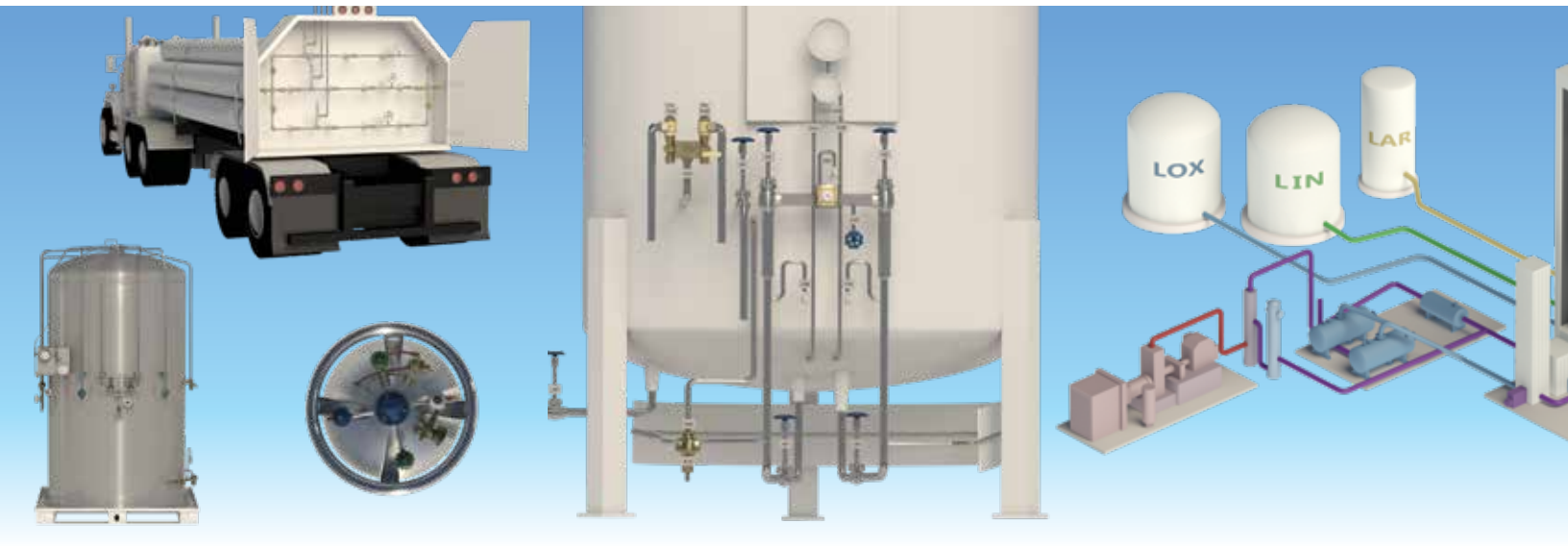


Cryogenic & Industrial Gas Equipment

- Cryogenic Cylinder Equipment
- Relief Valves
- Globe Valves
- Gate Valves
- Check Valves
- Regulators
- Master High Pressure Valves
- Adapters, Nipples, Pipe & Miscellaneous
- Repair Kits

Air separation unit (ASU) products

24/7 production schedules demand 24/7 toughness

RegO valves, regulators and safety devices are engineered to stand up to the toughest environments and provide years of reduced maintenance and worry-free operation. When you have been designing and manufacturing your own products for more than 100 years, you pay attention to the details—like anti-corrosive, ergonomic hand wheels and leak-proof valves that deliver superior flow rates.

www.regoproducts.com/cryo/

GLOBE VALVES

210 SERIES SK SERIES 232 SERIES

GATE VALVES

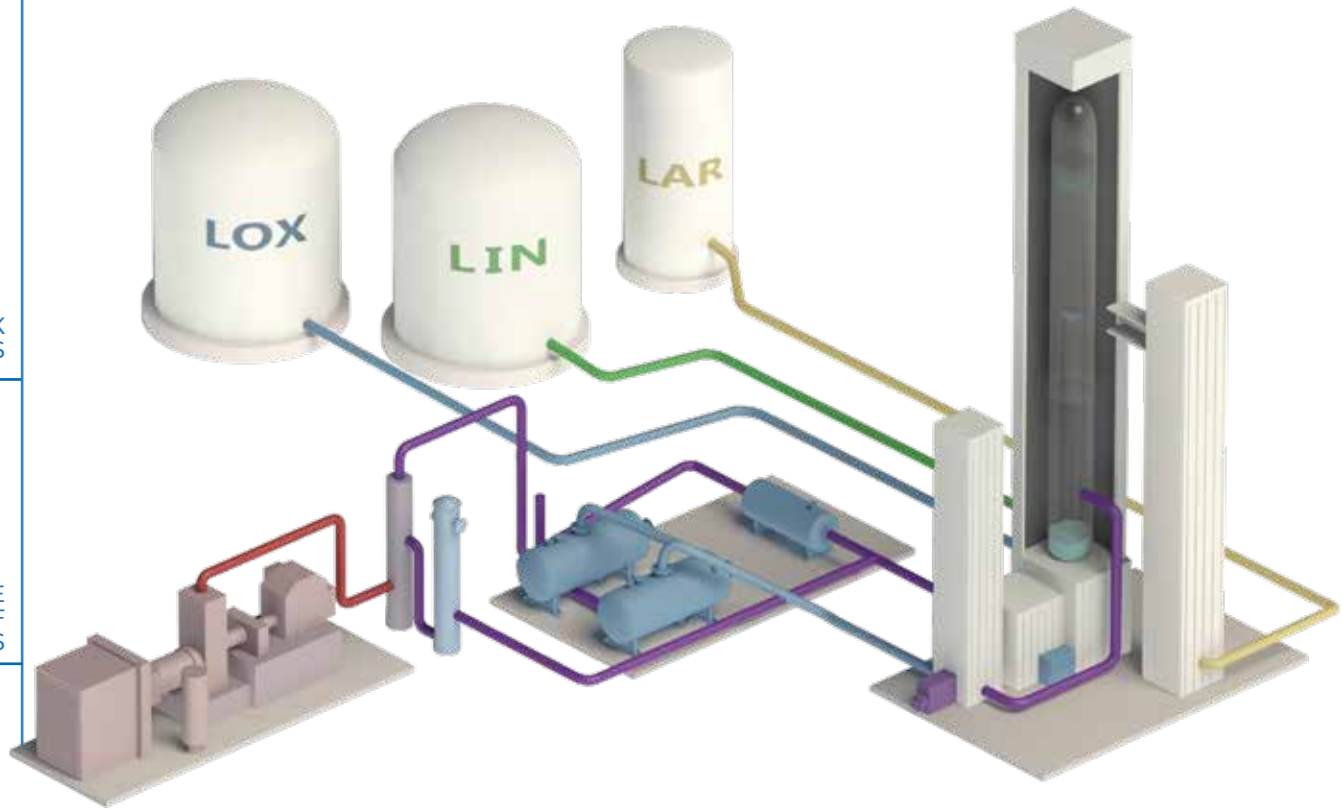
110 SERIES

CHECK VALVES

886 SERIES CG SERIES

PRESSURE RELIEF VALVES

AR SERIES 9400 SERIES

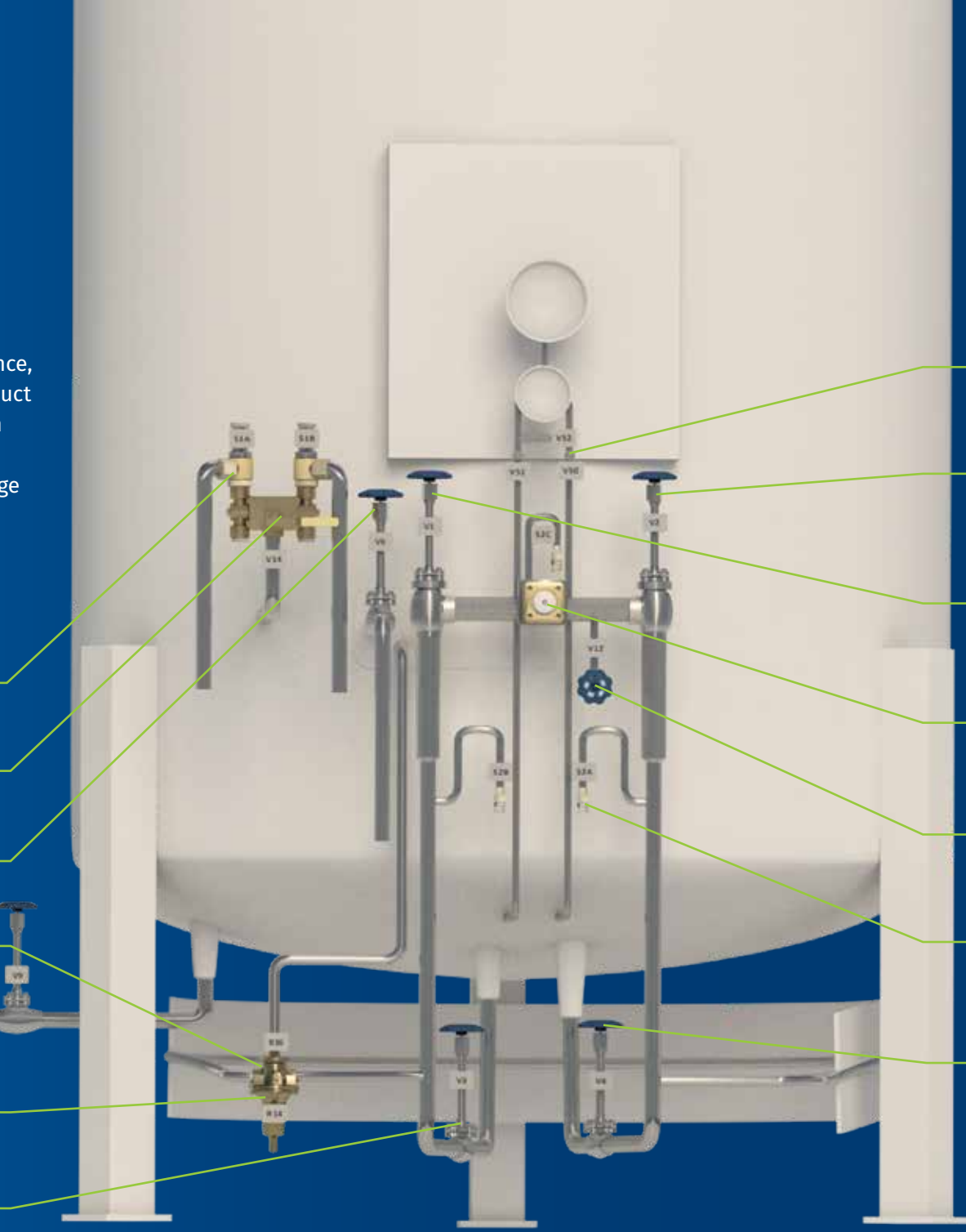


The illustrations in this application guide are intended to inform a professional installer/system designer where our products are generally installed on certain containers or applications. These illustrations are not intended for and must not be used for system design.

Bulk tank storage

Breadth of line meets depth of knowledge

Combine RegO's industry experience, design assistance and broad product line to build a flow control system that enables maximum efficiency and excellent value for bulk storage applications.



REGO BULK TANK PRODUCTS

ANGLED PRESSURE RELIEF VALVE
AR SERIES

NEEDLE VALVE
CMM SERIES

DIVERTER VALVE
DR SERIES

FILL MANIFOLD ASSEMBLY
CFM, AFM, SFM, PFM SERIES

PRESSURE RELIEF VALVE
9400 SERIES

GLOBE VALVE
SK SERIES

GLOBE VALVE
BB SERIES

GLOBE VALVE
SKB SERIES

COMBO REGULATOR
CB504 SERIES

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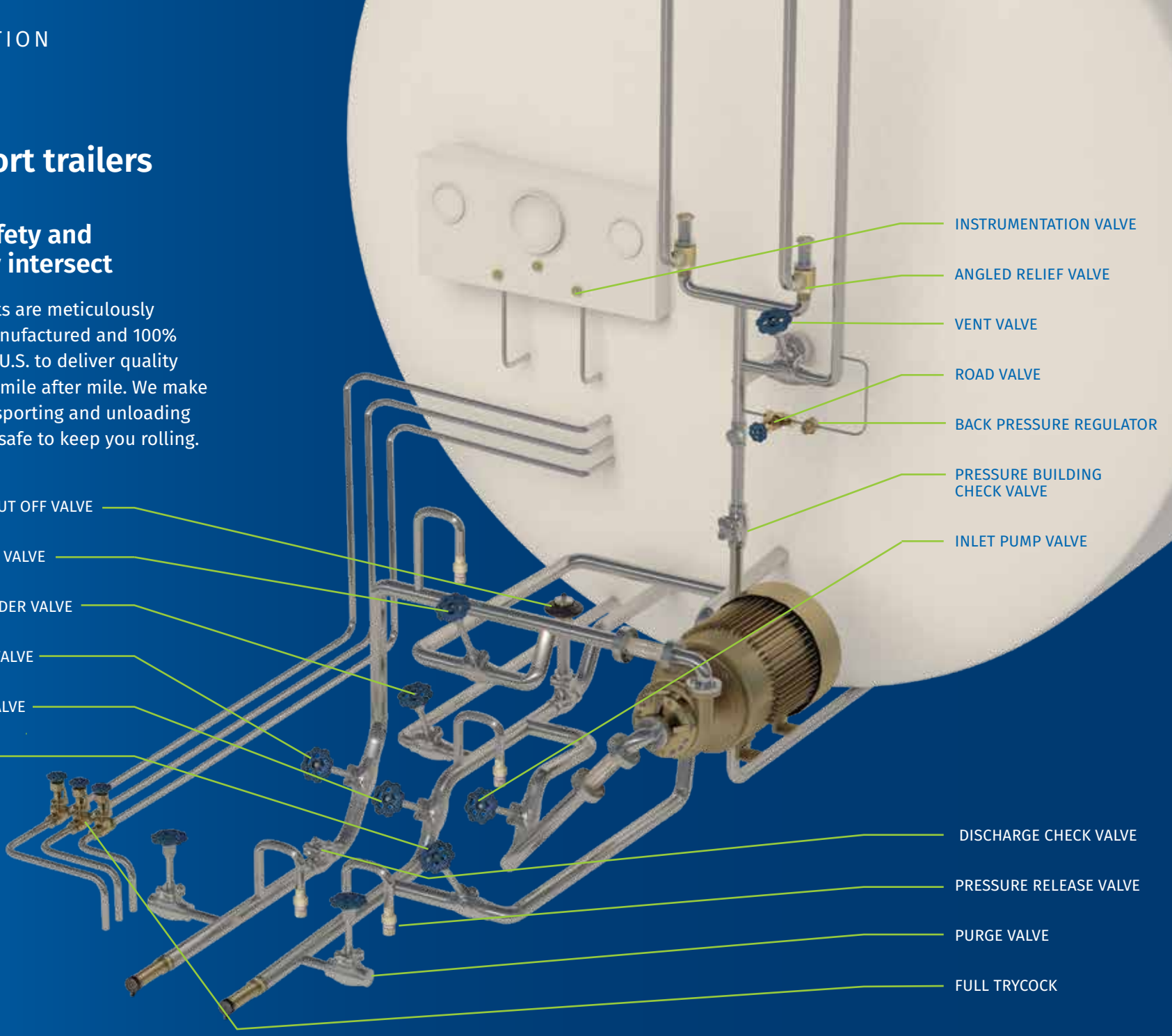
Transport trailers

Where safety and reliability intersect

RegO products are meticulously designed, manufactured and 100% tested in the U.S. to deliver quality performance mile after mile. We make loading, transporting and unloading efficient and safe to keep you rolling.



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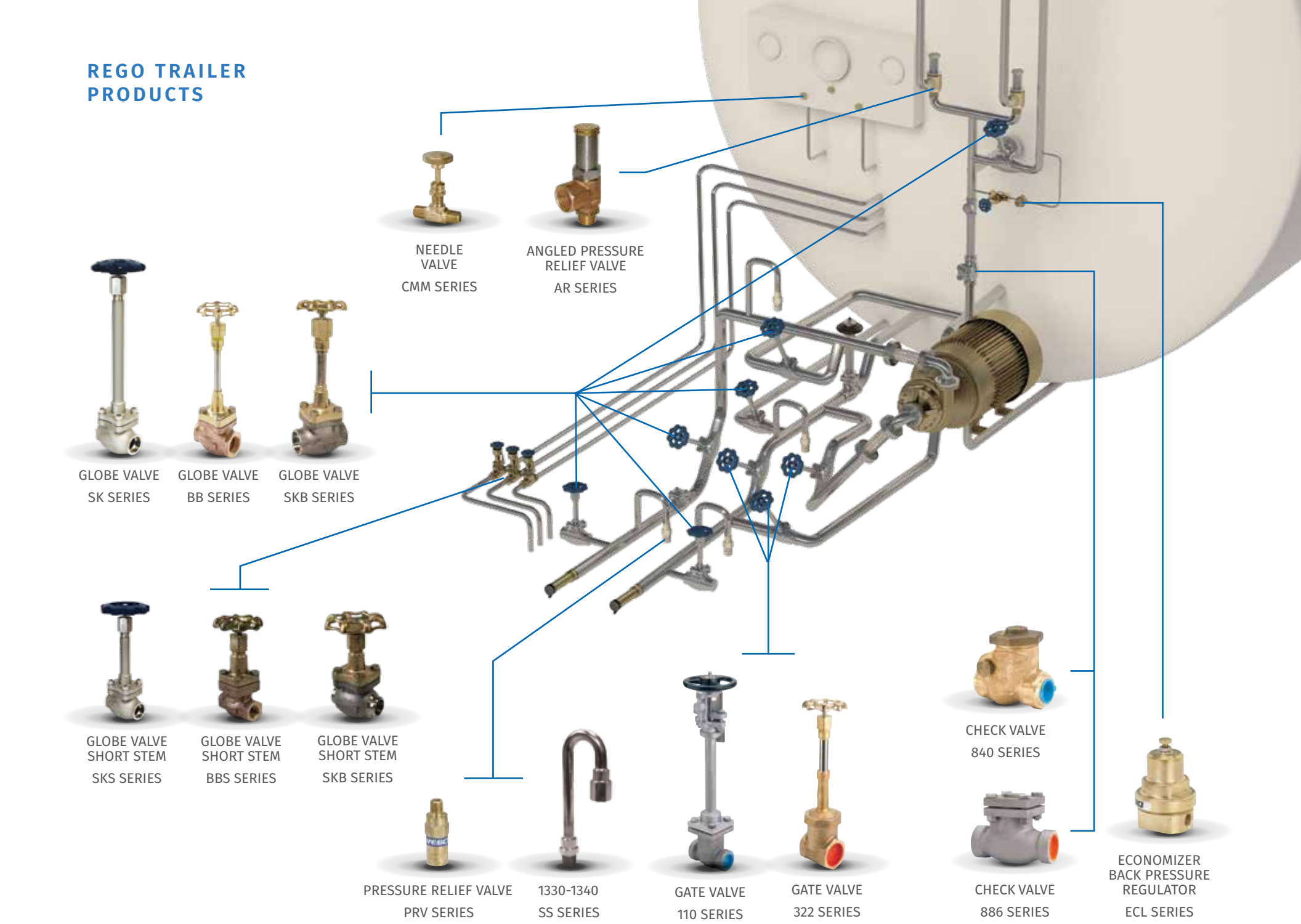
REGO TRAILER PRODUCTS



NEEDLE VALVE
CMM SERIES

ANGLED PRESSURE RELIEF VALVE
AR SERIES

GLOBE VALVE
SK SERIES

GLOBE VALVE
BB SERIES

GLOBE VALVE
SKB SERIES

GLOBE VALVE SHORT STEM
SKS SERIES

GLOBE VALVE SHORT STEM
BBS SERIES

GLOBE VALVE SHORT STEM
SKB SERIES

PRESSURE RELIEF VALVE
PRV SERIES

1330-1340
SS SERIES

GATE VALVE
110 SERIES

GATE VALVE
322 SERIES

CHECK VALVE
840 SERIES

CHECK VALVE
886 SERIES

ECONOMIZER BACK PRESSURE REGULATOR
ECL SERIES

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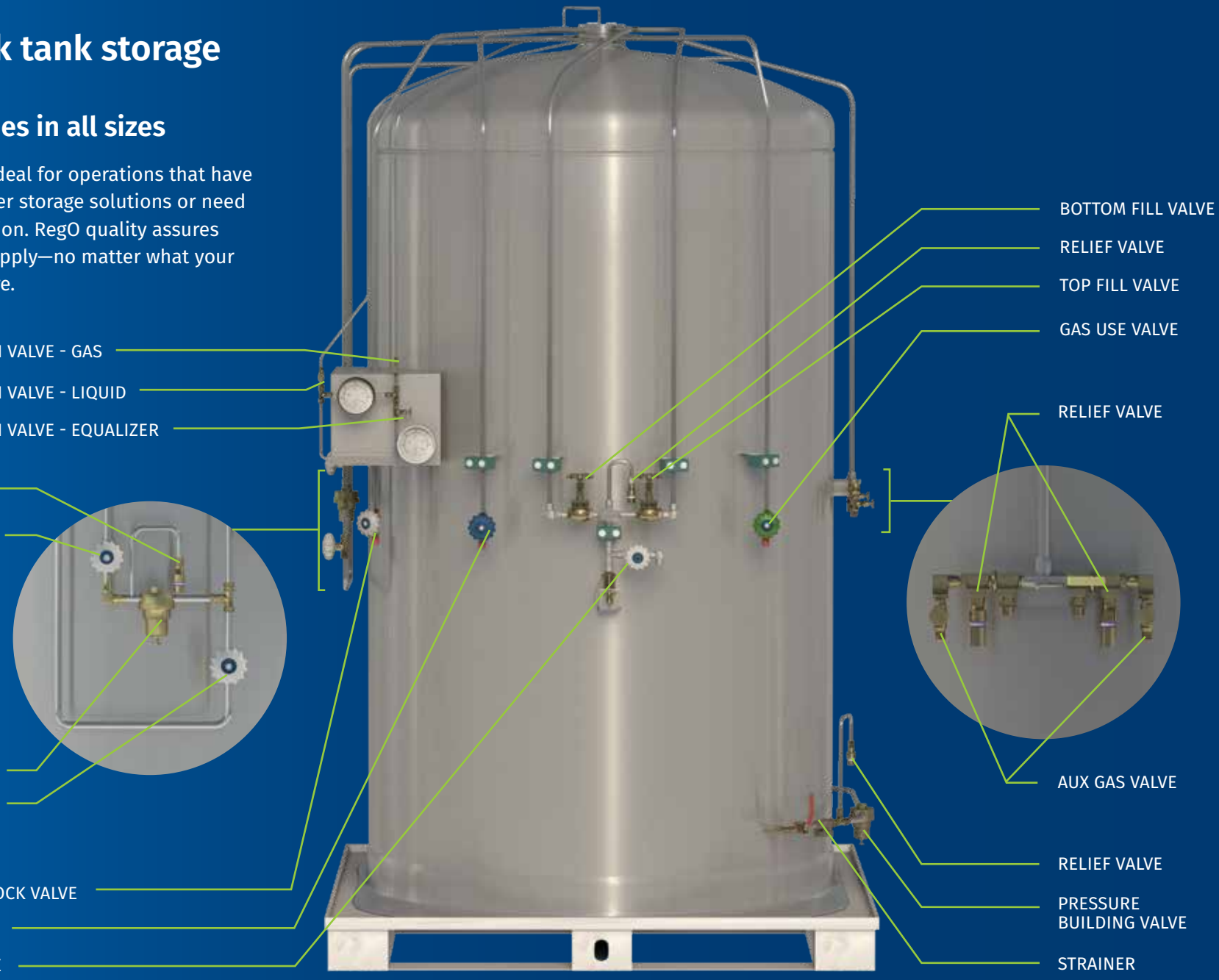
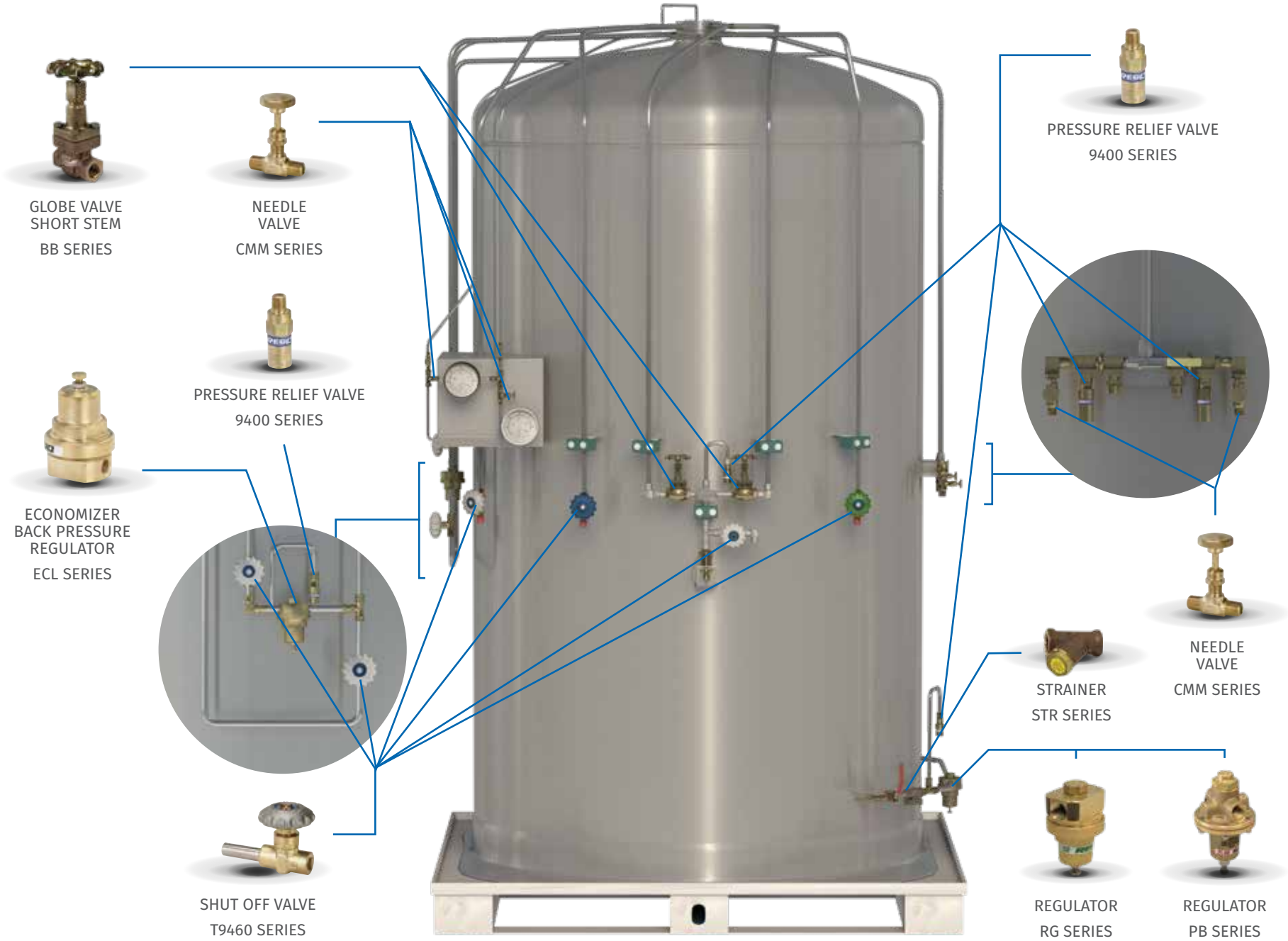
Microbulk tank storage

Quality comes in all sizes

Microbulks are ideal for operations that have outgrown cylinder storage solutions or need flexible installation. RegO quality assures a safe, steady supply—no matter what your storage needs are.



REGO MICROBULK TANK PRODUCTS



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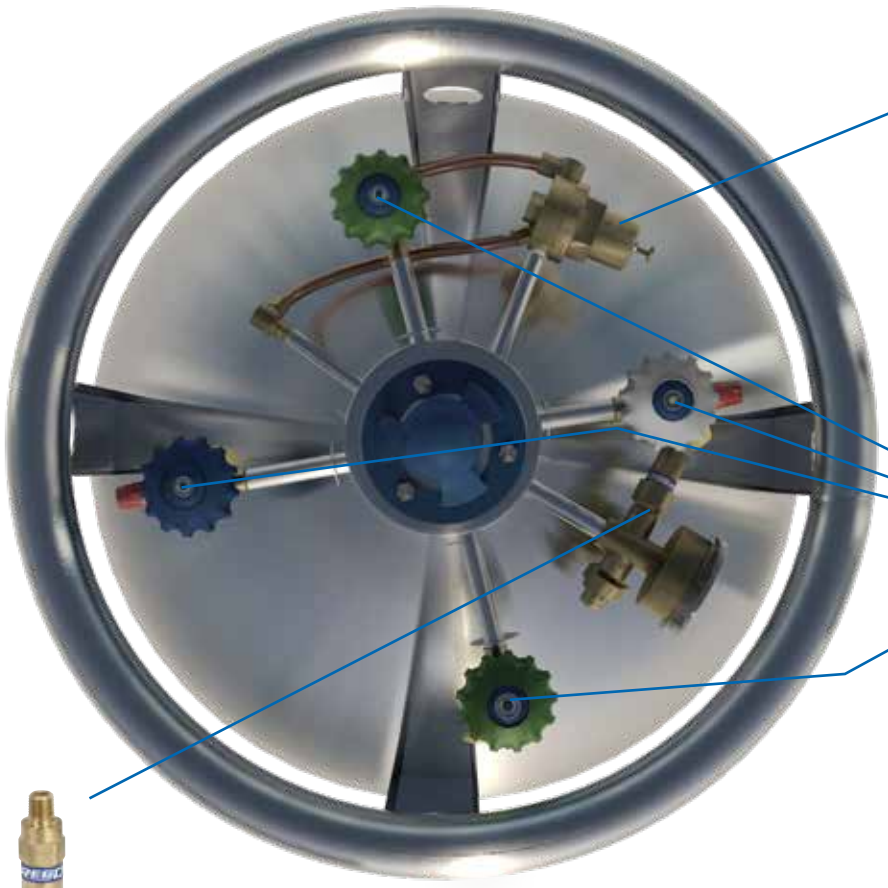
Liquid cylinders

We do not freeze under pressure

Cylinders can take a beating in transport and everyday use. RegO valves are the most widely used in the industry, and deliver a pressure-sealed barrier to avoid freeze-up and maintain constant flow. The robust design prevents maintenance requirements and avoids downtime, while safeguarding against over-torquing for long-lasting operation, with lower operational costs.

Rated for liquid oxygen service per CGA G-4.1.

REGO LIQUID CYLINDER PRODUCTS



COMBO REGULATOR
CBC/CBH SERIES

SHUT OFF VALVES
T9460 SERIES

PRESSURE RELIEF VALVE
PRV SERIES

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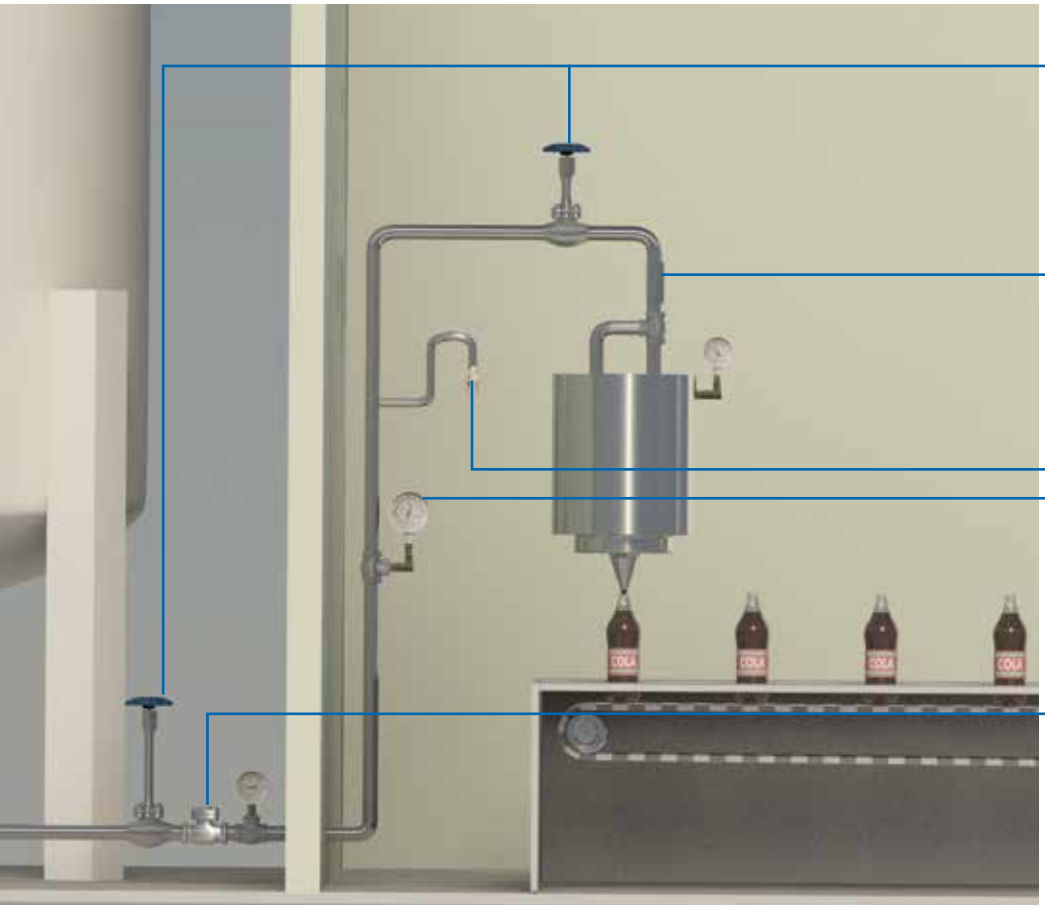
Liquid cryogenic delivery systems

The key to fast freezing and fresher foods

Chilling, freezing, preservation and carbonation are just some of the ways cryogenic gases help preserve and transport foods and beverages. RegO flow control products are constructed for superior performance in demanding manufacturing environments.

NITROGEN INJECTION SYSTEMS FOR FOOD PRESERVATION AND FAST FREEZING



CHECK VALVE
CG SERIES

STAINLESS STEEL GLOBE VALVE
SK SERIES

STEEL SWING CHECK VALVE
886 SERIES

PRESSURE GAUGE
15578 SERIES

PRESSURE RELIEF VALVE
9400 SERIES

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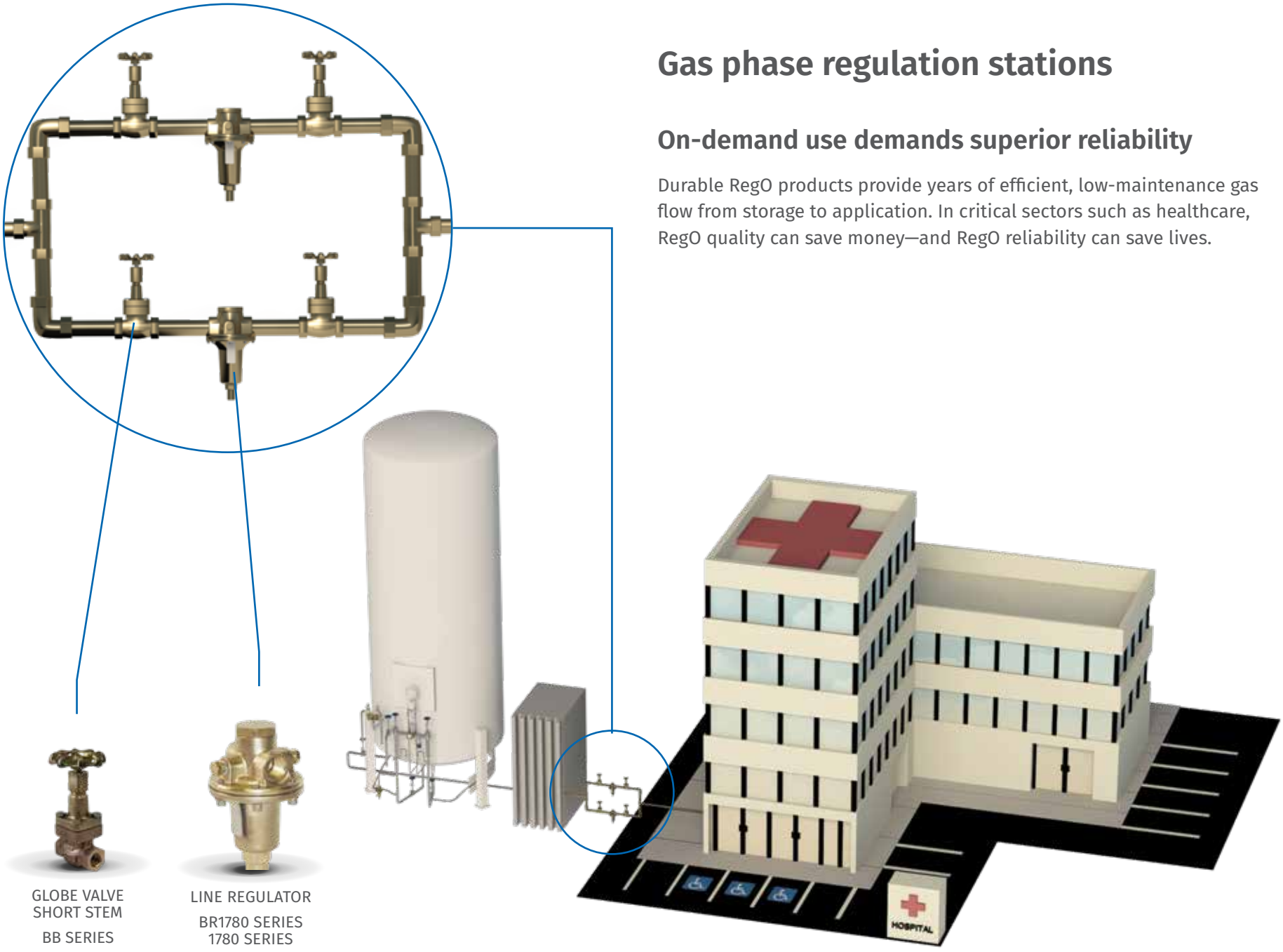
Gas phase regulation stations

On-demand use demands superior reliability

Durable RegO products provide years of efficient, low-maintenance gas flow from storage to application. In critical sectors such as healthcare, RegO quality can save money—and RegO reliability can save lives.



GLOBE VALVE
SHORT STEM
BB SERIES

LINE REGULATOR
BR1780 SERIES
1780 SERIES

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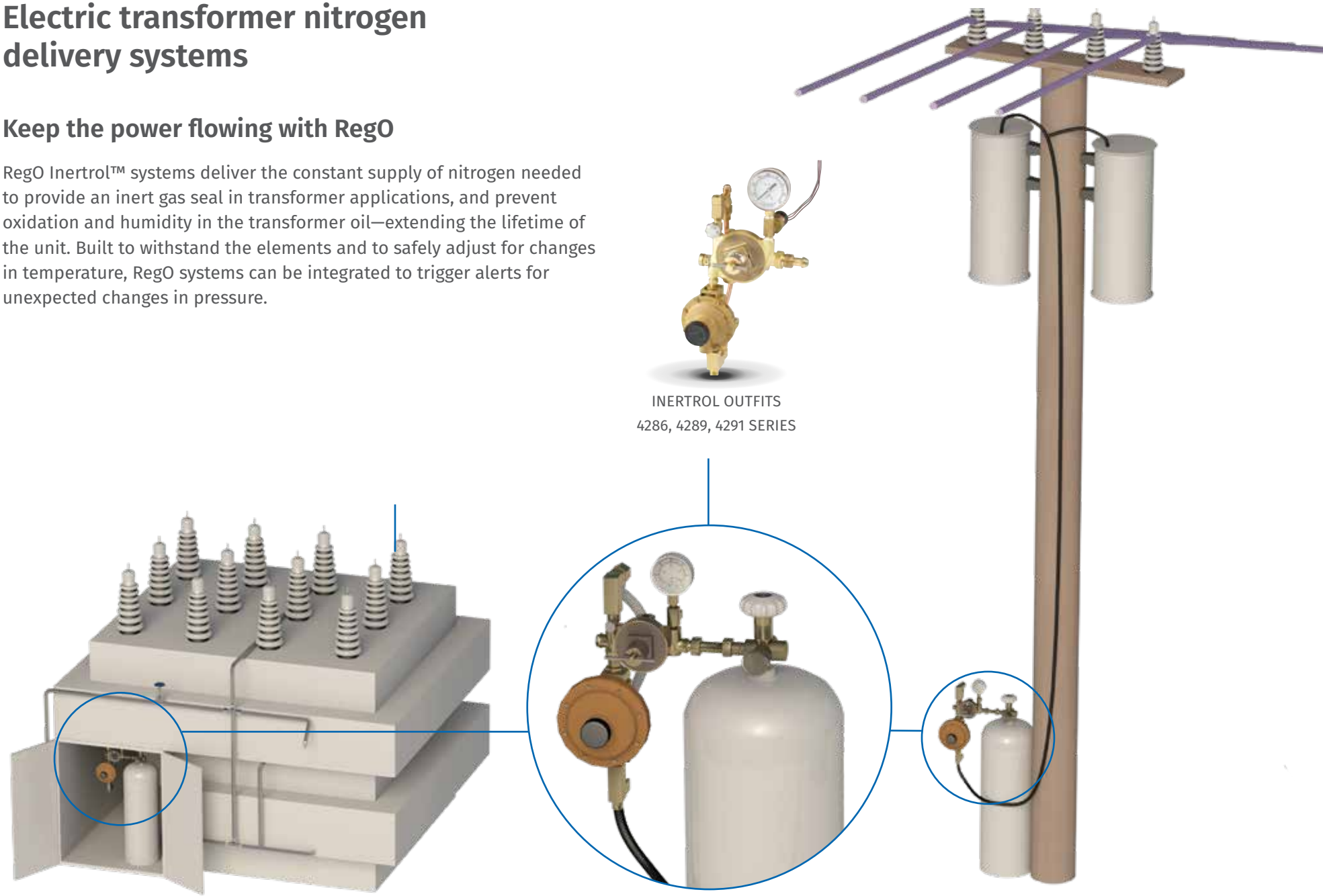
Electric transformer nitrogen delivery systems

Keep the power flowing with RegO

RegO Inertrol™ systems deliver the constant supply of nitrogen needed to provide an inert gas seal in transformer applications, and prevent oxidation and humidity in the transformer oil—extending the lifetime of the unit. Built to withstand the elements and to safely adjust for changes in temperature, RegO systems can be integrated to trigger alerts for unexpected changes in pressure.

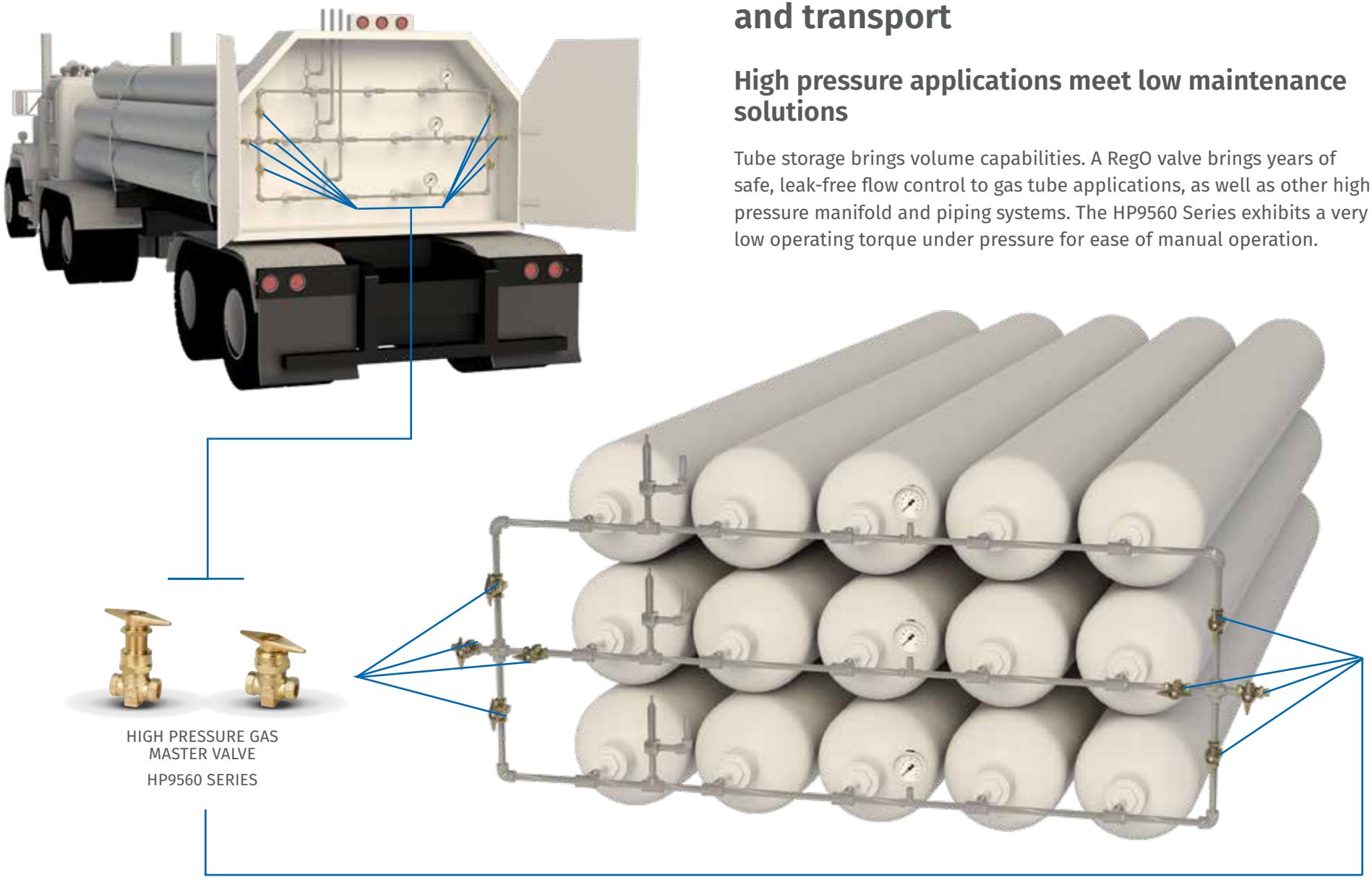
INERTROL OUTFITS
4286, 4289, 4291 SERIES



High pressure gas tube storage and transport

High pressure applications meet low maintenance solutions

Tube storage brings volume capabilities. A RegO valve brings years of safe, leak-free flow control to gas tube applications, as well as other high pressure manifold and piping systems. The HP9560 Series exhibits a very low operating torque under pressure for ease of manual operation.



HIGH PRESSURE GAS
MASTER VALVE

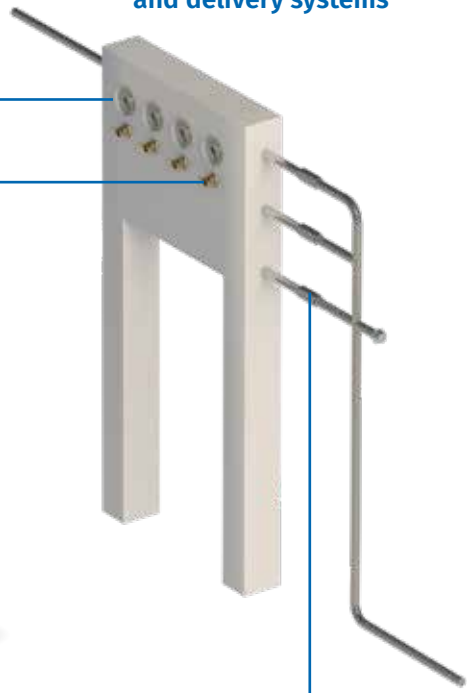
HP9560 SERIES

High and medium pressure manifold and delivery systems

We can handle all kinds of pressure

RegO has all the components you need to create your own system. Or you can tap our technical team's deep product and application knowledge and we will build to your specifications. Either way, you will get the benefit of RegO quality and innovation throughout to maintain steady pressure and excellent performance.

High pressure manifold and delivery systems



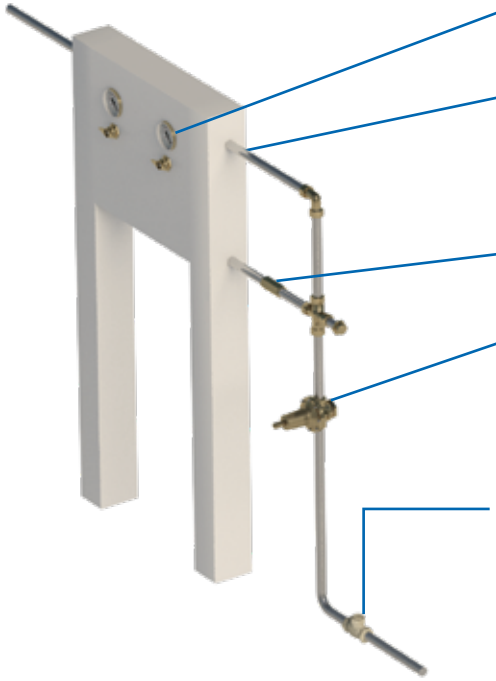
PRESSURE GAUGE

15578 SERIES

HIGH PRESSURE GAS MASTER VALVE

HP9560 SERIES

Medium and low pressure manifold and delivery systems



HORIZONTAL CHECK VALVE

8500 SERIES

LINE REGULATOR

BR 1780 SERIES
1780 SERIES

CHECK VALVE

CG SERIES

REGO ALSO OFFERS A COMPLETE SELECTION OF BRASS PIPE, ELBOWS TEES, CROSSES, CAPS AND PLUGS.

