP-Gas</td>
<td>Steel</td>
<td>300 PSIG</td>
<td>⅜&quot;</td>
<td>2&quot;</td>
<td>5 PSI</td>
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<tr>
<td>A8060</td>
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<td>60 PSIG</td>
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<td>5 lb.</td>
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<tr>
<td>A8150</td>
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<td>Brass</td>
<td>150 PSIG</td>
<td>⅜&quot;</td>
<td>2&quot;</td>
<td>5 PSI</td>
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<tr>
<td>A8400</td>
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<td>⅜&quot;</td>
<td>2&quot;</td>
<td>5 PSI</td>
</tr>
<tr>
<td>612-PG</td>
<td>LP-Gas Only</td>
<td>Brass</td>
<td>100 PSIG</td>
<td>⅜&quot;</td>
<td>2&quot;</td>
<td>5 PSI</td>
</tr>
<tr>
<td>612-G2</td>
<td></td>
<td>Steel</td>
<td>300 PSIG</td>
<td>⅜&quot;</td>
<td>2&quot;</td>
<td>5 PSI</td>
</tr>
</tbody>
</table>

* ⅛" Hose Connection
** ⅜" M. NPT Connection
### Needle Valves 1224, 1316 and 1318

**Application**

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

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

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

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>A. Inlet Connection</th>
<th>B. Outlet Connection</th>
<th>C. Height</th>
<th>D. Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>1224WA</td>
<td>¼” M. NPT</td>
<td>⅛” M. NPT</td>
<td>1⅜”</td>
<td>1⅝”</td>
</tr>
<tr>
<td>1316WA</td>
<td>⅛” - 18 L.H.</td>
<td>¼” M. NPT</td>
<td>1⅜”</td>
<td>1⅝”</td>
</tr>
<tr>
<td>1318WA</td>
<td>⅛” - 18 L.H.</td>
<td>⅛” M. NPT</td>
<td>1⅜”</td>
<td>1⅝”</td>
</tr>
</tbody>
</table>