Gas delivery systems

Reliable, on-demand industrial gas

RegO products manage gas for industrial applications, such as welding, cutting, heating and power generation. Through innovative design our products provide maximum reliability and precision to help fuel manufacturing processes and business profits.

COMPRESSED GAS MANIFOLD SYSTEMS

AUTOMATIC CHANGEOVER REGULATOR

M2523HP SERIES

SOFT SEAT CHECK VALVE

CG SERIES

LINE STATION VALVE

7160 SERIES

REGULATOR

BR1780 SERIES
1780 SERIES

BBS GLOBE VALVE

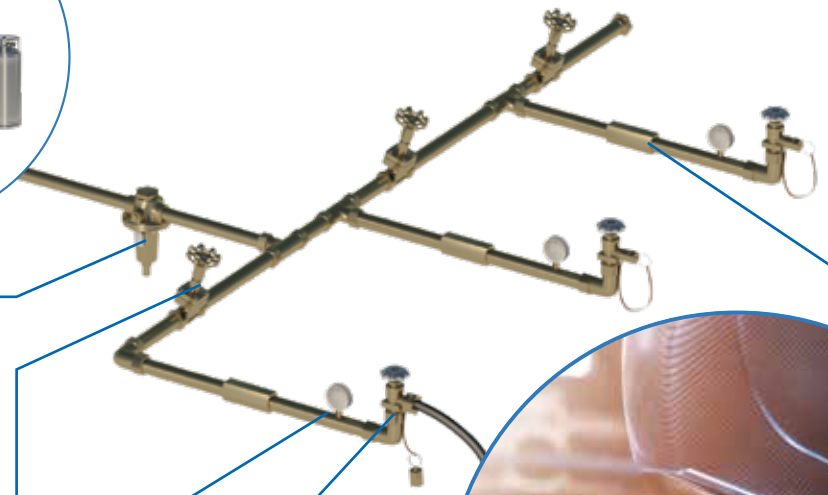
9400 SERIES

PRESSURE GAUGE

15578 SERIES

LINE STATION VALVE

7160 SERIES



CHECK VALVE

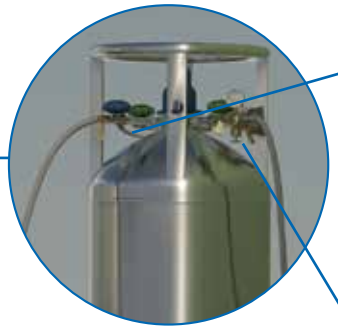
CG SERIES

REGO ALSO OFFERS A COMPLETE SELECTION OF BRASS PIPE, ELBOWS TEES, CROSSES, CAPS AND PLUGS.

Carbon dioxide delivery systems

We bring the “fizz” without the fuss

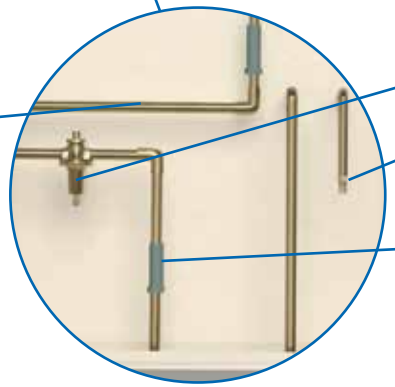
From the tank truck to the soda fountain, RegO products bring reliable, cost-effective carbon dioxide delivery—refill after refill.



SHUT OFF VALVE
T9460 SERIES

LIQUID CYLINDER REGULATOR
FUEL GAS DELIVERY SYSTEMS
LCR SERIES

CARBON DIOXIDE RELIEF VALVES
UA3149A SERIES



CHECK VALVE
CG SERIES

ASME RELIEF VALVE
C-19434B SERIES

LINE REGULATOR
BR1780 SERIES
1780 SERIES

Foreword

This catalog briefly describes the Rego® Industrial Gas and Cryogenic Equipment. As a result of condensing information in this catalog, some highly technical and special application material has been omitted. Proper application, installation and maintenance of the product is essential. Buyers should obtain further information if there are any doubts or questions. All information contained in this catalog is subject to change by RegO without notice. Additional product information is available from RegO or authorized product distributors. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

Warning

Never use any product on oxygen service if another gas has been previously used on the product. 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.

Materials

RegO may make suggestions for a material to use with a specific media. These suggestions will be based on technical compatibility resources through associations and manufacturers. RegO does not guarantee the material to be compatible with the specific media – this is the responsibility of the user. Users must test under their own operating conditions to determine the suitability of any material in a particular application.

Oxygen Service

RegO provides specified product cleaned in accordance with the intermediate level of ASTMG93 and CGA G-4.1 which assures removal of visible particles and combustible residues. System designers must verify the compatibility of the materials used in this product before installation and operation. Specifications of materials for oxygen service is the USER’S RESPONSIBILITY. If there is any doubt consult an expert.

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 51, CGA, ASME, DOT, ANSI and all applicable federal, state, provincial and local standards, codes, regulations and laws.

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

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

For Sales in California:

WARNING: This product can expose you to chemicals including lead which is known to the state of California to cause cancer, birth defects or reproductive harm. For more information go to **www.P65Warnings.ca.gov**

Limited Warranty and Limitation of Liability

REGO 10 YEAR WARRANTY

LIMITED 10 YEAR WARRANTY AND LIMITATION OF LIABILITY

NOTICE

Failure to install parts exactly as described in the instructions could result in a product that will not perform satisfactorily. Even if parts are correctly installed, the product might fail to perform satisfactorily if other parts are worn, corroded or dirty. Improper repair can cause leaks and malfunction, which could result in bodily injury and property damage. Any such use or installation of parts must ONLY be done by experienced and trained personnel using accepted governmental and industrial safety procedures.

RegO® assumes no responsibility or liability for performance of products repaired in the field. It must be clearly understood that the person or organization repairing the product assumes total responsibility for the performance of the product.

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, plastic, 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.

LIMITED 10 YEAR WARRANTY

RegO® warrants 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 30 days after buyer's discovery of what buyer believes is a defect, buyer must notify RegO® thereof in writing and ship (at buyer's expense) the product to RegO® at 100 RegO Drive, Elon, NC 27244. RegO®, at it's option, and within 45 days, will repair, replace F.O.B. point of manufacture, or refund the purchase price of that part or product found by it to be defective. Failure of buyer to give such written notice and return the product within 30 days shall be deemed an absolute and unconditional waiver of any and all claims of buyer arising out of such defect.

This limited warranty does not extend to any product or part that is not installed and used continuously 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 limited 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 limited 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, AND EXPRESSLY DISCLAIMS, ANY EXPRESS OR IMPLIED WARRANTIES, 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 A COMBINATION WITH OTHERS. REGO® DISCLAIMS ALL WARRANTIES NOT STATED HEREIN.

This Limited Warranty is given by Engineered Controls International LLC, of 100 RegO Drive Elon, NC 27244 USA, (336) 449-7707.

LIMITATION OF LIABILITY

RegO® 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 a 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 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 material. 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 provided to buyer by any third party and buyer assumes all risk of such advise 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. This 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.

The benefits given by the Limited Warranty above are in addition to any other rights and remedies to which you may be entitled by law.

NOTE TO AUSTRALIAN PURCHASERS: The following applies if you purchased this product as a "consumer" as defined in the Australian Consumer Law. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. Information regarding how to return a product and make a claim under this Limited Warranty is set forth below.

Nothing in this document purports to modify or exclude your rights if any under the Australian Consumer Law, or other laws which cannot be lawfully be modified or excluded.

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, to make a claim under this Limited Warranty the user must, within 30 days after the user's discovery of what the user believes is a defect, notify in writing and return the product (at the user's expense) to the distributor from whom he purchased the product or parts. The distributor may or may not at the distributor's option, choose to submit the product or parts to RegO®, pursuant to its Limited Warranty. Failure by buyer to give such written notice and return the product within 30 days shall be deemed an absolute and unconditional waiver of buyer's claim for such defects. Acceptance of any alleged defective product or parts by RegO® distributor for replacement or repairs under terms of RegO® Limited Warranty in no way obligates RegO® to the terms of the above warranty. Because of a policy of continuous product improvement, RegO® reserves the right to change designs, materials or specifications without notice.

EUROPEAN PED/TPED CERTIFICATION				
The following product categories have received PED/TPED certification by the notified body Tüv, #0036				
Valve number	**Maximum Connection Size**		**DN**	**PED Category**
	Inches	**mm**		
9560 series	1”	25	25	SEP
9500 series	1”	25	25	SEP
BK8400 series	2”	51	50	II
BK9400 series	2”	51	50	II
T9450 series	½”	13	15	TPED
T9460 series	½”	13	15	TPED
1682 series	¼”	6	8	SEP
BR-&1780 series	1”	25	25	SEP
RG series	¼”	6	8	SEP
ECL series	¼”	6	8	SEP
PRV9430 & PRV19430 series	½”	13	15	IV & TPED
SS9430 & PRV29430 series	½”	13	15	IV & TPED
BK008400 Series	2”	51	50	II
BK009400 Series	2”	51	50	II
BB9400 Series	2”	51	50	II
SKA9400 Series	2”	51	50	II & TPED
SKS9400 Series	2”	51	50	II & TPED
SKM9400 Series	2”	51	50	II & TPED
SKL9400 Series	2”	51	50	II & TPED
Goddard 110/210 Series	4”	102	100	Cat II (6” Class 300 is Cat III)
Goddard 886 / 886M Series	1 ½”	38	40	II
Goddard 840 / 846M Series	2”	51	50	II
Goddard 302 / 306 / 312 / 322 / 326 Series	3”	76	80	II
Goddard 202X / 206 / 222 / 222X / 226 / 226X / 231 / 232 Series	3”	76	80	II
AR4100/5100 Series	1½”	38	40	IV & TPED
DR6108	1”	25	25	SEP
DR6112	1 ½”	38	40	II
DR6113	1 ½”	38	40	II

PED	Pressure Equipment Directive
SEP	Sound Engineering Practice
II	Module A1 Internal Production Control with Monitoring of Final Assessment
	Module D1 QA for Production, Final Inspection and Testing
	Module E1 QA for Final Inspection and Testing
TPED	Transportable Pressure Equipment Directive
IV	Module B EC Type-Examination
	Module D Quality Assurance (QA) for Production, Final Inspection and Testing
	Module F Product Verification
	Module G Unit Verification
	Module H1 Full QA with Design Examination and Monitoring of Final Assessment

You don't thrive for more than 100 years because you're lucky.

It takes quality products, constant innovation, and above all a dedication to the customer.

From a pioneer in the development of oxygen regulators to a global leader delivering a comprehensive line of flow control products, RegO has always kept our customers' interests first.

Quality matters. Industrial gas applications have no room for leaks. That's why we design and manufacture to rigid industry standards and, test 100% of our products, and can offer a 10-year warranty. RegO products work better and last longer.

Innovative products, processes and people. We invest in technology and training to deliver flow control products designed to reduce maintenance and replacement costs, and ensure an efficient, safe work flow.

When our customers thrive, we do too. Our experienced team can provide technical support and design assistance. We're here to help in any way, every day.

Quality materials, innovative, long-lasting design are built into every product we manufacture. That's how we can offer a 10-year product warranty—double that of other companies.

Designed, manufactured and tested in the USA. Our four state-of-the-art facilities build the products that are most critical to your application.

Short Stem Cryogenic Valves
T9450 Series & T9460 Series

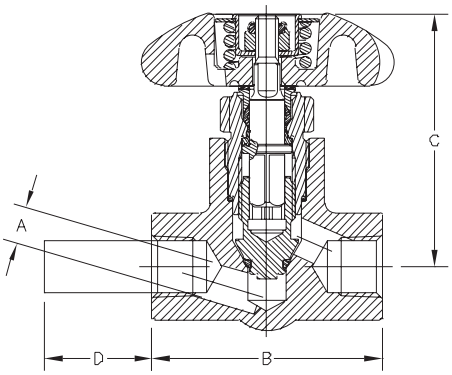
Application
The T9450 and T9460 series valves are designed for use on portable cryogenic cylinders and other in-line shut-off valve applications.

Features
- Spring loaded stem seal automatically adjusts for any gasket wear, eliminating the need to constantly retighten the packing nut
- Non-rising stem and low profile allow the valve to fit into tight areas and still provide easy access
- Unique pressure-sealed moisture barrier helps prevent freeze up at cryogenic temperatures
- Conical swivel seal design helps prevent seat galling from over torquing
- Cleaned for oxygen service per CGA G-4.1
- Maximum working pressure is 600 psig (42 barg)
- Working temperature range is -320°F to +165°F (-196ºC to +74ºC)
- Approved for TPED in accordance with EN1626
- 100% Factory Tested

REGO 10 YEAR WARRANTY

T9450 Series

T9460 Series



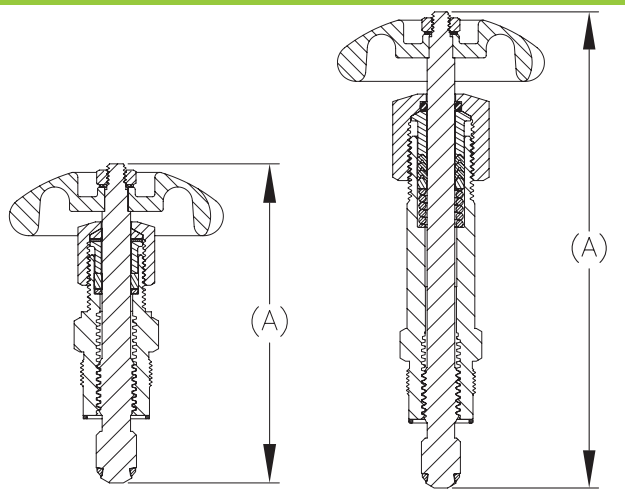
Materials
Body ..... Brass
Bonnet ..... Brass
Seat Disc ..... PCTFE
Stem Seal Gasket ..... PTFE
Handwheel ..... Aluminum
Spring ..... Stainless Steel
Stem ..... Brass
Poppet ..... Brass

Ordering Information

Part Number	Inlet	Outlet	Orifice A	Length B		Height (Approx.) C		Tube D	C_V (Kv)
				inches	mm	inches	mm		
T9452	¼" F.NPT	¼" F.NPT	.250	2½"	63.50	2¾"	69.85	None	.99 (0.85)
T9453	⅜"F.NPT	⅜"F.NPT	.406						1.76 (1.52)
T9454	½" F.NPT	½" F.NPT							1.79 (1.54)
T9464CA	.675" O.D. Tube	⅜"F.NPT	.406					1⅛"	1.76 (1.52)
T9464DA								2⅛"	
T9464ADA								3⅜"	

Extended Stem Retrofit Kits

Application
Retrofit kits may be used to convert the 9450 and 9460 series short stem shut off valves into extended stem style. The conversion can be done without removing the valve from your system. Available in two stem lengths. All kits are oxygen cleaned and packaged per CGA G-4.1.



Materials
Body ..... Brass
Seat Disc ..... PCTFE
Handwheel ..... Aluminum
Packing ..... PTFE
Stem ..... Stainless Steel
Stem Seal Gasket ..... PTFE

Ordering Information

Part Number	Stem Length A	Style
BK9450R	6.5" (165.1mm)	Extended Bonnet and Stem, Spring Loaded Packing

ES8450 & TES8450 Series Extended Stem Valves
BK9450 & BK9470 Series Extended Bonnet Valves

Application
For use as a trycock valve or hose drain valve on cryogenic tanks, or as a use, liquid fill, or vent valve on mini-bulk cryogenic tanks. These valves can be used also for other cold gas applications requiring extended stem valves as LNG fueling.

Features
- Union bonnet
- One piece stainless steel stem
- Conical seat design
- Maximum working pressure is 600 psig (42 barg)
- Working temperature is –320°F to +165°F (-196ºC to 74ºC)
- Cleaned for oxygen service per CGA G-4.1
- 100% Factory Tested

TES8450 Series specific feature:

- Grafoil® packing
- Approved by PED and TPED

ES8450 Series specific feature:

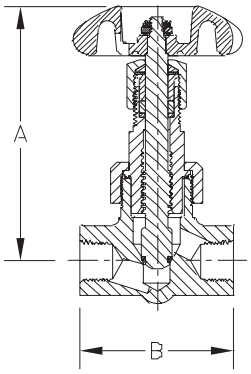
- Manual torque compression packing

BK9450 and BK9470 Series specific feature:

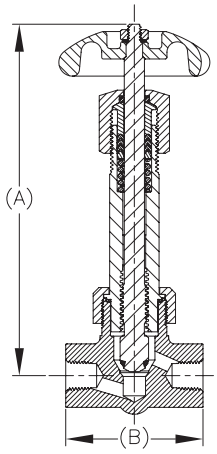
- Extended bonnet and spring loaded packing

BK9470 Series specific feature:

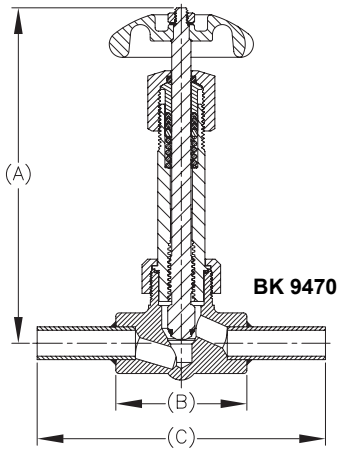
- 304 St. Stl Tube brazed into both ends



ES 8450 Series



BK 9450 Series



BK 9470 Series

REGO 10 YEAR WARRANTY

Materials
Body and Bonnet.....Brass
Stem ..... Stainless Steel
Seat Disc ..... PCTFE
Handwheel..... Aluminum
Bonnet Gasket..... PTFE

Conversion Kit
BK 9450-KIT is a bonnet and stem assembly kit to convert ES 8450 series and previous ES 9450 Series to the BK 9450 style.

Ordering Information

Part Number	Inlet/Outlet Connections	Packing	Height "A"		Body Width "B"		Width with Tube "C"		Cv (Kv)
			Inches	mm	Inches	mm	Inches	mm	
ES8452	¼" FNPT	PTFE	4.2"	107	2.5"	63	N/A		0.70 (0.60)
TES8452		Grafoil							
ES8453	⅜" FNPT	PTFE							1.10 (0.95)
TES8453		Grafoil							
ES8454	½"FNPT	PTFE							
TES8454		Grafoil							
BK9452	¼" FNPT	PTFE	6.5"	165					0.70 (0.60)
BK9453	⅜" FNPT								1.10 (0.95)
BK9454	½"FNPT								
BK9453FA	⅝" OD tubing x ⅜"FNPT						4.0"	102	
BK9475A	⅝" OD tubing both ends						5.5"	140	

REGO-LOK™
for Securing CGA Fittings on Liquid Cylinders

Application

The REGO-LOK™ is designed for installation on the RegO T9450 and T9460 Series liquid cylinder valves to deter and prevent the removal of the CGA fitting from the valve. The REGO-LOK™ retains standard CGA outlet connection so unauthorized persons do not remove the fitting. By use of a special one-way bolt, the REGO-LOK™ is secured to the valve. The REGO-LOK™ installs in a few minutes with the use of screwdrivers, without valve disassembly, brazing, welding, or drilling. The REGO-LOK™ deters and prevents fitting removal by gas customers, however allows the replacement of fittings by authorized gas supplier plant personnel.

Use The REGO-LOK™ for compliance with CGA SB-26 for medical and industrial liquid cylinders.

REGO 10 YEAR WARRANTY

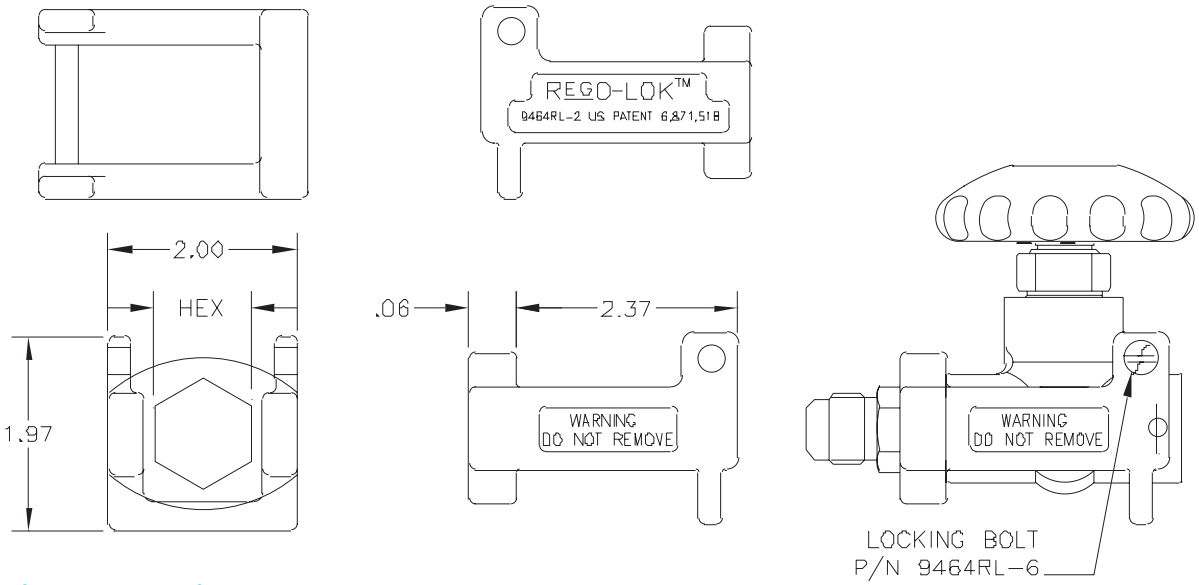
RegO-Lok™

Satisfies CGA SB-26 and FDA requirements for medical and industrial liquid cylinders.

Features

- Stainless Steel REGO-LOK™ with one-way bolt
- Retrofit all common liquid cylinder valves
- Can be supplied on new RegO liquid cylinder valves
- REGO-LOK™ indicates “WARNING: DO NOT REMOVE”
- Worn CGA fittings can be simply replaced by authorized personnel. Requires new 9464RL-6 Bolt
- Can fit over existing fittings for CGA 540, CGA 440, CGA 295, CGA 320, and CGA 326. Check fitting hex size

  NOTE: RegO supplied fitting P/N CGA580RL is required for REGO-LOK™ use with CGA 580 connection
- Prevents loosening of CGA fittings on valves



Ordering Information

Part Number	Item Description	Typical Service Connection
9464RL-0	REGO-LOK™ for ¾” hex fittings	N/A
9464RL-1	REGO-LOK™ for ⅞” fittings	CGA 320, CGA 326 & CGA 295
9464RL-2	REGO-LOK™ for 1” fittings	CGA 440, CGA 540
9464RL-3	REGO-LOK™ for 1⅛” hex CGA 580RL fitting by RegO	CGA 580
CGA580RL	⅜” MNPTxCGA for use with 9464RL-3	CGA 580

Cryogenic Pressure Builder
RG Series

Application

RG series cryogenic regulators are primarily designed to maintain pressure on cryogenic liquid within cryogenic containers. They may also be used in cryogenic lines, vaporizer and converter applications. They are especially useful in installations where space and cost limitations are important.

REGO 10 YEAR WARRANTY

RG Series

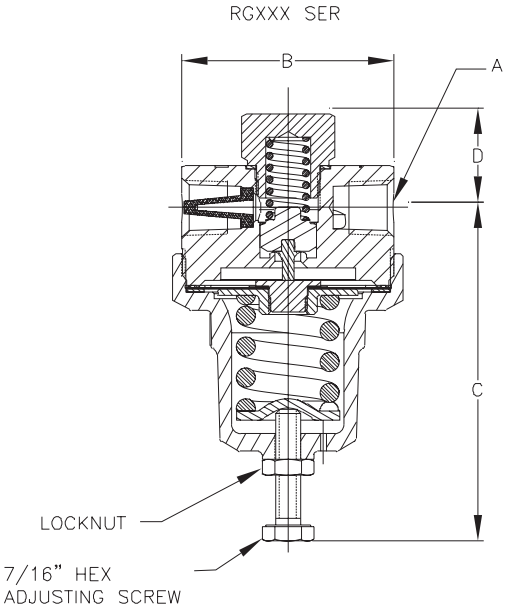
RGXXXAG with gauge port & T handle

Features

- All parts are copper alloy (brass), PTFE and stainless steel—materials selected specifically for compatibility with cryogenic temperatures down to -320°F (-196º C)
- PTFE seat helps assure a positive shut-off at cryogenic temperatures down to -320°F (-196º C)
- High and low pressure regulators are the same compact size—designed to fit in close quarters
- Interchangeable with existing cryogenic regulator units
- Inlet filter helps prevent foreign material from entering the regulator
- Locknut is provided to maintain adjusting screw setting
- RG090AG is available with T handle adjustment screw and gauge ports
- Maximum inlet pressure of 550 psig (37.9 barg)
- Cleaned for oxygen service per CGA G-4.1
- 100% Factory Tested

Materials

Body	Brass
Bonnet	Brass
Seat	PTFE
Springs	Stainless Steel
Diaphragm Gasket	PTFE
Backcap Gasket	Copper
Diaphragm	Bronze



Ordering Information

Part Number	Inlet / Outlet Connections (F.NPT) A Inches (mm)	Width B Inches (mm)	C Inches (mm)	D Inches (mm)	Operating Range (psig)
RG022A	¼" (6.35)	2 1/16" (52.32)	3" (76.20)	1" (25.40)	0-30 psig (0-2.1 barg)
RG125A					25-250 psig (1.7-17.2 barg)
RG125C3	⅜" (9.52)	2⅛" (53.97)	3.33" (84.58)	0.80" (20.32)	
RG175C3					
RG300A	¼" (6.35)	2 1/16" ((52.32)	3" (76.20)	1" (25.40)	125-350 psig (17.2-24.2 barg)
RG90AG					25-250 psig (1.7-17.2 barg)

*Contact sales representative for additional settings.

Cryogenic ½" Pressure Builder
PB Series

Application

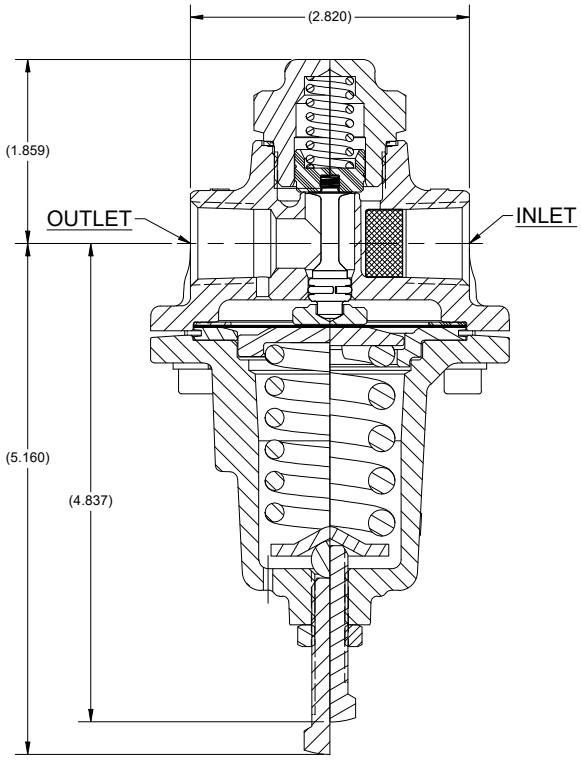
PB series cryogenic regulators are primarily designed to maintain the pressure in cryogenic containers; they may also be used as a line regulator for cryogenic lines and cold gas lines. They are specifically useful in installations where the precision in pressure control and flow capability are important. For use with oxygen, nitrogen, argon, LNG and CO_2.

Features

- All parts are copper alloy (brass), PTFE and stainless steel—materials selected specifically for compatibility with cryogenic temperatures down to -320°F. (-196° C)
- One-piece PTFE Poppet seat design eliminates possible leak paths at cryogenic temperatures and provides better guidance for improved seating, ensuring a positive shutoff.
- High and low pressure regulators are the same compact size—designed to fit in close quarters
- Customizable pressure settings between 20 - 550 psig (1.4 - 37.9 barg)
- Interchangeable with existing cryogenic regulator units
- Inlet filter (150 Mesh) helps prevent foreign material from entering the regulator
- Easier to service, use an allen wrench versus large crescent wrench
- Less field repair because diaphragm is squeezed versus twisted
- Locknut is provided to maintain adjusting screw setting
- Maximum inlet pressure of 600 psig (41.4 barg)
- Cleaned for oxygen service per CGA G-4.1
- 100% Factory Tested
- Copper Backcap Gasket reduces the possibility of external leakage at cryogenic temperatures, as the contraction coefficient is similar to that of brass

REGO 10 YEAR WARRANTY

PB504



Materials

Body	Brass
Bonnet	Brass
Poppet	PTFE
Springs	Stainless Steel
Diaphragm Gasket	PTFE
Backcap Gasket	Copper
Diaphragm	Bronze

PB504 Series part number configuration

PB504 - 205

- PB504 - Series
- 205 - Set Pressure psig

Ordering Information

Part Number	Inlet / Outlet Connections (F.NPT) A Inches (mm)	Delivery Pressure Setting Range psig (barg)
PB504-020 to 070	½" (12.70)	20 - 75 psig (1.4 - 5.2 barg)
PB504-071 to 175		50 - 180 psig (3.4 - 12.4 barg)
PB504-176 to 300		150 - 300 psig (10.3 - 20.7 barg)
PB504-301 to 465		250 - 465 psig (17.2 - 32.1 barg)
PB504-466 to 550		400 - 550 psig (27.6 - 37.9 barg)

Delivery pressure setting psig specified by suffix in PB regulator number. Example: An order for PB504-125 has a maximum inlet pressure rating of 600 psig (41.3 barg) and is set at an outlet pressure of 125 psig (8.6 barg).

Cryogenic Economizers
ECL502 Series

Application

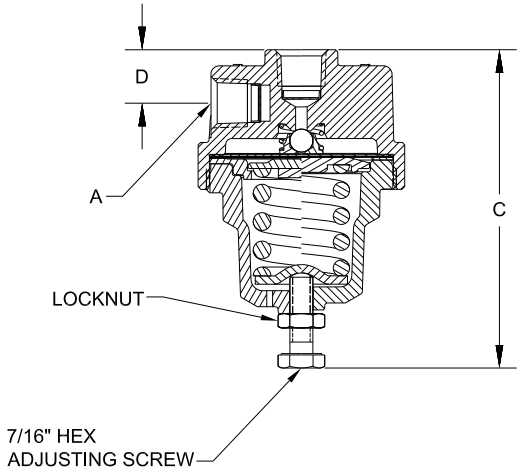
ECL502 series cryogenic economizers are designed to be used as pressure reducing valves to automatically maintain a constant inlet or back pressure, normally closed at pressures below its set point and open at pressures above its set point. The ECL502 is primarily designed to assist in maintaining a desired system pressure ideal for Nitrogen, Oxygen, Argon and other cryogenic cylinder applications with a 100% performance improvement over RegO's ECLXXX series. ECL502 series offers outstanding performance for maintaining LNG fuel line pressure.

REGO 10 YEAR WARRANTY

Features

- ECL502 series design provides premium flow characteristics allowing for fast pressure reduction while maintaining sensitive flow control at lower pressure settings
- All materials of construction- copper alloy, PTFE and stainless steel were selected for compatibility with cryogenic service
- 150 count mesh Monel screens installed into the inlet and outlet ports prevent debris from entering or damaging any downstream components
- Interchangeable with existing cryogenic economizer units.
- Bi-directional flow for LNG fuel systems
- Temperature range: -320°F to +165°F (-196°C to +74°C)
  Low Pressure Models ≤175: 375 psig (≤ 12,1: 25.3 barg)
  High Pressure Models >175: 550 psig (> 12,1: 37.9 barg)
- Pressure setting range: 10-350 psig (0.7-24.1 barg)
- Clean for oxygen service per CGA G-4.1
- Designed in accordance with UNECE.R110 19 - 340 psig (1.3 -23.4 barg)

ECL Series



Materials

Body	Brass
Diaphragm Liner	PTFE
Poppet Seat	Stainless Steel
Adjusting Screw	Stainless Steel
Bonnet	Brass
Screen	Monel
Diaphragm	Bronze
Springs	Stainless Steel

Ordering Information

Part Number	Inlet / Outlet Connections (F.NPT) A	Max inlet pressure	Width B	C	D	Operating Range
ECL502-22	¼" NPT	235 psig (16 barg)	2.25" 57 mm	3.5" 89 mm	.58" 15 mm	10-60 psig (0.7 - 4.1 barg)
ECL502-100						50 - 175 psig (3.4 - 12.1 barg)
ECL502-123						
ECL502-140						
ECL502-175						
ECL502-325		550 psig (38 barg)				150 - 350 psig (10.3 - 24.1 barg)

*Contact sales representative for additional settings.

Cryogenic ½" Combination Pressure Builder/Economizer for Bulk Vessels CB504

Application

CB504 series regulators maintain the pressure of cryogenic liquid within bulk vessels combining the pressure building and economizer function in one unit, with ½" NPT inlet and outlet.

REGO 10 YEAR WARRANTY

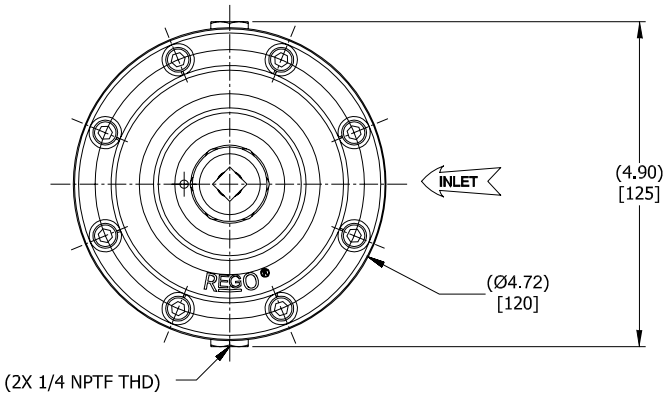
Features

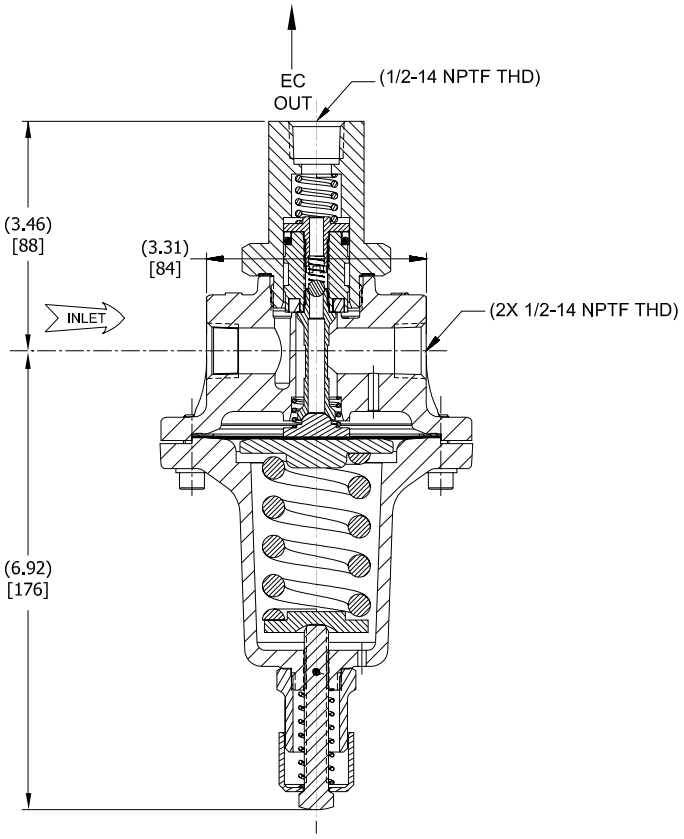
- All parts are copper alloy (brass), PTFE, and stainless steel—materials selected specifically for compatibility with cryogenic temperatures down to –320ºF. (–196ºC)
- Pressure setting scale on bonnet cap aids in pressure adjustment
- Maximum inlet pressure of 400 psig (27.6 barg)
- PTFE seat provides positive shut off at cryogenic temperatures
- Compact design fits well in tight plumbing geometries
- 100% factory tested
- Cleaned per CGA G-4.1 for oxygen service
- Suitable for argon, CO2, nitrogen, oxygen and LNG

CB504

Materials

Body	Brass
Bonnet	Brass
Spring	Stainless Steel
Diaphragm Gasket	PTFE
Diaphragm	Phosphor Bronze
Seat	PTFE
Backcap Gasket	Copper





Ordering Information

Part Number	Inlet/Outlet Connections (F.NPT) Inches (mm)	Operating Range (psig)
CB504B	½" (12.70)	100-200 psig (6.9-13.8 barg)

Cryogenic ¼" Combination Pressure Builder/Economizer
CBH502 & CBC502 Series

Application

The regulator combines the function of Pressure Building and Economizer functions in one compact unit. Available in Chart and Taylor-Wharton piping geometries and a variety of pressure ratings.

REGO 10 YEAR WARRANTY

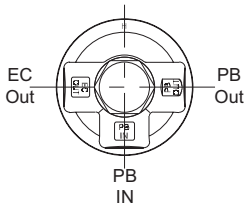
Features

- All parts are copper alloy (brass), PTFE and stainless steel materials selected specifically for compatibility with cryogenic temperatures down to -320° F. (–196ºC)
- PTFE seat helps assure a positive shut-off at cryogenic temperatures down to -320° F. (–196ºC)
- High and low pressure builder/economizers are the same compact size designed to fit in close quarters.
- Interchangeable with existing cryogenic regulator units.
- Inlet screen helps prevent foreign material from entering the regulator.
- Locknut is provided to maintain adjusting screw setting.
- Maximum inlet pressure of 550 psig (37.9 barg)
- Cleaned for oxygen service per CGA G-4.1
- 100% Factory Tested.
- Suitable for argon, CO2, nitrogen, oxygen and LNG.

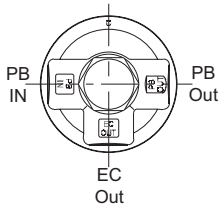
CBH502 Series

Materials

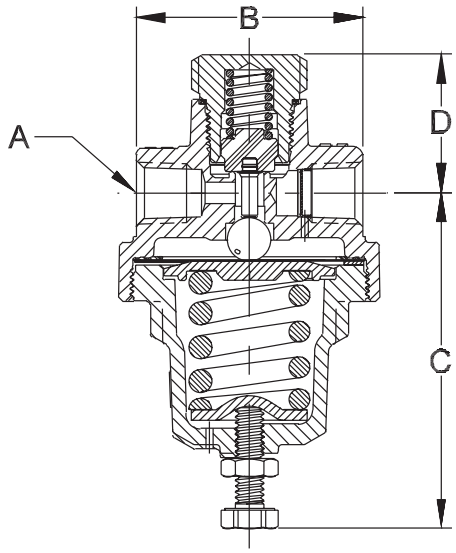
Body	Brass
Bonnet	Brass
Seat Disk	PTFE
Springs	Stainless Steel
Gaskets	PTFE & Copper
Diaphragm	Bronze



CBH Series



CBC Series



Ordering Information

Part Number	Inlet/Outlet Connections (F.NPT)	"A"	"B"	"C"	"D"	Factory Pressure Setting (psig)	Operating Range (psig)
CBH502-015	¼"	¼"	1.97"	2.89"	1.19"	15 psig (1.03 barg)	10-60 psig (0.69-4.1 barg)
CBH502-125						125 psig (8.6 barg)	50-175 psig (3.45-12.1 barg)
CBH502-300						300 psig (20.7 barg)	150-350 psig (10.3-24.1 barg)
CBH502-315						315 psig (21.7 barg)	
CBH502-325						325 psig (22.4 barg)	
CBH502-350						350 psig (24.1 barg)	
CBC502-015						15 psig (1.03 barg)	10-60 psig (0.69-4.1 barg)
CBC502-125						125 psig (8.6 barg)	50-175 psig (3.45-12.1 barg)
CBC502-300						300 psig (20.7 barg)	150-350 psig (10.3-24.1 barg)
CBC502-325						325 psig (22.4 barg)	
CBC502-350						350 psig (24.1 barg)	

Cryogenic Liquid Cylinder Regulator
LCR Series

Application

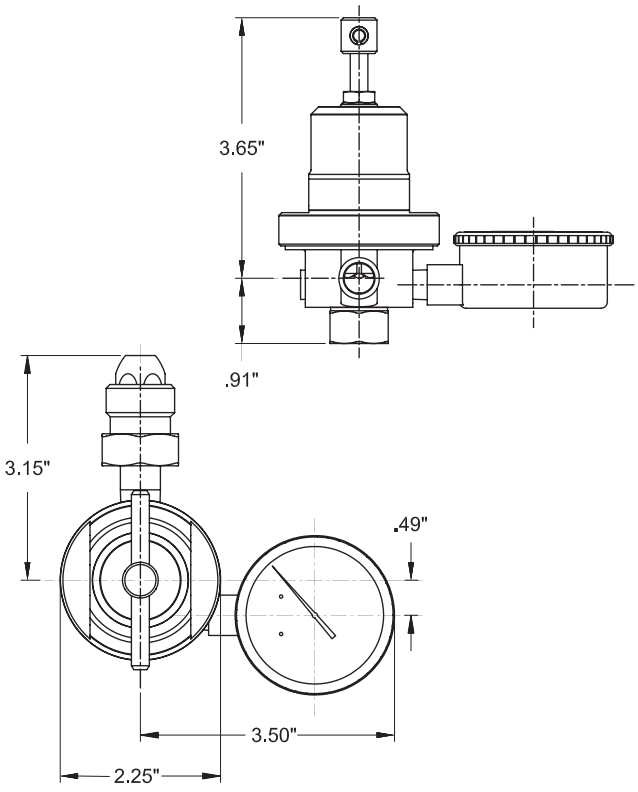
The RegO LCR Series pressure reducing regulator assembly controls the pressure from the gas use line or the discharge of any liquid cylinder with a flow capacity at least double the capacity of the cylinder vaporization coil. For use with oxygen, nitrogen, argon, or carbon dioxide liquid cylinders.

Features

- Easy adjusting screw to maintain pressure setting
- 100% Factory tested
- CGA fitting inlet connection for ready hook-up and ¼" F. NPT outlet.
- Gauges with applicable pressure ranges.
- Two delivery pressure ranges available.
- Clean for use in Oxygen per CGA G-4.1
- Temperature range -320°F (-196°C) to + 165°F (74°C)
- Maximum inlet pressure 550 psig (37.9 barg)
- Inlet filter helps prevent foreign material from entering the regulator.

REGO 10 YEAR WARRANTY

LCR Series



Materials

Body & Bonnet	Brass
Seat	PTFE
Spring & Nut	Stainless Steel
Diaphragm Gasket	PTFE
Diaphragm	Bronze
Backcap Gasket	Copper

Ordering Information

Part Number	Gas	Liquid Cylinder Connection	Delivery Pressure Range
LCR200A580	Nitrogen/Argon	CGA 580	25 to 200 psig (1.7-13.8 barg)
LCR200A540	Oxygen	CGA 540	
LCR200A320	Carbon Dioxide	CGA 320	25 to 200 psig (1.7-13.8 barg)
LCR350A580	Nitrogen/Argon	CGA 580	100 to 350 psig (6.9-24.1 barg)
LCR350A540	Oxygen	CGA 540	
LCR350A320	Carbon Dioxide	CGA 320	

Cryogenic Gas Relief Valves, Non-ASME
9400 Series

Application
9400 series relief valves are specifically designed for vapor line safety relief applications and cryogenic liquid containers.

Features
- Cleaned and packaged for oxygen service per CGA G-4.1
- Bubble tight at 95% of set pressure
- Color coded labels clearly identify pressure setting range
- Tamper resistant
- Adapters provide standard pipe thread connections for venting gas to the outdoors
- Repeatable performance
- 100% factory tested
- Temperature Range (Teflon Seat) -320° to +165° F (-196ºC to +74ºC)
  (Flurosilicone Seat) -60° to +165° F (-51ºC to +74ºC)
- Rated for gas service only
- In liquid service be sure to use with a candy cane riser (Sold Separately)
- Setpoint tolerance ± 3%

Materials SS Style

Body	Stainless Steel
Spring	Stainless Steel
Seat Retainer	Stainless Steel
Pipe-Away Adapter	Stainless Steel

Materials PRV and B-Style

Body	Brass
Spring	Stainless Steel
Seat Retainer	Brass
Pipe-Away Adapter	Brass

Flow Performance
- For set pressures 90 - 600 psig capacity is 0.783 SCFM of air per psig of flow pressure. For set pressures 15 - 89 psig capacity is 0.750 SCFM of air per psig of flow pressure.
- B-9425N flow of 6.7 SCFM Air/psig at 120% of set pressure.
- B-9426N flow of 11.0 SCFM Air/psig at 120% of set pressure

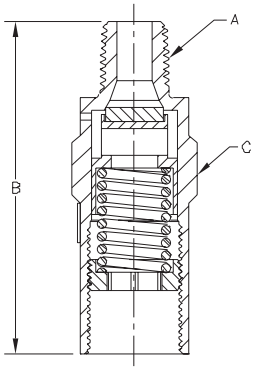
Ordering Information

Fill in the blanks with options below.

Example: PRV9432T350

PRV	9432	T	Blank or "P"	350	Blank or "P"
Style	Size	Seat Material	Drain Hole	Set Pressure	Pipe Away Option

This example part number indicates a ¼" M.NPT PRV style brass relief valve with PTFE seat, set at 350 psig with drain hole and no pipe away adapter.



9400 Series

Seat Material Option
F for Fluorosilicone for PRV and SS styles for 16-139 psig (1.10 - 9.58 barg)
T for PTFE for PRV and SS styles for 140-600 psig (9.65 - 41.36 barg)
N for B-9425 and B-9426, Fluorosilicone seat, all set pressures.

Drain Hole Option
Relief valves without pipeaway typically provided with drain holes, leave blank. **P** - for relief valves without drain hole, for example PRV9432TP350 Drain hole can not be used with pipeaway.

Pipe Away Option
P Pipeaway included and attached, No drain hole in relief valve.
For example PRV9432TP350**P**
Leave blank for relief valve without pipe-away attached.
For example PRV9432TP350.

Set Pressure
Specify set pressure within range specified for style and size. The B-9425 & B-9426N are available in select settings only. Special order.

For easy identification, the following standard settings have color coded labels for all PRV and SS Style sizes and settings marked in psig and barg:

WARNING: 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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Ordering Information

Style	Size	Inlet M.NPT A Inches (mm)	Body and Valve Material	Pressure Setting Range psig (barg)	Height B Inches (mm)	Wrenching Hex C (mm)	Orifice Size Sq. Inch (mm)	Pipe-Away Adapter P/N	Pipe-Away Outlet F.N.P.T. Inches (mm)
PRV	9432	¼" (6.35)	Brass	10-600 (0.68-41.36)	2.6" (66.04)	⅞" (22.35)	.062 (1.57)	B-9412-2	⅜" (9.65)
SS			Stainless Steel					SS9412-4	½" (6.35)
PRV	9433	⅜" (9.65)	Brass					B-9412-2	⅜" (9.65)
SS			Stainless Steel					SS9412-4	½" (6.35)
PRV	9434	½" (12.70)	Brass		2.8" (71.12)			B-9412-4	
SS			Stainless Steel					SS9412-4	
B-	9425	¾" (19.05)	Brass	20-300 (1.37-20.68)	3.4" (86.36)	1¾" (44.45)	.44 (11.17)	B-3131-10	1" (25.4)
	9426	1" (25.4)		60-300 (4.13-20.68)	5.3" (134.62)	2⅜" (60.45)	.62 (15.74)	B-3132-10	1¼" (31.75)

Pressure Setting and Flow Data
PRV9400

Pressure Setting and Flow Data PRV9400 Series								
Pressure Setting psig	barg	Air Flow Capacity SCFM	Pressure Setting psig	barg	Air Flow Capacity SCFM	Pressure Setting psig	barg	Air Flow Capacity SCFM
15	1.0	25	215	14.8	197	450	31.0	399
20	1.4	28	220	15.2	201	460	31.7	408
22	1.5	30	225	15.5	205	470	32.4	416
25	1.7	32	230	15.9	210	480	33.1	425
30	2.1	36	235	16.2	214	490	33.8	434
35	2.4	40	240	16.5	218	500	34.5	442
40	2.8	44	250	17.2	227	510	35.2	451
45	3.1	48	260	17.9	235	520	35.9	459
50	3.4	52	270	18.6	244	530	36.5	468
55	3.8	56	275	19.0	248	540	37.2	477
60	4.1	61	280	19.3	253	550	37.9	485
65	4.5	65	285	19.7	257	560	38.6	494
70	4.8	69	290	20.0	261	570	39.3	502
75	5.2	73	300	20.7	270	580	40.0	511
80	5.5	77	310	21.4	279	590	40.7	520
85	5.9	81	320	22.1	287	600	41.4	528
90	6.2	89	325	22.4	291			
100	6.9	98	330	22.8	296			
110	7.6	106	340	23.4	304			
120	8.3	115	350	24.1	313			
125	8.6	119	360	24.8	322			
130	9.0	123	370	25.5	330			
140	9.7	132	375	25.9	334			
150	10.3	141	380	26.2	339			
160	11.0	149	390	26.9	347			
170	11.7	158	400	27.6	356			
175	12.1	162	410	28.3	365			
180	12.4	167	420	29.0	373			
190	13.1	175	425	29.3	378			
200	13.8	184	430	29.6	382			
210	14.5	192	440	30.3	390			

Color Identification

22 psig	230 psig
35 psig	350 psig
50 psig	450 psig
100 psig	500 psig
150 psig	

Color Identification

1.51 barg	15.85 barg
2.41 barg	24.13 barg
3.44 barg	31.02 barg
6.89 barg	34.47 barg
10.34 barg	

Non-ASME Ordering Information

PRV	94	32	T	P	350	P

- Pipe-Away Adapter (Blank designates no adapter)
- Pressure Setting (psig)
- Without Drain Hole (Blank designates no drain hole)
- Seal Material Teflon (Available F for Fluorosilicone)
- Size ¼" (Available 33 for 3/8" and 34 for ½")
- Series Identification
- Style and Material Brass. (Available SS for Stainless Steel)

Cryogenic Gas Relief Valves, ASME
PRV19430 & PRV29430 Series

Application
The 19430 and 29430 relief valves are designed for oxygen and other industrial gases and for cryogenic service in the vapor space. Apply on piping systems, liquid cylinders or mini-bulk cryogenic containers where an ASME relief valve is required.

REGO 10 YEAR WARRANTY

Features
- A.S.M.E. rated, National Board Certified
- Bubble tight at 95% of set pressure
- Full flow at 110% at set pressure
- Repeatable performance
- 100% factory tested
- Temperatures Range (Teflon Seat) -320° to +165° F (-196ºC to +74ºC)
  (Flurosilicone Seat) -60° to +165° F (-51ºC to +74ºC)
- Cleaned and packaged for oxygen service per CGA G-4.1
- Rated for gas service only
- Color coded labels clearly identify pressure setting range
- Tamper resistant
- In liquid service be sure to use with a candy cane riser (Sold Separately)

Materials SS Style
Body	Stainless Steel
Spring	Stainless Steel
Seat Retainer	Stainless Steel
Pipe-Away Adapter	Stainless Steel

Materials PRV and B-Style
Body	Brass
Spring	Stainless Steel
Seat Retainer	Brass
Pipe-Away Adapter	Brass

Flow Performance
For set pressures 90 - 600 capacity is 0.692 SCFM of air per psig of flow pressure. For set pressures 15 - 89 capacity is 0.750 SCFM of air per PSIA of flow pressure. Flow pressure per ASME is 10% above set pressure or +3 psig (0.2 barg), whichever is greater.

Ordering Information
Fill in the blanks with options below.

Example: PRV019432T350

PRV	1	9432	T	Blank or "P"	350
Style	Body Material	Size	Seat Material	Drain Hole	Set Pressure

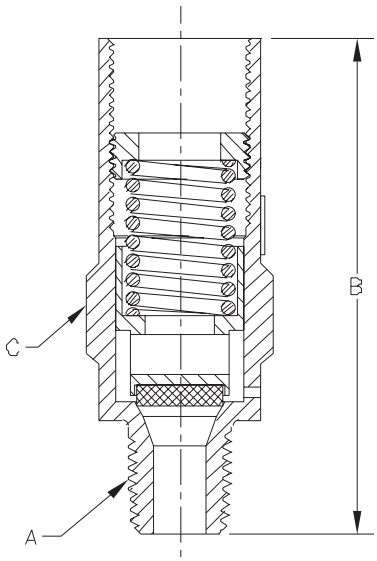
Body Material Option
1 ASME approved valve made of brass
2 ASME approved valve made of stainless steel

Seat Material Option
F for Fluorosilicone for 15 to 139 psig (6.2 - 9.5 barg) set points.
T for PTFE for 140-600 psig (9.6 - 41.4 barg) set points.

Drain Hole Option
Leave blank for relief with drain hole. Insert **P** if no drain hole.

Set Pressure
Enter number for set pressure in psig (6.2 - 41.4 barg) from 15 to 600.

19430 Series



Setpoint tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater.

WARNING: 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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Ordering Information

Part Number	Material	Inlet A Inches (mm)	Height B Inches (mm)	Wrenching Hex C Inches (mm)	Orifice Size
PRV19432	Brass	¼" (6.35)	2.6" (66.04)	⅞" (22.35)	.062 sq. inch 1.57 sq. mm
PRV29432	Stainless Steel				
PRV19433	Brass	⅜" (9.65)			
PRV29433	Stainless Steel				
PRV19434	Brass	½" (12.70)	2.8" (71.12)		
PRV29434	Stainless Steel				

Pipe-away adapter options available (sold separately)
Drain hole can not be used with pipe-away

Pressure Setting and Flow Data
PRV19430 and PRV29430 Series

Pressure Setting and Flow Data PRV19430 and PRV29430 Series								
Pressure Setting psig	barg	Air Flow Capacity SCFM	Pressure Setting psig	barg	Air Flow Capacity SCFM	Pressure Setting psig	Barg	Air Flow Capacity SCFM
15	1	25	215	14.8	174	450	31	353
20	1.4	28	220	15.2	178	460	31.7	360
22	1.5	30	225	15.5	181	470	32.4	368
25	1.7	32	230	15.9	185	480	33.1	376
30	2.1	36	235	16.2	189	490	33.8	383
35	2.4	40	240	16.5	193	500	34.5	391
40	2.8	44	250	17.2	200	510	35.2	398
45	3.1	48	260	17.9	208	520	35.9	406
50	3.4	52	270	18.6	216	530	36.5	414
55	3.8	56	275	19	220	540	37.2	421
60	4.1	61	280	19.3	223	550	37.9	429
65	4.5	65	285	19.7	227	560	38.6	436
70	4.8	69	290	20	231	570	39.3	444
75	5.2	73	300	20.7	239	580	40	452
80	5.5	77	310	21.4	246	590	40.7	459
85	5.9	81	320	22.1	254	600	41.4	467
90	6.2	79	325	22.4	258			
100	6.9	86	330	22.8	261			
110	7.6	94	340	23.4	269			
120	8.3	102	350	24.1	277			
125	8.6	105	360	24.8	284			
130	9	109	370	25.5	292			
140	9.7	117	375	25.9	296			
150	10.3	124	380	26.2	299			
160	11	132	390	26.9	307			
170	11.7	140	400	27.6	315			
175	12.1	143	410	28.3	322			
180	12.4	147	420	29	330			
190	13.1	155	425	29.3	334			
200	13.8	162	430	29.6	337			
210	14.5	170	440	30.3	345			

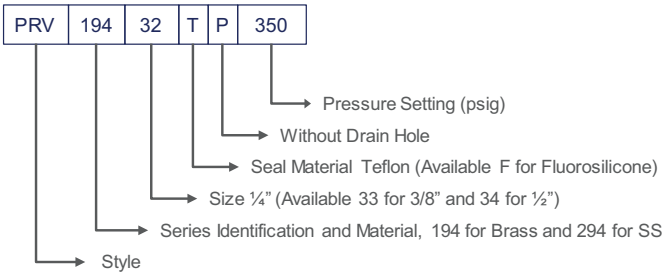
Color Identification

22 psig	230 psig
35 psig	350 psig
50 psig	450 psig
100 psig	500 psig
150 psig	

Color Identification

1.51 barg	15.85 barg
2.41 barg	24.13 barg
3.44 barg	31.02 barg
6.89 barg	34.47 barg
10.34 barg	

ASME Ordering Information



Brass High Pressure ASME Relief Valves
PRV19534K Series

REGO 10 YEAR WARRANTY

Application

The RegO PRV19534 Series relief valves are designed for CO2 and other industrial gases and for cryogenic service in the vapor space. Apply on piping systems, liquid cylinders or mini-bulk cryogenic containers where an ASME relief valve is required. Compatible with all oxygen, nitrogen, argon, helium, LNG and CO2.

Features

- All valves are cleaned and packaged for oxygen service per CGA G-4.1
- Bubble tight at 95% of set pressure
- Full flow at 110% of set pressure
- Temperature range -320°F to +165°F (-196ºC to +74ºC)
- Rated for gas service only, not liquid
- Setpoint tolerance +/- 3%
- Available in brass with settings from 800 to 1,000 psig
- Builds off proven experience of and further extends PRV9400 series offerings
- ASME rated National Board Certified
- Easy to read color coded psig / bar labels
- Tamper resistant
- Adapters provide standard pipe thread connections for venting gas to the outdoors (B-9412-4, sold separately)
- Repeatable performance
- 100% factory tested
- In liquid service be sure to use with a candy cane riser (sold separately)
- In liquid service be sure to use with a candy cane riser (Sold Separately)

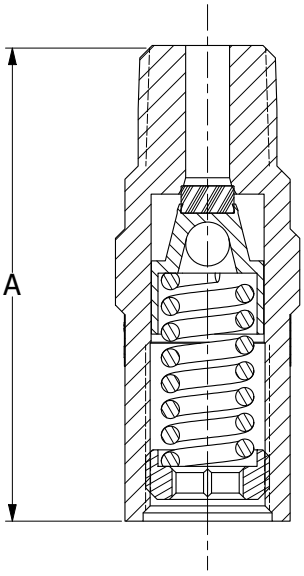
Flow Performance

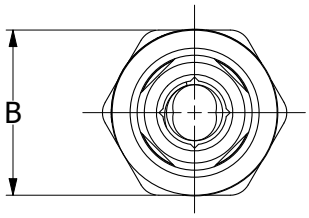
For set pressures 800-1000 psig, capacity is 0.805 SCFM of air per PSIA of flow pressure. Flow pressure per ASME is 10% above set pressure or +3 PSIG, whichever is greater.

Materials

Body ..... Brass ASTM B16 UNS C36000
Spring ..... Stainless Steel ASTM A313
Seat Retainer..... Brass ASTM B16 UNS C36000
Seat ..... PCTFE (Kel –F)
Pipe-Away Adapter ..... Brass ASTM B16 UNS C36000

PRV19534K Series





Ordering Information

Part Number	Material	Pressure Setting Range psig (barg)	Inlet M.NPT	"A" Inches (mm)	"B" Inches (mm)	Orifice Size Inch² (mm²)	Kd Value	Pipe-Away Adapter P/N
PRV19534K	Brass	800- 1000 (55.1 - 68.9)	½"	2.9 (73.1)	1.0 (25.4)	0.266 (171.6)	0.79	B-9412-4

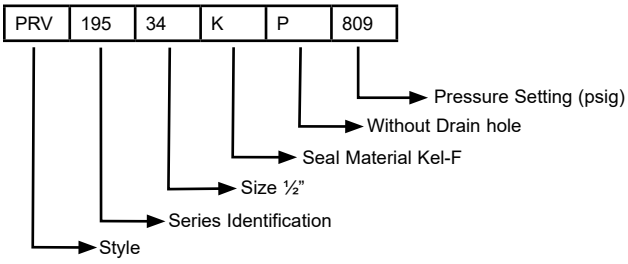
Pressure Setting and Flow Data
PRV19534K Series

Pressure Setting PSIG	Pressure Setting BARG	Air Flow Capacity SCFM	Pressure Setting PSIG	Pressure Setting BARG	Air Flow Capacity SCFM
800	551.6	720	900	620.5	809
805	555	725	905	624	813
810	558.5	729	910	627.4	818
815	561.9	734	915	630.9	822
820	565.4	738	920	634.3	826
825	568.8	742	925	637.8	831
830	572.3	747	930	641.2	835
835	575.7	751	935	644.7	840
840	579.2	756	940	648.1	844
845	582.6	760	945	651.6	849
850	586.1	765	950	655	853
855	589.5	769	955	658.5	857
860	593	773	960	661.9	862
865	596.4	778	965	665.3	866
870	599.8	782	970	668.8	871
875	603.3	787	975	672.2	875
880	606.7	791	980	675.7	880
885	610.2	796	985	679.1	884
890	613.6	800	990	682.6	888
895	617.1	804	995	686	893
			1000	689.5	897

Setpoint tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater.

WARNING: 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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

ASME Ordering Information



Noise Reduction Relief Valve
NRF9430 Series

Application
For use with cryogenic liquid cylinders to provide substantial reduction of discharge noise in sensitive environments. Our patent pending design allows for an efficient and environmentally friendly flow path.

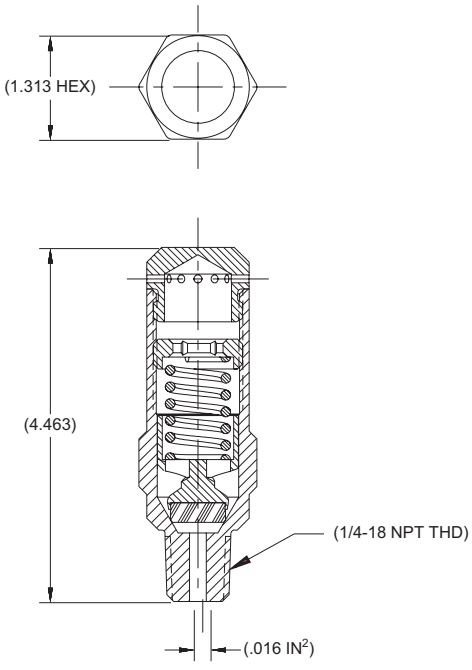
Features
- Packaged and cleaned for oxygen service per CGA G-4.1
- Bubble tight at 95% of set pressure
- Temperature range –320ºF to +165ºF (-196º to +74 Cº)
- 100% factory tested
- Tamper Resistant
- Repeatable Performance
- Below 90db@ 350 Set Pressure @ 2 meters away
- In liquid service be sure to use with a candy cane riser (Sold Separately)

REGO 10 YEAR WARRANTY

NRF Series

Pipe Away Option
P Pipeaway included and attached, No drain hole in relief valve.
For example NRF9432T140P
Leave blank for relief valve without pipe-away attached.
Pipeaway adapter part number NRF250-4.

Materials
Body .....Brass
Spring ..... Stainless Steel
Seat Retainer.....Brass



Ordering Information

Part Number	Inlet Inches (mm)	Set Pressure	
		psig	barg
NRF9432T230	¼" (6.35)	230	15.9
NRF9432T350		350	24.1
NRF9432T500		500	34.5

Noise Reduction Relief Valve
NR Series

Application

Designed especially for indoor applications such as laboratories where relief valve discharge noise is an issue. RegO's NR series PRV provides excellent flow characteristics with a 50% reduction in outlet noise related to relief valve.

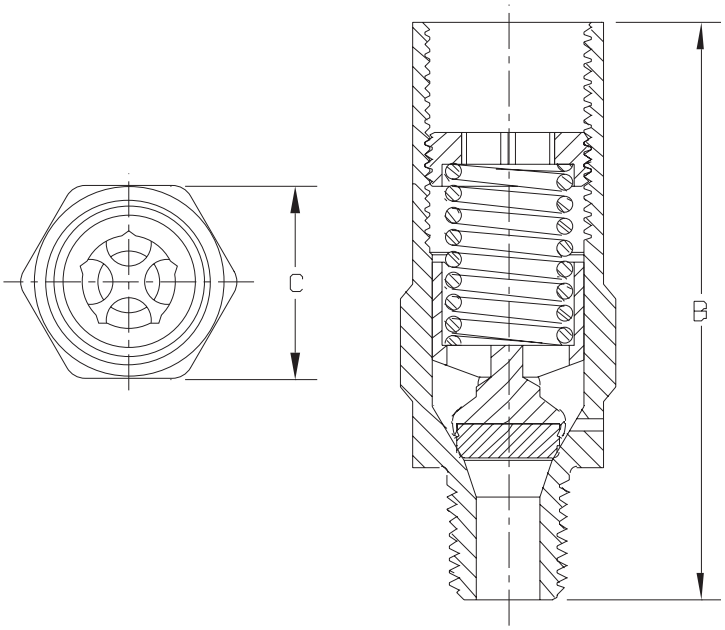
Features

- Packaged and cleaned for oxygen service per CGA G-4.1
- Bubble tight at 95% of set pressure
- Temperature range –320ºF to +165ºF (-196º to +74 Cº)
- 100% factory tested
- Repeatable Performance
- Below 90db@ 350 Set Pressure @ 2 meters away
- In liquid service be sure to use with a candy cane riser (Sold Separately)

Materials

Body ..... Brass
Spring ..... Stainless Steel
Gasket ..... PTFE

NR Series



WARNING: 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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Ordering Information

Part Number	Seat Material	Inlet Connections (M.NPT) Inches (mm)	"B" Inches (mm)	"C" Inches (mm)	Orifice Size Inches (mm)	Factory Pressure Setting		Pipe-Away Adapter
						psig	barg	
NR9432F022	Fluorosilicone	¼" (6.35)	2.60" (66.04)	⅞" (22.35)	.062 (1.57)	22	1.51	B-9412-2
NR9432F050						50	3.44	
NR9432F100						100	6.89	
NR9432T230	PTFE					230	15.85	
NR9432T250						250	17.23	
NR9432T300						300	20.68	
NR9432T350						350	24.13	
NR9432T360						360	24.82	

Right Angle Relief Valves
NG900 Series

Application

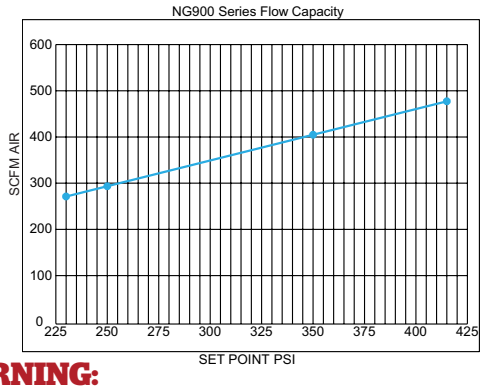
The NG900 series is designed specifically to avoid over-pressurization in LNG fuel tank applications and LNG installations. The NG900 Series is also compatible with oxygen, nitrogen, argon, helium, and hydrogen.
These valves open and close at preset pressures to ensure reliable performance at cryogenic temperatures.

Features

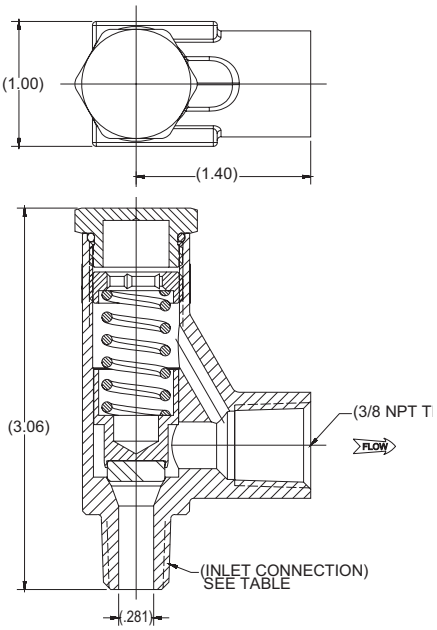
- Optional pull lever for manual override
- 100% Factory tested
- Temperature range -320ºF to +196ºF (-196ºC to +74ºC)
- Designed in accordance with & approved by ECE R110
- Approved by PED and TPED

Materials

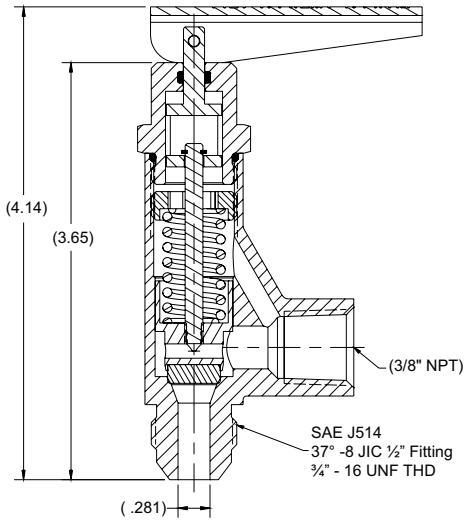
Spring Pin	Stainless Steel
Handle	Stainless Steel
O-rings	Fluorosilicone
Connector	Brass
Stem	Stainless Steel
Bonnet	Brass
Seat Disc	PTFE
Spring	Stainless Steel
Adjusting Screw	Stainless Steel
Body	Brass
Poppet	Brass



NG9002T



NG9008M



WARNING:
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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Ordering Information

Part Number	Inlet Connection	Outlet Connection	Manual Override	Pressure setting	
				psig	barg
NG9002T022	¼" MNPT (6.35 mm)	⅜" FNPT (9.65 mm)	No	22	1.52
NG9002T058				58	4.0
NG9002T230				230	15.85
NG9002T250				250	17.23
NG9002T275				275	18.96
NG9002T350				350	24.13
NG9002T415				415	28.61
NG9003T230	⅜" MNPT (9.65 mm)			230	15.85
NG9003T250				250	17.23
NG9003T350				350	24.13
NG9003T415				415	28.61
NG9008M230	SAE J514 (37˚-8JIC ½" fitting) (¾"-16 UNF thread male)		Yes	230	15.85
NG9008M250				250	17.23
NG9008M280				280	19.30
NG9008M350				350	24.13
NG9008M415				415	28.61

*Contact your sales representative for additional settings.

Cryogenic Gas Relief Valves, ASME B-19434B Series

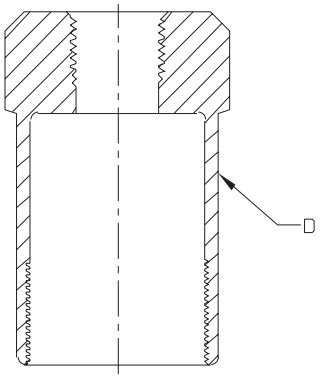
Application

The B-19434B Series relief valves are suitable for use with oxygen and non corrosive industrial gases, such as nitrogen, argon and helium.

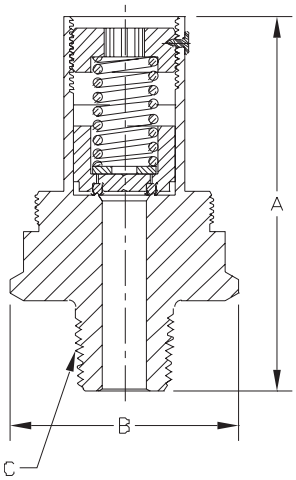
REGO 10 YEAR WARRANTY

Features

- The B-19434B design permits the valve to open slightly to relieve moderately excessive pressure
- When the pressure increases beyond a predetermined point, the valve opens to its full discharge capacity in order to quickly reduce excess pressure
- Pipe-away adapter for venting gas to the outdoors is available (Sold Separately)
- ASME rated, certified
- Cleaned for use in oxygen service per CGA G-4.1
- Bubble tight at 95% of set pressure
- Full flow at 110% of set pressure
- Setpoint tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater
- Rated for gas service only
- 100% factory tested
- Temperature range: -60º to 165º F (-51º - 74º C)



B-19434B Series



Materials

Body ..... Brass
Spring ..... Stainless Steel
Seat Retainer..... Brass
Seat Disc (B-19434B Series)..... .Silicone
Pipe-Away Adapter ..... Brass

WARNING: 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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Ordering Information

Part Number	Pressure Setting	ASME Relief Capacity (CFM/Air)	Height A Inches (mm)	Width B Inches (mm)	Inlet Connection (M.NPT) C Inches (mm)	Pipe-Away Adapter Part Number D
B-19434B235	235 psig (16.2 barg)	476	2 15/16" (74.67)	1¾" (44.45)	½" (12.7)	*B-19434-5 ½" F.NPT Outlet (12.70 mm)
B-19434B250	250 psig (17.2 barg)	505				
B-19434B300	300 psig (20.7 barg)	601				
B-19434B350	350 psig (24.1 barg)	711				
B-19434B375	375 psig (25.9 barg)	760				

* Pipe Away Adapter is sold separately.
** Contact factory for additional settings.

Cryogenic Gas Relief Valves, ASME C-19434B Series

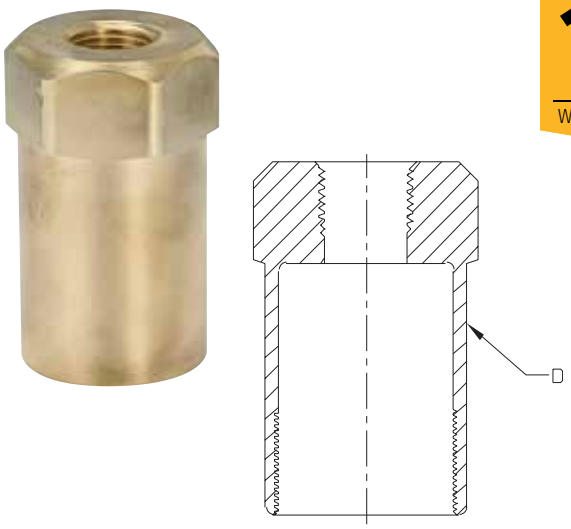
Application

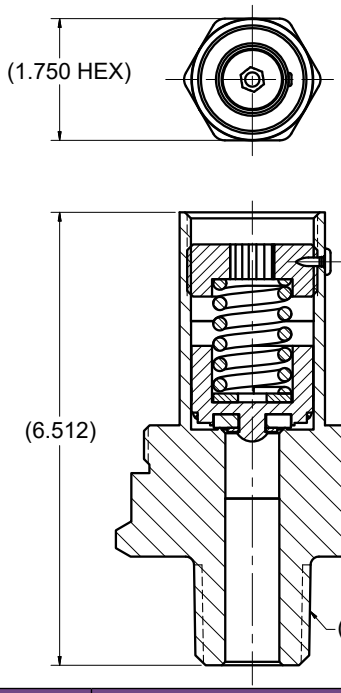
The C-19434B series relief valves are designed for use in carbon dioxide service.

Features

- The C-19434B design permits the valve to open slightly to relieve moderately excessive pressure
- When the pressure increases beyond a predetermined point, the valve opens to its full discharge capacity in order to quickly reduce excess pressure
- Pipe-away adapter for venting gas to the outdoors is available
- ASME rated, certified
- Cleaned for use in oxygen service per CGA G-4.1
- Bubble tight at 95% of set pressure
- Full flow at 110% of set pressure
- Setpoint tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater
- Repeatable performance guaranteed by well-proven seat design used in many other RegO relief valves for many years.
- Rated for gas service only
- 100% factory tested
- Temperature range: -40º to 165º F (-40º - 74º C)

REGO 10 YEAR WARRANTY





C-19434B Series

Materials

Body	Brass
Spring	Stainless Steel
Seat Retainer	Brass
Seat Disc C-19434B Series	EPDM Synthetic Rubber
Pipe-Away Adapter	Brass

WARNING: 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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Ordering Information

Part Number	Pressure Setting (psig)	ASME Relief Capacity (CFM/Air)	Height A Inches (mm)	Width B Inches (mm)	Inlet Connection (M.NPT) C Inches (mm)	Pipe-Away Adapter Part Number D
C-19434B235	235 psig (16.2 barg)	476	2 15/16" (74.67)	1¾" (44.45)	½" (12.7)	*B-19484-6 1" F.NPT Outlet (25.40 mm)
C-19434B250	250 psig (17.2 barg)	505				
C-19434B280	280 psig (19.3 barg)	555				
C-19434B285	285 psig (19.6 barg)	579				
C-19434B300	300 psig (20.7 barg)	601				
C-19434B325	325 psig (22.4 barg)	649				
C-19434B335	335 psig (23.1 barg)	668				
C-19434B350	350 psig (24.1 barg)	711				
C-19434B375	375 psig (25.9 barg)	760				

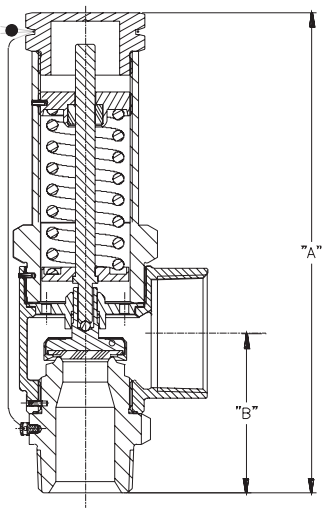
* Pipe Away Adapter is sold separately.
** Contact factory for additional settings.

Angle Relief Valve, ASME
AR4100 Series

Application
The ASME approved 90° relief valves AR Series, provide precise relief set points which protect cryogenic vessels and piping systems for over-pressurization.

Features
- High flow rates are approved by rigorous testing to ASME BVPC Code Section VIII
- The ninety degree configuration provides relief of gases eliminating direct flow through the spring
- The ninety degree configuration allows easy incorporation to plumbing for output containment
- Bubble tight seat provides 100% shut off when reseating or static mode
- A variety of inlets and pressure settings assure adherence to application requirements
- Temperature Range: -320°F (-196°C) to +165°F (+74°C)
- Cleaned for Oxygen Service per CGA G-4.1
- 100% Factory Tested
- PED, TPED, ASME & CRN Certified

REGO 10 YEAR WARRANTY



AR4100 Series

Materials
Body	Bronze ASTM B61
Upper Body	Stainless Steel ASTM A582
Seat & Stem	Brass ASTM B16
Poppet Guide	Brass ASTM B16
Spring Retainer	Brass ASTM B16
Adjusting Screw	Brass ASTM B16
Cap	Brass ASTM B16
Ball	Stainless Steel
Gasket	Copper ASTM B152-17
Spring	Stainless Steel ASTM A313
Seal	PCTFE for < 75 psig, Fluorosilicone for ≥ 75 psig

Ordering Information
Fill in the blanks with options below.

Example: AR4106A300

AR	4106	A	300
Angle Relief	Size	Cert Requirements and Pressure Unit	Set Pressure

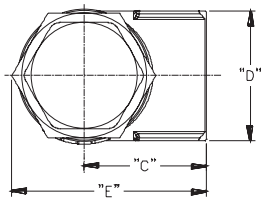
Certifications
A - ASME, TPED, PED
B - ASME, TPED, PED
N - TPED, PED
: - B Version Assembled in Europe

Set Pressure
A,N - psig
B - barg

Size
04=½"
06=¾"
08=1"
12=1½"

Setpoint tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater.

Note: For psig pressure settings, the part numbers end in A
For barg pressure settings, the part numbers end in B



Air Capacity= m x P
Where:
m = Slope Value
P= Pressure, Absolute @10% overpressure.

Example: Pressure relief valve, ½" inlet x 1" outlet, at 80 psig. Part number AR4104A080.
m = 1.4
P= 80 psig
Air Capacity= 1.4 x [(80psi x 1.10) +14.7]
Air Capacity= 143.8 SCFM (air)

Flow Performance
AR4104A set pressures 75 - 500 capacity is 1.4 SCFM of air per psig of flow pressure.
AR4106A set pressures 75 - 400 capacity is 1.56 SCFM of air per psig of flow pressure.
AR4108A set pressures 75 - 425 capacity is 3.463 SCFM of air per psig of flow pressure.
AR4112A set pressures 80 - 425 capacity is 7.86 SCFM of air per psig of flow pressure.
Flow pressure per ASME is 10% above set pressure or +3 psig (0.2 barg), whichever is greater.

Ordering Information
Part Number	Inlet Inches (mm)	Outlet Inches (mm)	Ends	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	Set Pressure	ASME Flow Capacity (Air) at 110% Set Pressure	Weight Lbs (Kg)
AR4104A	½" (15)	1" (25)	Thread NPT	6.03" (153.16)	1.97" (50.04)	1.63" (41.40)	1.63" (41.40)	2.49" (63.25)	250 psig	406 SCFM *	2.75 (1.25)
AR4104B									17.23 barg*	690 m³/hr	
AR4106A	¾" (20)		Thread NPT						250 psig*	451 SCFM	
AR4106B									17.23 barg*	766 m³/hr	
AR4108A	1" (25)	1¼" (32)	Thread NPT	6.88" (174.75)	2.37" (60.20)	2.00" (50.80)	1.90" (48.26	3.01" (76.45)	250 psig*	1,003 SCFM	3.75 (1.70)
AR4108B									17.23 barg*	1704 m³/hr	
AR4112A	1½" (40)	2" (50)	Thread NPT	9.64" (244.86)	3.20" (81.28)	2.45" (62.23)	2.60" (66.04)	3.89" (98.81)	250 psig*	2,277 SCFM	8.00 (3.63)
AR4112B									17.23 barg*	3869 m³/hr	

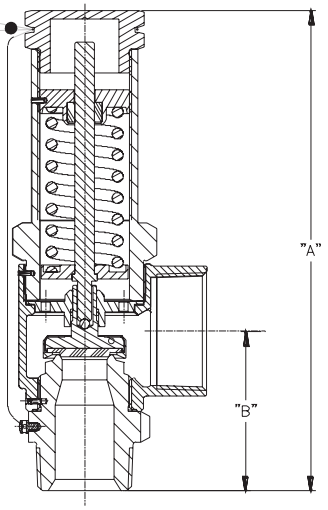
*Various pressure settings are available within listed ranges
Note: For Non-ASME stamp, the part numbers are: AR4104N, AR4106N, AR4108N, AR4112N.

Angle Relief Valve, ASME
AR5100 Series

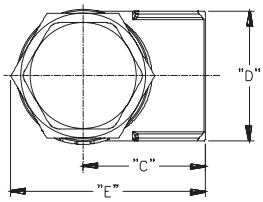
Application
The ASME approved 90° relief valves AR Series, provide precise relief set points which protect cryogenic vessels and piping systems for over-pressurization.

Features
- High flow rates are approved by rigorous testing to ASME BVPC Code Section VIII
- The ninety degree configuration provides relief of gases eliminating direct flow through the spring
- The ninety degree configuration allows easy incorporation to plumbing for output containment
- Bubble tight seat provides 100% shut off when reseating or static mode
- A variety of inlets and pressure settings assure adherence to application requirements
- Temperature Range: -320°F (-196°C) to +165°F (+74°C)
- Cleaned for Oxygen Service per CGA G-4.1
- 100% Factory Tested
- PED, TPED & ASME Certified

REGO 10 YEAR WARRANTY



AR5100 Series



Materials
Body	Bronze ASTM B61
Upper Body	Stainless Steel ASTM A582
Seat & Stem	Brass ASTM B16
Poppet Guide	Brass ASTM B16
Spring Retainer	Brass ASTM B16
Adjusting Screw	Brass ASTM B16
Cap	Brass ASTM B16
Ball	Stainless Steel
Gasket	Copper ASTM B152-17
Spring	Stainless Steel ASTM A313
Seal	PCTFE for < 75 psig, Fluorosilicone for ≥ 75 psig

Ordering Information
Fill in the blanks with options below.

Example: AR5106A300

AR	5106	A	300
Angle Relief	Size	Cert Requirements and Pressure Unit	Set Pressure

Certifications
A - ASME, TPED, PED
B - ASME, TPED, PED
N - TPED, PED
: - B Version Assembled in Europe

Set Pressure
A,N - psig
B - barg

Size
04=½"
06=¾"
08=1"
12=1½"

Setpoint tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater.

Note: For psig pressure settings, the part numbers end in A
For barg pressure settings, the part numbers end in B

Air Capacity= m x P
Where:
m = Slope Value
P= Pressure, Absolute @10% overpressure.

Example: Pressure relief valve, ½" inlet x 1" outlet, at 80 psig. Part number AR5104A080.
m = 1.4
P= 80 psig
Air Capacity= 1.4 x [(80psi x 1.10) +14.7]
Air Capacity= 143.8 SCFM (air)

Flow Performance
AR5104A set pressures 75 - 500 capacity is 1.4 SCFM of air per psig of flow pressure.
AR5106A set pressures 75 - 400 capacity is 1.56 SCFM of air per psig of flow pressure.
AR5108A set pressures 75 - 425 capacity is 3.463 SCFM of air per psig of flow pressure.
AR5112A set pressures 80 - 425 capacity is 7.86 SCFM of air per psig of flow pressure.
Flow pressure per ASME is 10% above set pressure or +3 psig (0.2 barg), whichever is greater.

Ordering Information
Part Number	Inlet Inches (mm)	Outlet Inches (mm)	Ends	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	Set Pressure	ASME Flow Capacity (Air) at 110% Set Pressure	Weight Lbs (Kg)
AR5104A	½" (15)	1" (25)	Thread BSP	6.03" (153.16)	1.97" (50.04)	1.63" (41.40)	1.63" (41.40)	2.49" (63.25)	250 psig*	406 SCFM	2.75 (1.25)
AR5104B									17.23 barg*	690 m³/hr	
AR5106A	¾" (20)		Thread BSP						250 psig*	451 SCFM	
AR5106B									17.23 barg*	766 m³/hr	
AR5108A	1" (25)	1¼" (32)	Thread BSP	6.88" (174.75)	2.37" (60.20)	2.00" (50.80)	1.90" (48.26	3.01" (76.45)	250 psig*	1,003 SCFM	3.75 (1.70)
AR5108B									17.23 barg*	1704 m³/hr	
AR5112A	1½" (40)	2" (50)	Thread BSP	9.64" (244.86)	3.20" (81.28)	2.45" (62.23)	2.60" (66.04)	3.89" (98.81)	250 psig*	2,277 SCFM	8.00 (3.63)
AR5112B									17.23 barg*	3869 m³/hr	

*Various pressure settings are available within listed ranges
Note: For Non-ASME stamp, the part numbers are: AR5104N, AR5106N, AR5108N, AR5112N.

Pressure Setting and Flow Data
AR Series

Pressure Setting and Flow Data AR Series SCFM (air)						
Pressure Setting psig	barg	MPAG	AR4104A AR5104A	AR4106A AR5106A	AR4108A AR5108A	AR4112A AR5112A
22	1.5	.15	54	61	135	306
25	1.7	.17	59	66	146	332
30	2.1	.21	67	74	165	375
35	2.4	.24	74	83	184	418
40	2.8	.28	82	91	203	461
45	3.1	.31	90	100	222	505
50	3.4	.34	98	108	241	548
55	3.8	.38	105	117	260	591
60	4.1	.41	113	126	279	634
65	4.5	.45	121	134	299	678
70	4.8	.48	128	143	318	721
75	5.2	.52	136	151	337	764
80	5.5	.55	144	160	356	807
90	6.2	.62	159	177	394	894
100	6.9	.69	175	194	432	980
110	7.6	.76	190	211	470	1067
120	8.3	.83	205	228	508	1153
130	9.0	.90	221	245	546	1240
140	9.7	.97	236	262	584	1326
145	10.0	1.0	244	271	603	1369
150	10.3	1.03	252	280	622	1413
175	12.1	1.21	290	322	718	1629
200	13.8	1.38	329	365	813	1845
225	15.5	1.55	367	408	908	2061
230	15.9	1.59	375	417	927	2104
235	16.2	1.62	382	425	946	2148
240	16.6	1.66	390	434	965	2191
250	17.2	1.72	406	451	1003	2277
260	17.9	1.79	421	468	1041	2364
265	18.3	1.83	429	476	1060	2407
275	19.0	1.90	444	494	1098	2494
280	19.3	1.93	452	502	1118	2537
285	19.7	1.97	459	511	1137	2580
290	20.0	2.0	467	519	1156	2623
295	20.3	2.03	475	528	1175	2666
300	20.7	2.07	483	536	1194	2710
325	22.4	2.24	521	579	1289	2926
350	24.1	2.41	560	622	1384	3142
375	25.9	2.59	598	665	1479	3358
400	27.6	2.76	637	708	1575	3574
425	29.3	2.93	675	750	1670	3791
450	31.0	3.1	714	793	1765	4007
475	32.8	3.28	752	836	1860	4223
500	34.5	3.45	791	879	1956	4439
525	36.2	3.62	829	921	2051	4655
550	37.9	3.79	868	964	2146	4871

RegO® - Relief Device Diverter (3-Way) Valve
DR6100 Series

Application

The DR Diverter Valve Series provides a simple solution for the isolation of pressure relief devices during routine change out of a relief valve and burst discs without evacuating the vessel. Excellent for protecting bulk liquid vessels, transport trailers, industrial pipelines, and LNG systems.

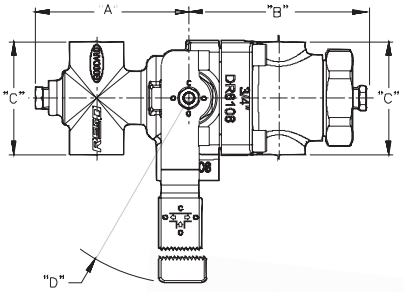
REGO 10 YEAR WARRANTY

Features

- High flow rates complement our AR series pressure relief valves.
- Valve side selection is accomplished with a heavy duty control arm clearly labeled for positive isolation
- RegO® needle valves accessorize for easy bleed of gas before removing pressure relief devices
- Fitted with threaded top Relief Valve ports and bottom Burst Disk connections
- Pressure Rating: 600 psig (41.37 barg) MAWP
- Temperature Rating: -320°F (-196°C) to +165°F (+74°C).
- 100% Factory tested
- Oxygen cleaned per CGA G-4.1
- PED Certified
- **Stainless Steel inlet stub available, add the letter P in the end of the part number to request this option.**

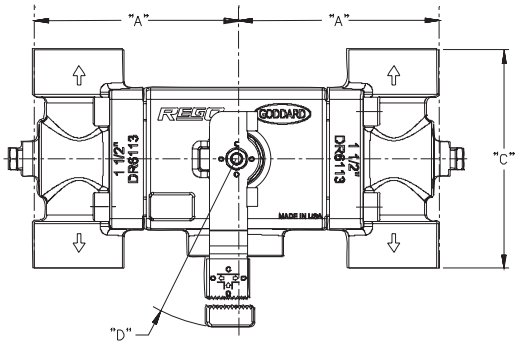
Materials

Bodies..... Bronze ASTM B61 UNS C92200
Bushing, End Cap..... Brass B16 C36000
Seat Rings..... PCTFE ASTM D1430
Gasket..... PTFE
Ball..... 316 Stainless Steel
Lever..... Cadmium Plated Steel
Packing..... PTFE
Stem..... Stainless Steel ASTM A582 UNS S30300



DR6108

DR6112P



DR6112 & DR6113

Ordering Information

Part Number	Inlet Inches (mm)	Outlet Inches (mm)	Connection Type	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	Height Inches (mm)	Weight Lbs (Kg)	Open Port	C_V (Kv)
DR6108	1" (25.4)	¾" (19.05)	Thread NPT	4" (101.7)	4.65" (118.3)	2.94" (74.90)	R 7.36" (187.1)	5.18" (63.25)	10 (4.50)	Right	13.3 (11.50)
										Left	
										Both	20.1 (17.38)
DR6112	1½" (38.1)	1" (25.4)		4.12" (104.6)	-	5.70 (145.0)	R 7.36" (187.1)	5.770" (146.6)	28 (12.70)	Right	18.8 (16.26)
										Left	
										Both	37 (32.00)
DR6113	1½" (38.1)	1½" (38.1)			-	5.70 (145.0)	R 7.36" (187.1)	5.770" (146.6)	30 (13.60)	Right	22.6 (19.54)
										Left	
										Both	40.2 (34.77)

RegO® - Bulk Vessel Safety Assembly – Relief Valve & Diverter
DA6200 Series

Application

RegO® provides a complete unitized solution for pressure relief devices assembled in a factory setting ready for attachment to cryogenic bulk tanks. Ideal for OEM applications where pre-fabricated assemblies are favored to streamline construction. Excellent for protecting bulk liquid vessels, transport trailers, industrial pipelines and LNG systems.

REGO 10 YEAR WARRANTY

Features

- High flow rates complement our AR series pressure relief valves and burst disks
- Valve side selection is accomplished with a heavy duty control arm clearly labeled for positive isolation
- RegO® needle valves accessorize for easy bleed of gas before removing pressure relief devices
- Inlet pipe factory installed for easy assembly
- Pressure Rating: 600 psig (41.37 barg) MAWP
- Temperature Rating: -320°F (-196°C) to +165°F (+74°C)
- Oxygen cleaned per CGA G-4.1
- Packaged ready for installation
- PED Certified CE
- **Copper inlet stubs available for DA6206CA.**

DA6208

DA6206

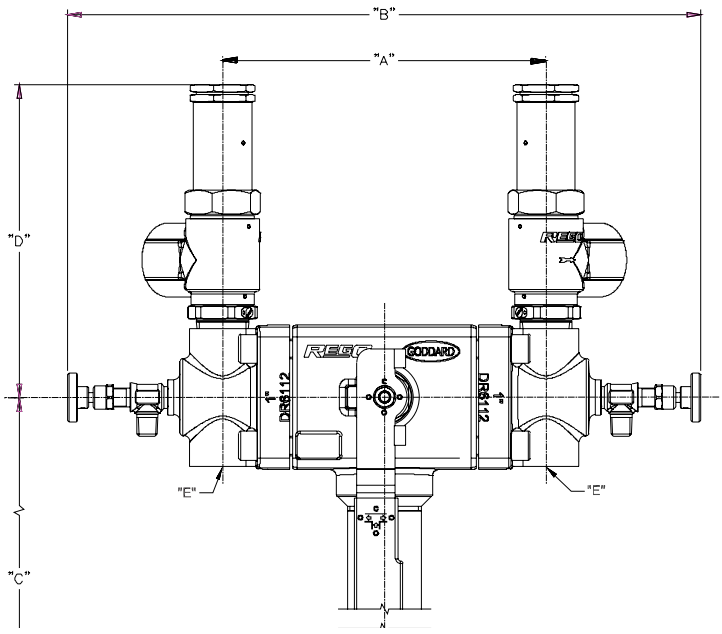
DA6206CA

Diverter Materials

Bodies	Bronze ASTM B61 UNS C92200
Bushing, End Cap	Brass B16 C36000
Seat Rings	PCTFE ASTM D1430
Gasket	PTFE
Ball	316 Stainless Steel
Lever	Cadmium Plated Steel
Packing	PTFE
Stem	Stainless Steel ASTM A582 UNS S30300

Relief Valve Materials

Body	Bronze ASTM B61
Upper Body	Stainless Steel ASTM A582
Seat & Stem	Brass ASTM B16
Poppet Guide	Brass ASTM B16
Spring Retainer	Brass ASTM B16
Adjusting Screw	Brass ASTM B16
Cap	Brass ASTM B16
Ball	Stainless Steel
Gasket	Copper ASTM B152-17
Spring	Stainless Steel ASTM A313
Seal	PCTFE for < 75 psig, Fluorosilicone for ≥ 75 psig



Ordering Information

Part Number*	Inlet Inches (mm)	Outlet Inches (mm)	Connection Type	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)
DA6206AXXX	1" (25.4)	¾" (19.05)	Thread NPT	4.76" (120.9)	13.25" (336.55)	9.75" (247.7)	7.00" (177.8)	¾" NPT (19.0)
DA6208AXXX	1½" (38.1)	1" (25.4)		8.33" (211.6)	16.30" (414)	16.47" (418.34)	8.06" (204.7)	1" NPT (25.0)

* Include pressure setting in part number.

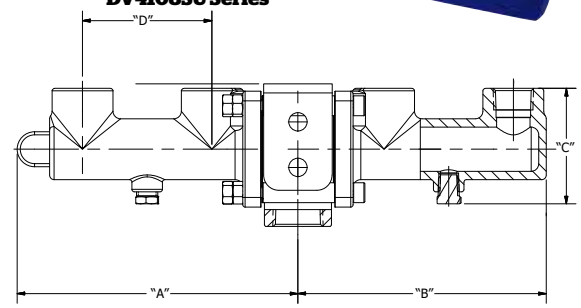
RegO® Stainless Steel Relief Device Diverter (3-Way) Valve DV4108 Series

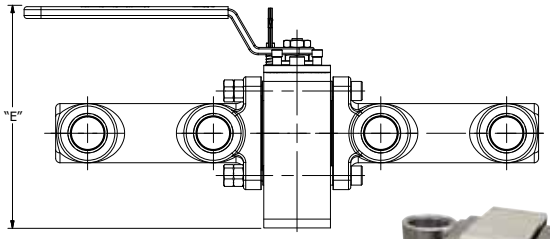
Application

The DV4108 Diverter Valve Series provides a lightweight, simplified solution for the isolation of pressure relief valves during testing and change out of relief valves and burst discs without requiring evacuation of the vessel and guaranteeing that one port will be available to work during the operation. This all stainless steel diverter valve is ideal for use with oxygen, nitrogen, krypton, carbon dioxide, nitrous oxide, dinitrogen monoxide, carbon oxide, methane, ethane, ethylene, argon, and LNG.

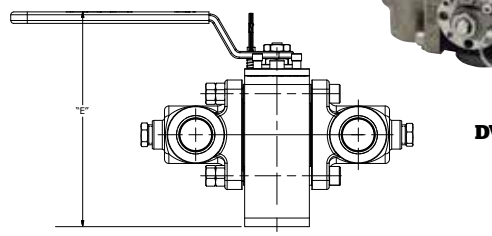
REGO 10 YEAR WARRANTY

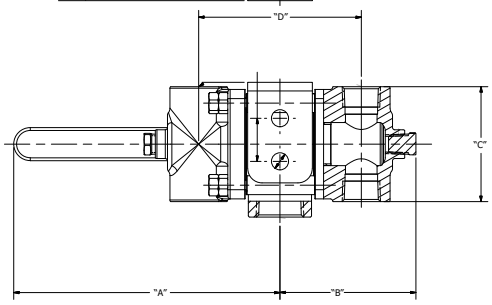
DV4108SU Series





DV4108MU Series





Features

- High flow rates complement the RegO AR and PRV series pressure relief valves
- Outlet ports sufficiently spaced to allow AR and PRV series relief valves as well as burst discs to be easily installed and removed
- Compact, lightweight design
- Unique resilient seat design with Dyneon™ TFM 1600 material provides smooth operation and bubble tight seal in cryogenic conditions
- Special seal design using proven Kold-Seal technology, live loaded PTFE in conjunction with wave springs and added sealing protection prevent internal and external leakage (EN 1626:2008 compliant)
- Clearly labeled, heavy duty lever arm and locking pin provide positive isolation verification
- Various connection and configuration options available
- Bracket included for easy installation
- Service: Liquefied and vaporized atmospheric gases, LNG
- Temperature rating: -320°F to +150°F (-196°C to +65°C)
- Pressure rating: Cold, non-shock, 720 PSIG (50 BAR) Class 300 (PN 50)
- 100% factory tested; each valve is individually bagged and boxed to arrive in factory new condition until installation
- Cleaned and packaged for oxygen service per CGA G-4.1

PED Certified CE

Materials

Body ..... 316 Stainless Steel ASTM A351-CF-8M (DIN 1.4408)
Ball.....316L Stainless Steel ASTM A276 (DIN 1.4006)
Seat ..... Dyneon TFM 1600
End caps.....304 Stainless Steel ASTM A743 (DIN 1.4027)
Wave springs.....Stainless Steel ASTM A313 (DIN 1.4544)
Wave spring washers 304 Stainless Steel ASTM A182 (DIN 1.5415)
Packing..... Live Loaded PTFE
Stem .....316L Stainless Steel ASTM A276 (DIN 1.4006)
Lever.....304 Stainless Steel ASTM A182 (DIN 1.5415)
Bracket .....304 Stainless Steel ASTM A182 (DIN 1.5415)

Ordering Information

Part Number	Inlet Inches (mm)	Outlet Inches (mm)	Outlet Connection Type	Outlet Port Orientation	Bleeder Connection	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	Open Port	Cv (Kv)
DV4108SU04	1 (DN25)	½ (DN15)	Thread NPTF	4 ports, all opposite of Inlet	1/4" NPTF, same side as inlet	7.29 (185)	6.42 (163)	2.98 (76)	3.34 (85)	5.90 (150)	One Side	12.0 (10.4)
											Both Sides	21.7 (18.8)
DV4108SU06		¾ (DN20)									One Side	13.3 (11.5)
											Both Sides	22.5 (19.5)
DV4108SU08		1 (DN25)									One Side	16.0 (13.8)
											Both Sides	25.3 (21.9)
DV4108SM04		½ (DN15)		1 port up, 1 port down on each side	1/4" NPTF, 90° from inlet		3.72 (95)"	3.2 (80)	4.45 (113)		One Side	11.0 (9.5)
											Both Sides	20.0 (17.3)
DV4108SM06		¾ (DN20)									One Side	12.7 (11.0)
											Both Sides	21.6 (18.7)
DV4108SM08		1 (DN25)									One Side	14.1 (12.2)
											Both Sides	23.2 (20.1)

Other outlet port orientation options available; please contact your Sales representative with inquiries.

RegO® Stainless Steel Relief Device Diverter (3-Way) Valve DV4108SD Series for PRVs

Application

The DV4108SD04 Diverter Valve Series provides a lightweight, simplified solution for the isolation of pressure relief valves during testing and change out of pressure relief valves and burst discs without requiring evacuation of the vessel and guaranteeing that one port will be available to work during the operation. This all stainless steel diverter valve is ideal for use with oxygen, nitrogen, krypton, carbon dioxide, nitrous oxide, dinitrogen monoxide, carbon oxide, methane, ethane, ethylene, argon, and LNG.

The DV4108SD04 has the inlet port in the upper position for the easy installation of the Micro-Bulk's relief pressure line, and the four-outlet port oriented at down position to avoid the humidity going into the PRVs and guarantee proper operation.

PED Certified CE

REGO 100% TESTED ★

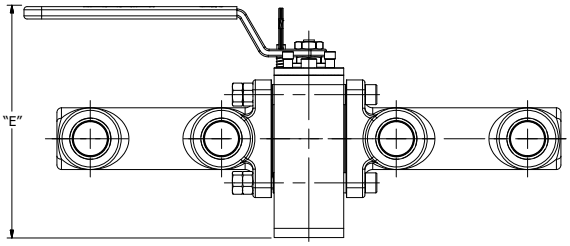
CLEANED FOR OXYGEN SERVICE O_2 CGA G-4.1

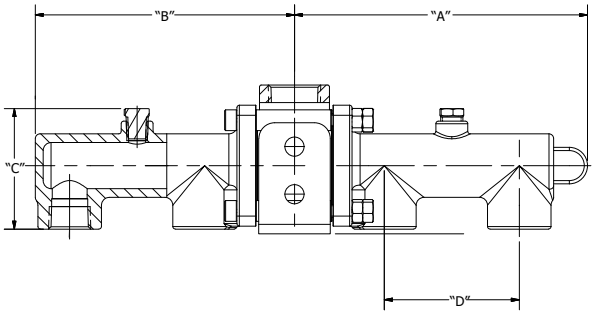
REGO 10 YEAR WARRANTY

DV4108SD04

Materials

Body ..... 316 Stainless Steel ASTM A351-CF-8M (DIN 1.4408)
Ball.....316L Stainless Steel ASTM A276 (DIN 1.4006)
Seat ..... Dyneon TFM 1600
End caps.....304 Stainless Steel ASTM A743 (DIN 1.4027)
Wave springs.....Stainless Steel ASTM A313 (DIN 1.4544)
Wave spring washers 304 Stainless Steel ASTM A182 (DIN 1.5415)
Packing..... Live Loaded PTFE
Stem .....316L Stainless Steel ASTM A276 (DIN 1.4006)
Lever.....304 Stainless Steel ASTM A182 (DIN 1.5415)
Bracket .....304 Stainless Steel ASTM A182 (DIN 1.5415)





Ordering Information

Part Number	Inlet Inches (mm)	Outlet Inches (mm)	End Connection Type	Outlet Port Orientation	Bleeder Port Orientation	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	Open Port	Cv (Kv)
DV4108SD04	1" (DN25)	½ (DN15)	Thread NPTF	4 ports, all opposite of inlet	¼" NFPT, same side as inlet	7.29 (185)	6.42 (163)	2.98 (76)	3.34 (85)	5.90 (150)	One Side	12.0 (10.4)
											Both Side	21.7 (18.8)
DV4108SD06		¾" (DN20)									One Side	13.3 (11.5)
											Both Side	22.5 (19.5)
DV4108SD08		1" (DN25)									One Side	16.0 (13.8)
											Both Side	25.3 (21.9)

Other outlet port orientation options available; please contact your Sales representative with inquiries.

Carbon Dioxide Relief Valves, ASME UA3149A Series

Application

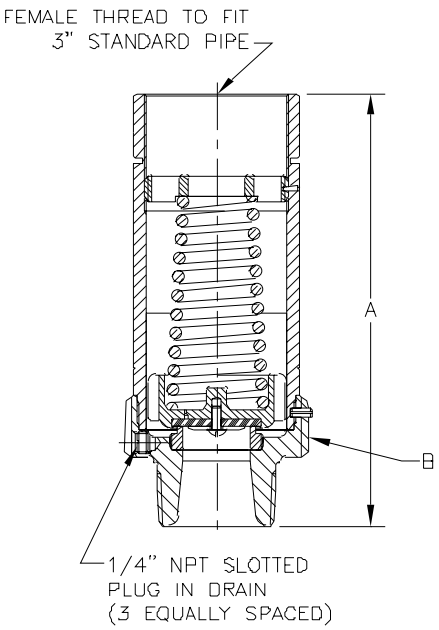
The UA3149A series “pop-type” relief valves are especially designed for use as a secondary relief valve in carbon dioxide transports and stationary storage tanks. The relief valve is designed to protect the tank from excessive over pressure in the event of fire or other emergencies. A small throttling-type primary relief valve must also be provided to control boil-off and maintain tank pressure. Provisions must be made to prevent the accumulation and build-up of water and foreign material in the valve by use of protective cap included.

REGO 10 YEAR WARRANTY

UA3149A Series

Features

- “Pop-type” design permits the relief valve to open slightly to relieve moderately excessive pressures
- Relief valve “pops” open to full discharge capacity when pressure exceeds a predetermined point
- UA3149A 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.
- UA3149A relief valves include weep hole deflectors, installed to guard against flame impingement on adjacent containers.
- 100% Factory Tested
- Temperature Rating: -40°F (-37°C) to 85°F (29°C)
- Tamper Resistant
- Repeatable Performance
- ASME Rated
- Rated for Gas Service
- Resilient seat disc provides “bubble-tight” seal.



Materials

Body	Steel and Ductile Iron
Liner	Stainless Steel
Seat Insert	Stainless Steel
Spring Guide	Brass
Adjusting Screw	Ductile Iron
Seat Disc	Urethane Compound
Spring	Corrosion Resistant Steel

Ordering Information

Part Number	Pressure Setting psig (barg)**	Flow Capacity (SCFM/Air)	Inlet Connection (M.NPT) Inches (mm)	Height A Inches (mm)	Wrenching Hex B Inches (mm)
UA3149A303	303 psig (20.9 barg)	9,883*	2½" (63.50)	10½" (266.70)	4⅛" (104.90)
UA3149A330	330 psig (22.7 barg)	10,726*			
UA3149A350	350 psig (24.1 barg)	11,351*			
UA3149A358	358 psig (24.7 barg)	11,601*			

*Capacity certified by National Board of Boiler and Pressure Vessel Inspectors at 10% above set pressure.
**Other Settings not ASME/NB Certified

Multiport® Pressure Relief Valve Manifold Assemblies For Large CO2 Containers, ASME UA8560, UA8570 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

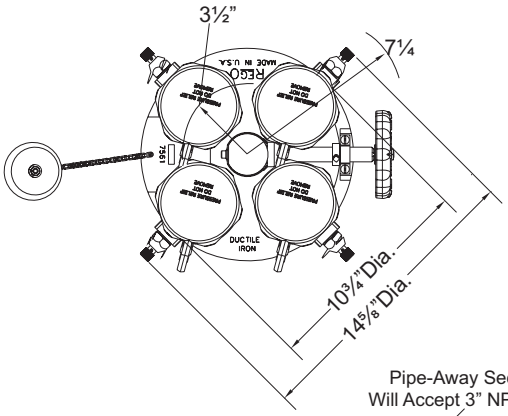
- Allows for relief valve removal and replacement on a periodic basis without shutting down and evacuating the container
- "Pop-action" design of relief valves insures maximum protection with only minimal product loss at moderately excessive pressures
- A rubber plug with chain is provided to protect manifold outlet threads where the relief valve has been removed
- May be mounted directly to a welding neck flange or manway 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, UA3149 Series
- Certified CE

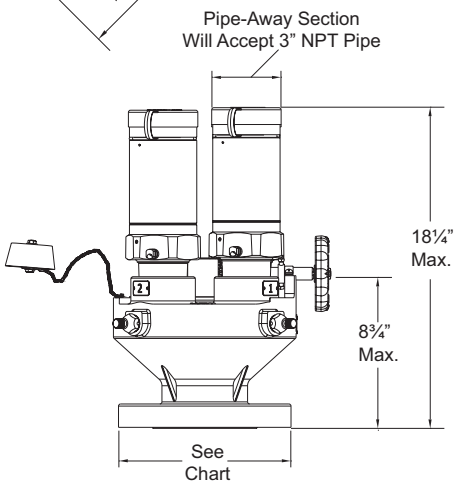
Materials

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

REGO 10 YEAR WARRANTY

A8560 A8570





Bolt Stud and Nut Assemblies

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

Ordering Information

Part Number	Start To Discharge Setting	Container Flange Connection	Relief Valve		
			Max Quantity	Part Number	Inlet Connection M. NPT Inches (mm)
UA8564A330	330 psig (22.7 barg)	3"-300#*	4	UA3149A330	2½" (63.5)
UA8574A290	290 psig (20.0 barg)	4"-300#		UA3149A290	

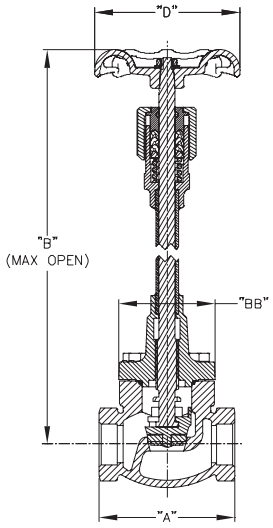
* For use with modified 300# ANSI flange with 4" port.
** Outlet 3½-8N (F) thread, will accept 3" M. NPT pipe thread.

Bronze Globe Valve for Cryogenic Service
BB Series

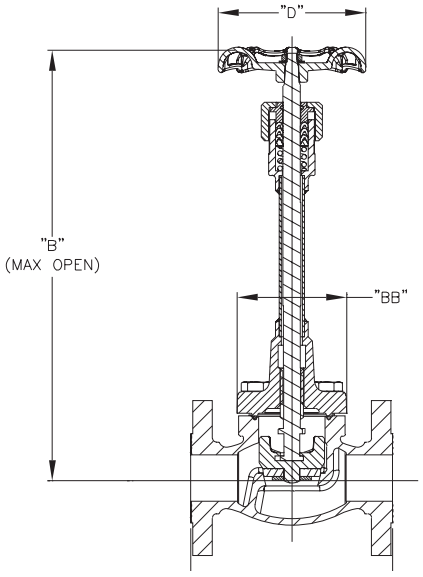
Application

The BB Series globe valves are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations. Our time tested spring loaded stem packing and superior seat design provide for long life and easy maintenance. Internal components are identical with the SKB Series. The BB Series globe valves are offered with brazed-in schedule 10 and 40 stainless steel pipe stubs. Also available in short stem version.

REGO 10 YEAR WARRANTY



BB9412T



BB9412F

Features

- Superior Flow: Provides high Cv for rapid and reliable loading and unloading
- V-Ring spring loaded packing: provides extended service life without constant packing adjustment
- Conical PCTFE Seat: provides exceptional flow; bubble tight seal; less chance of debris trapped in the seat and longer service life
- Ideal for loading & unloading cryogenic bulk tanks and trucks. The 1½" & 2" valves are designed to be operator friendly, opening and closing completely with only four 360° rotations
- Connections: NPT, SBT & Flange
- Sizes: ¼" to 2"
- Bonnet Type: Bolted
- Pressure Rating: 720 psig (50 barg)
- Temperature Rating: -325°F (-198°C) to +150°F (+65°C)
- Service: Liquefied & Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, Iso-Containers and Piping Configurations.
- Cleaned for Oxygen Service per CGA G-4.1

Materials

Body ..... Bronze ASTM B61
Upper Bonnet .....Brass ASTM B16
Lower Bonnet ..... Brass ASTM B283
Stem ..... .Stainless Steel ASTM A582
Spring ..... Stainless Steel ASTM A313
Packing.....PTFE
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet Screws ..... Stainless Steel ASTM A320
Handwheel..... Chromated Coated Ductile Iron ASTM A395

Ordering Information

Part Number	Size Inches	Size mm	Connection	A		B		D		BB		C_V	K_V	Weight lbs.	Weight kg.
				Inches	mm	Inches	mm	Inches	mm	Inches	mm				
BB9402S	¼"	8	Silver Brazed Tube	2.68	68	14.40	366	3.00	76	2.00	51	1.7	1.47	8.30	3.7
BB9404S	½"	15		2.88	73							5.0	4.30		
BB9406S	¾"	20		3.55	90			4.00	102	2.66	67	9.4	8.1		
BB9408S	1"	25		3.75	95							14.0	12.10		
BB9412S	1½"	40		4.78	121	14.60	371	4.75	121	3.44	87	28.3	21.60	12.90	5.8
BB9416S	2"	50		5.88	149	16.21	412	5.25	133	4.06	103	53.0	47.41	21.60	9.8
BB9402T	¼"	8	Threaded NPT	2.68	68	14.40	366	3.00	76	2.00	51	1.7	1.47	8.30	3.7
BB9404T	½"	15		2.88	73							5.0	4.30		
BB9406T	¾"	20		3.55	90			4.00	102	2.66	67	9.4	8.1		
BB9408T	1"	25		3.75	95							14.0	12.10		
BB9412T	1½"	40		4.78	121	14.60	371	4.75	121	3.44	87	28.3	21.60	12.90	5.8
BB9416T	2"	50		5.88	149	16.21	412	5.25	133	4.06	103	53.0	47.41	21.60	9.8
BB9412F	1½"	40	Flanged RF	6.50	165	14.60	371	4.75	121	3.44	87	28.3	21.60	18.56	8.4
BB9416F	2"	50		8.00	203	16.21	412	5.25	133	4.06	103	53.0	47.41	30.00	13.6

Bronze Globe Valve for Cryogenic Service with Pipe Ends
BB Series

Application

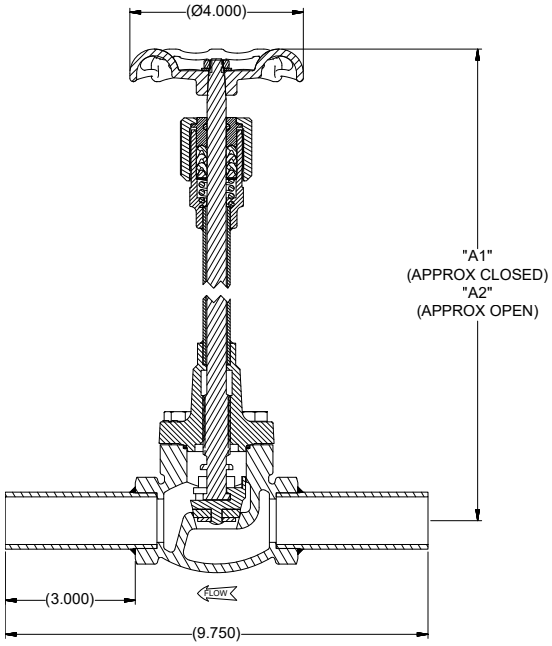
The BB Series globe valves with pipe ends are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO containers and piping configurations. Our time tested spring loaded stem packing and superior seat design provide for long life and easy maintenance. Internal components are identical with the SKB Series.

Features

- Superior Flow: Provides high Cv for rapid and reliable loading and unloading
- V-Ring spring loaded packing: provides extended service life without constant packing adjustment
- Conical PCTFE Seat: provides exceptional flow; bubble tight seal; less chance of debris trapped in the seat and longer service life
- Connections: SS pipe extension SCH 10 and SCH 40
- Sizes: ½" to 2"
- Bonnet Type: Bolted
- Pressure Rating: 720 psig (50 barg)
- Temperature Rating: -320°F (-196°C) to +150°F (+65°C)
- Service: Liquefied & Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, Iso-Containers and Piping Configurations
- Cleaned for Oxygen Service per CGA G-4.1

REGO 10 YEAR WARRANTY

BB9404AA



Materials

Body ..... Bronze ASTM B61
Upper Bonnet .....Brass ASTM B16
Lower Bonnet ..... Brass ASTM B283
Stem ..... .Stainless Steel ASTM A582
Spring ..... Stainless Steel ASTM A313
Packing.....PTFE
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet Screws..... Stainless Steel ASTM A320
Handwheel..... Chromated Coated Ductile Iron ASTM A395

Ordering Information

Part Number	Size Inches	Size mm	Connection	A1		A2		B		C		D		Cv (Kv)	Weight lbs.	Weight Kg.
				Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm			
BB9404AA	½"	15	SCH 10 Pipe	13.9	353.06	14.4	365.76	3.00	76.2	8.88	225.55	2.00	50.8	5.0 (4.30)	9.13	4.14
BB9406AA	¾"	20						4.00	101.6	9.55	242.57	2.60	66.04	9.4 (8.10)		
BB9408AA	1"	25								9.75	247.65	2.68	68.07	14.0 (12.10)		
BB9412AA	½"	40						4.75	120.65	10.79	274.06	3.47	88.13	28.3 (21.60)	14.19	6.43
BB9416AA	2"	50		15.27	387.85	16.21	411.73	5.25	133.35	11.88	301.75	3.26	82.80	53.0 (45.80)	23.76	10.77
BB9404BB	1½"	15	SCH 40 Pipe	13.9	353.06	14.4	365.76	3.00	76.2	8.88	225.55	2.00	50.8	5.0 (4.30)	9.22	4.18
BB9406BB	¾"	20						4.00	101.6	9.55	242.57	2.60	66.04	9.4 (8.10)		
BB9408BB	1"	25								9.75	247.65	2.68	68.07	14.0 (12.10)		
BB9412BB	1½"	40						4.75	120.65	10.79	274.06	3.47	88.13	28.3 (21.60)	14.48	6.56
BB9416BB	2"	50		15.27	387.85	16.21	411.73	5.25	133.35	11.88	301.75	3.26	82.80	53.0 (45.80)	24.19	10.97

Bronze Globe Valve Short Stem for Cryogenic Service
BBS Series

Application

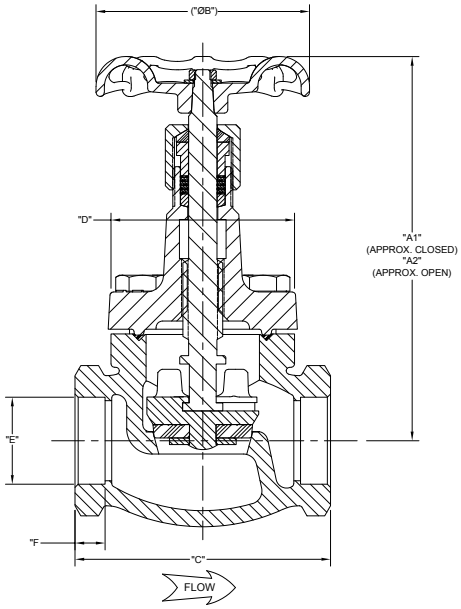
The BB Series globe valves are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations. Our time tested spring loaded stem packing and superior seat design provide for long life and easy maintenance. Internal components are identical with the SKB Series.

REGO 10 YEAR WARRANTY

Features

- Superior Flow: Provides high Cv for rapid and reliable loading and unloading
- Designed with the unique Kold-Seal
- Conical PCTFE Seat: provides exceptional flow; bubble tight seal; less chance of debris trapped in the seat and longer service life
- Ideal for loading & unloading cryogenic bulk tanks and trucks. The 1½" & 2" valves are designed to be operator friendly, opening and closing completely with only four 360° rotations
- Connections: NPT & SBT
- Sizes: ¼" to 2"
- Bonnet Type: Bolted
- Pressure Rating: 720 psig (50 barg)
- Temperature Rating: -320°F (-196°C) to +150°F (+65°C)
- Service: Liquefied & Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, Iso-Containers and Piping Configurations
- Cleaned for Oxygen Service per CGA G-4.1
- Recommended for vapor phase and non-permanent cryogenic liquid use

BBS9404S



Materials

Body ..... Bronze ASTM B61
Upper Bonnet .....Brass ASTM B16
Lower Bonnet ..... Brass ASTM B283
Stem ..... .Stainless Steel ASTM A582
Spring ..... Stainless Steel ASTM A313
Packing.....PTFE
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet Screws ..... Stainless Steel ASTM A320
Handwheel..... Chromated Coated Ductile Iron ASTM A395

Ordering Information

Part Number	Size Inches	Size mm	Connection	A1		A2		B		C		D		E		F		Cv (Kv)	Weight lbs.	Weight Kg
				Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm			
BBS9402S	¼"	15	Silver Brazed Tube	5.75	146	6.24	158	3.00	76	8	203	2.00	51	0.38	9	0.30	8	1.7 (1.47)	5.2	2.3
BBS9404S	½"									2.88	73			0.63	16	0.40	10	5.0 (4.30)		
BBS9406S	¾"	20		6.07	154	6.6	168	4.00	101	3.55	90	2.60	66	0.88	22			9.4 (8.10)		
BBS9408S	1"	25								3.75	95			1.13	29	0.50	13	14 (12.10)		
BBS9412S	1½"	40		7.20	183	7.93	201	4.75	121	4.79	121	3.47	88	1.63	41	0.56	14	28.3 (21.60)	7.25	3.2
BBS9416S	2"	50		8.85	225	9.84	250			5.87	149	3.96	100	0.38	9	0.30	8	53 (45.80)	11.96	5.4
BBS9402T	¼"	8	Threaded NPT	5.75	146	6.24	158	3.00	76	8	203	2.00	51					1.7 (1.47)	5.2	2.3
BBS9404T	½"	15								2.88	73			0.63	16	0.40	10	5.0 (4.30)		
BBS9406T	¾"	20		6.07	154	6.6	167	4.00	101	3.55	90	2.60	66	0.88	22			9.4 (8.10)		
BBS9408T	1"	25								3.75	95			1.13	29	0.50	13	14 (12.10)		
BBS9412T	1½"	40		7.20	183	7.93	201	4.75	121	4.79	121	3.47	88	1.63	41	0.56	14	28.3 (21.60)	7.25	3.2
BBS9416T	2"	50		8.85	225	9.84	250			5.87	149	3.96	100	2.13	54	0.63	16	53 (45.80)	11.96	5.4

Extended Bonnet Cryogenic Globe Valves
BK and BKA Series Valves

Application

The BK and BKA Series valves are designed exclusively for the handling of cryogenic liquids on bulk storage tanks, transports, and pipelines. These globe valves provide positive shutoff and offer a long, low-maintenance service life. The valves are available with a variety of inlet and outlet connections and stem lengths. Certain BK valves are offered with brazed-in schedule 5 and schedule 10 Stainless Steel Pipe Stubs.

Features

- PCTFE seat disc and swivel seat design offer positive shutoff, minimal seat wear, and a long service life
- Unique spring-loaded upper packing provides extended service life without constant packing adjustment
- One piece slip-on seat assembly for easy replacement
- Each valve is cleaned and packaged for oxygen service per CGA G-4.1
- Maximum working pressure is 600 psig (41.37 barg) MAWP (-196ºC)
- Working temperature range is -320°F to +165°F (196ºC to +79ºC)
- 100% Factory Tested

Materials

Body .....ASTM B61
Upper Bonnet .....ASTM B16
Lower Bonnet ..... Brass ASTM B16 for up to 1" Valve Size
.....BRASS ASTM B283 For Larger Sizes
Seat Disc ..... PCTFE
Seat Retainer Assembly ..... Brass ASTM B16
Stem and Bonnet Extension Tube..... Stainless Steel ASTM A582
Spring ..... Stainless Steel ASTM AB13
Jam Ring and Pressure Seal Rings..... PTFE
Handwheel.....Aluminum for up to 1" valve size,
.....Coated Malleable Iron for larger size

Bonnet Design

Union Bonnet for ½", ¾", 1" valve sizes and on both the 1" model BKA8408S and 1½" model BKA8412S angle valves. Bolted Bonnet design is used on the BK9416 (2") models.

REGO 10 YEAR WARRANTY

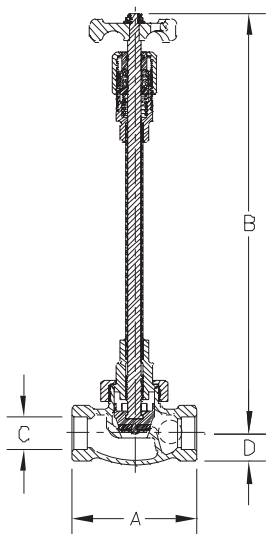
BK8408T

BK9412S

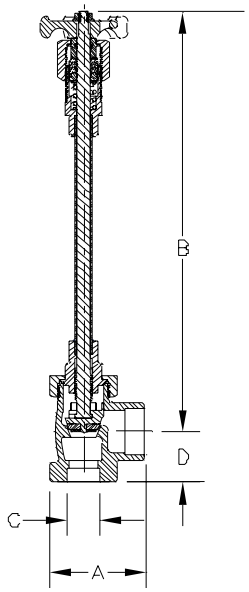
BK9408AA

BKA8412S

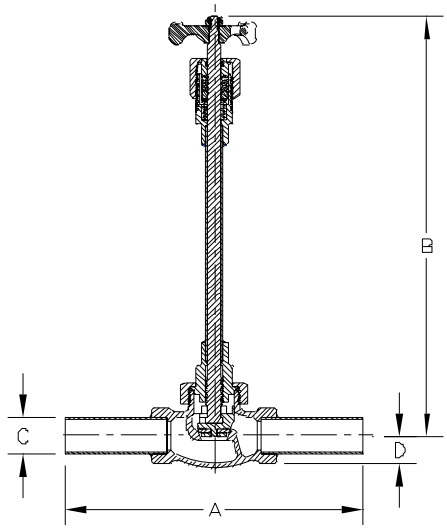
Extended Bonnet Cryogenic Globe Valves
BK and BKA Series Valves



Straight Globe Valve



Angle Globe Valve



Straight Globe Valve with Pipe Stubs

Ordering Information

Part Number	Body Style	A Length Inches (mm)	B Max Open (Approx) Inches (mm)	C Inlet / Outlet Connections INCHES (MM)	D Inches (mm)	C_V (Kv)
BK8404S	Straight	3 11/16" (94)	9 5/32" (233)	.631"-.634" (16.02-16.10)	1" (25)	4.7 (4.06)
BK8404T				½" F.NPT (12.7)		
BK8404ST				.631"-.634"x ½" F.NPT (16.02-16.10x12.7)		
BK9404S			15" (381)	.631"-.634" (16.02-16.10)		
BK9404T				½" F.NPT (12.7)		
BK9404AA		9 11/16" (246)		½" SCH10 Pipe (12.7)		
BK9404PT-F30		6 11/16" (170)		½" Sch5 Pipe x ½" F.NPT (12.7)		
BK9404ST		3 11/16" (94)		.631"-.634"x½" F.NPT (16.02-16.10x12.7)		
BK8406S			9 5/32" (233)	.881"-.884" (22.37-22.45)		
BK8406T				¾" F.NPT (19)		
BK9406S			15" (381)	.881"-884" (22.37-22.45)		
BK9406T				¾" F.NPT (19)		
BK9406AA		911/16" (246)	14.9 (378)	¾" SCH10 Pipe (19)		
BK8408S		4 5/16" (109)	9 1/8" (232)	1.131"-1.134" (28.72-28.80)	1 1/8" (28)	11.2 (9.68)
BK8408T				1" F.NPT (25)		
BK9408S			15" (381)	1.131"-1.134" (28.72-28.80)		
BK9408T				1" F.NPT (25)		
BK9408AA		10 5/16" (262)		1" Sch10 Pipe (25)		
BK9408PT-F30		7 5/16" (185)		1" Sch5 Pipe x 1" F.NPT (25)		
BK9412AA		11 3/16" (284)	16 9/16" (420)	1½" Sch10 Pipe (38)	1½" (38)	25.1 (21.71)
BK9412PT-F30		8 3/16" (208)		1½" Sch5 Pipe x 1½" F.NPT (38)		
BK9416S*		6" (152)	16" (406)	2.131" - 2.134" (54.12-54.20)	1 5/8" (41)	41 (35.46)
BK9416AA		11.88" (302)		2" SCH10 Pipe (51)		
BK9416T*		6" (152)		2" F.NPT (51)		
BK9416PT-F30		9" (229)		2" Sch5 Pipe x 2" F.NPT (51)		
BKA8408S	Angle	3 1/4" (82)	9 5/11" (240)	1.131"-1.134" x1.631"-1.634" (28.72-28.80 x 41.42-41.50)	1 3/4" (44)	14.5 (12.54)
BKA9408S			14 5/8" (371)			
BKA8412S		4 1/4" (108)	13" (330)	1.631"-1.634" (41.42-41.50)		30.0 (25.95)

* Valves with bolted bonnet design.
BB Available for 1½".

Brass Angle Globe Valves
B-226BLA

Application

RegO/Goddard brass angle globe valves are designed for handling cryogenic liquids. Designed for fill manifolds applications of bulk tanks. RegO Kold-Seal™ stem seal technology assures a tight seal preventing gas loss. Maintenance on the packing and seat is quick and easy. Ideal service medium includes oxygen, nitrogen, argon, carbon dioxide, nitrous oxide, methane, ethane, ethylene, krypton, and carbon oxide.

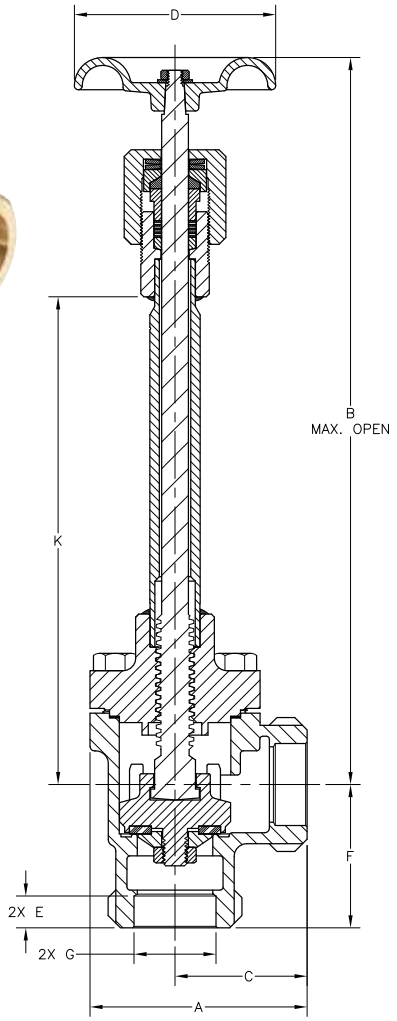
Features

- Sizes: 1½"
- Connection: Silver Brazed Tube
- Service: Liquefied and vaporized atmospheric gases
- Temperature rating: -325°F to +150°F (-198°C to +65°C)
- Pressure rating: Cold, Non-Shock, 600 psig (41.4 barg)
- Cleaned and packaged for oxygen service per CGA G-4.1
- Soft Seat: PCTFE material which is the most widely specified cryogenic seat material in the industry
- Stem Packing: Proven Kold-Seal technology, live loaded PTFE
- Flat seat
- 100% factory tested. Each valve is individually bagged and boxed to arrive in factory new condition until installation

Materials

Body ..... Brass ASTM B61
Bonnet and Tube ..... Stainless Steel ASTM A269
Seat Disk ..... PCTFE
Seat Retainer..... Brass ASTM B61
Packing..... Live Loaded PTFE Packing
Handwheel.....ASTM A395
Bonnet Gasket.....PTFE 25% Glass Fill Virgin Grade

B-226BLA-12S6



Part Number	Size Inches	Nominal Size DN	Connection	A inches (mm)	B inches (mm)	C inches (mm)	D inches (mm)	E inches (mm)	F inches (mm)	G inches (mm)	K inches (mm)	Cv (Kv)	Weight lbs (kg)
B-226BLA-12S6	1- ½"	40	Silver Brazed Tube	14.63 (371)	1.63 (41.4)	2.63 (67)	4.00 (102)	63 (67)	2.85 (72)	1.63 (41)	9.7 (246)	30 (25.95)	10.50 (4.76)

Bronze Globe Valve for Cryogenic Service 222 Series Including 226LL, 226GF, 226ULL, 226BLL, 222X, 226LL, 226BLL

Application

The 222 Series valves are designed exclusively for the handling of cryogenic liquids on bulk storage tanks, transports, and pipelines. These globe valves provide positive shutoff and offer a long, low-maintenance service life. The valves are available with a variety of inlet and outlet connections and stem lengths.

REGO 10 YEAR WARRANTY

Features

- **Top Entry:** This union bonnet valve can be permanently installed in the line and serviced from the top. The stainless steel tube prevents stem distortion. Also available in bolted bonnet configuration.
- **Construction:** Bronze cast body and bonnet
  Rugged construction for long life
- **Designed with the unique Kold-Seal™** and high Cv. standard PTFE seat design assures bubble tight seating and high cycle life
- Oxygen cleaned per CGA G-4.1
- **Sizes:** ¼" through 3" (8mm through 80mm)
- **Ends:** Threaded (FNPT), Sil Braze Tube (SBT), Silver Braze Pipe and back brazed threaded pipe nipples
- **Service:** Liquefied and vaporized atmospheric gases, LNG
- **Temperature Rating:** -320°F to 150°F (-196°C to +65°C)
- **Pressure Rating:** (Cold, Non-shock)
  400 and 600 psig (28 and 42 barg)
  Sizes 1½" to 3" PED approved
- **Kold-Seal™ Technology assures tight seal preventing cryogen gas loss**
- **Extended stem suitable for cold box, transport vehicles, pipelines, and customer service applications**
- **Live (LL) loaded option improves life of asset and minimizes service costs**
- **Replaceable top works equates to low maintenance costs**

B-226ULL

B-226BLL

Ordering Information

222X

Bronze Globe Valves, Extended Stem - Conical Seat, 400 psig (28 barg) Cold Working Pressure

Threaded End

Part Number	NPT size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kg	Estimated Cv (Kv)
B-222X-2T4	¼"	8 mm	Threaded	1.50	0.70	1.30 (1.12)
B-222X-4T4	½"	15 mm		1.50	0.70	3.25 (2.81)
B-222X-6T4	¾"	20 mm		3.00	1.40	6.25 (5.40)
B-222X-8T4	1"	25 mm		4.00	1.80	10.00 (8.65)
B-222X-12T4	1½"	40 mm		7.75	3.50	26.00 (22.49)
B-222X-16T4	2"	50 mm		12.50	5.70	45.00 (38.92)
B-222X-20T4	2½"	63.5 mm		61.00	27.70	50.00 (43.25)
B-222X-24T4	3"	80 mm		61.00	27.70	100.00 (86.5)

Sil Brazed End

Part Number	SBT size Inches	SBT Size mm	Ends	Weight Lbs.	Weight Kg	Estimated Cv (Kv)
B-222X-4S4	½"	15 mm	Silver Braze	2.00	0.90	3.25 (2.81)
B-222X-6S4	¾"	20 mm		2.75	1.30	6.25 (5.40)
B-222X-8S4	1"	25 mm		3.75	1.70	10.00 (8.65)
B-222X-12S4	1½"	40 mm		7.25	3.30	26.00 (22.49)
B-222X-16S4	2"	50 mm		11.50	5.20	45.00 (38.92)
B-222X-24S4	3"	80 mm		58.00	26.40	100.00 (86.5)

Bronze Globe Valve for Cryogenic Service 222 Series Including 226LL, 226GF, 226ULL, 226BLL, 222X, 226LL, 226BLL

Ordering Information

SB-222X

Stainless Steel Body, Bronze Topworks, Conical Seat, 450 psig Cold Working Pressure

Part Number	NPT size Inches	NPT Size mm	Ends
SB00222X-12SW	1½"	40 mm	Socket Weld

226LL

Bronze Globe Valves, Live Load Packing, Extended Stem, 600 psig (42 barg) Cold Working Pressure

Threaded End

Part Number	NPT size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
B-0226LL-2T6	¼"	8 mm	Threaded	1.50	0.70	1.30 (1.12)
B-0226LL-3T6	⅜"	10 mm		1.50	0.70	2.40 (2.07)
B-0226LL-4T6	½"	15 mm		1.50	0.70	3.25 (2.81)
B-0226LL-6T6	¾"	20 mm		3.00	1.40	6.25 (5.40)
B-0226LL-8T6	1"	25 mm		4.00	1.80	10.00 (8.65)

Sil Brazed Ends

Part Number	SBT size Inches	SBT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
B-0226LL-4S6	½"	15 mm	Silver Braze	2.00	0.90	3.25 (2.81)
B-0226LL-6S6	¾"	20 mm		2.75	1.30	6.25 (5.40)
B-0226LL-8S6	1"	25 mm		5.8	1.70	10.00 (8.65)

226ULL

Bronze Globe Valves, Live Loaded Packing - Union Bonnet, Extended Stem, 600 psig (42 barg) Cold Working Pressure

Threaded End

Part Number	NPT size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
B-226ULL-12T6	1½"	40 mm	Threaded	7.75	3.50	26.00 (22.49)
B-226ULL-16T6	2"	50 mm		12.50	5.70	45.00 (38.92)

Sil Brazed Ends

Part Number	SBT size Inches*	SBT Size mm*	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
B-226ULL-12S6	1½"	40 mm	Silver Braze	7.25	3.30	26.00 (22.49)
B-226ULL-16S6	2"	50 mm		11.50	5.20	45.00 (38.92)

*Nominal Size

226XGF

Bronze Globe Valves, Extended Stem - Conical Seat Grafoil® Packing, Gasket and PFA Seat
600 psig (42 barg) Cold Working Pressure Temperature Range -325°F to +300°F (-198°C to +149°C)

Threaded End

Part Number	NPT size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
VB-226XGF-4T6	½"	15 mm	Threaded	1.50	0.70	3.25 (2.81)
VB-226XGF-6T6	¾"	20 mm		3.00	1.40	6.25 (5.40)
VB-226XGF-8T6	1"	25 mm		4.00	1.80	10.00 (8.65)
VB-226XGF-12T6	1½"	40 mm		7.75	3.5	26.00 (22.49)

226BLL

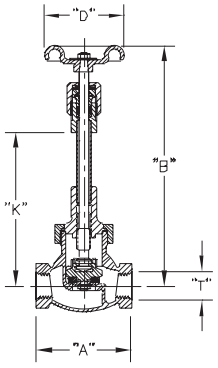
Bronze Globe Valves, Live Loaded Packing - Bolted Bonnet, Extended Stem, 600 psig (42 barg) Cold Working Pressure

Threaded End

Part Number	NPT size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
B-226BLL-12T6	1½"	40 mm	Threaded	7.75	3.50	26.00 (22.49)
B-226BLL-16T6	2"	50 mm		12.50	5.70	45.00 (38.92)

Bronze valves standard connection are for tube, not pipe.

Bronze Globe Valve for Cryogenic Service 222 Series Including 226LL, 226GF, 226ULL, 226BLL, 222X, 226LL

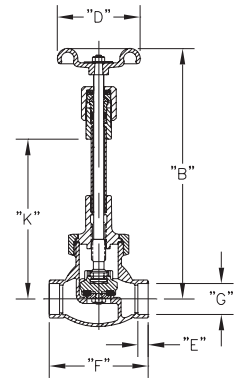


226ULL
Pressure Rating 600 psig (42 barg)
Temperature Rating -325°F to +150°F (-198°C to +56°C)

Dimensional data

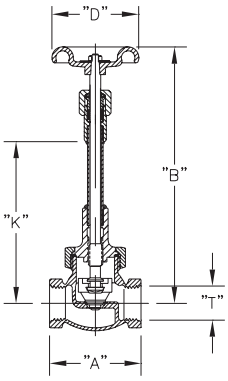
Threaded Ends

Size		"A"		"B"		"D"		"T" NPT		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1½"	38	4¾"	121	14⅝"	372	4"	102	1½"	38	9 11/16"	246
2"	51	5¾"	146	15⅛"	384	4¾"	121	2"	51		



Sil Brazed End

Size		"B"		"D"		"E"		"F"		"G"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1½"	38	14⅝"	372	4"	102	⅝"	16	5¼"	133	1.63"	41	9 11/16"	246
2"	51	15⅛"	384	4¾"	121	21/23"	16	6½"	165	2.13"	54		

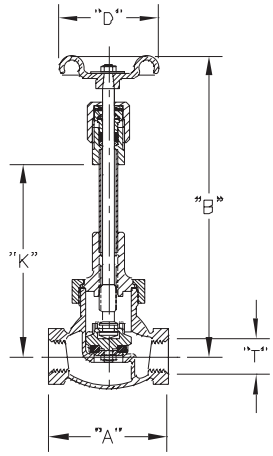


226XGF
Pressure Rating 600 psig (42 barg)
Temperature Rating -325°F to +300°F (-198°C to +149°C)

Dimensional data

Threaded Ends

Size		"A"		"B"		"D"		"T" NPT		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	2⅝"	67	8¼"	209	2⅜"	60	½"	13	4⅞"	124
¾"	19	3 3/16"	81	8⅝"	219	2¾"	70	¾"	19	4 13/16"	122
1"	25	3¾"	95	10½"	267	3"	76	1"	25	6½"	165



226LL
Pressure Rating 600 psig (42 barg)
Temperature Rating +150°F to -325°F (+65°C to -198°C)

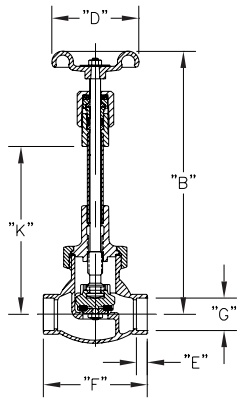
Dimensional Data

Threaded Ends

Size		"A"		"B"		"D"		"T" NPT		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
¼"	6	2 5/16"	59	7 9/16"	192	2"	51	¼"	6	4 19/32"	117
⅜"	10							⅜"	10		
½"	13	2⅝"	67	8¼"	209	2⅜	61	½"	13	4⅞"	124
¾"	19	3 3/16"	81	8⅝"	219	2¾"	70	¾"	19	4 13/16"	122
1"	25	3¾"	95	10½"	267	3"	76	1"	25	6½"	165

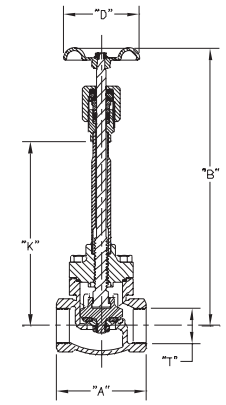
*Bolted Bonnet

Bronze Globe Valve for Cryogenic Service 222 Series Including 226LL, 226GF, 226ULL, 222X, 226LL



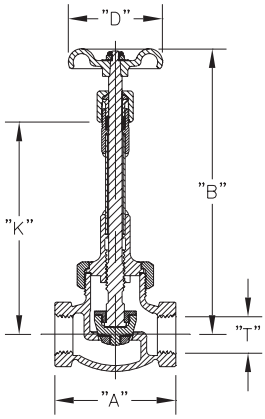
Sil Brazed Ends

Size		"B"		"D"		"E"		"F"		"G"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	8¼"	209	2⅜"	60	⅜"	9	3¼"	82	.63	16	4⅞"	124
¾"	19	8⅝"	219	2¾"	70	13/32"	10	3¾"	83	.88	22	4 13/16"	122
1"	25	10½"	267	3"	76	7/16"	11	4¼"	108	1.13	29	6½"	165



226BLL Threaded Ends - Bolted Bonnet

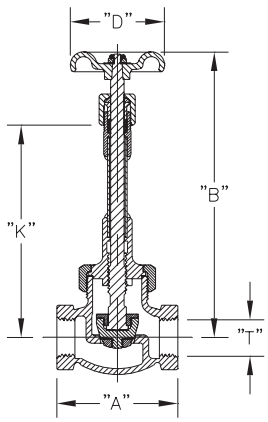
Size		"A"		"B"		"D"		"T" NPT		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1½"	38	4¾"	121	14⅝"	371	4"	101	1½"	38	9 11/16"	246
2"	51	5¾"	146	14 15/16"	379	4¾"	121	2"	51		



222X

Pressure Rating 400 psig (28 barg)
Temperature Rating -325°F to +150°F (-198°C to +65°C)

Part Number	Size		"A"		"B"		"D"		"T" NPT		"K"	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
B-222X-2T4	¼"	6	2.63"	67	8.38"	213	2.38"	60	¼"	6	4.8"	122
B-222X-4T4	½"	13							½"	13		
B-222X-4T4A					15.54"	395					12.2"	310
B-222X-6T4	¾"	19	3.19"	81	8.63"	219	2.75"	70	¾"	19	4.9"	124
B-222X-6T4A					15.79"	401					12"	305
B-222X-8T4	1"	25	3.75"	95	10.50"	267	3"	76	1"	25	6.5"	165
B-222X-8T4A					16.01"	407					12"	05
B-222X-12T4	1½"	38	4.75"	121	14.63"	372	4"	102	1½"	38	9.7"	246
B-222X-12T4A					18.44"	468					13.5"	343
B-222X-16T4	2"	51	5.75"	146	15.13"	384	4.75"	121	2"	51	9.7"	246
B-222X-16T4A					22.43"	570					14.2"	361
B-222X-20T4	2½"	64	8.5"	216	22.75"	578	8"	203	2½"	64	16"	406
B-222X-24T4	3"	76							3"	76		



SB-222X

Pressure Rating 400 psig (28 barg)
Temperature Rating -325°F to +150°F (-198°C to +65°C)

Size		"A"		"B"		"D"		"BB"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1½"	38	4¾"	121	14⅝"	372	4"	102	3"	76	9.7"	246

Bronze Globe Valve for Cryogenic Service
202X Series Including 206LL, 206GF, 206ULL, 206BLL

Features

- Top Entry: This union bonnet valve can be permanently installed in the line and serviced from the top
- Construction: Rugged construction for long life, bronze cast body and bonnet
- Designed with the unique Kold-Seal™ and high CV. Standard PCTFE seat design assures bubble tight seating and high cycle life
- Sizes: ¼" through 2" (8mm through 50mm)
- Ends: Threaded (FNPT), Sil Braze Tube (SBT), or with stainless steel pipe nipples brazed in
- Service: Liquefied and vaporized atmospheric gases, LNG
- Temperature Rating: -320°F to 150°F (-196°C to +65°C)
- Pressure Rating: (Cold, Non-shock)
  202 Series Rated for 400 psig (28 barg)
  206 Series Rated for 600 psig (42 barg)
  Sizes 1.5" to 2.0" PED approved per EN10204, 3.1
- Kold-Seal™ Technology assures tight seal preventing cryogen gas loss. Non-extended stem for selective cold gas service.
- Cleaned for Oxygen Service per CGA G-4.1

REGO 10 YEAR WARRANTY

206ULL

206BLL

Ordering Information

202X
Bronze Globe Valves
Non-Extended Stem - Conical Seat
400 psig (28 barg) Cold Working Pressure
For selective Cold Gas Applications

Threaded End

Part Number	NPT Valve size Inches	NPT Valve Size mm	Ends	Weight Lbs.	Weight Kg	Estimated Cv (Kv)
B-202X-12T4	1½"	40 mm	Threaded	6.50	3.00	29.00 (25.08)
B-202X-16T4	2"	50 mm		10.50	4.80	50.00 (43.25)

Sil Braze Ends

Part Number	SBT Valve size Inches *	SBT Valve Size mm *	Ends	Weight Lbs.	Weight Kg	Estimated Cv (Kv)
B-202X-4S4	½"	15 mm	Silver Braze	1.50	0.7	3.90 (3.37)
B-202X-8S4	1"	25 mm		3.25	1.50	11.50 (9.94)
B-202X-12S4	1½"	40 mm		6.50	3.00	29.00 (25.08)
B-202X-16S4	2"	50 mm		10.50	4.80	50.00 (43.25)

* Nominal Size

Bronze Globe Valve for Cryogenic Service
202X Series Including 206LL, 206GF, 206ULL, 206BLL

206GF
Bronze Globe Valves
Non-Extended Stem - PFA seat with high temperature, low permeability GRAFOIL® packing and gasket.
600 psig (42 barg) Cold Working Pressure, For Selective Cold Gas Applications, High Temperature Service Rating +350°F (+176°C)

Threaded Ends

Part Number	NPT Valve size Inches	NPT Valve Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (KV)
VB-206GF-2T6	¼"	8 mm	Threaded	1.25	0.6	1.30 (1.12)
VB-206GF-4T6	½"	15 mm		1.50	0.7	3.90 (3.37)
VB-206GF-6T6	¾"	20 mm		2.50	1.1	7.10 (6.14)
VB-206GF-8T6	1"	25 mm		3.50	1.6	11.50 (9.94)
VB-206GF-12T6	1½"	40 mm		7.00	3.2	29.00 (25.08)
VB-206GF-16T6	2"	50 mm		11.75	5.3	50.00 (43.25)

206LL
Bronze Globe Valves, Non-Extended Stem, Live Loaded Packing, 600 psig (42 barg) Cold Working Pressure
For Selective Cold Gas Applications

Threaded Ends

Part Number	NPT Valve size Inches	NPT Valve Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
B-206LL-2T6	¼"	8 mm	¼" NPT	1.25	0.6	1.30 (1.12)
B-206LL-3T6	⅜"	10 mm	⅜" NPT			2.40 (2.07)
B-206LL-4T6	½"	15 mm	½" NPT	1.75	0.8	3.90 (3.37)
B-206LL-6T6	¾"	20 mm	¾" NPT	2.5	1.1	7.10 (6.14)
B-206LL-8T6	1"	25 mm	1" NPT	3.5	1.6	11.50 (9.94)

Sil Brazed Ends

Part Number	SBT Valve size Inches *	SBT Valve Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
B-206LL-4S6	½"	10 mm	Silver Braze	1.25	0.6	3.90 (3.37)
B-206LL-6S6	¾"	15 mm		1.75	0.8	7.10 (6.14)
B-206LL-8S6	1"	20 mm		2.5	1.1	11.50 (9.94)

* Nominal Size

206ULL
Bronze Globe Valves, Non-Extended Stem, Live Loaded Packing - Union Bonnet,
600 psig (42 barg) Cold Working Pressure For Selective Cold Gas Applications

Sil Brazed Ends

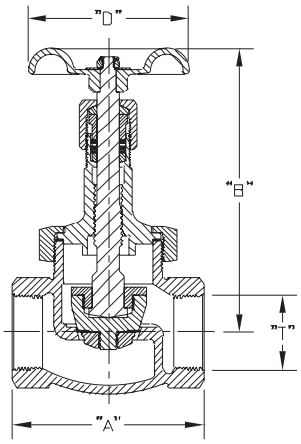
Part Number	SBT Valve size Inches	SBT Valve Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
B-206ULL-12S6	1½"	40 mm	Silver Braze	7	3.2	29.00 (25.08)
B-206ULL-16S6	2"	50 mm		11.75	5.3	50.00 (43.25)
B-206ULL-12T6	1½"	40 mm	1½" NPT	7	3.2	29.00 (25.08)
B-206ULL-16T6	2"	50 mm	2" NPT	11.75	5.3	50.00 (43.25)

206BLL
Bronze Globe Valves, Non-Extended Stem, Live Loaded Packing - Bolted Bonnet,
600 psig (42 barg) Cold Working Pressure For Selective Cold Gas Applications

Sil Brazed Ends

Part Number	SBT Valve size Inches	SBT Valve Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated Cv (Kv)
B-206BLL-12S6	1½"	40 mm	Silver Braze	7	3.2	29.00 (25.08)
B-206BLL-12T6			1½" NPT			

Bronze Globe Valve for Cryogenic Service
202X Series Including 206LL, 206GF, 206ULL, 206BLL

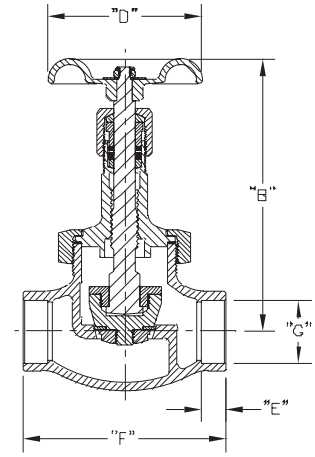


202 Series
202X
Pressure Rating 400 psig (28 barg)
Temperature Rating -325°F to +150°F (-198°C to +65°C)
Non-Extended Valve for Cold Gas Applications
Conical Seat

Dimensional data
All Dimensional Data are in inches.

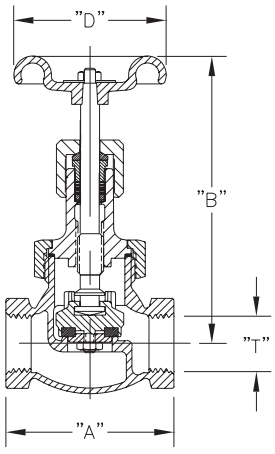
Threaded Ends

Size		"A"		"B"		"D"		"T" NPT	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1½"	38	4¾"	121	8⅝"	219	4"	102	1½"	38
2"	51	5¾"	146	9½"	241	4¾"	121	2"	51



Silver Brazed Ends

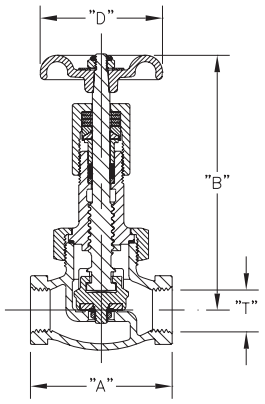
Size		"B"		"D"		"E"		"F"		"G"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	4⅝"	117	2"	51	.38	10	3¼"	82	.63/.63	16/16
1"	25					.44	11	4¼"	108	1.13/1.13	29/29
1½"	38	5"	127	2⅜"	60	.62	16	5¼"	133	1.63/1.63	41/41
2"	51	5¾"	146	2¾"	70	.66	17	6½"	159	2.13/2.13	54/54



206GF
Pressure Rating 600 psig (42 barg)
Temperature Rating -325°F to +350°F (-198°C to +22°C)
Non-Extended Stem - GRAFOIL® Packing, Gasket and PFA Seat
Dimensional data
All Dimensional Data are in inches.
Threaded Ends

Size		"A"		"B"		"D"		"T" NPT	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
¼"	6	2⅝"	67	4⅝"	117	2"	51	¼"	6
½"	13			5"	127	2⅜"	60	½"	13
¾"	19	3 3/16"	81	5¾"	146	2¾"	70	¾"	19
1"	25	3¾"	95	6¾"	171	3"	76	1"	25
1½	38	4¾"	121	8⅝"	219	4"	102	1½"	38
2"	51	5¾"	146	9½"	241	4¾"	121	2"	51

Bronze Globe Valve for Cryogenic Service
202X Series Including 206LL, 206GF, 206ULL, 206BLL

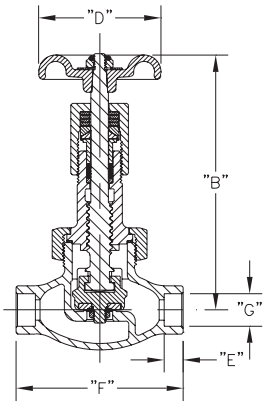


206LL
Pressure Rating 600 psig (42 barg)
Temperature Rating +150° F to -325° F (+65°C to -198°C)
Live Load Packing
Union Bonnet

Dimensional Data

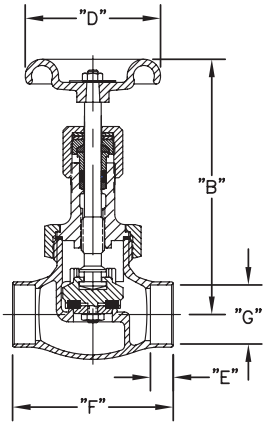
Threaded Ends

Size		"A"		"B"		"D"		"T" NPT	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
¼"	6	2⅝"	67	5"	127	2⅜"	60	¼"	6
⅜"	9							⅜"	9
½"	13							½"	13
¾"	19	3 3/16"	81	5¾"	146	2¾"	70	¾"	19
1"	25	3¾"	95			3"	76	1"	25



Sil Brazed Ends

Size		"B"		"D"		"G"		"E"		"F"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
¼"	6	5"	127	2⅜"	60	.38/.38	10/10	.26	7	2⅜"	60
½"	13					.63/.63	16/16	.38	10	3¼"	82
1"	25	6¾"	171	3"	76	1.13/1.13	29/29	.44	11	4¼"	108

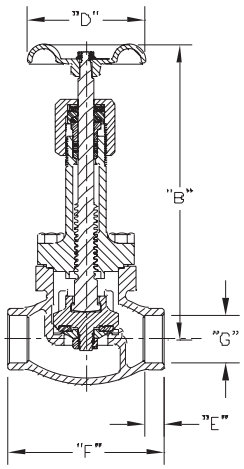


206ULL
Pressure Rating 600 psig (42 barg)
Temperature Rating +150° F to -325° F (+65°C to -198°C)
Live Load Packing - Union Bonnet

Dimensional Data

Sil Brazed Ends

Size		"F"		"B"		"D"		"T" NPT	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1½"	38	4¾"	121	8⅝"	219	4"	102	1½"	38
2"	51	5¾"	146	11¾"	298	4¾"	121	2"	51



206BLL
Pressure Rating 600 psig (42 barg)
Temperature Rating +150°F to -325°F (+65°C to -198°C)
Live Load Packing - Bolted Bonnet

Dimensional Data

Sil Brazed Ends

Size		"B"		"D"		"G"		"E"		"F"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1½"	38	8⅝"	219	4"	102	1.62/1.64	41/42	.63	16	5¼"	133

Bronze/Stainless Steel Body Globe Valve for Cryogenic Service
SKB Series

Application

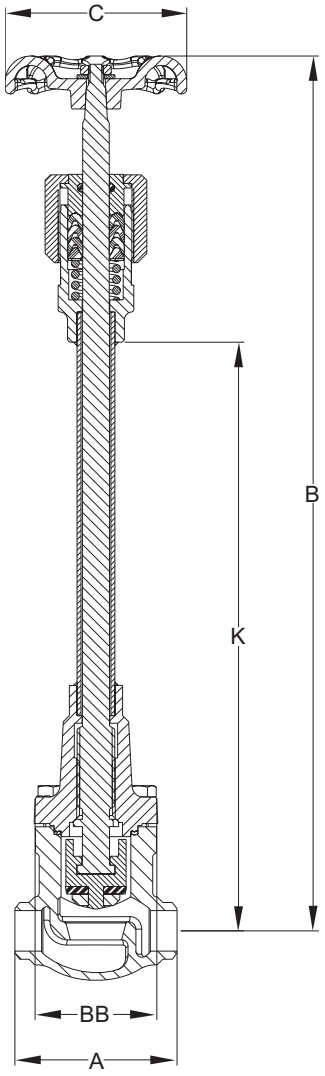
The SKB Series globe valves are designed for the handling of cryogenic liquids through trailer, bulk tanks and piping configurations. Our time tested spring loaded stem packing and superior seat design provide for long life and easy maintenance. Internal components are the same for BB Series. Also available in short stem version.

REGO 10 YEAR WARRANTY

Features

- **Superior Flow**: Provides high Cv for rapid and reliable trailer and tank loading and unloading
- **Top Entry**: This valve can be permanently installed in the line and serviced from the top. Bolted bonnet style provides secure integrity
- **Soft Seated**: Conical PCTFE seat provides a bubble tight seal. Less chance of debris trapped in the seat and longer service life
- **Stem Packing**: V-Ring spring loaded packing provides extended service life without constant packing adjustment
- **Sizes**: 1/4"though 2" - (20mm through 50mm)
- **Ends**: Buttweld and Socket Weld
- **Service**: Liquefied and vaporized atmospheric gases, LNG for trailers, bulk tanks ISO containers and piping configurations
- **Temperature Rating**: -325ºF to +150ºF (-198ºC to +65ºC)
- **Pressure Rating**: (Cold, Non-Shock) 720 psig (50 barg)
- Cleaned for oxygen service per CGA G-4.1

SKB Series



Materials

Body ..... Stainless Steel ASTM A351
Upper Bonnet .....Brass ASTM B16
Lower Bonnet ..... Bronze ASTM B283
Seat Disk .....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Stem ..... Stainless Steel ASTM A582
Spring ..... Stainless Steel ASTM A313
Packing.....PTFE
Handwheel..... Chromate Coated Ductile Iron ASTM A395
Bonnet Gasket.....PTFE, 25% Glass Filled
Fasteners..... Stainless Steel ASTM A320

Ordering Information

Part Number	Size Inches	Size mm	Connection	A		B		C		BB		K		Cv (Kv)
				Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
SKB9402BW	¼"	DN 6	Butt Weld	2.68	68	14.4	366	3	76	2	51	9.7	246	1.7 (1.47)
SKB9402SW			Socket Weld											
SKB9404BW	½"	DN 15	Butt Weld											5.0 (4.30)
SKB9404SW			Socket Weld											
SKB9406BW	¾"	DN 20	Butt Weld	3.62	92			4	102	2.66	67	9.5	241	9.4 (8.10)
SKB9406SW			Socket Weld											
SKB9408BW	1"	DN 25	Butt Weld											14.0 (12.10)
SKB9408SW			Socket Weld											
SKB9412BW	1½"	DN 40	Butt Weld	4.75	121	14.6	371	4.75	121	3.44	87	9.3	236	28.3 (21.60)
SKB9412SW			Socket Weld											
SKB9416BW	2"	DN 50	Butt Weld	5.75	146	16.21	412	5.25	133	4.06	103	9.9	251	53 (45.80)
SKB9416SW			Socket Weld											

RegO - Goddard Bronze/Stainless Steel Body Globe Valve for Cryogenic Service. Short Stem SKB Series

Application

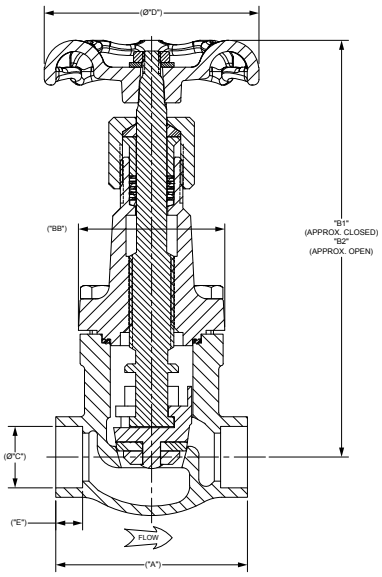
The SKB Series globe valves short stem are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations. Our time tested spring loaded stem packing and superior seat design provide for long life and easy maintenance. Internal components are the identical with the BBS Series and SKB short Stem Series.

REGO 10 YEAR WARRANTY

SKB9406BWS

Features

- Superior Flow: Provides high Cv for rapid and reliable loading and unloading
- Designed with the unique Kold-Seal™
- Conical PCTFE Seat: provides exceptional flow; bubble tight seal; less chance of debris trapped in the seat and longer service life.
- Connections: NPT & SBT
- Sizes: ¼" to 2"
- Bonnet Type: Bolted
- Pressure Rating: 720 psig (50 barg)
- Temperature Rating: -325°F (-198°C) to +150°F (+65°C)
- Service: Liquefied & Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, Iso-Containers and Piping Configurations
- Cleaned for Oxygen Service per CGA G-4.1
- Recommended for vapor phase and non-permanent cryogenic liquid use



Materials

Body ..... Stainless Steel ASTM A351
Upper Bonnet .....Brass ASTM B16
Lower Bonnet .....Brass ASTM B283
Stem ..... Stainless Steel ASTM A582
Spring ..... Stainless Steel ASTM A313
Packing.....PTFE
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet Screws ..... Stainless Steel ASTM A320
Handwheel..... Chromated Coated Ductile Iron ASTM A395

Ordering Information

Part Number	Size		Connection	A		B1		B2		C		D		E		BB		Cv (Kv)	Weight lbs. (Kg)
	Inches	mm		Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm		
SKB9402BWS	¼"	8	Butt Weld	2.68	68	5.79	147	6.24	158	0.56	14	3.00	76	0.37	9	2.05	52	1.7 (1.47)	5.72 (2.59)
SKB9404BWS	½"	15								0.86	22							5 (4.30)	
SKB9406BWS	¾"	20		3.62	92	6.15	156	6.68	170	1.07	27	4.00	102	0.50	13	2.65	67	9.4 (8.10)	
SKB9408BWS	1"	25								1.33	34							14 (12.10)	
SKB9412BWS	1½"	40		4.75	121	7.2	183	7.93	201	1.92	49	4.75	121			3.54	90	28.3 (21.60)	7.97 (3.61)
SKB9416BWS	2"	50		5.75	146	8.85	225	9.84	250	2.41	61	5.25	133	0.62	16	4.04	103	53 (45.80)	13.15 (5.96)
SKB9402SWS	¼"	8	Socket Weld	2.68	68	5.79	147	6.24	158	0.56	14	3.00	76	0.37	9	2.05	52	1.7 (1.47)	5.72 (2.59)
SKB9404SWS	½"	15								0.86	22							5 (4.30)	
SKB9406SWS	¾"	20		3.62	92	6.15	156	6.68	170	1.07	27	4.00	102	0.50	13	2.65	67	9.4 (8.10)	
SKB9408SWS	1"	25								1.33	34							14 (12.10)	
SKB9412SWS	1½"	40		4.75	121	7.2	183	7.93	201	1.92	49	4.75	121			3.54	90	28.3 (21.60)	7.97 (3.61)
SKB9416SWS	2"	50		5.75	146	8.85	225	9.84	250	2.41	61	5.25	133	0.62	16	4.04	103	53 (45.80)	13.15 (5.96)

Stainless Steel Globe Valves for Cryogenic Service
SK Advantage Series Long Stem

Application

The SK Advantage Series of Stainless Steel Globe Valves are designed for handling cryogenic liquids through trailer, bulk vessels and piping configurations. Ideal service medium includes oxygen, nitrogen, krypton, carbon dioxide, dinitrogen monoxide, carbon dioxide, methane, ethane, ethylene, argon and LNG . Our Kold-Seal stem seal technology assures a tight seal preventing cryogen gas loss. The conical seat design allows exceptional flow, positive shutoff and less chance of debris accumulation in the flow path, all resulting in an overall longer service life. Maintenance on the packing and seat is quick and easy.

REGO 10 YEAR WARRANTY

Features

- **Soft Seat:** PCTFE material which is the most widely specified cryogenic seat material in the industry
- **Construction:** Bolted bonnet allows easy access to the valve internals for servicing
- **Stem Packing:** Proven Kold-Seal technology, Live Loaded PTFE
- **Sizes:** ¼" through 2"
- **Connection:** Socket weld and butt weld
- **Service:** Liquefied and vaporized atmospheric gases, LNG
- **Temperature Rating:** -320°F to +150°F (-198°C to +65°C)
- **Pressure Rating:** Cold, Non-Shock, 725 psig (50 barg) Class 300 (PN 50)
- Cleaned and packaged for oxygen service per CGA G-4.1
- **Application:** Multiple stem lengths available for selected service
- **Packaging:** Each valve is individually bagged and boxed to arrive in factory new condition until installation

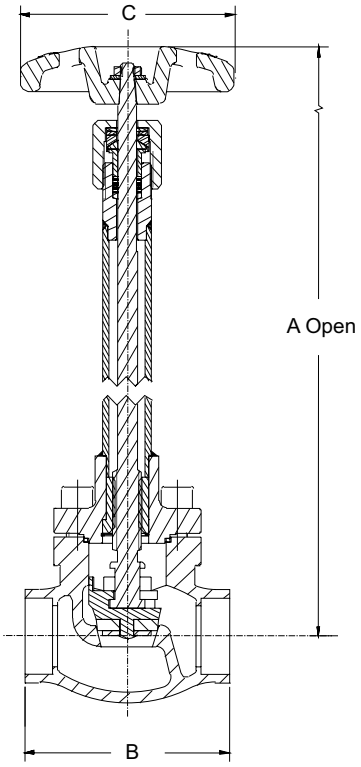
Materials

Body ..... Stainless Steel ASTM A351 CF8
Bonnet and Tube .. Stainless Steel ASTM A351 CF8/ASTM A479 type 304
Stem .....Stainless Steel ASTM A582 S30300
Spring.....Stainless Steel ASTM A313 S30200
Packing..... Live Loaded PTFE Packing
Gasket.....PTFE 25% Glass Fill
Seat Disc.....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet Screws.....ASTM B16 C36000
Handwheel..... Painted Aluminum

Quality / Facility Features

- Material traceability in accordance with BS EN 10204 3.1
- CE Marking per European Pressure Equipment Directive

SK Advantage



TPED & PED Certified

Ordering Information

Part Number	Size Inches	Size dn	Connection	A Inches	A mm	B Inches	B mm	C Inches	C mm	Cv	Kv	Weight lbs	Weight kg
SKL9402SW	¼"	8	Socket Weld	14.6	370	2.7	68	4	102	1.7	1.47	3.76	1.70
SKL9404SW	½"	15								5	4.30	3.47	1.68
SKL9406SW	¾"	20				3.6	92			9.4	8.10	5.17	2.34
SKL9408SW	1"	25								14	1.16	5.34	2.42
SKL9412SW	1½"	40				4.7	121	5	127	28.3	21.9	9.48	4.30
SKL9416SW	2"	50		14.5	368	5.7	146			53	45.8	16.3	7.39
SKL9402BW	¼"	8	Butt Weld	14.6	370	2.7	68	4	102	1.7	1.47	3.76	1.70
SKL9404BW	½"	15								5	4.30	3.47	1.68
SKL9406BW	¾"	20				3.6	92			9.4	8.10	5.17	2.34
SKL9408BW	1"	25								14	12.10	5.34	2.42
SKL9412BW	1½"	40				4.7	121	5	127	28.3	21.60	9.48	4.30
SKL9416BW	2"	50		14.5	368	5.7	146			53	45.80	16.3	7.39

SW = Socket Weld; BW = Butt Weld

Stainless Steel Globe Valves for Cryogenic Service
SK Advantage Series Medium Stem

Application

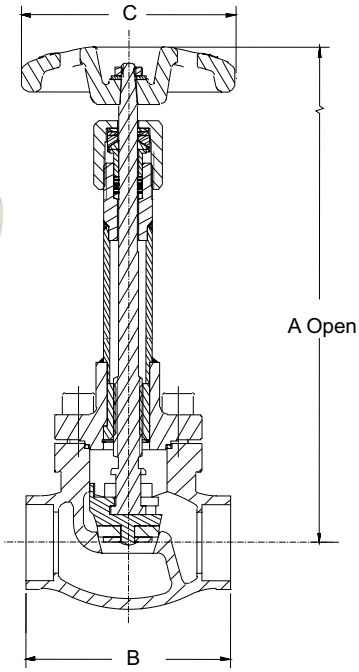
The SK Advantage Series of Stainless Steel Globe Valves are designed for handling cryogenic liquids through trailer, bulk vessels and piping configurations. Ideal service medium includes oxygen, nitrogen, krypton, carbon dioxide, dinitrogen monoxide, carbon oxide, methane, ethane, ethylene, argon and LNG . Our Kold-Seal stem seal technology assures a tight seal preventing cryogen gas loss. The conical seat design allows exceptional flow, positive shutoff and less chance of debris accumulation in the flow path, all resulting in an overall longer service life. Maintenance on the packing and seat is quick and easy.

REGO 10 YEAR WARRANTY

Features

- **Soft Seat:** PCTFE material which is the most widely specified cryogenic seat material in the industry
- **Construction:** Bolted bonnet allows easy access to the valve internals for servicing
- **Stem Packing:** Proven Kold-Seal technology, Live Loaded PTFE
- **Sizes:** ¼" through 2"
- **Connection:** Socket weld and butt weld
- **Service:** Liquefied and vaporized atmospheric gases, LNG
- **Temperature Rating:** -325°F to +150°F (-198°C to +65°C)
- **Pressure Rating:** Cold, Non-Shock, 725 psig (50 barg) Class 300 (PN 50)
- Cleaned and packaged for oxygen service per CGA G-4.1
- **Application:** Multiple stem lengths available for selected service
- **Packaging:** Each valve is individually bagged and boxed to arrive in factory new condition until installation

SKM9406BW



Materials

Body ..... Stainless Steel ASTM A351 CF8
Bonnet and Tube .. Stainless Steel ASTM A351 CF8/ASTM A479 type 304
Stem .....Stainless Steel ASTM A582 S30300
Spring .....Stainless Steel ASTM A313 S30200
Packing..... Live Loaded PTFE Packing
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet Screws .....ASTM B16 C36000
Handwheel..... Painted Aluminum

Quality / Facility Features

- Material traceability in accordance with BS EN 10204 3.1
- CE Marking per European Pressure Equipment Directive

TPED & PED Certified

Ordering Information

Part Number	Size Inches	Size dn	Connection	A Inches	A mm	B Inches	B mm	C Inches	C mm	Cv	Kv	Weight lbs	Weight kg
SKM9402SW	¼"	8	Socket Weld	10.6	270	2.7	68	4	102	1.7	1.47	3.31	1.50
SKM9404SW	½"	15								5	4.30	3.29	1.48
SKM9406SW	¾"	20				3.6	92			9.4	8.10	4.86	2.20
SKM9408SW	1"	25								14	12.10	5.02	2.27
SKM9412SW	1½"	40				4.7	121	5	127	28.3	21.60	8.92	4.04
SKM9416SW	2"	50				5.7	146			53	45.80	15.30	6.94
SKM9402BW	¼"	8	Butt Weld			2.7	68	4	102	1.7	1.47	3.31	1.50
SKM9404BW	½"	15								5	4.30	3.29	1.48
SKM9406BW	¾"	20				3.6	92			9.4	8.10	4.86	2.20
SKM9408BW	1"	25								14	12.10	5.02	2.27
SKM9412BW	1½"	40				4.7	121	5	127	28.3	21.60	8.92	4.04
SKM9416BW	2"	50				5.7	146			53	45.80	15.30	6.94

SW = Socket Weld; BW = Butt Weld

Stainless Steel Globe Valves for Cryogenic Service
SK Advantage Series Short Stem

Application

The SKS Series globe valves short stem are designed for handling of vapor phase and cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations. Our time tested spring loaded stem packing and superior seat design provide for long life and easy maintenance. Recommended for vapor phase and intermittent cryogenic liquid use.

REGO 10 YEAR WARRANTY

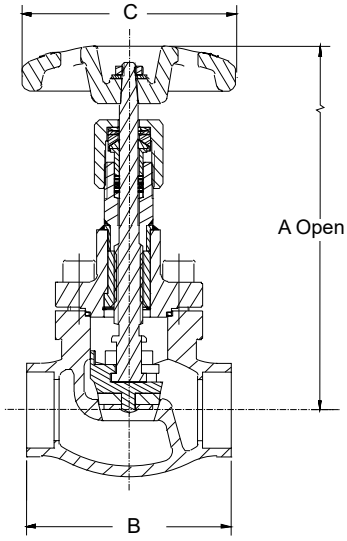
Features

- Superior Flow: Provides high Cv for rapid and reliable loading and unloading
- Designed with the unique Kold-Seal™
- Conical PCTFE Seat: provides exceptional flow; bubble tight seal; less chance of debris trapped in the seat and longer service life
- Connections: Socket Weld & Butt Weld
- Sizes: ¼" to 1½"
- Bonnet Type: Bolted
- Pressure Rating: 720 psig (50 barg)
- Temperature Rating: -320°F (-196°C) to +150°F (+65°C)
- Service: Liquefied & Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, Iso-Containers and Piping Configurations
- Cleaned for Oxygen Service per CGA G-4.1

SKS9406BW

Materials

Body ..... Stainless Steel ASTM A351 CF8
Bonnet and Tube .. Stainless Steel ASTM A351 CF8/ASTM A479 type 304
Stem .....Stainless Steel ASTM A582 S30300
Spring .....Stainless Steel ASTM A313 S30200
Packing..... Live Loaded PTFE Packing
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet Screws .....ASTM B16 C36000
Handwheel..... Painted Aluminum



Quality / Facility Features

- Material traceability in accordance with BS EN 10204 3.1
- CE Marking per European Pressure Equipment Directive

PED Certified CE

Ordering Information

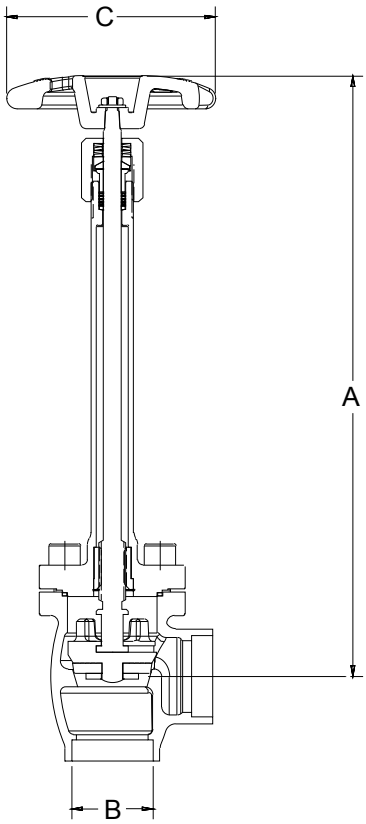
Part Number	Size Inches	Size mm	Connection	A Inches	A mm	B Inches	B mm	C Inches	C mm	Cv	Kv	Weight lbs	Weight kg
SKS9402SW	¼"	8	Socket Weld	6.7	170	2.7	68	4	102	1.7	1.47	2.64	1.20
SKS9404SW	½"	15								5	4.30	2.62	1.19
SKS9406SW	¾"	20				3.6	92			9.4	8.10	4.21	1.91
SKS9408SW	1"	25								14	12.10	4.10	1.86
SKS9412SW	1½"	40		7.0	178	4.7	120	5	127	28.3	21.60	7.16	3.25
SKS9402BW	¼"	8	Butt Weld	6.7	170	2.7	68	4	102	1.7	1.47	2.64	1.20
SKS9404BW	½"	15								5	4.30	2.62	1.19
SKS9406BW	¾"	20				3.6	92			9.4	8.10	4.21	1.91
SKS9408BW	1"	25								14	12.10	4.10	1.86
SKS9412BW	1½"	40		7.0	178	4.7	120	5	127	28.3	21.60	7.16	3.25

Stainless Steel Angle Globe Valves for Cryogenic Service
SKA Advantage Series

Application

RegO/Goddard stainless steel angle globe valves are designed for handling cryogenic liquids. Designed for fill manifolds applications of bulk tanks. RegO Kold-Seal™ stem seal technology assures a tight seal preventing gas loss. The conical seat design allows exceptional flow, positive shut off and less chance of debris accumulation in the flow path—resulting in an overall longer service life. Maintenance on the packing and seat is quick and easy. Ideal service medium includes oxygen, nitrogen, argon, carbon dioxide, nitrous oxide, methane, ethane, ethylene, krypton, and LNG.

REGO 10 YEAR WARRANTY



Features

- Sizes: 1” through 1½”
- Connection: Socket Weld
- Service: Liquefied and vaporized atmospheric gases, LNG
- Temperature rating: -320°F to +150°F (-196°C to +65°C)
- Pressure rating: Cold, Non-Shock, 720 psig (50 barg) Class 300 (PN 50)
- Cleaned and packaged for oxygen service per CGA G-4.1
- Soft Seat: PCTFE material which is the most widely specified cryogenic seat material in the industry
- Stem Packing: Proven Kold-Seal technology, live loaded PTFE.
- Conical seat, provides more Cv
- Seat assembly without nut and washer. No loose materials from vibration. Less chance of failure
- Pressure relief system of the bonnet increases life of packing system
- Ergonomics handwheels for ease of use
- 100% factory tested. Each valve is individually bagged and boxed to arrive in factory new condition until installation

Materials

Body ..... Stainless Steel ASTM A351 CF8
Bonnet and Tube .... Stainless Steel ASTM A351 CF8/ASTM A479 type 304
Stem .....Stainless Steel ASTM A582 S30300
Spring .....Stainless Steel ASTM A313 S30200
Packing..... Live Loaded PTFE Packing
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet Screws .....ASTM B16 C36000
Handwheel..... Painted Aluminum

PED Certified

Ordering Information

Part Number	Size Inches	Size dn	Connection	A Inches	A mm	B Inches	B mm	C Inches	C mm	Weight lbs	Weight kg
SKA9408LSW	1”	25	Socket Weld	14.6	370	1.33	33.78	4	102	5.41	2.45
SKA9412LSW	1½”	40				1.92	48.77	5	127	8.85	4.01
SKA9408MSW	1”	25			270	1.33	33.78	4	102	5.0	2.2
SKA9412MSW	1½”	40				1.92	48.77	5	127	8.0	3.6

Stainless Steel Globe Valve for Cryogenic Service
210 Series

Features

- **Top Entry**: This valve can be permanently installed in the line and serviced from the top
- **Soft Seated**: PCTFE Seat provides a bubble tight seal and is replaceable
- **Construction**: Body and Bonnet ASTM A351 J92600 Stainless steel
- **Sizes**: ½" - 4" (15mm - 100mm)
- **Ends**: RF Flange, Butt weld, Socket weld, Threaded (FNPT)
- **Service**: Liquefied and vaporized atmospheric gases, LNG
- **100% Factory Tested**
- **Clean for use in oxygen** per CGA G-4.1
- **Temperature Rating**: -320°F - 150°F (-196°C +65°C)
- **Pressure Rating**: (Cold, Non-shock)
  Class 150 valve - 275 psig (19 barg)
  Class 300 valve - 720 psig (50 barg)

  ½" - 4" Class 150
  PED Approved
  ½" - 4" Class 300
  PED Approved

Our investment cast stainless steel is specified by leading industrial gas companies for storage tank and yard operations. Special order bonnet extensions are available for cold box applications. Valves for hydrogen use can be supplied

210 Series

REGO 10 YEAR WARRANTY

Ordering Information

Stainless Body • RF Flange Ends

150# Part Number	300# Part Number	Valve Size		Ends	150# Weight		300# Weight		Estimated C_V (Kv)
		Inches	MM		Lbs.	Kg.	Lbs.	Kg.	
GS-00210W-8F	GS-00210W-8F3	1"	25 mm	Flange	15	6.80	20	9.07	11.50 (9.94)
GS-00210W-16F	GS-00210W-16F3	2"	50 mm		35	15.88	40	18.14	40.00 (34.60)
GS-00210W-24F	GS-00210W-24F3	3"	80 mm		65	29.48	70	31.75	60.00 (51.90)
GS-00210W-32F	GS-00210W-32F3	4"	100 mm		95	43.09	100	45.35	175 (151.37)

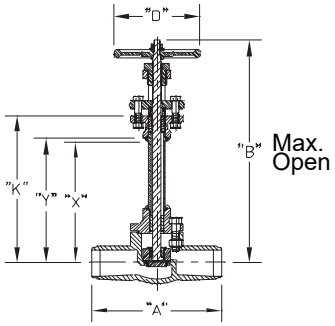
150# ANSI Class (275 psig (19 barg) Cold Working Pressure)
300# ANSI Class (720 psig (50 barg) Cold Working Pressure)

Stainless Body • Butt Weld, Socket Weld, Threaded Ends

300# Part Number	Valve Size		Ends	Weight		Estimated C_V (Kv)
	Inches	MM		Lbs.	Kg	
GS-00210W-4S3	½"	15 mm	Socket Weld	15	6.80	3.90 (3.37)
GS-00210W-4T3	½"	15 mm	Threaded			
GS-00210W-6S3	¾"	20 mm	Socket Weld			7.10 (6.14)
GS-00210W-6T3	¾"	20 mm	Threaded			
GS-00210W-8S3	1"	25 mm	Socket Weld			11.50 (9.94)
GS-00210W-8T3	1"	25 mm	Threaded			
GS-00210W-12S3	1½"	40 mm	Socket Weld	25	11.34	29.00 (25.08)
GS-00210W-16W3A	2"	50 mm	Butt Weld SCH10	35	15.88	40.00 (34.60)
GS-00210W-16W3J	2"	50 mm	Butt Weld SCH40			
GS-00210W-24W3A	3"	80 mm	Butt Weld SCH10	55	24.95	60.00 (51.90)
GS-00210W-24W3J	3"	80 mm	Butt Weld SCH40			
GS-00210W-32W3A	4"	100 mm	Butt Weld SCH10	80	36.29	175.00 (151.37)
GS-00210W-32W3J	4"	100 mm	Butt Weld SCH40			
LOX00210W-24W3A**	3"	80 mm	Butt Weld SCH10	55	24.95	60.00 (51.90)
LOX00210W-32W3A**	4"	100 mm	Butt Weld SCH10	80	36.29	175.00 (151.37)

* Second number indicates part number for 300# valve.
** LOX valves specifically for Liquid Oxygen Service, for more information on LOX valves see page 62
150# ANSI Class (275 psig (19 barg) Cold Working Pressure)
300# ANSI Class (720 psig (50 barg) Cold Working Pressure)

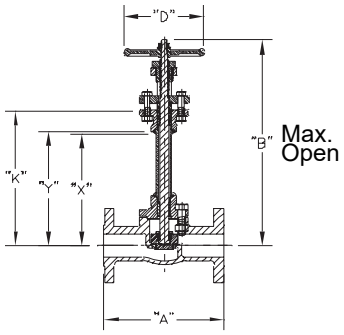
Stainless Steel Globe Valve for Cryogenic Service
210 Series



Butt Weld Ends

Size		"A"		"B"		"D"		"K"		"X"		"Y"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
2"	51	10½"	267	22¼"	565	7"	178	15"	381	12¾"	324	13 1/16"	332
3"	76	12"	305	30½"	768	10"	254	21½"	546	19 1/16"	484	19⅜"	492
4"	102	13½"	343	36¾"	933	12"	305	24¼"	616	21 11/16"	551	22"	559

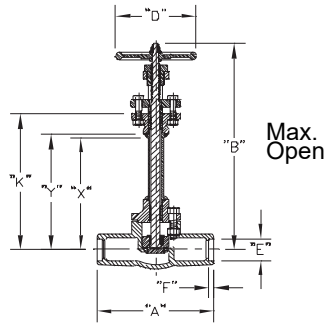
Δ For SCH. 40 A=12½"
Θ For SCH. 40 A=14"
* Unless otherwise specified, SCH 10 weld ends are supplied
● Special B,K,X & Y dimensions available.



Raised Face Flange Ends*

Size		"A" 150#		"A" 300#		"B"		"D"		"K"		"X"		"Y"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1"	25	6½"	165	8"	203	18⅛"	460	5"	127	12¾"	324	11 1/16"	484	11⅜"	289
2"	51	8"	203	10½"	267	22¼"	565	7"	178	15"	381	12¾"	324	13 1/16"	332
3"	76	9½"	241	12½"	317	30½"	775	10"	254	21½"	546	19 1/16"	484	19⅜"	492
4"	102	11½"	292	14"	356	36¾"	933	12"	305	24¼"	616	21 11/16"	551	22"	559

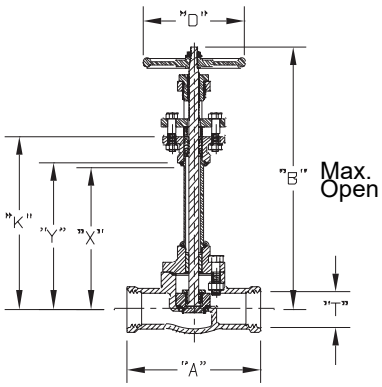
● Special B,K,X & Y dimensions available.



Socket Weld Ends

Size		"A"		"B"		"D"		"E"		"F"		"K"		"X"		"Y"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	5"	127	18⅛"	460	5"	127	.855	22	⅜"	9	12¾"	324	11 1/16"	281	11⅜"	289
¾"	19							1.06	27	½"	13						
1"	25							1.33	34								
1½"	38	10¼"	260	22¼"	565	7"	178	1.91	48			15"	381	12¾"	324	13 1/16"	332

● Special B,K,X & Y dimensions available.



Threaded Ends

Size		"T" - NPT		"A"		"B"		"D"		"K"		"X"		"Y"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	½"-14	13-356	5"	127	18⅛"	460	5"	127	12¾"	324	11 1/16"	281	11⅜"	289
¾"	19	¾"-14	19-356												
1"	25	1"-11½	25-292	5¾"	146										

● Special B,K,X & Y dimensions available.

Stainless Steel Globe Valve for Hydrogen Cryogenic Service
231 Series

Application

The RegO Goddard 231 Series Stainless Steel globe valves are designed for handling of cryogenic liquids through bulk tanks, trailers, ASU plants and piping configurations. Compatible with oxygen, nitrogen, CO_2, hydrogen, helium and argon.

REGO 10 YEAR WARRANTY

Features

- **Top Entry**: Rugged stainless steel ASTM A351-CF3M (316L) soft seated cryogenic globe valve. This valve can be permanently installed in the line and serviced from the top
- **Soft Seated**: PCTFE Seat provides a bubble tight seal and is replaceable
- **Construction**: One piece investment cast bonnet eliminates welded joint in topworks
- **Stem Packing**: Proprietary Goddard system utilizing GRAFOIL® flexible graphite
- **Sizes**: ¼" through 1½" (6mm through 40mm)
- **Ends**: Socket weld, Butt weld
- **Service**: Liquefied and Gaseous hydrogen service only (see series 232 for non-hydrogen service)
- **Temperature Rating**: -425°F to 150°F (-254°C to +65°C)
- **Pressure Rating**: (Cold, Non-shock)
  300 psig (20 barg)
  400 psig (27 barg)

PED Approved
Designed to ASME B16.34

A rugged construction and easy access are design features which provide minimum installation and maintenance cost while maintaining superior performance and operator safety. This valve replaces higher cost bellows-seated valves in many applications. The proprietary Goddard GRAFOIL® stem packing system provides excellent performance when the valve operates in liquid hydrogen service.

231 Series

Ordering Information

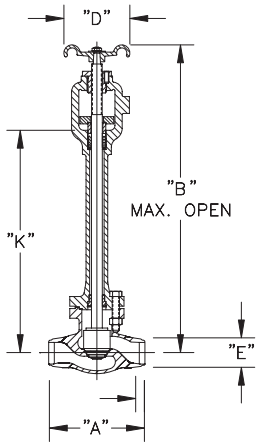
Stainless Body • 400 psig (28 barg) Socket Weld Ends

Part Number	Valve size Inches	Valve Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C_V (Kv)
S-231-2S4	¼"	6	Socket Weld	6	2.72	1.30 (1.12)
S-231-4S4	½"	15				3.90 (3.37)
S-231-6S4	¾"	20		10	4.54	7.10 (6.14)
S-231-8S4	1"	25				10.50 (9.08)
S-231-12S4	1½"	40		15	6.80	25.00 (21.62)

Stainless Body • 300 psig (20 barg) Butt Weld Ends

Part Number	Valve size Inches	Valve Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C_V (Kv)
S-231-4WA	½"	15	Butt Weld	6	2.72	3.90 (3.37)
S-231-8WA	1"	25		10	4.54	10.50 (9.08)
S-231-12WA	1½"	40		15	6.80	25.00 (21.62)

Stainless Steel Globe Valve for Cryogenic Service
231 Series

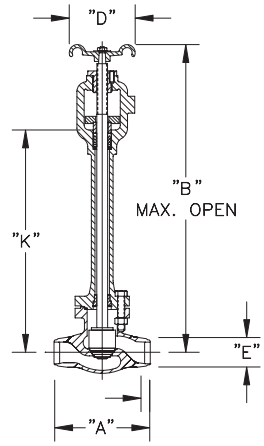


Pressure Rating 400 psig (28 barg)
Temperature Rating - 425° F to+150° F (-25°C to 65°C)
This valve is not approved for gaseous and/or liquid oxygen service
For oxygen service use Goddard series 232H cryogenic globe valve

Dimensional data

Socket Weld Ends

Size		"A"		"B"		"D"		"E"		"F"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
¼"	6	4¼"	108	$14^{9}/_{16}$"	370	2⅜"	60	0.560	14	0.375	9	$10^{3}/_{16}$"	259
½"	13							0.860	22				
¾"	19	5⅜"	137	17"	432	3"	76	1.070	27	0.500	13	11½"	292
1"	25							1.335	34				
1½"	38	6½"	165	$18^{14}/_{16}$"	479	4"	102	1.920	49			$12^{15}/_{16}$"	329



Pressure Rating 300 psig (20 barg)
Temperature Rating - 425° F to +150° F (-253°C to 65°C)
This valve is not approved for gaseous and/or liquid oxygen service
For oxygen service use Goddard series 232H cryogenic globe valve

Dimensional data

Butt Weld Ends

Size		"A"		"B"		"D"		"K"		"E"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	4¼"	108	$14^{9}/_{16}$"	370	2⅜"	60	$10^{3}/_{16}$"	259	½"	13
1"	25	5"	127	17"	432	3"	76	11½"	292	1"	25
1½"	38	6½"	165	18⅞"	479	4"	102	$12^{5}/_{16}$"	313	1½"	38

Stainless Steel Globe Valve for Cryogenic Service
232 Series

Application

The RegO Goddard 232 Series Stainless Steel globe valves are designed for handling of cryogenic liquids through bulk tanks, trailers, ASU plants and piping configurations. Compatible with oxygen, nitrogen, CO2, helium and argon.

REGO 10 YEAR WARRANTY

Features

- **Top Entry**: Rugged stainless steel ASTM A351-CF3M (316L) soft seated cryogenic globe valve. This valve can be permanently installed in the line and serviced from the top
- **Soft Seated**: PCTFE Seat provides a bubble tight seal and is replaceable
- **Construction**: One piece investment cast bonnet eliminates welded joint in topworks.
- **Sizes**: ½" through 1½" (15mm through 40mm)
- **Ends**: Socket weld and Butt weld
- **Service**: Liquefied and vaporized atmospheric gases, LNG
- **Temperature Rating**: -325°F to 150°F (-198°C to +65°C)
- **Pressure Rating**: (Cold, Non-shock)
  300 psig (20 barg)
  400 psig (27 barg)

PED Approved,

A rugged construction and easy access are design features which provide minimum installation and maintenance cost while maintaining superior performance and operator safety.

232 Series

Ordering Information

Stainless Body Socket Weld Ends 400 psig (28 barg)

Part Number	Valve size Inches	Valve Size mm	Ends	Weight Lbs.	Weight Kg	Estimated C_V (Kv)
S-232-4S4	½"	15	Socket Weld	6	2.72	3.90 (3.37)
S-232-8S4	1"	25		10	4.54	10.50 (9.08)

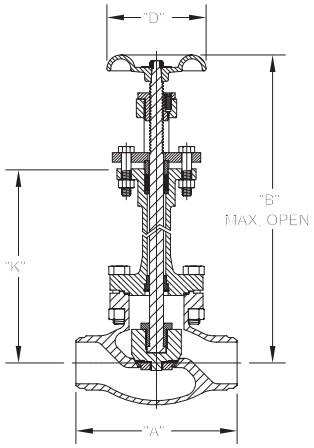
High Purity Cryogenic Bonnet Nickel Plated Naval Brass Yoke Bushing Stainless Steel Body Butt Weld Ends 300 psig (20 barg)

Part Number	Valve size Inches	Valve Size mm	Ends	Weight Lbs.	Weight Kg	Estimated C_V (Kv)
S-232HCB-4WA	½"	15	Butt Weld	6	2.72	3.90 (3.37)
S-232HCB-8WA	1"	25		10	4.54	10.50 (9.08)
S-232HCB-12WA	1½"	40		15	6.80	25.00 (21.62)

High Purity Cryogenic Bonnet Nickel Plated Naval Brass Yoke Bushing, Stainless Steel Body Socket Weld Ends 400 psig (28 barg)

Part Number	Valve size Inches	Valve Size mm	Ends	Weight Lbs.	Weight Kg	Estimated C_V (Kv)
S-232HCB-4S4	½"	15	Socket Weld	6	2.72	3.90 (3.37)
S-232HCB-8S4	1"	25		10	4.54	10.50 (9.08)
S-232HCB-12S4	1½"	40		15	6.80	25.00 (21.62)

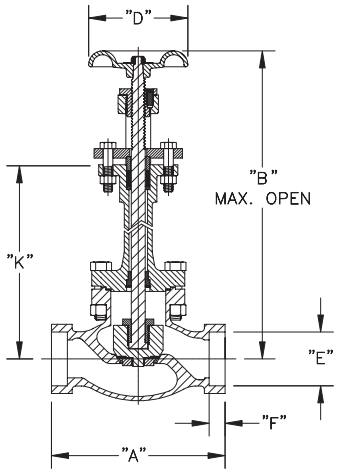
Stainless Steel Globe Valve for Cryogenic Service
232 Series



Pressure rating 300 psig (20 barg) non-shock cold
Temperature rating +150° F to -325° F (+65°C to -198°C)
Dimensional Data

Butt Weld Ends

Size		"A"		"B"		"D"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	4¼"	108	14 9/16"	370	2⅜"	60	10 3/16"	259
1"	25	5"	127	17"	432	3"	76	11½"	292
1½"	38	6"	152	18⅞"	479	4"	102	12 5/16"	313



Pressure rating 400 psig (28 barg) non-shock cold
Temperature rating +150° F to -325° F (+65°C to -198°C)
Dimensional Data

Socket Weld Ends

Size		"A"		"B"		"D"		"E"		"F"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	4¼"	108	14 9/16"	370	2⅜"	60	0.86	22	0.37	9	10 3/16"	259
1"	25	5⅜"	136	17"	432	3"	76	1.33	34	0.50	13	11 ½"	292
1½"	38	6½"	165	18⅞"	479	4"	102	1.92	49			12 5/16"	313

Cryogenic Fill Manifold
CSB & CSM Series

Application

RegO® Goddard high quality welded and welded assemblies are ideal for the manufacturer of original equipment for bulk cryogenic vessels. Using the same technology of our globe valves with SK Series bolt cap, stainless steel bodies and superior works and stainless steel construction pipes are available as a production unit with stainless steel control block and control block brass. Ideal for all cryogenic liquids including Liquefied Nitrogen, Oxygen Argon, and CO2. Safe and reliably used in LNG Systems. In addition, RegO® can custom design configurations that are welded and brazed in a factory setting.

REGO 10 YEAR WARRANTY

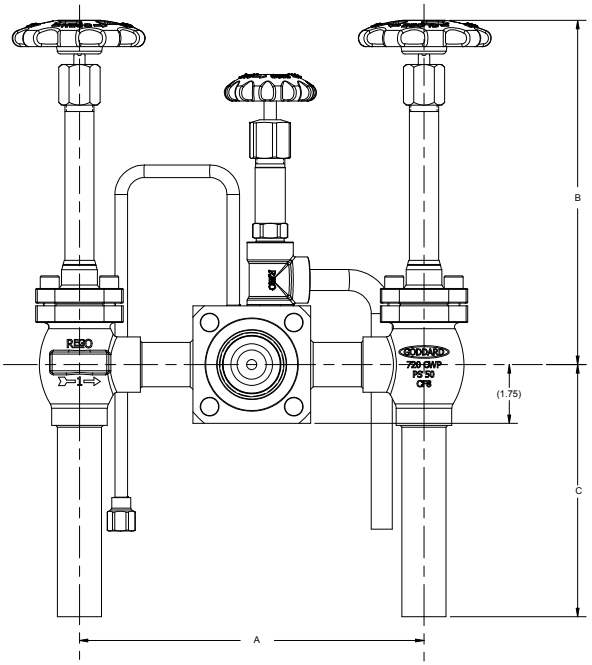
CSM2D

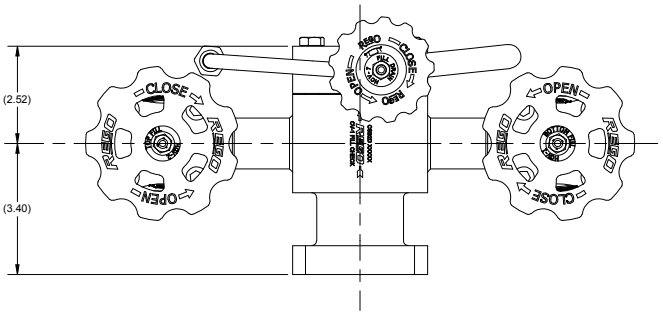
Features

- Unitized construction eliminates leaks and provides easy fit-up to tank piping
- Modules commonly include top and bottom fill valves, fill check with strainer and hose bleed and relief valve
- Many options are available which can include specific end user dimensions and specifications
- Our valve products stand up to high cycle environments, without the need for field adjustment of valve packing
- Available alone or as a unitized welded assembly for bulk tank filling
- Repeatable performance and geometry
- Precision silver brazed assembly
- Cleaned for Oxygen Service per CGA G-4.1
- Pressure Rating: 600 psig (41 barg)
- Temperature Rating: -320°F (-196°C) to +165°F (+74°C)
- 100% Factory tested

Materials

Globe Valve ..... Stainless Steel ASTM A351
Check Valve..... Stainless Steel ASTM A351
Bleed Valve .....Brass ASTM B16
Check Valve .....Brass ASTM B16
Bleed Valve ..... Stainless Steel ASTM A351
Tube ..... 304L Stainless Steel ASTM A312





Ordering Information

Part Number	Size Inches	Size mm	Check Valve And Bleed Valve Material	Dimensions					
				A Inches	A mm	B Inches	B mm	C Inches	C mm
CSB2D	1"	25	Brass	10.3	260	10.6	269	7.5	190.5
CSB4D	1½"	40						15	381
CSM2D	1"	25	Stainless Steel					7.5	190.5
CSM4D	1½"	40						15	381

Cryogenic Fill Manifold
CFM, AFM & PFM Series

Application

RegO® Goddard high quality brazed and welded assemblies are ideally suited for the original equipment manufacturer of bulk cryogenic vessels. A wide variety of valve types including union or bolted bonnet, bronze bodies & top works and piping of stainless steel or copper construction are available as production unit.

Ideal for all cryogenic liquids including Liquefied Nitrogen, Oxygen, Argon, and CO2. In addition RegO® can custom design configurations that are welded and brazed in a factory setting.

CFM4E

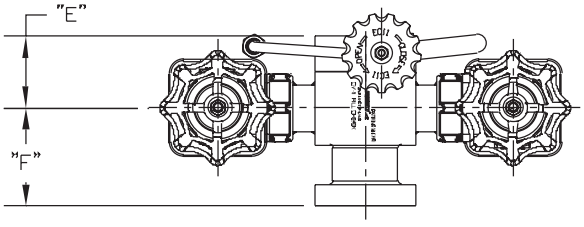
REGO 10 YEAR WARRANTY

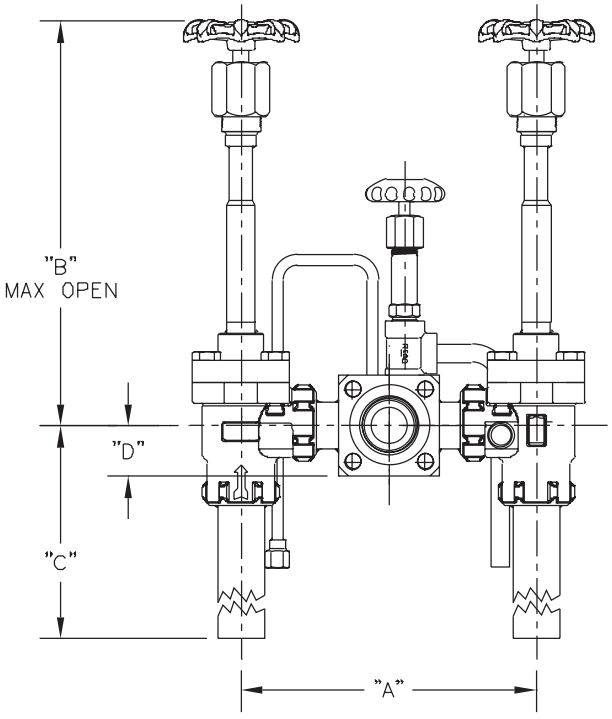
Features

- Unitized construction eliminates leaks and provides easy fit-up to tank piping
- Modules commonly include top and bottom fill valves, fill check with strainer and hose bleed and relief valve
- Many options are available which can include specific end user dimensions and specifications
- Our valve products stand up to high cycle environments, without the need for field adjustment of valve packing
- Available alone or as a unitized welded assembly for bulk tank filling
- Repeatable performance and geometry
- Precision silver brazed and welded assembly
- Cleaned for Oxygen Service per CGA G-4.1
- Pressure Rating: CFM, AFM & PFM Series 600 psig (41 barg)
- Temperature Rating: -320°F (-196°C) to +165°F (+74°C)
- 100% Factory tested

Materials

Globe Valve .....Brass ASTM B16
Check Valve .....Brass ASTM B16 "F Bleed
Valve .....Brass ASTM B16
Tube .....304L Stainless Steel or Copper





Ordering Information

Part Number	Size Inches	Size mm	Pipe Material	Bonnet Type	Dimensions						Cv (Kv)	
					A Inches	A mm	B Inches	B mm	C Inches	C mm	One side open	Both sides open
CFM2D	1"	25	Stainless Steel	Union	10.25	260.35	14.64	371.85	7.5	190.5	10.8 (9.34)	20.8 (17.99)
CFM4D	1½"	40					15	381	9.5	241.3		
CFM4E				Bolted			13	330.2				
AFM4D					15	381	14.64	371.85	20	508		
PFM4D			Copper									

Diaphragm Type Globe Valves
2500 Series

Application

The 2500 series valves are designed for use in hospital and industrial piping systems where gases are supplied from a central source to branch outlets throughout the system.

REGO 10 YEAR WARRANTY

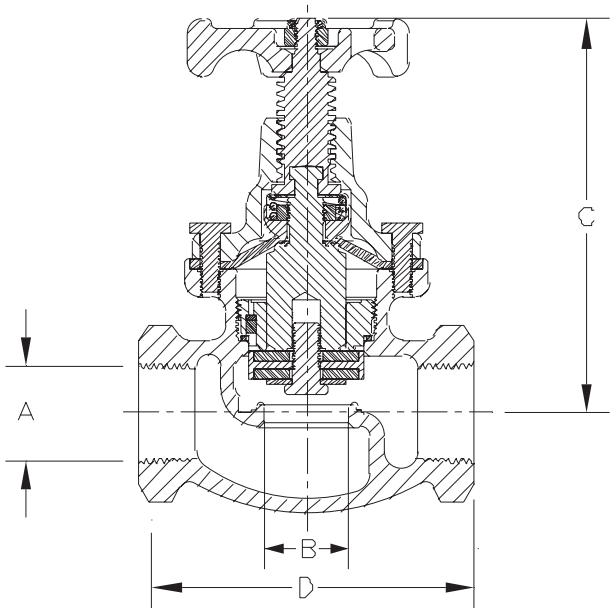
Features

- UL listed for use with air, argon, acetylene, helium, hydrogen, LP-Gas, nitrogen, inert gases and oxygen service
- Leakage is prevented by a dependable diaphragm stem seal
- A resilient seat disc provides positive shut-off
- Heavy duty ACME stem threads assure easy operation and long working life
- Unique back seat design enabling the diaphragm assembly to be repaired while the valve remains in service
- Maximum working pressure is 400 psig (27.5 barg)
- Working temperature range is -40°F to +165°F (-40ºC to +74ºC)
- 100% Factory Tested
- All valves clean for use in oxygen per CGA G-4.1
- 2505AC and 2507AC are UL Listed.

2505AC

Materials

Body 2507AC, 2511AC & 2513AC ..... Cast Bronze, Tin Plated
Body 2505AC ..... Cast Red Brass, Tin Plated
Bonnet ..... Brass
Stem ..... Manganese Bronze
Seat Disc ..... Neoprene
Diaphragm ..... Neoprene



Ordering Information

Part Number	Inlet/Outlet Thread (Female NPT) A		Port Diameter B		Height C		Length D		C_V (Kv)
	inches	mm	inch	mm	inch	mm	inch	mm	
2505AC	¾"	19.05	15/16"	23.87	5¼"	133.35	4"	101.60	9.0 (7.78)
2507AC	1"	25.40	1 1/8"	28.57	5 3/8"	136.65	4 3/8"	111.25	15.0 (12.97)
2511AC	1½"	38.10	1 11/16"	42.92	6¾"	171.45	5 3/8	136.65	33.4 (28.89)
2513AC	2"	50.80	2 5/16"	58.67	7⅛"	180.97	6¼"	158.75	51.7 (44.72)

Diaphragm Type Globe Valves
2550 Series

Application

The 2550 series valves are designed for use in hospital and industrial piping systems where gases are supplied from a central source to branch outlets throughout the system.

Features

- UL listed for use with acetylene, hydrogen, nitrogen, oxygen service and compressed air
- Leakage is prevented by a dependable diaphragm stem seal
- A resilient seat disc provides positive shut-off
- Heavy duty ACME stem threads assure easy operation and long working life
- Maximum working pressure is 250 psig (17.2 barg)
- Working temperature range is -40°F to +165°F (-40ºC to +74ºC)
- 100% Factory Tested
- All valves clean for use in oxygen per CGA G-4.1

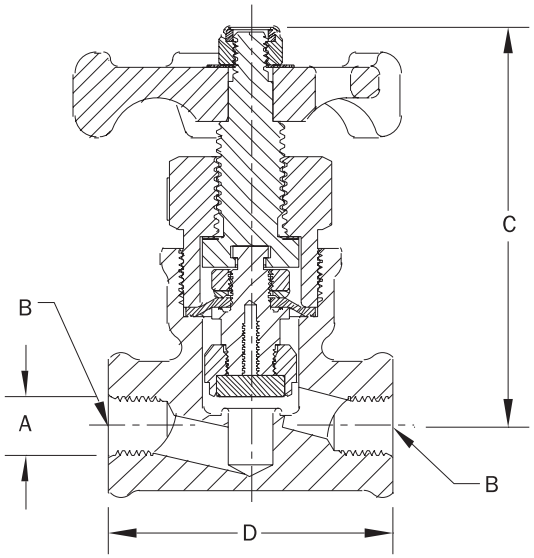
UL LISTED

REGO 10 YEAR WARRANTY

2554AC

Materials

Body (2554 series) ..... Cast Red Brass, Tin Plated
Seat Disc ..... Filled Teflon
Diaphragm ..... Neoprene
Bonnet ..... Brass
Stem ..... Manganese Bronze
Handwheel ..... Aluminum



Ordering Information

Part Number	Inlet/Outlet Thread (Female NPT) A		Port Diameter B		Height C		Length D		Cv (Kv)
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
2554AC	½"	13	21/32"	**17**	3⅜"	86	3 1/8"	**79**	4.3 (3.71)
2554AAC	¾"	19							

Extended Bonnet Bronze Gate Valve for Cryogenic Service 322 and 326 Series

REGO 10 YEAR WARRANTY

Application

The RegO Goddard 322 and 326 Series gate valves are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ASU plants and piping configurations. Compatible with oxygen, nitrogen, CO2, and argon.

Features

- **Top Entry:** This union bonnet valve can be permanently installed in the line and serviced from the top
- **Construction:**
  Bronze cast body and Internals
  Rugged construction for long life
  Straight through construction for high CV
  Designed with unique KOLD-SEAL™ packing
  Standard split wedge design provides better sealing and cycle life
- **Sizes:** ½" - 3" (15mm - 80mm)
- **Ends:** Threaded (FNPT), Sil Braze Tube (SBT), Silver Brazed Pipe (SBP) or with stainless steel pipe nipples brazed in
- **Service:** Liquefied and vaporized atmospheric gases, LNG
- **Temperature Rating:** -320°F to +150°F (-196°C + 65°C)
- **Pressure Rating:** (Cold, Non-shock)
  322 Series 400 psig (28 barg)
  326 Series 600 psig (42 barg)
- Cleaned for Oxygen Service per CGA G-4.1

  Designed to MSS SP-80 and ASME B31.3
  Series 1.5" to 3" PED Approved per EN 10204, 3.1

  Ideal for cryogenic supply and storage handling applications.
  Straight-through flow for highest CV rating in the industry.

  Also available with GRAFOIL® packing

322 Series

Extended Bonnet Bronze Gate Valve for Cryogenic Service
322 and 326 Series

Ordering Information

322 Series

Bronze Gate Valves
400 psig (28 barg) COLD WORKING PRESSURE

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kg	Estimated Cv (Kv)
B-322-20T4	2½"	65 mm	Threaded	19.00	8.64	372.00 (321.78)
B-322-24T4	3"	80 mm		28.00	121.73	588.00 (508.62)

Part Number	SBT Size Inches*	SBT Size mm	Ends	Weight Lbs.	Weight Kg	Estimated Cv (Kv)
B-322-4S4	½"	15 mm	Silver Braze	1.75	0.80	19.80 (17.12)
B-322-6S4	¾"	20 mm		2.25	1.02	36.00 (31.14)
B-322-8S4	1"	25 mm		3.50	1.59	60.80 (52.59)
B-322-12S4	1½"	40 mm		7.50	3.41	152.00 (131.48)
B-322-16S4	2"	50 mm		11.25	5.11	245.00 (211.92)
B-322-20S4	2½"	65 mm		17.00	7.73	372.00 (321.78)
B-322-24S4	3"	80 mm		24.00	10.91	588.00 (508.62)

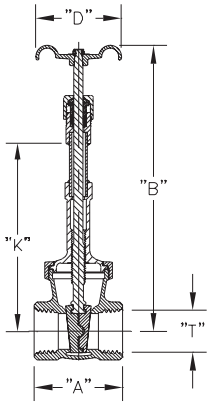
*Nominal Size

326 Series

Bronze Gate Valves
600 psig (42 barg) COLD WORKING PRESSURE

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kg	Estimated Cv (Kv)
B-326-4T6	½"	15 mm	Threaded	1.75	0.80	19.80 (17.12)
B-326-6T6	¾"	20 mm		2.25	1.02	36.00 (31.14)
B-326-8T6	1"	25 mm		4.00	1.82	60.80 (52.59)
B-326-12T6	1½"	40 mm		8.25	3.75	152.00 (131.48)
B-326-16T6	2"	50 mm		12.50	5.68	245.00 (211.92)

Extended Bonnet Bronze Gate Valve for Cryogenic Service
322 and 326 Series

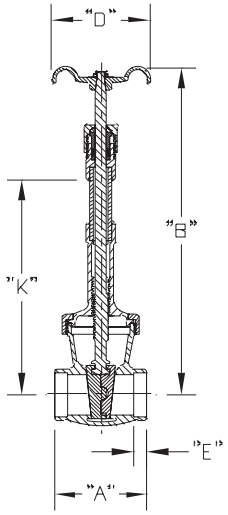


322 Series

MAWP: 400 psig (28 barg) Non-Shock Cold
Temperature Rating +150° F to -325°F (+65°C to -198°C)
Dimensional Data

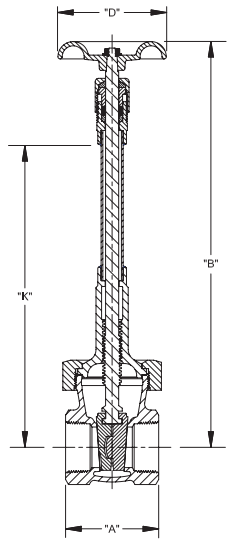
Threaded End (NPT)

Size		"A"		"B"		"D"		"K"		"T"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
2½"	63	4.68"	119	22.5"	571	5.25"	133	14.5"	368	2½"	63
3"	76	5.12"	130	24.87"	632	6.12"	155	16.31"	414	3"	76



Sil Braze End

Size		"A"		"B"		"D"		"K"		"E"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	2.5"	63	9.38"	238	2.37"	60	5.5"	140	.38"	10
¾"	19	3"	76	10.56"	268	2.75"	70	6.12"	155	.40"	10
1"	25	3.25"	83	12.38"	314	3"	76	7.68"	195	.43"	11
1½"	38	4"	102	17"	432	4"	102	10.87"	276	.62"	16
2"	51	4.5"	114	19.62"	498	4.75"	121	12.38"	314	.65"	16
2½"	63	5.25"	133	22.5"	571	5.25"	133	14.5"	368	.78"	20
3"	76	6"	152	24.87"	632	6.12"	155	16.31"	414	.82"	21



326 Series

MAWP: 600 psig (42 barg) Non-Shock Cold
Temperature Rating +150° F to -325°F (+65°C to -198°C)
Dimensional Data

Threaded End (NPT)

Size		"A"		"B"		"D"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	2.34"	59	9.37"	238	2¼"	57	5.5"	140
¾"	19	2.5"	63	10.56"	268	2¾"	70	6.12"	155
1"	25	2.34"	59	12.37"	314	3"	76	7.6"	193
1½"	38	3.43"	87	17"	432	4"	102	10.87"	276
2"	51	3.81"	97	19.62"	498	4¾"	121	12.37"	314

Bronze Gate Valves for Cryogenic Service
302, 306, 310 & 310X Series

Application

The RegO Goddard 302, 306, 310, & 310X Series gate valves are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ASU plants and piping configurations. Compatible with oxygen, nitrogen, CO_2, and argon.

Features

- **Top Entry**: This union bonnet valve can be permanently installed in the line and serviced from the top
- **Construction**:
  Bronze cast body and bonnet
  Rugged construction for long life
  Straight through design for high C_V
  Designed with unique KOLD-SEAL™
- **Sizes**: ½" - 3" (15mm - 80mm)
- **Ends**: Threaded (FNPT), Sil Braze Tube (SBT), or with stainless steel pipe nipples brazed in
- **Service**: Liquefied and vaporized atmospheric gases, LNG
- **Temperature Rating**: -320°F - +150°F (-196°C +65°C)
- Cleaned for Oxygen Service per CGA G-4.1
- **Pressure Rating**: (Cold, Non-shock)
  310, 310x Series 300 psig
  302 Series 400 psig (28 barg)
  306 Series 600 psig (42 barg)

  Designed to MSS SP-80 and ASME B31.3
  Sizes 1.5" - 3.0" PED approved
- **Soft Seated** Series 310 & 310X: Solid wedge with PCTFE (Neoflon®) provides a bubble tight seal and is replaceable
- **Metal Seated** Series 302 & 306: Split wedge made of Bronze and also replaceable

Gate design for high flow applications.
Straight-through flow for highest C_V rating in the industry.

302, 306 Non-Extended stem for selective cold gas applications

310, 310X Extended stem ideal for cryogenic supply applications

REGO 10 YEAR WARRANTY

302 Series

Bronze Gate Valves for Cryogenic Service
302, 306, 310 & 310X Series

Ordering Information

302 Series

Bronze Gate Valves
Bronze Body Non-Extended Bonnet, Split Wedge
For selected cold gas operations
400 psig (28 barg) COLD WORKING PRESSURE
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kg	Estimated C_V (Kv)
B-302-4T4	½"	15	Threaded	1.50	0.70	19.80 (17.12)
B-302-20T4	2½"	65		17.50	8.00	372.00 (321.78)
B-302-24T4	3"	80		26.00	11.80	588.00 (508.62)

Part Number	SBT Size Inches*	SBT Size mm*	Ends	Weight Lbs.	Weight Kg	Estimated C_V (Kv)
B-302-4S4	½"	15	Silver Braze	1.25	0.60	19.80 (17.12)
B-302-6S4	¾"	20		2.25	1.00	36.00 (31.14)
B-302-8S4	1"	25		3.00	1.40	60.80 (52.59)
B-302-12S4	1½"	40		6.00	2.70	152.00 (131.48)
B-302-16S4	2"	50		9.50	4.30	245.00 (211.92)
B-302-20S4	2½"	65		14.50	6.60	372.00 (321.78)
B-302-24S4	3"	80		22.00	10.00	588.00 (508.62)

*Nominal Size

306 Series

600 psig (42 barg) Bronze Body, Non-Extended Bonnet, Split Wedge
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C_V (Kv)
B-306-6T6	¾"	20	Threaded	2.25	1.00	36.00 (31.14)
B-306-8T6	1"	25		3.00	1.40	60.80 (52.59)
B-306-12T6	1½"	40		6.00	2.70	152.00 (131.48)
B-306-16T6	2"	50		9.50	4.30	245.00 (211.92)

310 Series

300 psig (20 barg)Bronze Body, Extended Bonnet, Solid Wedge, Soft Seat
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C_V (Kv)
B-310-20T	2½"	65	Threaded	14.50	6.60	372.00 (321.78)
B-310-24T	3"	80		22.00	10.00	588.00 (508.62)

Part Number	SBT Size Inches *	SBT Size mm *	Ends	Weight Lbs.	Weight Kgs.	Estimated C_V (Kv)
B-310-24S	3"	80	Silver Braze	22.00	10.00	588.00 (508.62)

*Nominal Size

310X Series

Short Top Works for Trailer Service
300 psig (20 barg)Bronze Body, Extended Bonnet, Solid Wedge, Soft Seat
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C_V (Kv)
B-310X-20T	2½"	65	Threaded	14.50	6.60	372.00 (321.78)
B-310X-24T	3"	80		22.00	10.00	588.00 (508.62)

Part Number	SBT Size Inches *	SBT Size mm *	Ends	Weight Lbs.	Weight Kgs.	Estimated C_V (Kv)
B-310X-24S	3"	80	Silver Braze	22.00	10.00	588.00 (508.62)

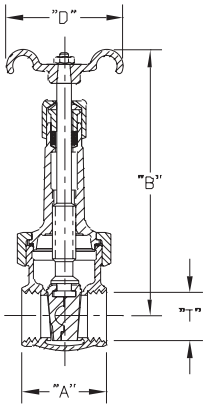
*Nominal Size

SB-00310X

Stainless Steel Body - Bronze Topworks
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	SBT Size Inches *	SBT Size mm *	Ends	Weight Lbs.	Weight Kgs.	Estimated C_V (Kv)
SB-310X-24SW	3"	80	Socketweld	22.00	10.00	588.00 (508.62)

Bronze Gate Valves for Cryogenic Service
302, 306 Series

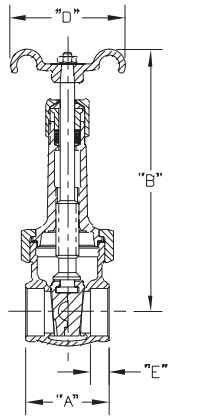


302 Series

MAWP: 400 psig (28 barg) Non-Shock Cold
Temperature Rating +150° F to -325°F (+65°C to -198°C)
Non-Extended Valve for selective cold gas applications
Dimensional Data

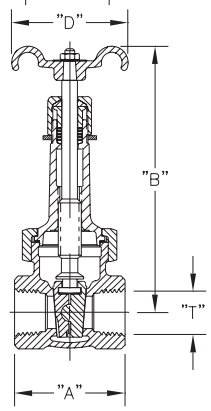
Threaded End (NPT)

Size		"A"		"B"		"D"		"T" NPT	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	2.34"	59	5.81"	147	2.37"	60	½"	13
2½"	63	4.68"	119	15.81"	401	5.25"	133	2½"	63
3"	76	5.12"	130	18.25"	463	6.12"	155	3"	76



Sil Braze End

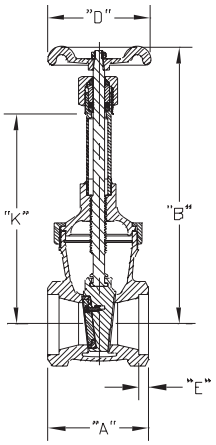
Size		"A"		"B"		"D"		"E"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	2.50"	63	5.81"	147	2.37"	60	.38"	10
¾"	19	3"	76	6.94"	176	2.75"	70	.40"	10
1"	25	3.25"	82	8.43"	214	3"	76	.43"	11
1½"	38	4"	102	11.19"	284	4"	102	.62"	16
2"	51	4.5"	114	13.19"	335	4.75"	121	.65"	17
2½"	63	5.25"	133	15.81"	401	5.25"	133	.78"	20
3"	76	6"	152	18.25"	463	6.12"	155	.82"	21



306 Series

MAWP: 600 psig (42 barg) Non-Shock Cold-
Temperature Rating +150° F to -325°F (+65°C to -198°C)
Non-Extended Valve for selective cold gas applications
Dimensional Data

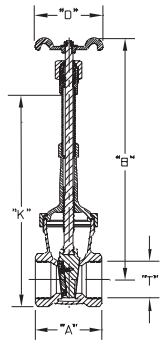
Size		"A"		"B"		"D"		"T" NPT	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
¾"	19	2.5"	63	6.93"	176	2¾"	70	¾"	19
1"	25	2.84"	72	8.43"	214	3"	76	1"	25
1½"	38	3.43"	87	11.18"	284	4"	102	1½"	38
2"	51	3.81"	97	13.81"	351	4¾"	121	2"	51



SB-00310X-24SW Sil Braze End (Stainless Steel Body)

Size		"A"		"B"		"D"		"E"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
3"	76	6"	152	20.38"	518	6.12	155	0.63	16	12.5	317

Bronze Gate Valves for Cryogenic Service
310 & 310X Series

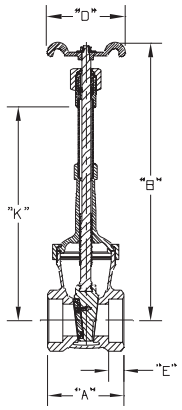


310 Series

MAWP: 300 psig (20 barg) Non-Shock Cold-
Temperature Rating +150° F to -325°F (+65°C to -198°C)
Extended Valve for selective cold gas applications
Dimensional Data

Threaded End (NPT)

Size		"A"		"B"		"D"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
3"	76	6"	152	25.38"	645	6.12"	155	16.30"	414

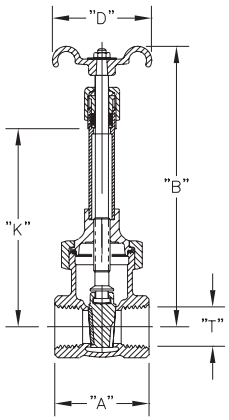


Sil Braze End

Size		"A"		"B"		"D"		"E"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
2½"	64	6"	152	25.38"	645	6.12"	155	.03"	1	16.30"	414
3"	76										

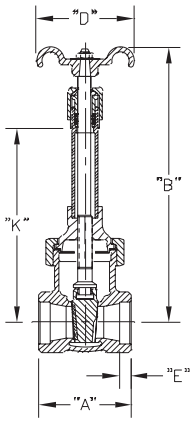
310X Series

MAWP: 300 psig (20 barg) Non-Shock Cold-
Temperature Rating +150° F to -325°F (+65°C to -198°C)
Extended Valve for selective cold gas applications, Ideal for Trailer Service
Dimensional Data



Threaded End (NPT)

Size		"A"		"B"		"D"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
2½"	64	6"	152	20.38"	518	6.12"	155	11.5"	292
3"	76								



Sil Braze End

Size		"A"		"B"		"D"		"E"		"K"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
3"	76	6"	152	20.38"	518	6.12"	155	0.83"	21	16.3"	414

Stainless Steel Gate Valve for Cryogenic Service
110 Series

Application

RegO Goddard gate valves are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ASU plants and piping configurations. Compatible with oxygen, nitrogen, CO2, argon and LNG.

Features

- **Top Entry**: This valve can be permanently installed in the line and serviced from the top
- **Soft Seated**: PCTFE Seat provides a bubble tight seal and is replaceable
- **Construction**: Body and Bonnet ASTM A351-CF8 J92600 Stainless steel
- **Sizes**: ½" - 6" (15mm - 150mm)
- **Ends**: RF Flange, Butt weld, Socket weld, Threaded (FNPT)
- **Service**: Liquefied and vaporized atmospheric gases, LNG
- WHZ valves with Grafoil® stem packing available
- **Temperature Rating**: -320°F - 150°F (-196°C +65°C)
- 100% Factory Tested
- Clean for use in oxygen per CGA G-4.1
- PED Approved
- **Pressure Rating**: (Cold, Non-shock)
  Class 150 valve - 275 psig (19 barg)
  Class 300 valve - 720 psig (50 barg)

110 Series

REGO 10 YEAR WARRANTY

Ordering Information

Stainless Body • RF Flange Ends

150# Part Number	300# Part Number	Valve Size		Ends	Weight 150#		Weight 300#		Estimated C_V (Kv)
		Inches	mm		Lbs.	Kg	Lbs.	Kg.	
GS-110W-8F	-	1"	25 mm	Flange	15	6.80	-	-	30.00 (25.95)
GS-110W-12F	GS-110W-12F3	1½"	40 mm		35	15.88	45	20.41	85.00 (73.52)
GS-110W-16F	GS-110W-16F3	2"	50 mm		35	15.88	50	22.68	100.00 (86.50)
GS-110W-24F	GS-110W-24F3	3"	80 mm		65	29.48	85	35.56	310.00 (268.15)
GS-110W-32F	GS-110W-32F3	4"	100 mm		90	40.82	120	54.43	700.00 (605.50)
GS-110W-48F	GS-110W-48F3	6"	150 mm		150	68.04	200	90.72	850.00 (735.25)

150# ANSI Class (275 psig (19 barg) Cold Working Pressure) 300# ANSI Class (720 psig (50 barg) Cold Working Pressure)

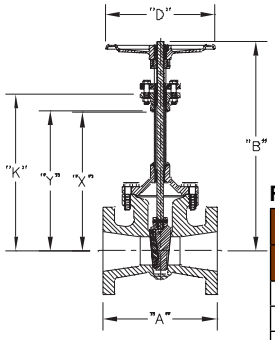
Ordering Information

Stainless Body • Butt Weld, Socket Weld, Threaded Ends

150# Part Number	300# Part Number	Valve Size		Ends	Weight		Estimated Cv (Kv)
		Inches	mm		Lbs.	Kg.	
GS-110W-4WA	-	½"	15 mm	Butt Weld SCH10	10	4.54	7.00 (6.05)
-	GS-110W-4S3			Socket Weld	15	6.80	
GS-110W-4T	-			Threaded	10	4.54	
GS-110W-6WA	-	¾"	20 mm	Butt Weld SCH10			23.00 (19.89)
-	GS-110W-6S3			Socket Weld	15	6.80	
GS-110W-8WA	-	1"	25 mm	Butt Weld SCH10	10	4.54	30.00 (25.95)
-	GS-110W-8S3			Socket Weld	15	6.80	
GS-110W-8T	-			Threaded	10	4.54	
GS-110W-12WA	-	1½"	40 mm	Butt Weld SCH10	30	13.61	85.00 (73.52)
-	GS-110W-12S3			Socket Weld	35	15.88	
-	GS-110W-16W3A	2"	50 mm	Butt Weld SCH10			100.00 (86.50)
-	GS-110W-16W3J			Butt Weld SCH40			
GS-110W-16S	-			Socket Weld	30	13.61	
-	GS-110W-24W3A	3"	80 mm	Butt Weld SCH10	65	29.48	310.00 (268.15)
-	GS-110W-24W3J			Butt Weld SCH40			
-	GS-110W-32W3A	4"	100 mm	Butt Weld SCH10	80	40.82	700.00 (605.50)
-	GS-110W-32W3J			Butt Weld SCH40			
-	GS-110W-48W3A	6"	150 mm	Butt Weld SCH10	120/150*	54.43/68.04*	850.00 (735.25)
-	GS-110W-48W3J			Butt Weld SCH40			

150# ANSI Class (275 psig (19 barg) Cold Working Pressure) 300# ANSI Class (720 psig (50 barg) Cold Working Pressure)* Second number indicates valve for 300# part number. Service: 300#-720 psig (50 barg) Non-shock Cold • Service: 150#-275 psig (19 barg) Non-shock Cold
• Temperature Rating +150°F - 325°F (+65°C to -198°C) • Mounting plate option available

Stainless Steel Gate Valve for Cryogenic Service
110 Series

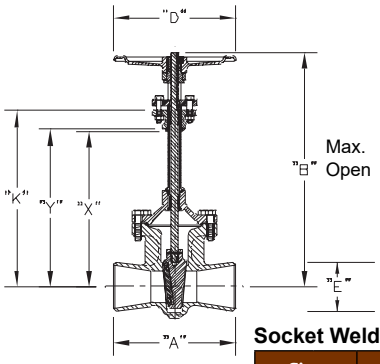


Max. Open

Raised Face Flange Ends*

Size		"A" 150#		"A" 300#		"B"		"D"		"K"		"X"		"Y"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1"	25	4 1/8"	105	N/A	-	17 3/4"	451	4 1/2"	114	12 3/4"	324	11 1/16"	281	11 3/8"	289
1 1/2"	38	4 5/8"	118	6 1/8"*	156	21 7/8"	556	7"	178	14"	356	12 5/16"	313	12 5/8"	321
2"	51	7"	178	7 1/4"*	184										
3"	76	8"	203	8 3/4"*	222	31 1/2"	800	12"	305	20"	508	17 3/4"	451	18 1/16"	459
4"	102	9"	229	12"	305	33 3/4"	857			21 1/2"	546	19 1/4"	489	19 9/16"	497
6"	152	10 1/2"	267	15 7/8"	403	41 1/2"	1054	16"	406	26"	660	23 9/16"	598	23 7/8"	606

*Face-to-face dimensions (A) are Goddard standard not to ANSI standard.
- Special B,K,X & Y Dimensions Available

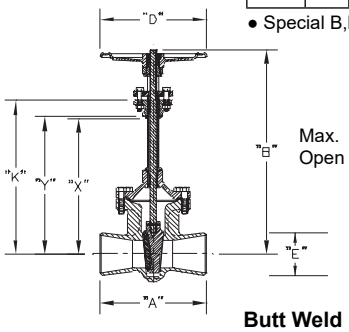


Max. Open

Socket Weld Ends

Size		"A" 150#		"A" 300#		"B"		"D"		"E"		"F"		"K"		"X"		"Y"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1/2"	13	3 3/4"	95	3 3/4"	95	17 3/4"	451	4 1/2"	114	.855	21	3/8"	10	12 3/4"	324	11 1/16"	281	11 3/8"	284
3/4"	19									1.065	27	1/2"	13						
1"	25	3 1/2"	89	4"	102					1.330	34								
1 1/2"	38	4 5/8"	118	5"	127	21 7/8"	556	7"	178	1.915	49			14"	356	12 5/16"	313	12 5/8"	321
2"	51	8 1/2"	216	N/A	-					2.406	61	5/8"	16						

- Special B,K,X & Y Dimensions Available



Max. Open

Butt Weld Ends

Size		"A" 150#		"A" 300#		"B"		"D"		"K"		"X"		"Y"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
1/2"	13	4 1/4"	108	N/A	-	17 3/4"	451	4 1/2"	114	12 3/4"	324	11 1/16"	281	11 3/8"	289
3/4"	19	4 5/8"	117												
1"	25	5"	127												
1 1/2"	38	6"	152	6"	152	21 7/8"	556	7"	178	14"	356	12 5/16"	313	12 5/8"	321
2"	51	8 1/2"	216	8 1/2"	216										
3"	76	11 1/8"	282	11 1/8"	282	31 1/2"	800	12"	305	20"	508	17 3/4"	451	18 1/16"	459
4"	102	12"	305	12"	305	33 3/4"	857			21 1/2"	546	19 1/4"	489	19 9/16"	497
6"	152	15 7/8"	403	15 7/8"	403	41 1/2"	1054	16"	406	26"	660	23 9/16"	598	23 7/8"	606

- Special B,K,X & Y Dimensions Available
- Unless otherwise specified, Schedule 10 weld ends are supplied

Stainless Steel Gate Valve for Cryogenic Service
110WHZ Series

Application

RegO Goddard gate valves are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ASU plants and piping configurations. Compatible with oxygen, nitrogen, CO2, argon and LNG.

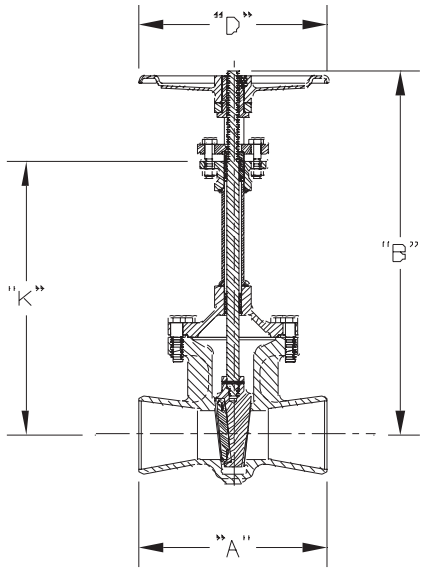
REGO 10 YEAR WARRANTY

Features

- **Top Entry**: This valve can be permanently installed in the line and serviced from the top
- **Soft Seated**: PCTFE Seat provides a bubble tight seal and is replaceable
- **Construction**: Stainless steel body and bonnet
- **Sizes**: ½" - 6" (15mm - 150mm)
- **Ends**: RF Flange, Butt weld, Socket weld, Threaded (FNPT)
- **Service**: Liquefied and vaporized atmospheric gases, LNG
- Grafoil® stem packing.
- **Temperature Rating**: -320°F - 150°F (-196°C +65°C)
- 100% Factory Tested
- Clean for use in oxygen per CGA G-4.1
- Grafoil® Stem Packing
- **Pressure Rating**: (Cold, Non-shock)
  Class 300 valve - 720 psig (50 barg)

½" - 6" Class 300
PED Approved

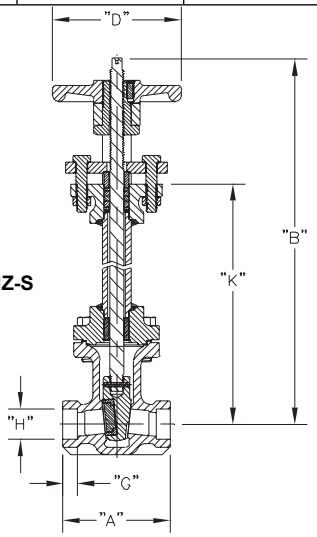
S-110WHZ-W



Ordering Information

Part Number	Ends	Size		"A"		"B"		"D"		"K"		Estimated Cv (Kv)	Weight Lbs. (Kg)
		Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm		
GS-110WHZ-16W3A	S10	2"	51	8.50	216	21.88	556	7	178	14	356	100 (86.5)	35 (16)
GS-110WHZ-16W3J	S40												
GS-110WHZ-24W3A	S10	3"	76	11.12	282	31.5	800	12	305	20	508	310 (268.15)	65 (29)
GS-110WHZ-32W3A	S10	4"	102	12	305	33.75	857			21.5	546	700 (605.50)	80 (36)
GS-110WHZ-48W3A	S10	6"	152	15.88	403	41.5	1054	16	406	26	660	850 (735.25)	150 (68)
GS-110WHZ-48W3J	S40												

S-110WHZ-S



Ordering Information

Part Number	Size		"A"		"B"		"D"		"G"		"H"		"K"		Estimated Cv (Kv)	Lbs. (Kg.)
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm		
GS-110WHZ-4S3	½"	13	3.75	95	17.75	451	4.5	114	.38	10	.86	22	12.8	325	7 (6.05)	15 (6.80)
GS-110WHZ-6S3	¾"	19							.5	13	1.07	27			23 (19.89)	
GS-110WHZ-8S3	1"	25	4	102							1.33	34			30 (25.95)	
GS-110WHZ-12S3	1½"	38	5	127	21.88	556	7	178			1.92	49	14	356	85 (73.52)	35 (15.87)

Stainless Steel Gate Valve for Cryogenic Service
LOX Series

Application

RegO LOX Series gate valves are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ASU plants and piping configurations. Compatible with oxygen, nitrogen, CO2, argon and LNG. Specifically designed for liquid oxygen (LOX) service.

Features

- **Top Entry**: This valve can be permanently installed in the line and serviced from the top
- **Soft Seated**: PCTFE Seat provides a bubble tight seal and is replaceable
- **Construction**: Body and Bonnet ASTM A351-CF8 J92600 Stainless steel
- **Sizes**: ½" - 6" (15mm - 150mm)
- **Ends**: RF Flange, Butt weld, Socket weld, Threaded (FNPT)
- **Service**: Liquefied and vaporized atmospheric gases, LNG
- WHZ valves with Grafoil® stem packing available
- **Temperature Rating**: -320°F - 150°F (-196°C +65°C)
- 100% Factory Tested
- Clean for use in oxygen per CGA G-4.1
- **Pressure Rating**: (Cold, Non-shock)
  Class 300 valve - 720 psig (50 barg)

REGO 10 YEAR WARRANTY

LOX Series

Ordering Information

Stainless Body ● Butt Weld, Socket Weld, Threaded Ends

300# Part Number	Valve Size		Ends	Weight		Estimated Cv (Kv)
	Inches	MM		Lbs.	Kg.	
LOX110W-4S3	½"	15 mm	Socket Weld	15	6.80	7.00 (6.05)
LOX110W-6S3	¾"	20 mm	Socket Weld	15	6.80	23.00 (19.89)
LOX110W-8S3	1"	25 mm	Socket Weld	15	6.80	30.00 (25.95)
LOX110W-12S3	1½"	40 mm	Socket Weld	35	15.88	85.00 (73.52)
LOX110W-16W3A	2"	50 mm	Butt Weld SCH10			100.00 (86.50)
LOX110W-24W3A	3"	80 mm	Butt Weld SCH10	65	29.48	310.00 (268.15)
LOX110W-24W3J			Butt Weld SCH40			
LOX110W-32W3A	4"	100 mm	Butt Weld SCH10	80	40.82	700.00 (605.50)
LOX110W-32W3J			Butt Weld SCH40			
LOX110W-48W3A	6"	150 mm	Butt Weld SCH10	120/150*	54.43/68.04*	850.00 (735.25)
LOX110W-48W3J			Butt Weld SCH40			

300# ANSI Class (720 psig (50 barg) Cold Working Pressure)* Second number indicates valve for 300# part number.
Service: 300#-720 psig (50 barg) Non-shock Cold ● Service: 150#-275 psig (19 barg) Non-shock Cold
● Temperature Rating +150°F - 325°F (+65°C -198°F) ● Mounting plate option available
● Custom sizes and connections available.

Horizontal Lift Check Valves
8500 Series

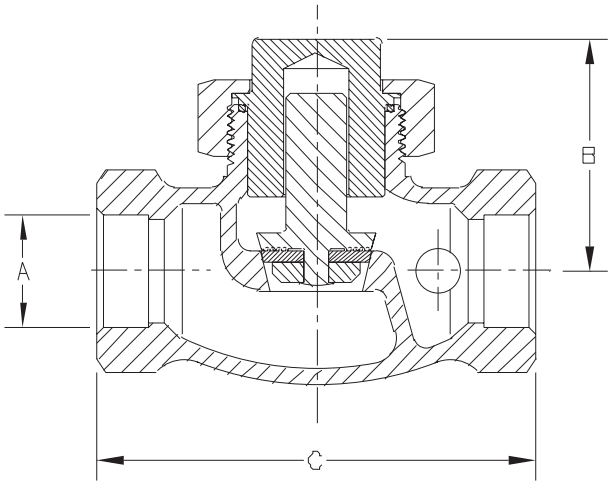
Application
8500 series valves are designed for use as a check valve on cryogenic bulk stations and pipelines.

REGO 10 YEAR WARRANTY

Features
- Replaceable Kel-F seat discs
- Self-centering cap holds plunger in position
- Each valve is cleaned and packaged for liquid oxygen service per CGA G-4.1
- 100% Factory Tested
- Working temperature range is -320°F to +165°F (-196ºC to +74ºC)
- Maximum working pressure is 600 psig MAWP (41.3 barg)
- 2 psig opening pressure

BK8508S

Materials
Body ..... Bronze
Cap ..... Brass
Plunger ..... Brass
Seat ..... PCTFE



BK8512S

Ordering Information

Part Number	Inlet / Outlet Connection A	B		Length C		C_V (Kv)
		inches	mm	inches	mm	
BK8508S	1.128"-1.130"	2¼"	57.15	$4^{15}/_{16}$"	125.47	10 (8.65)
BK8508T	1" F.NPT					
BK8512S	1.629"-1.631"	3¼"	82.55	$5^{3}/_{16}$"	131.82	27 (23.35)
BK8512T	1½" F.NPT					

Bronze Swing Check Valve for Cryogenic Service Including 846M Goddard 840 Series

Application

The RegO Goddard 846M and 840 series check valve is designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations. Compatible with oxygen, nitrogen, CO2, argon and LNG.

REGO 10 YEAR WARRANTY

Features

- **Top Entry:** This swing check valve can be permanently installed in the line and serviced from the top
- **Construction:** Designed to prevent back flow in cryogenic systems. Higher fluid capacity (Cv) than poppet or lift check valves. Bronze body and internals. Rugged construction for long life and minimal down time
- **Sizes:** ½" through 2" (15mm through 50mm)
- **Ends:** Threaded (FNPT), or with Sil Brazed Tube (SBT)
  SCH-10, Threaded back brazed pipe nipples in 1" increments up to 6"
  SCH-40, Threaded back brazed pipe nipples in 1" increments up to 6"
  SCH-80, Threaded back brazed pipe nipples in 1" increments up to 6"
- **Temperature Rating:** -320°F to +150°F (-196°C to +65°C)
- Cleaned for Oxygen Service per CGA G-4.1.
- **Pressure Rating:** (Cold, Non-shock)
  840 Series 400 psig (27.6 barg)
  846M Series 600 psig (41.4 barg)
  Sizes 1½" to 2" PED Approved

  Note: Do not use for reciprocating gas service.

- **Cracking Pressure:** 0.5 psig (.03 barg)

840 Series

Ordering Information

840

Bronze Swing Check Valves - Soft Seated, Threaded, Sil Brazed Ends, Threaded and Back Brazed Pipe Nipples
400 psig (28 barg) Cold Working Pressure

Threaded Ends

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kg	Estimated C_V (Kv)
B-840-4T	½"	15	Threaded	2.00	0.91	4.50 (3.89)
B-840-6T	¾"	20		4.00	1.81	7.00 (6.05)
B-840-8T	1"	25		4.50	2.04	10.00 (8.65)
B-840-12T	1½"	40		8.50	3.86	40.00 (34.6)
B-840-16T	2"	50		14.50	6.58	100.00 (86.5)

Silver Brazed - Pipe Nipple

Part Number	SBT Size Inches*	SBT Size mm*	Ends	Weight Lbs.	Weight Kg	Estimated C_V (Kv)
B-840-4S	½"	15	Silver Braze	2.50	1.13	4.50 (3.89)
B-840-6S	¾"	20		4.5	2.05	7.00 (6.05)
B-840-8S	1"	25		5.25	2.38	10.00 (8.65)
B-840-12S	1½"	40		10.75	4.88	40.00 (34.6)
B-840-16S	2"	50		17.50	7.94	100.00 (86.5)

* Nominal Size

846M

Bronze Swing Check Valves - Metal Seated, Threaded, Sil Brazed Ends, Threaded and Back Brazed Pipe Nipples
600 psig (42 barg) Cold Working Pressure

Threaded Ends

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kg	Estimated C_V (Kv)
B-846M-4T6	½"	15	Threaded	2.00	0.91	4.50 (3.89)
B-846M-8T6	1"	25		4.50	2.04	10.00 (8.65)
B-846M-12T6	1½"	40		8.50	3.86	40.00 (34.6)
B-846M-16T6	2"	50		14.50	6.58	100.00 (86.5)

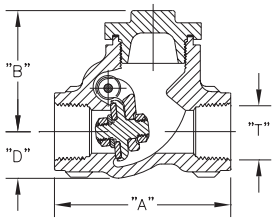
Bronze Swing Check Valve for Cryogenic Service Including 846M 840 Series

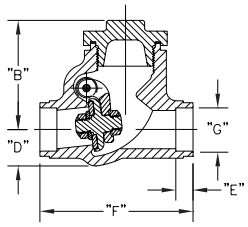
Silver Brazed - Pipe Nipple

Part Number	SBT Size Inches*	SBT Size mm*	Ends	Weight Lbs.	Weight Kg	Estimated CV
B-846M-4S6	½"	15	Silver Braze	2.50	1.13	4.50
B-846M-6S6	¾"	20		4.50	2.04	7.00
B-846M-8S6	1"	25		5.25	2.38	10.00
B-846M-12S6	1½"	40		10.75	4.88	40.00
B-846M-16S6	2"	50		17.50	7.94	100.00

* Nominal Size

● Contact company for threaded, back brazed pipe nipple information



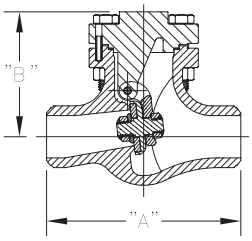


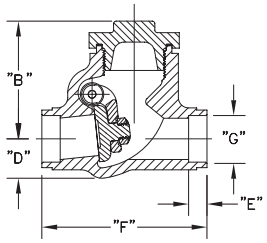
840 Series

Pressure Rating MSS SP-80 Class 200
MAWP 400 psig (28 barg) Non-Shock Cold
Temperature Rating +150°F to -325°F (+65°C to -198°C)

Dimensional data

Size		"A"		"B"		"D"		"T" NPT		"E"		"F"		"G"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	3.00"	76	2.13"	54	¾"	19	½"	13	.38"	10	2.94"	75	.63"	16
¾"	19	3.69"	94	2.81"	71	1.12"	28	¾"	19	.41"	11	3.60"	91	.88"	22
1"	25	4.00"	102			1.13"	29	1"	25	.45"	11	4.00"	102	1.13"	29
1½"	38	5.03"	128	3.63"	92	1.44"	36	1½"	38	.63"	16	5.03"	128	1.63"	41
2"	51	6.35"	161	4.34"	110	1.84"	47	2"	51	.66"	17	6.35"	161	2.13"	54





846M Series

Pressure Rating MSS SP-80 Class 300
MAWP 600 psig (42 barg) Non-Shock Cold
Temperature Rating +150°F to -325°F (+65°C to -198°C)

Dimensional data

Size		"A"		"B"		"D"		"T" NPT		"E"		"F"		"G"	
Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	13	3.00"	76	2.13"	54	¾"	19	½"	13	.38"	10	2.94"	75	.63"	16
¾"	19	3.69"	94	2.81"	71	1⅛"	28	¾"	19	.41"	11	3.60"	91	.88"	22
1"	25	4.00"	102					1"	25	.45"	11	4.00"	102	1.13"	29
1½"	38	5.03"	128	3.63"	92	$1^{7}/_{16}$"	36	1½"	38	.63"	16	5.03"	128	1.63"	41
2"	51	6.35"	161	4.34"	110	$1^{27}/_{32}$"	47	2"	51	.66"	17	6.35"	161	2.13"	54

Stainless Steel Spring-Loaded Piston Lift Check Valves
CV9400 Series

Application

The CV9400 Series of Stainless Steel Lift Check Valves are designed with a spring-loaded piston for installation in various piping configurations in liquid cryogenic applications, including bulk tanks, trailers and ISO tanks. Ideal service medium includes oxygen, nitrogen, krypton, carbon dioxide, nitrous oxide, dinitrogen monoxide, carbon oxide, methane, ethane, ethylene, argon, and LNG.

REGO 100% TESTED ★

CLEANED FOR OXYGEN SERVICE O_2 CGA G-4.1

REGO 10 YEAR WARRANTY

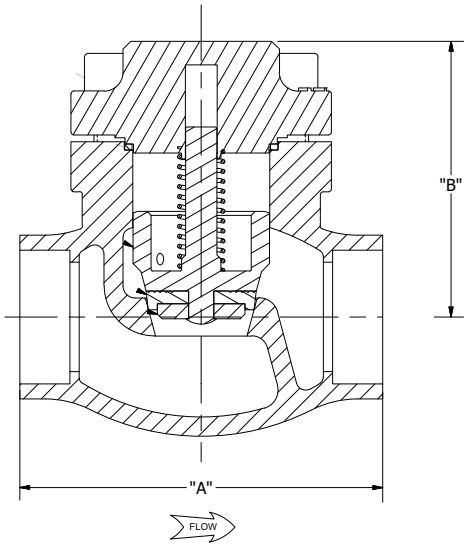
Features

- Soft Seat: Dyneon™ TFM1600 material enables bubble tight sealing performance under cryogenic conditions
- Seat Disc: Conical seat design provides higher Cv and a bubble tight seal
- Seat Assembly: One-piece assembly with no small pieces prevent possible dislodge of material during vibration that could damage downstream equipment or potentially cause an explosion
- Seat Holder: Lower position guiding ensures repeatability of tight reseal
- Spring: 316Ti material provides repeatable, lasting performance when exposed to cryogenic liquid
- Opening Pressure: 1.5 PSIG (0.1 BARG)
- Sizes: ½" through 2"
- Connection: SCH 10 Socket Weld & Butt Weld per ASTM A312 & ASME B16.25 standards
- Temperature rating: -320°F to +185°F (-196°C to +85°C)
- Pressure rating: Cold, non-shock, 720 PSIG (50 BARG) Class 300 (PN 50)
- 100% Factory Tested
- Each valve is individually bagged and boxed to arrive in factory new condition until ready for installation
- Cleaned and packaged for oxygen service per CGA G-4.1

CV9416SW

Materials

Body ..... 316 Stainless Steel ASTM A351-CF-8M (DIN 1.4408)
Bonnet .....304 Stainless Steel ASTM A182 (DIN 1.5415)
Spring .....316Ti Stainless Steel ASTM A313 (DIN 1.4544)
Gasket .....PTFE 25% Glass Fill
Seat Disc ..... Dyneon TFM 1600
Seat Retainer.....Brass ASTM B16 (DIN 2.0375)
Bonnet Screws .....Stainless Steel ASTM 240 (DIN 1.4006)



CV9416SW

PED Certified CE

Ordering Information

Part Number	Size Inches	Size DN	Connection Type	A Inches	A mm	B Inches	B mm	Cv	Kv	Weight lbs	Weight kg
CV9404SW	½"	15	Socket Weld	2.7	67	2.7	68	5.0	4.3	1.9	0.9
CV9406SW	¾"	20		2.8	70	3.6	92	9.4	8.1	3.4	1.5
CV9408SW	1"	25		2.8	70	3.6	92	14.0	12.1	3.6	1.6
CV9412SW	1½"	40		3.1	79	4.8	121	28.3	21.6	7.0	3.2
CV9416SW	2"	50		4.2	106	5.8	146	53.0	45.8	12.2	5.6
CV9404BW	½"	15	Butt Weld	2.7	67	2.7	68	5.0	4.3	1.9	0.9
CV9406BW	¾"	20		2.8	70	3.6	92	9.4	8.1	3.4	1.5
CV9408BW	1"	25		2.8	70	3.6	92	14.0	12.1	3.6	1.6
CV9412BW	1½"	40		3.1	79	4.8	121	28.3	21.6	7.0	3.2
CV9416BW	2"	50		4.2	106	5.8	146	53.0	45.8	12.2	5.6

Stainless Steel Swing Check Valve for Cryogenic Service
886 Series

Application

The RegO Goddard 886 Series check valve is designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations. Compatible with oxygen, nitrogen, CO2 argon and LNG.

REGO 10 YEAR WARRANTY

Features

- **Top Entry:** This bolted bonnet valve can be permanently installed in the line and services from the top
- **Construction:** Designed to prevent back flow in cryogenic systems. Higher fluid capacity (C_V) than poppet or lift check valves. 316L stainless steel investment cast body, cap and arm, according to ASME B16.34
- **Sizes:** ½" through 4" (15mm through 100mm)
- **Ends:** Socket weld and butt weld schedule 10 and 40
- **Temperature Rating:** -320°F to 150°F (-196°C to +66°C)
- Cleaned for Oxygen Service per CGA G-4.1.
- **Pressure Rating:** (Cold, Non-shock)
  400 psig (27 barg) ½" - 2"
  275 psig (19 barg) 150# ANSI Class 3" and 4"
  720 psig (50 barg) 300# ANSI Class 3" and 4"
  PED Approved
- **Note: Do not use for reciprocating gas service**
- **Our investment cast stainless steel is specified by leading industrial gas companies for storage tank and yard operations**
- **Ideal for liquid atmospheric gases and LNG storage and handling**
- **High cycle life and superior sealing**
- **Valves for hydrogen service can be supplied (-425°F to +350°F) (-254° C to 176° C.)**
- **Cracking Pressure:** 0.5 psig (0.03) barg

886 Series

Ordering Information

886

Stainless Steel Swing Check Valves
Soft Seat

GRAFOIL® Gasket - Hydrogen Service - Socket Weld

Part Number	Valve Size		End Connection	Seat	Pressure Rating	Estimated C_V (Kv)	Weight	
	Inches	mm					Lbs.	Kg
S-886GF-4S	½"	15 mm	Socket Weld	Soft	400 (27.5 barg)	18.00 (15.57)	3	1.36
S-886GF-8S	1"	25 mm				61.00 (52.76)	11	4.98
S-886GF-12S	1½"	40 mm					17	7.71

PTFE Gasket - Socket Weld

Part Number	Valve Size		End Connection	Seat	Pressure Rating	Estimated C_V (Kv)	Weight	
	Inches	mm					Lbs.	Kg
S-886-4S	½"	15 mm	Socket Weld	Soft	400 (27.5 barg)	18.00 (15.57)	3	1.36
S-886-8S	1"	25 mm				61.00 (52.76)	11	4.98
S-886-12S	1½"	40 mm					17	7.71

Stainless Steel Swing Check Valve for Cryogenic Service
886 Series

PTFE Gasket - Buttweld

Part Number	Valve Size		End Connection	Seat	Butt Weld Schedule	Pressure Rating	Estimated C_V (Kv)	Weight	
	Inches	mm						Lbs.	Kg
S-886-4WA	½"	15 mm	Butt Weld	Soft	10	400 (27.5 barg)	4.50 (3.89)	3	1.36
S-886-8WA	1"	25 mm					18.00 (15.57)	11	4.98
S-886-12WA	1½"	40 mm					61.00 (52.76)	17	7.71
S-886-16W3A	2"	50 mm				720 (50 barg)	99.00 (85.63)		
S-886-24WA	3"	80 mm				275 (19 barg)	225.00 (194.62)	47	21.31
S-886-24WJ	3"	80 mm			40			46	20.86
S-886-32W3J	4"	100 mm				720 (50 barg)	475.00 (410.87)	95	43.09
S-886-32WA	4"	100 mm			10	275 (19 barg)			

886M

Stainless Steel Swing Check Valves - Metal Seat

PTFE Gasket - Socket Weld

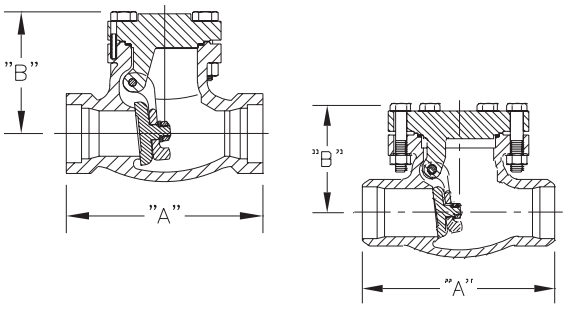
Part Number	Valve Size		End Connection	Seat	Pressure Rating	Estimated C_V (Kv)	Weight	
	Inches	mm					Lbs.	Kg
S-886M-4S3	½"	15 mm	Socket Weld	Metal	720 (50 barg)	4.50 (3.89)	3	1.36
S-886M-8S3	1"	25 mm				18.00 (15.57)	11	4.98
S-886M-12S3	1½"	40 mm				61.00 (52.76)	17	7.71

Butt Weld Ends

Part Number	Valve Size		End Connection	Seat	Butt Weld Schedule	Pressure Rating	Estimated C_V (Kv)	Weight	
	Inches	mm						Lbs.	Kg
S-886M-16W3A	2"	50 mm	Butt Weld	Metal	10	720 (50 barg)	99.00 (85.63)	17	7.71
S-886M-24W3J	3"	80 mm			40		225.00 (194.62)	46	20.86
S-886M-24W3A	3"				10				
S-886M-32WA	4"	100 mm				275 (19 barg)	475.00 (410.87)	95	43.09
S-886M-32W3J	4"				40	720 (50 barg)			

Butt Weld Ends with GRAFOIL® Gasket for Hydrogen Service

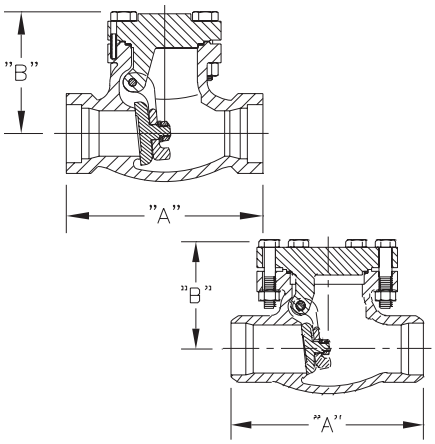
Part Number	Valve Size		End Connection	Seat	Butt Weld Schedule	Pressure Rating	Estimated C_V (Kv)	Weight Lbs.	
	Inches	mm						Lbs.	Kg
S-886MGF-16W3A	2"	50 mm	Butt Weld	Metal	10	720 (50 barg)	99.00 (85.63)	17	7.71
S-886MGF-24W3A	3"	80 mm					225.00 (194.62)	46	20.86



886

Pressure Rating 300 psig (20 barg) Non-Shock Cold,
Temperature Rating +150° F to - 325° F (+65°C to -198°C)

Size		"A"		"B"	
inches	mm	inches	mm	inches	mm
½"	12.7	4¼"	107.95	2½"	63.5
¾"	19.05	5"	127	3¼"	82.55
1"	25.4				
1½"	38.1	6½"	165.1	4"	101.6
2"	50.8	8"	203.2	4½"	107.95



886M

Service 300 Class 720 psig (50 barg) Non-Shock Cold,
Temperature Rating +150° F to - 325° F (+65°C to -198°C)

Size		"A"		"B"		Butt Weld End Schedule
inches	mm	inches	mm	inches	mm	
1½"	38.1	6½"	165.1	4"	101.6	10
2"	50.8	8"	203.2	4½"	107.95	
3"	76.2	9½"	241.3	5¾"	146.05	10 & 40
4"	101.6	11½"	292.1	8⅜"	212.85	10
		14"	355.6			40

Size		"A"		"B"		End	End Dimension
inches	mm	inches	mm	inches	mm		
½"	12.7	$2^{7}/_{16}$"	61.97	4¼"	107.69	Socket Weld	SCH 10
							½" Pipe Socket

Inline Check Valves
CG Series Gas and Cryogenic Check Valves

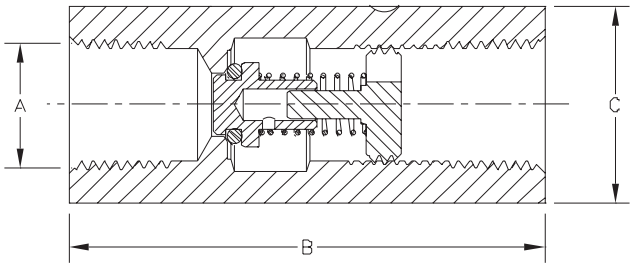
Application
Inline check valves with metal seat option for cryogenic service or with soft seat option for leak free operation in gas service.

Features
- One directional flow indicated by arrow on body
- Large Cv for high flow capability and low pressure drop
- Working temperature range:
  -320° F to +165° F (-195°C to +74°C) for metal seats
  -20° F to +165° F (-20°C to +74°C) for soft seats
- 1 psig opening pressure
- Cleaned for use in oxygen service per CGA G-4.1

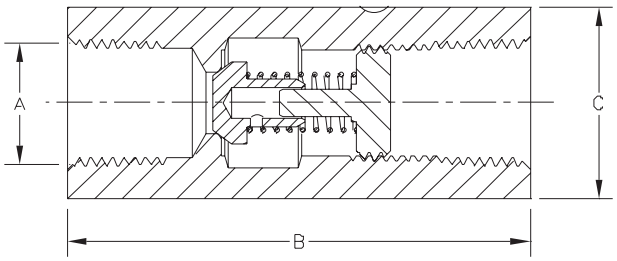
REGO 10 YEAR WARRANTY

Materials
Body (B and BL suffix) ..... ASTM B16 Brass
Body (SS and SSL suffix) ..... 203 Stainless Steel
Spring ..... Stainless Steel
Piston ..... Stainless Steel
O-Ring (soft seat option units only) ..... Viton
Metal Seat ..... 303 Stainless Steel

CG Series



Soft Seat Option



Metal Seat Option

Ordering Information

Part Number	Seating Option	Inlet/Outlet Connections FNPT A	Length B		Wrenching Hex Size C		Cv (Kv)	Maximum Operating Pressure
			inches	mm	inches	mm		
Stainless Steel Check Valves								
CG250SS	Metal	¼"	2⅜"	60.45	13/16"	20.57	.87 (0.75)	5000 psig (345 barg)
CG375SS		⅜"	2½"	63.50	1"	25.4	2.3 (1.98)	
CG500SS		½"	3"	76.20	1⅛"	28.575	3.5 (3.02)	
CG750SS		¾"	3⅝"	92.20	1 1/2"	38.1	5.2 (4.49)	
CG250SSL	Soft	¼"	2⅜"	60.45	13/16"	20.57	.87 (0.75)	250 psig (17.2 barg)
CG375SSL		⅜"	2½"	63.50	1"	25.4	2.3 (1.98)	
CG500SSL		½"	3"	76.20	1⅛"	28.575	3.5 (3.02)	2000 psig (138 barg)
CG750SSL		¾"	3⅝"	92.20	1½"	38.1	5.2 (4.49)	
Brass Body Check Valves								
CG250B	Metal	¼"	2⅜"	60.45	13/16"	20.57	.87 (0.75)	3000 psig (207 barg)
CG375B		⅜"	2½"	63.50	1"	25.4	2.3 (1.98)	
CG500B		½"	3"	76.20	1⅛"	28.575	3.5 (3.02)	
CG750B		¾"	3⅝"	92.20	1½"	38.1	5.2 (4.49)	
CG250BL	Soft	¼"	2⅜"	60.45	13/16"	20.57	.87 (0.75)	250 psig (17.2 barg)
CG375BL		⅜"	2½"	63.50	1"	25.4	2.3 (1.98)	
CG500BL		½"	3"	76.20	1⅛"	28.575	3.5 (3.02)	2000 psig (138 barg)
CG750BL		¾"	3⅝"	92.20	1½"	38.1	5.2 (4.49)	

RegO® Check Valves
NG304 Series

Application

The NG304 series is specifically designed to prevent backflow (reverse flow) in applications of LNG fuel tanks and LNG facilities. These valves permit the safe refill operation of the LNG tanks and the maintenance process of the fill receptacle, ensure reliable performance at cryogenic temperatures.

REGO 10 YEAR WARRANTY

NG304

NG304SSA

Features

NG304

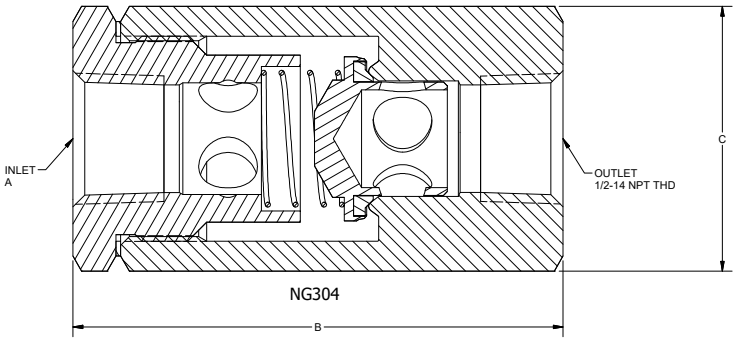
- Maximum inlet pressure 1000 psig (69 barg)
- 100% factory tested
- Temperature Range: -320º F to 165ºF (-196ºC to 74ºC)
- Designed in accordance with & approved by ECE R110

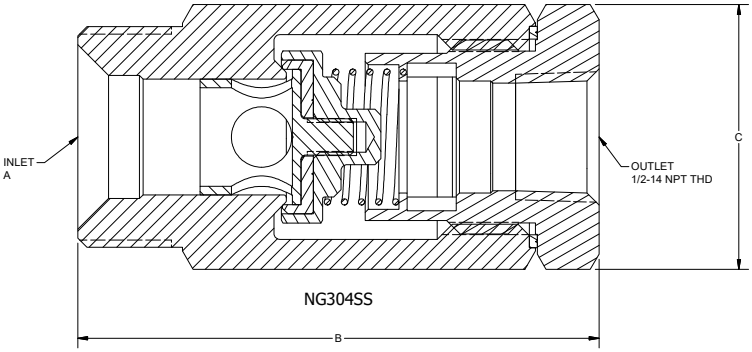
Materials for NG304

Body ..... Brass ASTM B16 C36000
Spring ..... Stainless Steel 302 ASTM A313
Gasket ..... Copper ASTM B152 UNS C11000
Poppet ..... Brass ASTM B16 UNS C36000
Seat Disc ..... PTFE Virgin Teflon

Materials NG304SS

Body ..... Stainless Steel 304 ASTM276
Spring ..... Stainless Steel 302 ASTM A313
Gasket ..... Copper ASTM B152 UNS C11000
Poppet ..... Brass 360 FC (UNS C36000 PER ASTM B16)
Seat Disc ..... UHMWPE (ASTM D4020)





Ordering Information

Part Number	Body Material	Connection (A)	B		C		Weight Lbs		Silver Plated End Piece
			Inches	mm	Inches	mm	Lbs	Kg	
NG304	Brass	Threaded FNPT F ½	3.135	80	1.5 (Hex)	38	1.25	0.6	N/A
NG304SSA	Stainless Steel	M36x2 Male	3.346	85			1.10	0.5	
NG304SSB		M30x1.5 Male	2.953	75					
NG304SSC		½"-14 NPT Female							
NG304SSAP		M36x2 Male	3.346	85					Yes
NG304SSBP		M30x1.5 Male							
NG304SSCP		½"-14 NPT Female	2.953	75					

3” Flanged Internal Valves for Bobtail Delivery Trucks, Transports and Large Stationary Storage Containers TA3217

Application

Designed primarily for CO_2 filling and/or withdrawal on 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.

REGO 10 YEAR WARRANTY

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

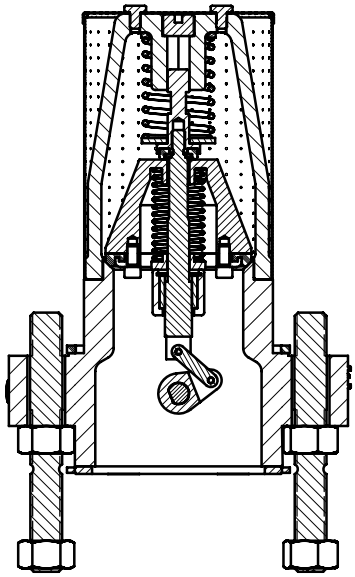
Less Frequent-Easier Maintenance

- 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. (-40°C to +74°C) and a pressure rating of 400 psig (28 barg)
- 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

TA3217



Ordering Information

Part Number		Operating Lever Position	Inlet Connection	Outlet Connection	Closing Flow GPM CO_2	Accessories: Pneumatic Actuator Right Operation	Accessories: Pneumatic Actuator Left Operation
TA3217AR410	TA3217AL410	Right or Left	3” 300# ANSI RF Modified Flange*	3” 300# ANSI RF Flange	410	A3217RA	A3217LA

* Valve supplied with 16 nuts and 8 studs for mounting.

Heavy Duty Gas Line Regulator
1780 Series

Application

The 1780 Series Regulators are designed for final line pressure regulation on gas distribution systems. They are suitable for a variety of gases in medical or industrial applications. The 1780 Series Regulators have a balanced seat, are constructed with oxygen compatible materials, and have the same valve design, brass body, and internal parts as the premium BR-1780 Series. Flow performance is equal to the BR-1780 Series. Compatible with oxygen, nitrogen, argon, hydrogen, helium, CO_2, and LNG.

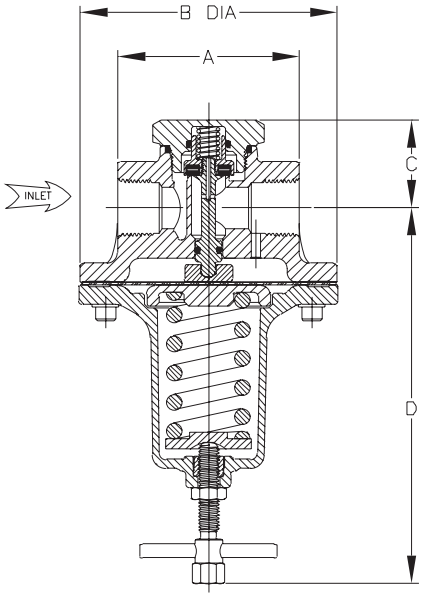
REGO 10 YEAR WARRANTY

1780 Series

Features

- Maintains a steady downstream pressure across a range of inlet pressures commonly provided by a cryogenic bulk tank
- Large seat and diaphragm areas provide high capacity with sensitive control of delivery pressure with low falloff
- Two ¼" FNPT delivery pressure gauge ports are located (plugged) on each side of the valve
- Two bonnet drain/vent holes to allow for different mounting orientation
- T-handle adjusting screw
- Maximum inlet pressure is 500 psig (34.5 barg)
- Available in four delivery pressure ranges (A-D)
- Temperature range: -40° F to +165° F. (-40°C to +74°C)
- Cleaned per CGA G-4.1 for oxygen service
- 100% Factory Tested

1780 SER



Materials

Body ..... Forged Brass
Bonnet ..... Nickel Plated Aluminum
Diaphragm ..... Nitrile with PTFE liner
Springs and Fasteners ..... Stainless Steel
Other valve parts ..... Brass
Seat Disc & O-Rings..... Viton is standard

For Carbon Dioxide or Nitrous Oxide service: Specify EPDM material for seat disc and O-rings, add "E" to end of part number.

Ordering Information

Part Number	Delivery Pressure Range	Pressure Gauge*		Inlet & Outlet (F.N.P.T.)		Dimensions								Cv (Kv)
						"A"		"B"		"C"		"D"		
		Range (psig)	P/N	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
1784A	5-55 psig (0.3-3.8 barg)	1-100	1286	½"	22	2.82"	1.28	3.62"	1.64	1.38"	.62	5.47"	2.5	3.1 (2.68)
1784B	40-110 psig (2.8-7.6 barg)	1-200	S1679											
1784C	100-200 psig (6.9-13.8 barg)	1-400	15578											
1784D	175-300 psig (12.1-20.7 barg)													
1786A	5-55 psig (0.3-3.8 barg)	1-100	1286	¾"	34	3.31"	1.50	4.69"	2.12	1.60"	.72	6.84"	3.1	4.8 (4.15)
1786B	40-110 psig (2.8-7.6 barg)	1-200	S1679											
1786C	100-200 psig (6.9-13.8 barg)	1-400	15578											
1786D	175-275 psig (12.1-19.0 barg)													
1788A	5-55 psig (0.3-3.8 barg)	1-100	1286	1"	45									5.5 (4.75)
1788B	40-110 psig (2.8-7.6 barg)	1-200	S1679											
1788C	100-200 psig (6.9-13.8 barg)	1-400	15578											
1788D	175-275 psig (12.1-19.0 barg)													

*Regulator sold without gauge. Order gauge separately.

Heavy Duty Brass Final Line Pressure Regulator
BR-1780 Series

Application

BR-1780 Series Regulators are designed for final line pressure regulation on medical oxygen systems. They are equally suitable for a variety of gases in medical or industrial applications. The BR-1780 Series Regulators have a balanced seat, are constructed with oxygen compatible materials, and offer a tamper resistant adjustment screw cap. Flow performance is impressive as well offering up to 30,000 SCFH for the ¾" and 1" model and up to 20,000 SCFH for the ½" model. Compatible with oxygen, nitrogen, argon, hydrogen, helium, CO_2, and LNG.

REGO 10 YEAR WARRANTY

BR-1784

BR1786 and BR1788

Features

- Maintains a steady downstream pressure across a range of inlet pressures commonly provided by a cryogenic bulk tank
- Large seat and diaphragm areas provide high capacity with sensitive control of delivery pressure with low falloff
- Two ¼" FNPT plugged delivery pressure gauge ports are located on each side of the valve
- Two bonnet drain/vent holes to allow for various mounting orientations
- Bonnet cap covering adjusting screw for tamper protection
- Maximum inlet pressure is 500 psig (34.5 barg)
- Available in four delivery pressure ranges. (A-D)
- Temperature range: -40° F to +165° F. (-40ºC to +74ºC)
- Cleaned per CGA G-4.1 for oxygen service
- 100% Factory Tested

Materials

Body ..... Forged Brass
Bonnet ..... Forged brass
Diaphragm ..... Nitrile with PTFE liner
Springs, fasteners, and adjusting screw ..... Stainless Steel
Other valve parts ..... Brass
Seat Disc & O-Rings ..... Viton is standard

For Carbon Dioxide and Nitrous Oxide Service: Specify EPDM material for seat disc and 0-Rings, add "E" to end of part number.

Ordering Information

Part Number	Delivery Pressure Range	Pressure Gauge*		Inlet & Outlet (F.N.P.T.)		Dimensions								Cv (Kv)
						"A"		"B"		"C"		"D"		
		Range (psig)	P/N	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	
BR-1784A	5-55 psig (0.3-3.8 barg)	1-100	1286	½"	12.7	2.82"	71.62	3.62"	91.94	1.38"	35.05	5.21"	132.33	3.1 (2.68)
BR-1784B	40-110 psig (2.8-7.6 barg)	1-200	S1679											
BR-1784C	100-200 psig (6.9-13.8 barg)	1-400	15578											
BR-1784D	175-300 psig (12.1-20.7 barg)													
BR-1786A	5-55 psig (0.3-3.8 barg)	1-100	1286	¾"	19.05	3.31"	84.07	4.69"	119.12	1.60"	40.64	6.46"	164.08	4.8 (4.15)
BR-1786B	40-110 psig (2.8-7.6 barg)	1-200	S1679											
BR-1786C	100-200 psig (6.9-13.8 barg)	1-400	15578											
BR-1786D	175-275 psig (12.1-19.0 barg)													
BR-1788A	5-55 psig (0.3-3.8 barg)	1-100	1286	1"	25.4									5.5 (4.75)
BR-1788B	40-110 psig (2.8-7.6 barg)	1-200	S1679											
BR-1788C	100-200 psig (6.9-13.8 barg)	1-400	15578											
BR-1788D	175-275 psig (12.1-19.0 barg)													

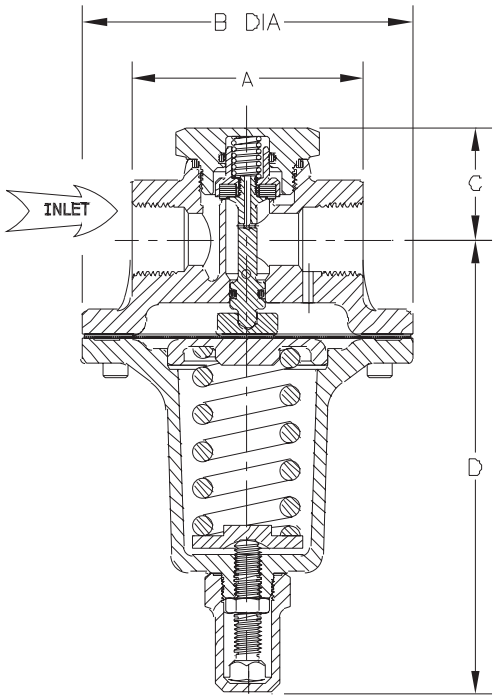
*Regulator sold without gauge. Order gauge separately.

Heavy Duty Brass Final Line Pressure Regulator
BR-1780 Series

Flow Performance

See the RegO Flow Performance Curves section of the catalog for more detailed flow curves.

For Carbon Dioxide or Nitrous Oxide Service, add “E” to end of part number.



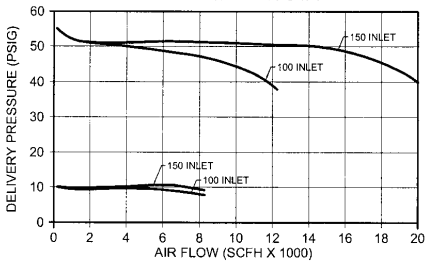
Maintenance and Options Kits

Regulator Models	BR1784	BR1786	BR1788
Repair Kit Part Number	BR-1784-80	BR-1786-80	BR-1786-80
Spring Kit Part Numbers:			
“A” spring 5 –55 psig (.34-3.79 barg)	BR-1784-7SKA	BR-1786-7SKA	BR-1788-7SKA
”B” spring 40-110 psig (2.75-7.58 barg)	BR-1784-7SKB	BR-1786-7SKB	BR-1788-7SKB
”C” spring 100-200 psig (6.89-13.78 (barg)	BR-1784-7SKC	BR-1786-7SKC	BR-1788-7SKC
”D” spring 175-275 psig (12-19 barg) 300 psig (20 barg) for 1784	BR1784-7SKD	BR1786-7SKD	BR1788-7SKD
T-Handle Screw Option Kit	BR-1784ST	BR-1786ST	BR-1786ST

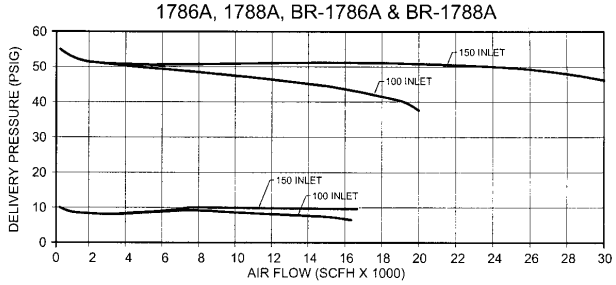
Heavy Duty Line Regulators Performance Curves
1780 Series & BR-1780 Series

"A" spring range 5 - 55 psig

1784A & BR-1784A



1786A, 1788A, BR-1786A & BR-1788A

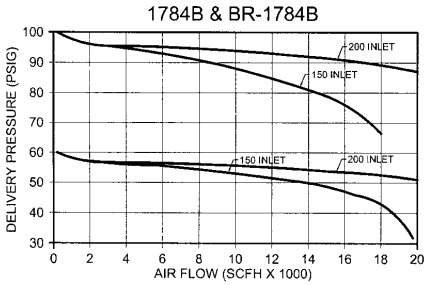


Gas Conversion Table

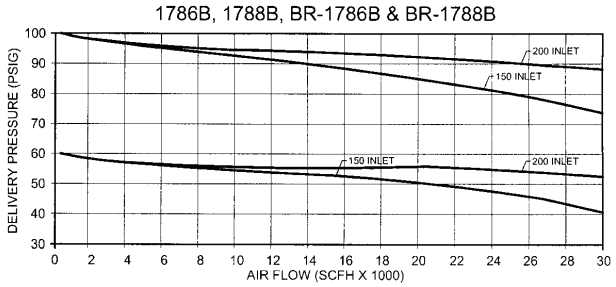
Service	Multiply Air Capacity By:
Fuel Gases	0.86
Helium	2.69
Hydrogen	3.79
Nitrogen	1.02
Natural Gas	1.25
Acetylene (15 psi max.)	1.06
Argon	0.85
Carbon Dioxide	0.81
Nitrous Oxide	0.81
Oxygen	0.95

"B" spring range 40 - 110 psig

1784B & BR-1784B

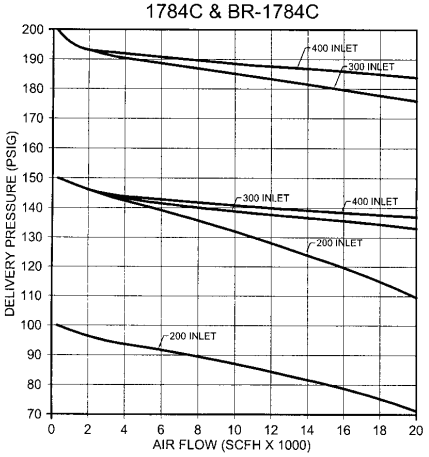


1786B, 1788B, BR-1786B & BR-1788B

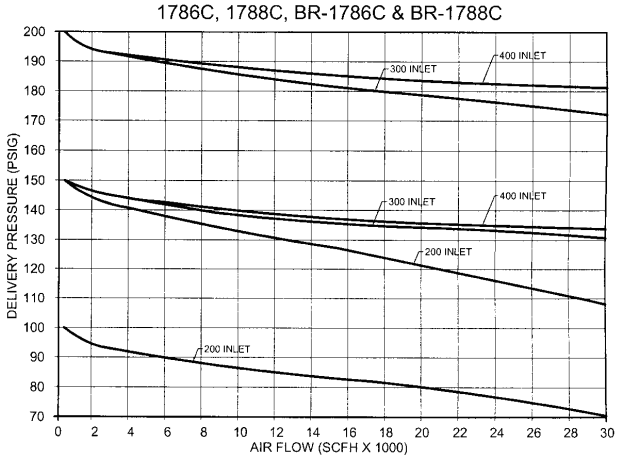


"C" spring range 100 - 200 psig

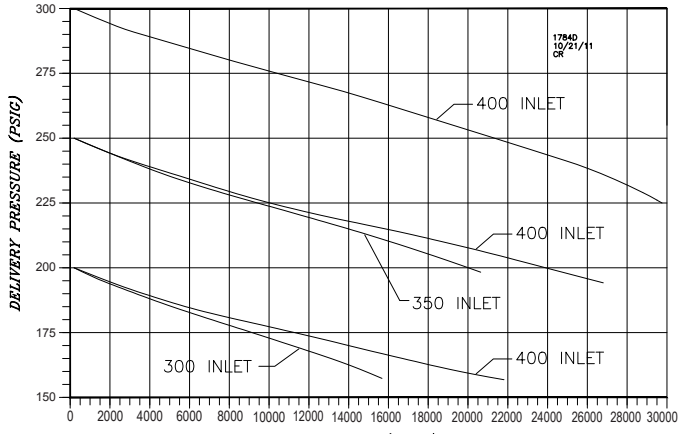
1784C & BR-1784C



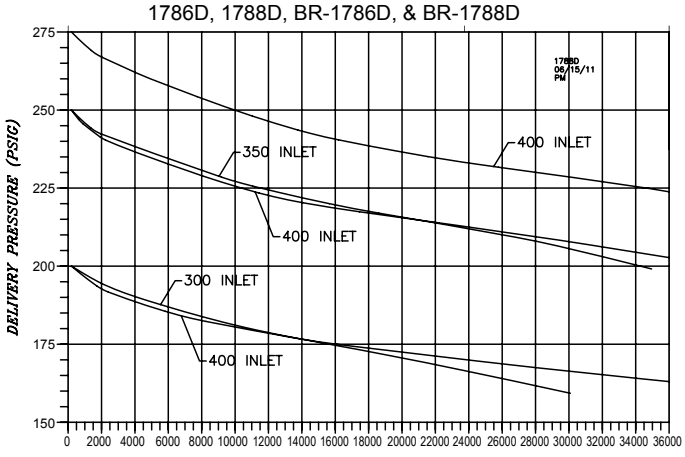
1786C, 1788C, BR-1786C & BR-1788C



1784D & BR1784D



1786D, 1788D, BR-1786D, & BR-1788D



Aluminum Pressure Regulators
1682M Series & C-1682M Series

Application

The 1682M Series Regulators are designed primarily for second stage regulation of a variety of gases in industrial and hospital piping systems and manifolds. The C-1682M Series is specifically designed for use with Carbon Dioxide.

REGO 10 YEAR WARRANTY

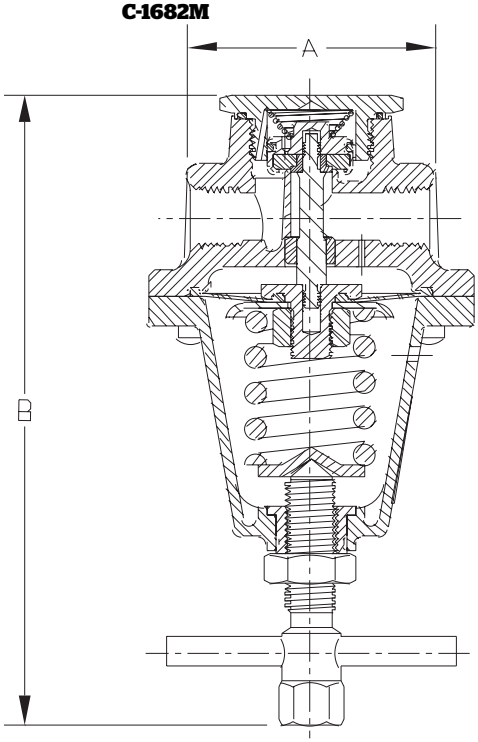
Features

- Maximum inlet pressure is 400 psig (28 barg)
- Two ¼" F.NPT gauge ports are located 180° apart to allow for gauge mounting in convenient positions
- Each 1680M Series regulator is cleaned and packaged for oxygen per CGA G-4.1
- 100% Factory Tested
- T-handle adjusting screw
- Available in three delivery pressure ranges
- Temperature Range: -40° F to +165°F (-40ºC to +74ºC)

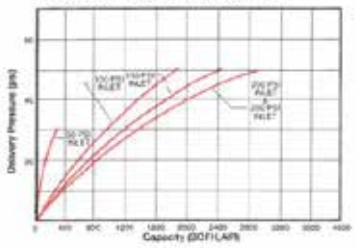
Materials

Body ..... Forged Aluminum
Bonnet ..... Aluminum
Seat Disc (1682M)..... Neoprene
Seat Disc (C-1682M)..... EPDM
Diaphragm (1682M)..... Neoprene
Diaphragm (C-1682M)..... EPDM

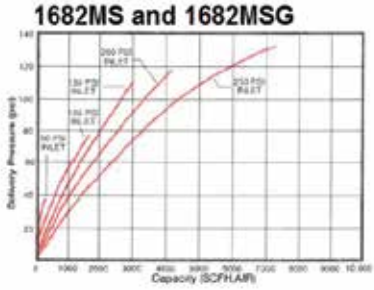
C-1682M



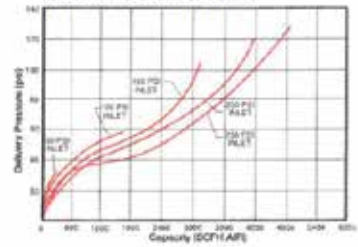
1682ML and 1682MLG



1682MS and 1682MSG



1682M and 1682MG



Ordering Information

Part Number		Delivery Pressure Range (psig)	Pressure Gauge		Inlet & Outlet Connection (F.NPT)		Width A		Maximum Height B	
			Range psig (barg)	Part Number	Inches	mm	Inches	mm	Inches	mm
1682ML	C-1682ML	5-50 psig (0.3-3.4 barg)	*	*	¼"	6	2 3/16"	56	4 ⅛"	105
1682MLG	C-1682MLG		1-100 (6.89)	1286						
1682M	C-1682M	50-125 psig (3.4-8.6 barg)	*	*						
1682MG	C-1682MG		1-200 (13.78)	S1679						
1682MS	C-1682MS	100-250 psig (6.9-17.2 barg)	*	*						
1682MSG	C-1682MSG		1-400 (27.57)	15578						

* Pressure gauge not included.

Automatic Changeover Regulators
M2523HP Series

Application

M2523HP series automatic changeover regulators are designed especially for use in systems where a reserve cylinder is used to provide a continuous, uninterrupted supply of gas. These regulators are suitable for use with carbon dioxide, hydrogen, oxygen, industrial air, nitrous oxide, nitrogen, helium and argon.

Features

- Automatically withdraws from the reserve cylinder after exhausting the "service" cylinder
- Cylinder pressure gauges let you know at a glance the contents of each cylinder is in use. There is no need to shutdown the system to replace empty cylinders
- Nickel plated
- 100% Factory Tested
- Cleaned per CGA G-4.1 for oxygen service
- Porous bronze filters are installed in each inlet to minimize the entry of foreign particles
- Back pressure check valves are installed in each inlet to help assure positive shut-off in case of reverse flow
- Each unit comes complete with mounting bracket and a special delivery pressure adjustment wrench
- Factory set at 50 psig (3.44 barg) on service side. CO_2 and N_2O regulators are factory set at 100 psig (6.89 barg) on service side

Conversion Table

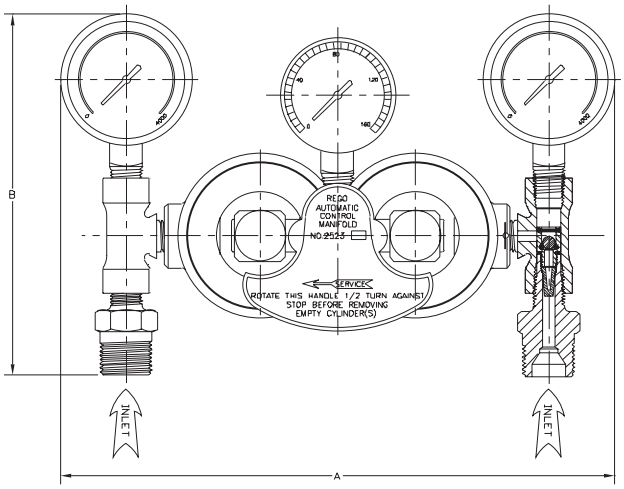
Source	Multiply
Carbon Dioxide	.81
Nitrogen	1.02
Nitrous Oxide	.81
Argon	.85
Oxygen	.95
Helium	2.69
Hydrogen	3.79

REGO 10 YEAR WARRANTY

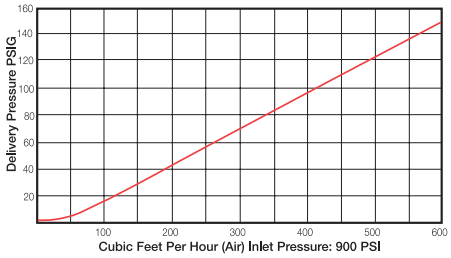
M2523HP Series

Materials

Body ..... Brass
Bonnet ..... Brass
Seat Disc (all gases except CO_2) ..... Viton
Seat Disc (CO_2 Only) ..... Butyl Rubber
Diaphragm (all gases except CO_2) ..... Neoprene
Diaphragm (CO_2 Only) ..... Buna N
Handle ..... Aluminum
Bonnet Spring ..... Steel
Backcap Spring ..... Stainless Steel



Performance Chart



Ordering Information

Part Number	Gas Service	CGA Inlet Connection	Outlet Connection		Width A		Height B		Maximum Inlet Pressure	Delivery Pressure Range	Accessory Regulators
			Inches	mm	Inches	mm	Inches	mm			
M2523HP320	Carbon Dioxide	320	¼" F.NPT	6	7¾"	196	5⅛"	130	1800 psig (124.2 barg)	30-130 psig (2.1-8.9 barg)	BR-1784E, 1784E C-1682 M Series
M2523HP326	Nitrous Oxide	326									
M2523HP350	Hydrogen	350							3000 psig (202 barg)		1784 Series 1682 M Series BR 1784 Series
M2523HP540	Oxygen	540									
M2523HP580	Nitrogen, Argon, Helium	580									
M2523HP590	Industrial Air	590									

Low Pressure Line Regulators
4403 Series

Application

The 4403 series regulators provide very sensitive control of a variety of gases at low pressures. The large molded diaphragm assures responsive regulation with inlet pressures up to 250 psig.

REGO 10 YEAR WARRANTY

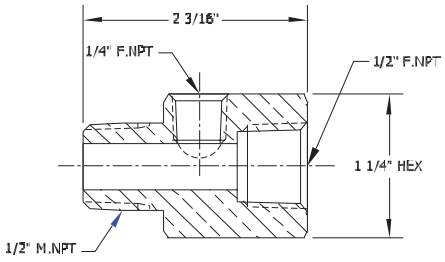
LV4403C2H42

Features

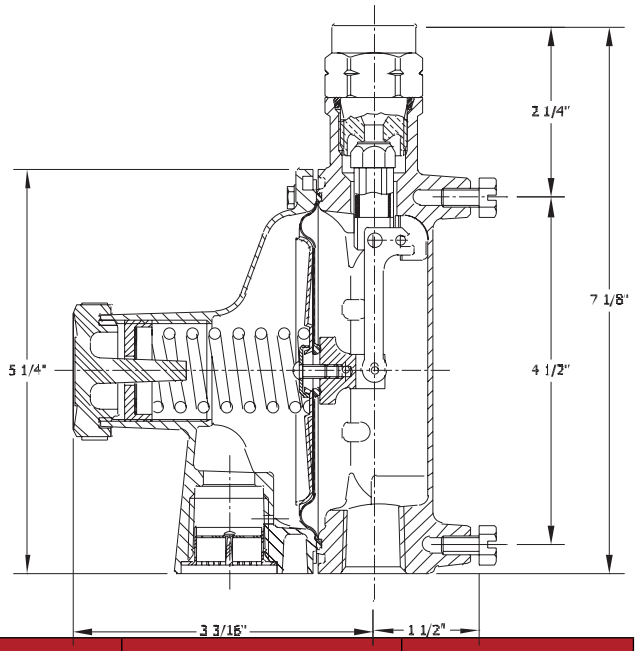
- Large molded diaphragm provides highly sensitive and accurate low pressure control
- Zinc body and bonnet resist corrosion and provide longer life
- Teflon seat disc, teflon faced diaphragms, and stainless steel nozzles make the T4403J regulators compatible with a variety of gases
- LV4403C2H42 features integral relief valve set at 3 psig (0.2 barg)
- Adjusting screw is concealed by a plastic cap which helps prevent pressure adjustments by unauthorized personnel
- Pressure gauge adapter available part # 1494-1
- Working temperature range is -40°F to +165°F. (-40ºC to +74ºC)
- Not suitable for oxygen applications

Materials

Body ..... Zinc
Bonnet ..... Zinc
Diaphragm ..... T4403J, 4403W, S4, T4, U4 Teflon Faced Buna N
4403WP4, R4 ..... Buna N
(LV4403C) ..... Integrated Fabric and Synthetic Rubber
Spring ..... Steel
Seat (T4403J) ..... PTFE
(4403W) (LV4403C) ..... Buna N
Nozzle (T4403J) ..... Stainless Steel
(4403W, LV4403C) ..... Brass



1494-1
PREESURE GAUGE ADAPTER



Ordering Information

Part Number	Inlet Connection		Outlet Connection		Factory Delivery Pressure*	Delivery Adjustment Range	Relief Setting
	Inches	mm	Inches	mm			
4403W-P4	½" F.NPT	13	½" F.NPT	13	5" w.c.	3.5 - 6" w.c.	None
4403W-R4					25" w.c.	15 - 28" w.c.	
4403W-S4					5 psig (0.34 barg)	1-5 psig (0.07-0.34 barg)	
4403W-T4					10 psig (0.69 barg)	5-10 psig (0.34-0.69 barg)	
4403W-U4					15 psig (1.03 barg)	10-15 psig (0.69-1.03 barg)	
LV4403C2H42	¼" F.NPT	6			1.5 psig (0.1 barg)	1.5 psig (0.1 barg)	3 psig (0.21 barg) ± 20%
T4403JS2					5 psig (0.34 barg)	1-5 psig (0.07-0.34 barg)	None
T4403JT2					10 psig (0.69 barg)	5-10 psig (0.34-0.69 barg)	

* Based on 50 psig inlet pressure. LV4403C2H42 based on 100 psig inlet pressure.

Inertrol Outfits
4286 Series, 4289 Series & 4291 Series

Application

The 4286, 4289, and 4291 series Inertrol outfits are three stage nitrogen regulators especially designed to maintain oil filled transformer atmospheres at 0.5 psig (.03 barg). Each Inertrol outfit consists of a two-stage regulator connected in series to a highly sensitive single-stage regulator which maintains the 0.5 psig (.03 barg) pressure. A built-in pressure relief valve in the third stage regulator helps protect against over-pressurization of the system.
Inertrol units are designed for oil-filled transformers manufactured by ABB, Inc., General Electric, and Cooper Power. Some outfits are equipped with an alarm switch that activates a customer equipped warning device should the cylinder pressure drop below 300 psig (20 barg) .

REGO 10 YEAR WARRANTY

Features

- Heavy duty brass and aluminum construction resists corrosion and provides for longer life
- The 4289 series incorporates a special by-pass valve to allow for quick filling of the transformer
- Hidden pressure adjusting screw helps protect against tampering by unauthorized personnel
- Large diameter diaphragm in the third-stage regulator provides for sensitive and precise control of the gas flow
- Maximum inlet pressure - 3000 psig (206 barg)

Materials

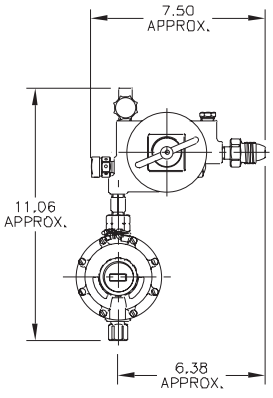
Two-Stage Regulator:

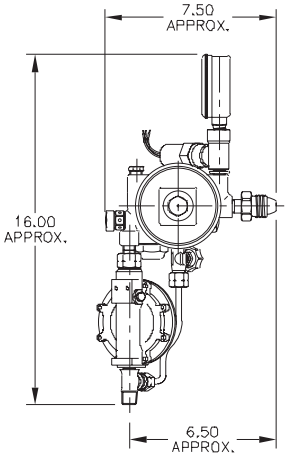
Body ..... Brass
Bonnet ..... Brass
Diaphragms ..... Synthetic Rubber
1st Stage Seat Disc ..... Nylon
2nd Stage Seat Disc ..... Neoprene

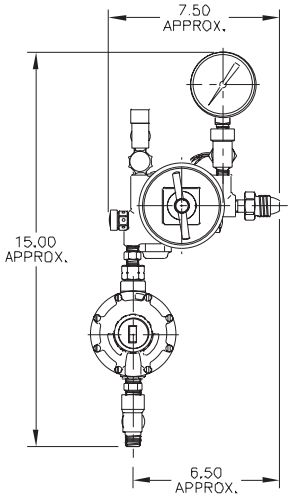
Third-Stage Regulator:

Body ..... Zinc
Bonnet ..... Zinc
Diaphragm ..... Buna N
Seat Disc ..... Buna N

Inertrol Outfit







Ordering Information

4286A580 4289 Series 4291A

Part Number	Gas Service	Inlet	Outlet		Two Stage Regulator Part number	Third Stage Regulator Part Number	Alarm Gauge	Transformer Manufacturer
			Inches	mm				
4286A580	Nitrogen	CGA580	⅛" NPT	3	4286A-2NW	LV4286-10-8	None	ABB, Inc.
4289AG			9⁄16" -18 L.H.	14	4289A-2G	LV4289-10	4285-9B	General Electric
4289G							None	
4291A			⅜" NPT	.9	4291B-2P	LV4286-10-8	4285-9B	Cooper Power

High Pressure Gas Regulator
4200 Series

Application

4200 Series high-pressure regulators are designed especially for use in high-pressure cylinders and are used to provide the supply of gas. These regulators are suitable for use with industrial air, nitrogen, helium, and argon.

Features

- Cylinder pressure gauges let you know at a glance whether the contents of the cylinder is in use and the supply pressure
- Temperature rating: -40° F to +165°F (-40ºC to +74ºC)
- MAWP: 3000 psig (206 barg)
- Cleaned and packaged for oxygen service per CGA G-4.1
- Pressure relief valve incorporate or protection of the low pressure system
- 100% factory tested. Each valve is individually bagged and boxed to arrive in factory new condition until installation

Materials

Body ..... Brass
Bonnet ..... Brass
Seat Disc ..... Neoprene
Diaphragm .....Nitrile
Bonnet Spring..... Stainless Steel
Blackcap Spring..... Stainless Steel

REGO 10 YEAR WARRANTY

4291B-2P with 5563 & 15578

Ordering Information

New Part Numbers	Adjustment Screw Cap	Inlet Pressure	Inlet Connection	Outlet Connection	Inlet Pressure Gauge	Outlet Pressure Gauge	Gas Use
4291B-2P	No	3000 psig (206 barg)	CGA 580	¼" FNPT	5563	15578	Nitrogen, Argon, Helium, CO2/Argon mixture.
4289A-2GP	Yes						

* Pressure gauges sold separately.

Low Pressure Regulators LV4286-10 Series & LV4289-10 Series

Application

The LV4286 and LV4289 series Inertrol third-stage low pressure regulators are designed especially for secondary regulation of gaseous nitrogen on electrical transformer systems.

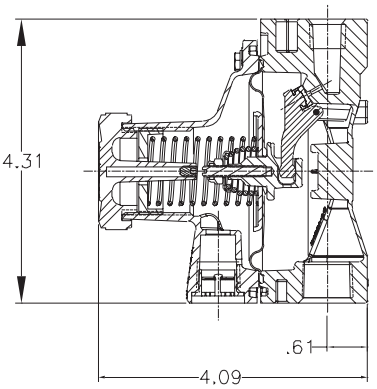
Factory preset at 14" to 15" water column delivery pressure with an inlet pressure of 5 to 10 psig.

REGO 10 YEAR WARRANTY

Features

- Large diaphragm allows for highly sensitive and accurate low pressure control
- Incorporates integral relief valves (except on LV4289-10)
- Zinc body and bonnet resist corrosion and provide longer life
- Adjusting screw is concealed by a cap to help prevent against tampering by unauthorized personnel
- Operating temperature range is -40°F to +160°F (-40°C to +71°C)

LV4286-10-8



Materials

Body ..... Zinc
Bonnet ..... Zinc
Diaphragm ..... Buna N
Seat Disc ..... Buna N
Spring ..... Steel

Ordering Information

Part Number	Inlet (NPT)	Outlet (NPT)	Delivery Pressure Setting	Relief Valve Setting
LV4286-10-5	¼"	½"	14"-15" w. c.	5 psig (.34 barg)
LV4286-10-8				8 psig (.55 barg)
LV4289-10				None

Alarm Gauges 4285-9B

Application

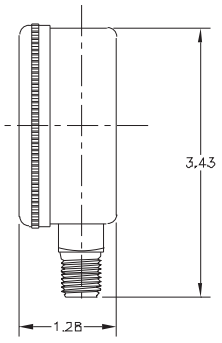
The 4285-9B inertrol alarm gauges are designed to alert the user when pressure has fluctuated ±90 psig (6.2 barg) from the 300 psig (20 barg) factory setting. Under these conditions, electrical contacts in the switch will close and set off a user-furnished alarm system.

REGO 10 YEAR WARRANTY

Features

- Solid brass gauge casing resists corrosion and provides for longer life
- Equipped with a heavy-duty, 36" long, 3-wire electrical cable
- Each gauge is factory pre-set at 300 psig (20 barg), then sealed to help prevent against tampering once in service
- Electrical circuit is rated for a maximum of 3 AMPS at 460 volts AC

4285-9B



Materials

Gauge Case ..... Brass

Ordering Information

Part Number	Inlet M.NPT	Diameter		Pressure Range psig	Adjustable	Alarm Furnished
		Inches	mm			
4285-9B	¼"	2½"	63.5	0 - 4000 (0 - 275 barg)	No	None

High Pressure Gas Master Valves
HP9560 Series

Application
The HP9560 Series high pressure brass valves are used on cylinder filling panels, tube trailers, and high pressure manifolds and piping systems. The HP9560 Series exhibits a very low operating torque under pressure for ease of manual operation.

REGO 10 YEAR WARRANTY

Features
- 5600 psig (386 barg) maximum working pressure
- Non-rising stem design with O-Ring Seal for durable service
- Large brass handwheel for easy low torque operation under pressure
- All valves cleaned for use in oxygen per CGA G-4.1
- Temperature range -40°F to +165°F(-40°C to +74°C)
- 100% Factory Tested

STANDARD BONNET VALVE

PANEL MOUNT VALVE

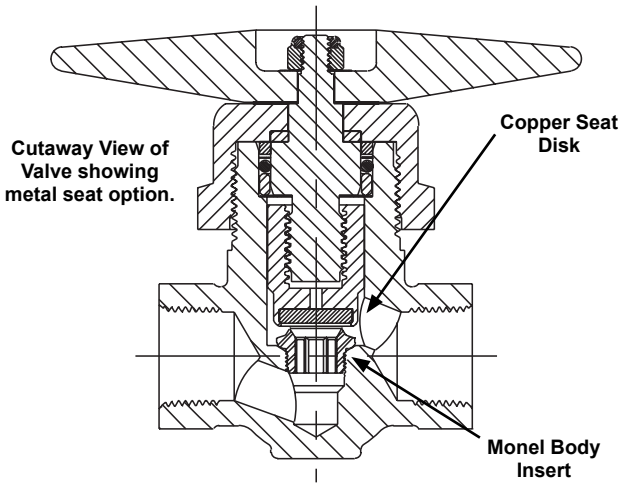
Materials
Body, bonnet, stem, and seat retainer, stem seal retaining rings and washer ..... Brass
Stem O-ring ..... Viton
Thrust bearing ..... PCTFE

Soft Seat Option
The soft seat valves use a PCTFE seat disc in the seat retainer to create a “bubble-tight” seal against a machined seat surface on the brass body. Valve Cv is 2.6. The soft seat option is especially useful for small molecule gases like hydrogen and helium, but can be used for a variety of non-corrosive industrial gases including argon, nitrogen, carbon dioxide, nitrous oxide, and acetylene.

Metal Seat Option:
A copper seat disc is used in the seat retainer to create a seal against a Monel body seat, which is installed into the body and can be replaced. Valve Cv is 2.3. The metal seat option minimizes the possibility of seat decomposition or ignition in oxygen service under adiabatic compression. The metal seat option is recommended for oxygen, and can also be used for other non-corrosive industrial gases. The metal seat option is not to be used for acetylene due to the copper seat. Not to be applied in hydrogen or helium service or where a “bubble-tight” seal is essential. (Note: C in part number)

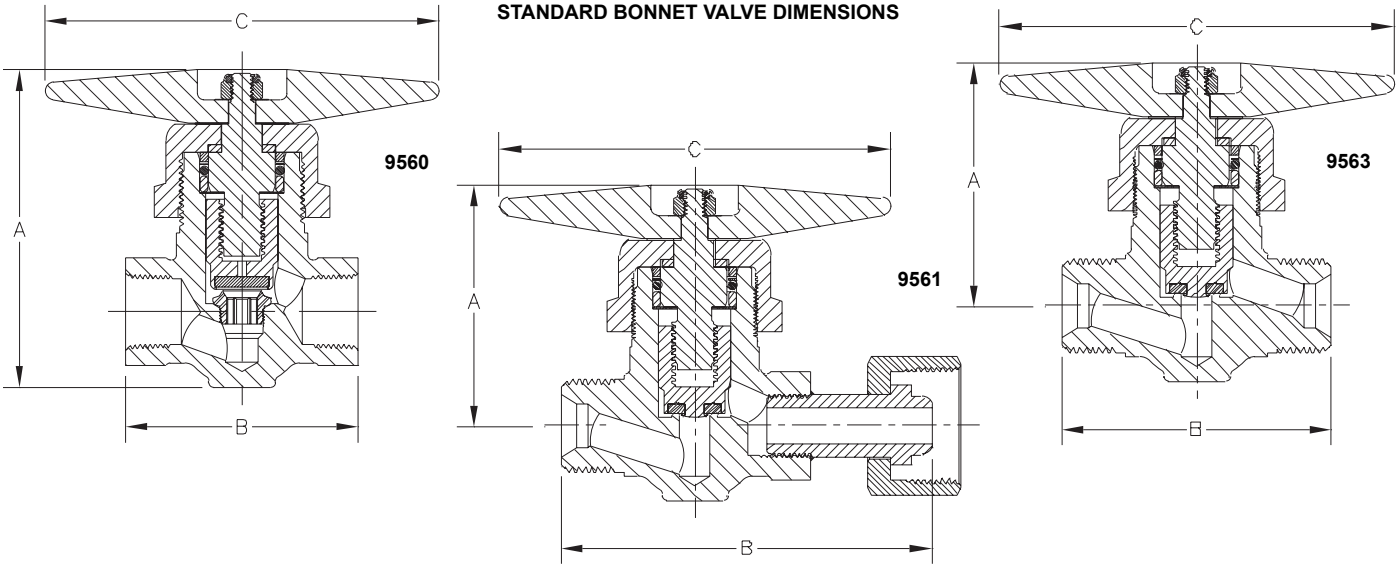
Nylon seat option: available also (ex. HP9560NB).

Bonnet Versions
- Standard Bonnet for low profile.
- Panel Mount Bonnet for ease of panel installation. Includes threaded bonnet and nickel plated brass mounting nut. Metal Seat Option 1.625” diameter panel hole required for mounting. (Note: P in part number)

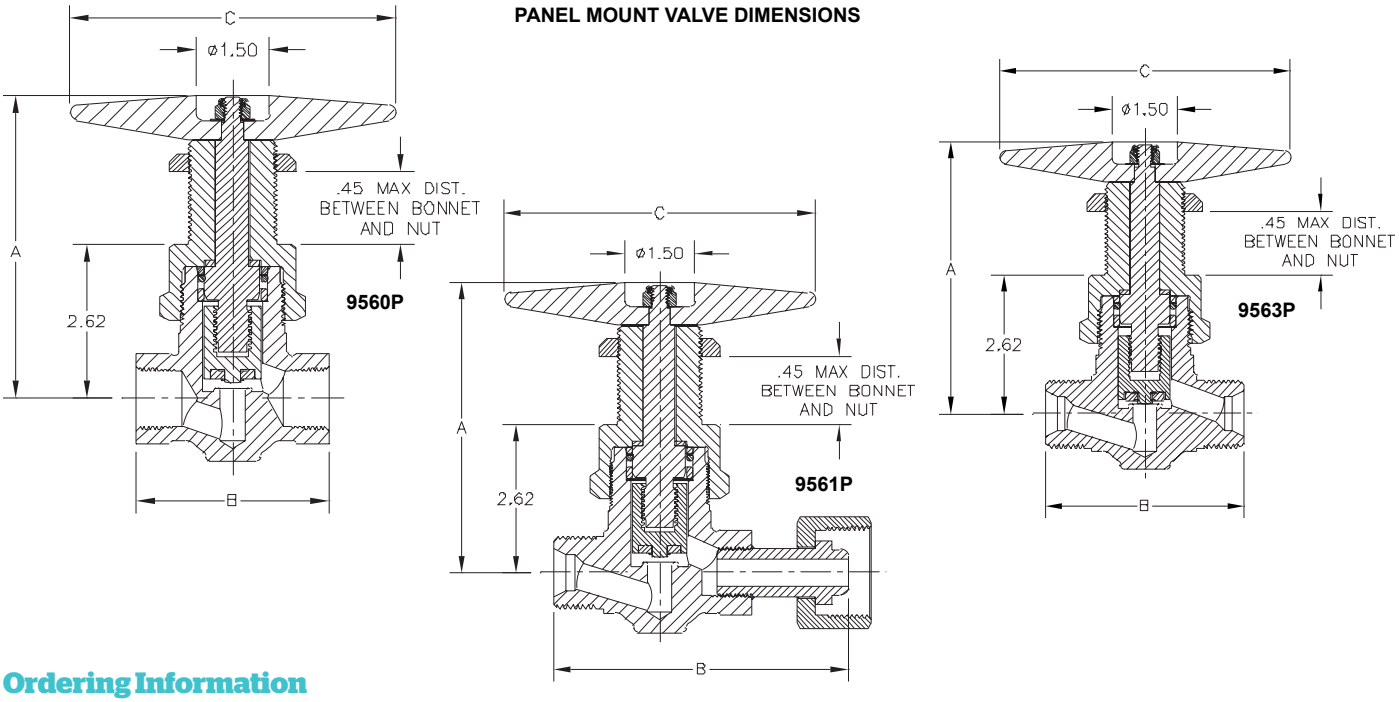


High Pressure Gas Master Valves
HP9560 Series

STANDARD BONNET VALVE DIMENSIONS



PANEL MOUNT VALVE DIMENSIONS



Ordering Information

Part Number		Inlet Connection	Outlet Connection	Height A		Length B		Handwheel Length C	
Soft Seat	Metal Seat			Inches	mm	Inches	mm	Inches	mm
HP9560A	HP9560CA	½" F. NPT	½" F. NPT	4.36" *[6.19" for panel mount version]	111 *[157 mm for panel mount version]	3.25"	82	5.5"	140
HP9560B	HP9560CB	¾" F. NPT	¾" F. NPT						
HP9561R	HP9561CR	1"-11½" NPSM R.H.	1"-11½" R.H. Female Swivel			5.27"	134		
HP9561RL	HP9561CRL	1"-11½" NPSM R.H.	1"-11½" NPS L.H. Female Swivel						
HP9561L	HP9561CL	1"-11½" NPSM L.H.	1"-11½" L.H. Female Swivel						
HP9563R	HP9563CR	1"-11½" NPSM R.H.	1"-11½" NPSM R.H.			3.79"	96		
HP9563L	HP9563CL	1"-11½" NPSM L.H.	1"-11½" NPSM L.H.						
HP9560ASE	HP9560CASE	.843 - .847	.843 - .847			3.25"	82		
HP9560BSE	HP9560CBSE	1.053 - 1.057	1.053 - 1.057						
HP9560BSE-B	HP9560CBSE-B	1.053 - 1.057	¾" F.NPT						

Note: Place "P" at end of part number for panel mount version.
Nylon seat option is also available (ex: HP9560NBP)
For different handwheel size consult factory.

Line Station Valves 7160 Series

Application

7160 series valves are designed for use with oxygen and all fuel gases at station outlets of line distribution systems such as welder's benches, cutting stations, hospital rooms, etc.

Features

- UL Listed Approved for oxygen and all fuel gas services at 400 psig (28 barg) maximum working pressure
- All valves cleaned for use in oxygen per CGA G-4.1
- O-ring stem seal works with the pressure causing a tighter seal as pressure increases
- A reverse flow check valve installed in the valve outlet connection helps prevent reverse flow
- Available with brass cap and chain protection
- Meets the requirements of National Fire Protection Association (NFPA) Pamphlet No. 51
- Temperature range -40° F to +165° F (-40°C to +74°C)

UL LISTED

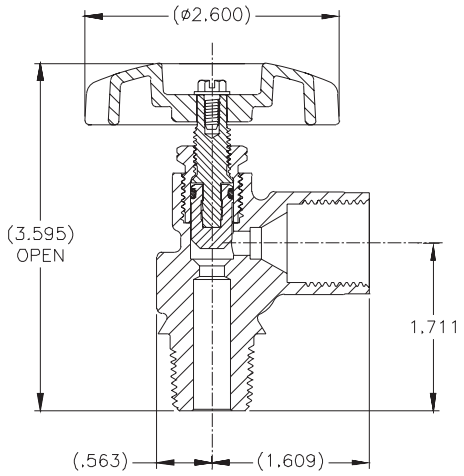
REGO 10 YEAR WARRANTY

7160 Series

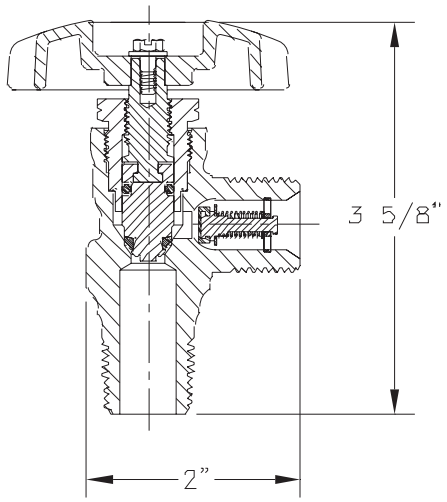
Materials

Body	Brass
Stem and Seat Retainer	Brass
O-ring	Neoprene
Seat Disc	Nylon
Reverse Flow Check Seat	Neoprene

7164



7160 and 7161 Series



Ordering Information

Part Number	Gas Service	Inlet Thread	Outlet Thread	CGA Connection	C_V (Kv)	Outlet Protection*
7160V	Oxygen and Inert Gases	½" NGT	7/8" - 14 M. R.H.	024	.76 (0.65)	10663 Brass Cap & Chain
7160VL						None
7161V	Fuel Gases		7/8" - 14 M. L.H.	025		10664 Brass Cap & Chain
7161VL						None
7164	Inert Gases	½" NPT	7/8" - 14 F. R.H.	034		

*Outlet Protection is recommended.

Pressure Gauges

Application

Gauges are available in a variety of popular pressure ranges for gas plant applications.

Gauges should be selected so that the maximum working pressure of the particular system represents 66% to 75% of the maximum gauge reading. Greater safety and accuracy may be realized by following these guidelines.

15578

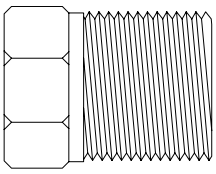
REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Maximum Calibration (psig)	Size	M. NPT	Increment Division (psig)	Case Material
1286	100 psig (6.89 barg)	2"	¼"	2 psig (0.14 barg)	Steel
2523HP-7	160 psig (11.03 barg)		⅛"	5 psig (0.34 barg)	
S1679	200 psig (13.79 barg)		¼"		
15578	400 psig (27.58 barg)			10 psig (0.69 barg)	Brass
5562C	4000 psig (275.8 barg)			50 psig (3.45 barg)	Steel

Brass Plugs

(for pressures to 3000 psig)
Safety factor = 5:1



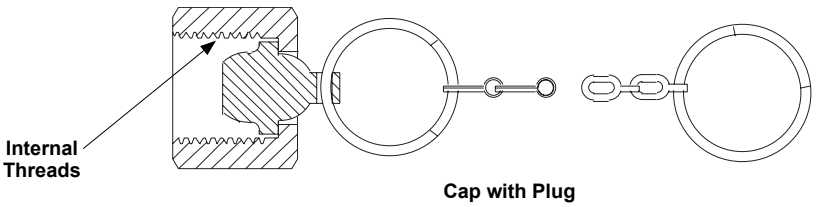
Typical Plug

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Thread Connection	Hex Flats
985B	¼" NPT	9/16"
985D	½" NPT	7/8"
985E	¾" NPT	1 1/8"
985F	1" NPT	1 3/8"

Brass Outlet Cap and Chain Assemblies



Cap with Plug

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Thread Connection	End Ring Fits Pipe
10663	7/8"-14NF-RH	½"
10664	7/8"-14NF-LH	½"

Needle Valves
CMM250 Series and CFF250 Series

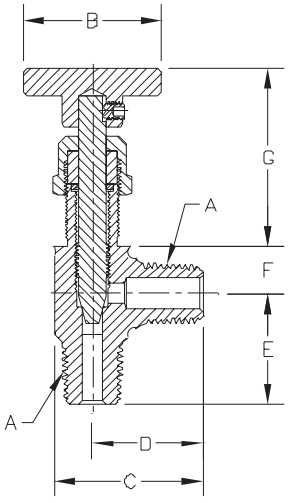
Application
Ideal for use as a gauge isolation valve or applications requiring accurate throttling of pressure or in bulk vessel gauging lines .

Features
- Compact design provides easy installation
- Fine stem threading and long taper allow precise metering and leak-free shut-off
- Internal stop prevents the stem from being accidentally unscrewed from the body
- Rugged forged brass bodies withstand higher pressures
- Unbreakable brass handwheel
- Valves come equipped for panel mounting
- Working temperature range is -40°F to +165°F (-40ºC to +74ºC)
- Maximum operating pressure: 2000 psig air (137.9 barg)
- Cleaned for oxygen service per CGA G-4.1
- Female ports available - consult factory

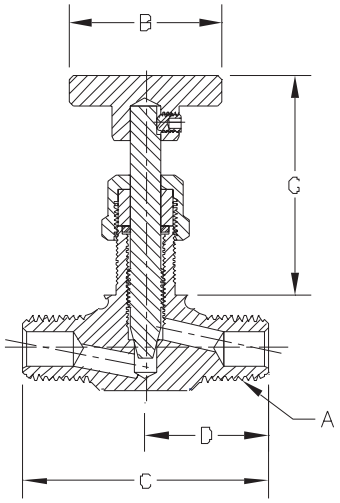
REGO 10 YEAR WARRANTY

CMM250A

CMM250G

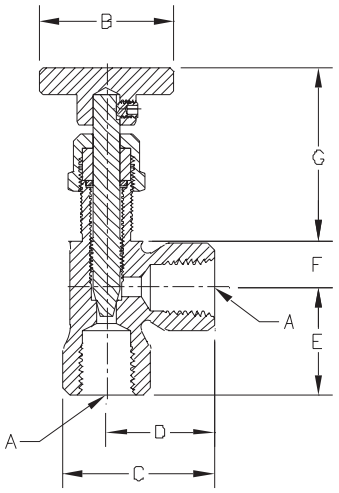


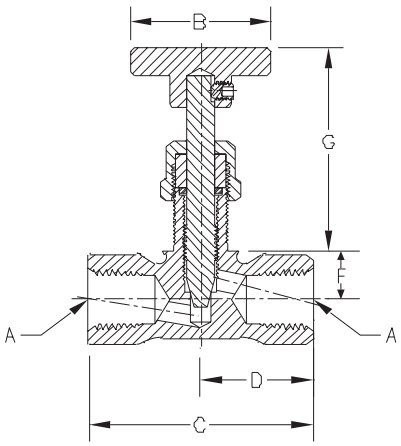
CFF250A



CFF250G

Materials
Body ..... ASTM B283 Brass
Stem ..... Brass
Knob ..... Brass
Bonnet Nut..... Brass
Panel Mount Nut (Optional)..... Brass
Set Screw ..... Steel
Stem Packing ..... PTFE with Brass Gland





Ordering Information

Part Number	A (NPT)		B		C		D		E		F		G Open		G Closed		C_V (Kv)
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
CMM250A	¼	6	1¼	32	$1^{11}/_{32}$	35	1	25	1	25	$^{7}/_{16}$	11	$2^{5}/_{32}$	29	$1^{19}/_{32}$	40	.7 (0.60)
CMM250G					2	51			-	-			$2^{3}/_{8}$	60	$1^{13}/_{16}$	46	.5 (0.43)
CFF250A					$1^{13}/_{32}$	36			1	25			$2^{5}/_{32}$	55	$1^{19}/_{32}$	40	.7 (0.60)
CFF250G					2	51			-	-			$2^{3}/_{8}$	60	$1^{13}/_{16}$	46	.5 (0.43)

Strainer
STR002P

Application

The STR002P strainers have been designed to retain debris and any other pollution that could be in the lines, and could affect the performance of regulators and other devices. The STR002P use a Monel filter material. Designed for the handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations.

REGO 10 YEAR WARRANTY

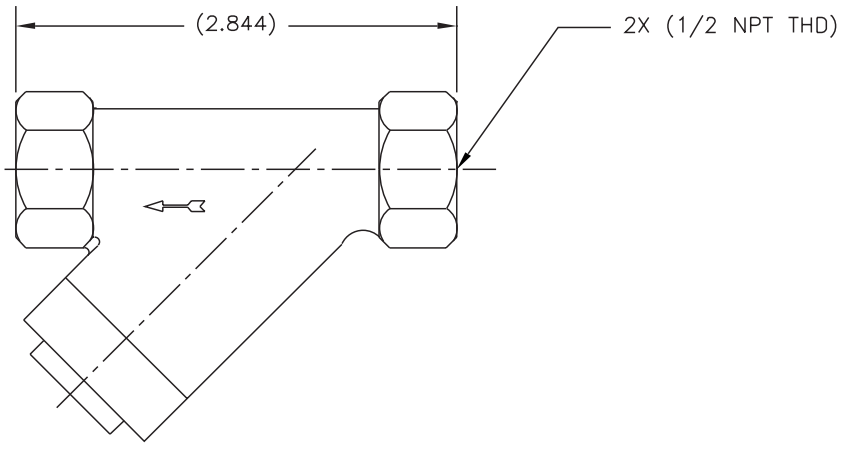
Features

- Temperature range: -320°F to 165°F. (-196°C to 74°C)
- Maximum working pressure: 600 psig (41,37 barg)
- Connections: FNPT
- Sizes: ½" (13 mm)
- Service: Liquefied & Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, Iso-Containers and Piping Configurations
- Cleaned for Liquid Oxygen Service per CGA G-4.1
- 100% Factory tested

STR000002P

Materials

Body ..... Brass
Cap ..... Brass
Filter Material ..... 100 Mesh Monel



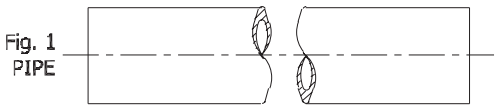
Ordering Information

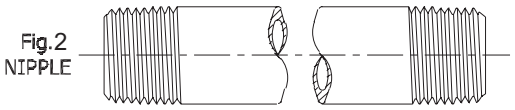
Part Number	Inlet		Outlet		A	
	Inches	mm	Inches	mm	Inches	mm
STR2P	½"	13	½	13	2⁴/₅"	71

Brass Pipe & Pipe Nipples

Heavy-duty, yellow brass pipe and pipe nipples are designed with a high quality, seamless thick wall construction. They are suitable for use in most industrial piping applications.

ASTM B135 Alloy 330
½" I.D. pipe, O.D. is 0.840".
¾" I.D. pipe, O.D. is 1.050".





REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Figure	Inside Diameter		Inlet / Outlet Connections (M.NPT)		Length		Maximum Operating Pressure*
		Inches	mm	Inches	mm	Inches	mm	
TNE1050-14400	1	½"	13	Not Available	-	12 Feet	3657	3600 psig (248.2 barg)
TNE1075-14400		¾"	19					
1025-15	2	¼"	6	¼"	6	1.44"	37	
1050-10		½"	13	½"	13	1.13"	29	
1050-15						1.5"	38	
1050-20						2"	51	
1050-25						2.5"	63	
1050-40						4"	102	
1050-60						6"	152	
1050-80						8"	203	
1075-20		¾"	19	¾"	19	2"	51	
1075-30						3"	76	
1075-40						4"	102	
1075-50						5"	127	
1075-60						6"	152	

Brass Elbows

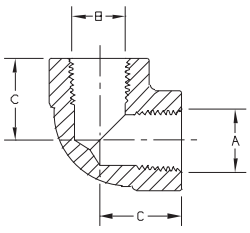


Fig. 1

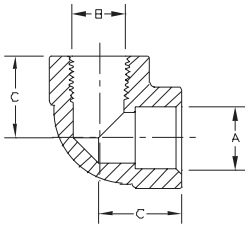


Fig. 2

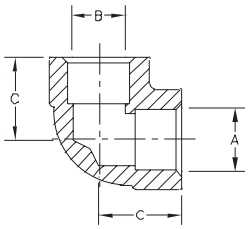


Fig. 3

REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Figure	A (Female)		B (Female)		C (Ref.)		Working Pressure
		Inches	mm	Inches	mm	Inches	mm	
1228-1	1	½" NPT	13	½" NPT	13	1⅛"	28	3750 psig (258.7 barg)
HP1228-1						1½"	38	4500 psig (310.5 barg)
1043		¾" NPT	19	¾" NPT	19			
1228-2	2	½" NPT	13	.843-.847	21-22	1⅛"	28	3750 psig (258.7 barg)
HP1228-2						1½"	38	4500 psig (310.5 barg)
2223-2		¾" NPT	19	1.053-1.057	27			
1228-4	3	.843-.847	21-22	.843-.847	21-22	1⅛"	28	3750 psig (258.7 barg)
HP1228-4						1½"	38	6000 psig (414 barg)
2233-6		1.053-1.057	27	1.053-1.057	27			4500 psig (310.5 barg)

*Safety factor = 4:1

Brass Tees

REGO 10 YEAR WARRANTY

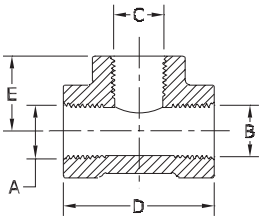


Fig. 1

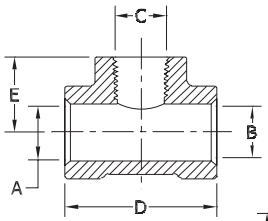


Fig. 4

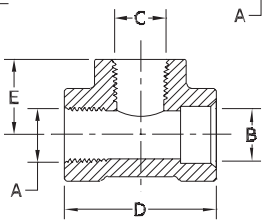


Fig. 2

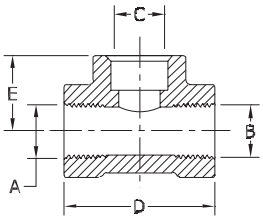


Fig. 5

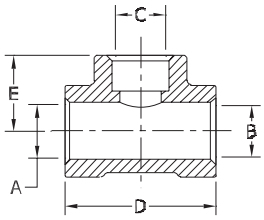


Fig. 3

Ordering Information

Part Number	Figure	A (Female)		B (Female)		C (Female)		D (Ref.)		E (Ref)		Working Pressure psig*
		Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
1227-1	1	½" NPT	13	½" NPT	13	½" NPT	13	2¼"	57	1⅛"	29	3750 psig (258.7 barg)
HP1227-1								3"	76	1½"	38	4500 psig (310.5 barg)
1042-20		¾" NPT	19	¾" NPT	19							
1042						¾" NPT	19					
1227-3	2	½" NPT	13	.843-.847	21-22	½" NPT	13	2¼"	57	1⅛"	29	3750 psig (258.7 barg)
HP1227-3								3"	76	1½"	38	4500 psig (310.5 barg)
4608-5		¾" NPT	19	1.053-1.057	27	¾" NPT	19					
1227-28	3	.843-.847	21-22	.843-.847	21-22	.843-.847	21-22	2¼"	57	1⅛"	29	3750 psig (258.7 barg)
HP1227-28								3"	76	1½"	38	4500 psig (310.5 barg)
2118-2		1.053-1.057	27	1.053-1.057	27	1.053-1.057	27					
1227-9	4	.843-.847	21-22	.843-.847	21-22	½" NPT	13	2¼"	57	1⅛"	29	3750 psig (258.7 barg)
HP1227-9								3"	76	1½"	38	4500 psig (310.5 barg)
2223-3		1.053-1.057	27	1.053-1.057	27	¾" NPT	19					
HP1227-5	5	½" NPT	13	½" NPT	13	.843-.847						

*Safety factor = 4:1

Brass Crosses

REGO 10 YEAR WARRANTY

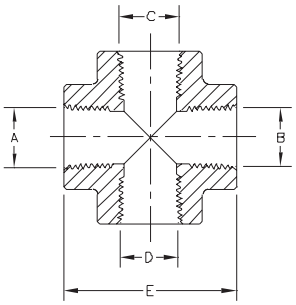


Fig. 1

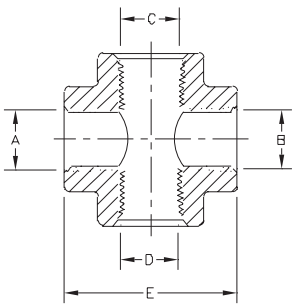


Fig. 2

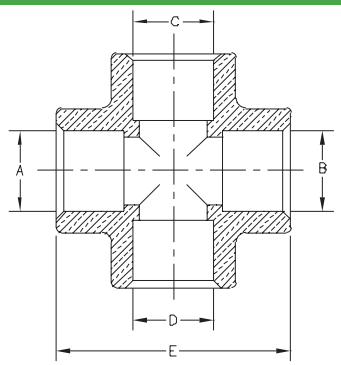


Fig. 3

Ordering Information

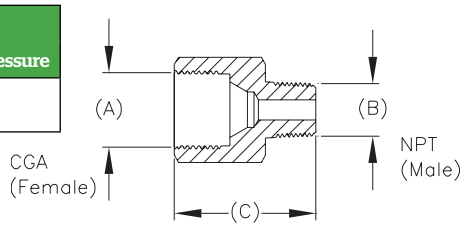
Part Number	Figure	A (Female)		B (Female)		C (Female)		D (Female)		E (Ref.)		Working Pressure*
		Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
1225-1	1	½ "NPT	13	½ "NPT	13	½ "NPT	13	½ "NPT	13	2¼"	57	3750 psig (258.7 barg)
HP1225-1										3"	76	4500 psig (310.5 barg)
1045		¾ "NPT	19	¾ "NPT	19	¾ "NPT	19	¾ "NPT	19			
1225-3	2	.843-.847	21-22	.843-.847	21-22	½ "NPT	13	½ "NPT	13	2¼"	57	3750 psig (258.7 barg)
HP1225-3										3"	76	4500 psig (310.5 barg)
2222-2		1.053-1.057	27	1.053-1.057	27	¾ "NPT	19	¾ "NPT	19			
HP1225-4	3	.843-.847	21-22	.843-.847	21-22	.843-.847	21-22	.843-.847	21-22			
2222-4		1.053-1.057	27	1.053-1.057	27	1.053-1.057		1.053-1.057	27			

*Safety factor = 4:1

Brass Adapters CGA x Misc.

Ordering Information

Part Number	A		B		C (Ref.)		Maximum Operating Pressure
	Inches	mm	Inches	mm	Inches	mm	
1877C	.580	15	½"	13	1¾"	44	3000 psig (206 barg)
1877D			¾"	19			

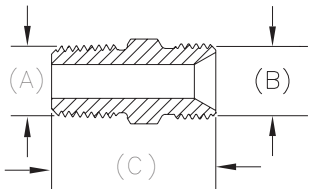


REGO 10 YEAR WARRANTY

Brass Adapters Male x Male

Ordering Information

Part Number	A (Male)		B (Male)		C (Ref.)		Maximum Operating Pressure
	Inches	mm	Inches	mm	Inches	mm	
1300	¼ NPT	6	9/16" - 18NF-LH	14-457	1 1/4"	32	3000 psig (206 barg)
1200							
2233-4HAL	½ NPT	13	1" - 11½NPS-LH	25-292	2 3/8"	60	
2233-4HA							
2233-4HL	¾ NPT	19			2 9/16"	65	
2233-4H							



REGO 10 YEAR WARRANTY

Brass Adapters Female x Female

Ordering Information

Part Number	Figure	A Female)		B Female)		C (Ref.)		Maximum Operating Pressure
		Inches	mm	Inches	mm	Inches	mm	
1125-15	1	½" NPT	13	½" NPT	13	1 5/8"	46	3000 psig (206 barg)
1044		¾" NPT	19	¾" NPT	19	2"	51	

Part Number	Figure	A (Female)		B (Female)		C (Ref.)		Maximum Operating Pressure
		Inches	mm	Inches	mm	Inches	mm	
1125-16	2	.843-.847	21-22	.843-.847	21-22	1 5/8"	46	3000 psig (206 barg)
1044-1		1.053-1.057	27	1.053-1.057	27	2"	51	

Figure 1

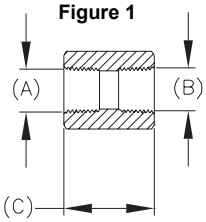
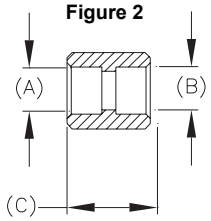


Figure 2



REGO 10 YEAR WARRANTY

Brass Adapters Male x Female

Ordering Information

Part Number	Figure	A (Male)		B (Female)		C (Ref.)		Maximum Operating Pressure
		Inches	mm	Inches	mm	Inches	mm	
489-10	1	½" NPT	13	¼" NPT	6	1 1/4"	38	3000 psig (206 barg)
1252		¾" NPT	19			1 19/64"	33	
1252A				½" NPT	13			
2165-3		1"-11½NPS-RH	25-292	¾" NPT	19	1 27/32"	47	
2165-3B	2			.843-.847	21-22	1 3/16"	30	
2165-3A				1.053-1.057	27	1 27/32"	47	

Figure 1

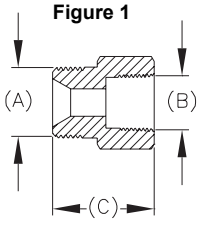
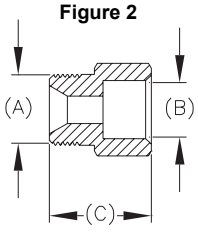


Figure 2

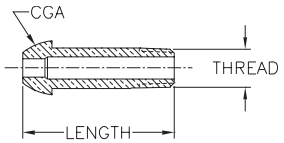


REGO 10 YEAR WARRANTY

CGA Brass Tailpieces

Ordering Information

Part Number	CGA Connection	Thread of Bore for Tubing	Length (Approx.)	Maximum Operating Pressure
2603-2U	510, 580, 590	¼" NPT	13/32"	3000 psig (206 barg)



REGO 10 YEAR WARRANTY

Miscellaneous Brass Tailpiece

Ordering Information

Part Number	For Use with Nut (RH or LH)		Figure	Thread of Bore for Tubing		Length (Approx.)		Maximum Operating Pressure
	Inches	mm		Inches	mm	Inches	mm	
2233-3A	1" - 11½ NPS	25-292	1	½" NPT	13	37/16"	87	3000 psig (206 barg)
2670-35			2	.312 I.D.	8	27/16"	62	

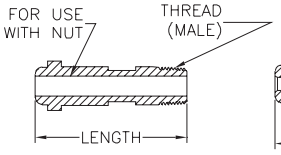


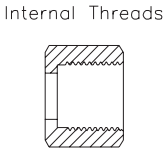
Fig 1 THREADED Fig 2 SWEAT END

REGO 10 YEAR WARRANTY

Brass Union Connection Nuts

Ordering Information

Part Number	Figure	Thread Connection		Wrench Flats		Maximum Operating Pressure
		Inches	mm	Inches	mm	
1302-1	2	9/16" - 18-LH	17-457	11/16"	17	3000 psig (206 barg)
1271-1		⅞" - 14-RH	22-356	1⅛"	29	
1371-1		⅞" - 14-LH	22-356			
2223-6		1" - 11½ NPS-RH	25-292	1¾"	44	
2223-6A		1" - 11½ NPS-LH	25-292			



REGO 10 YEAR WARRANTY

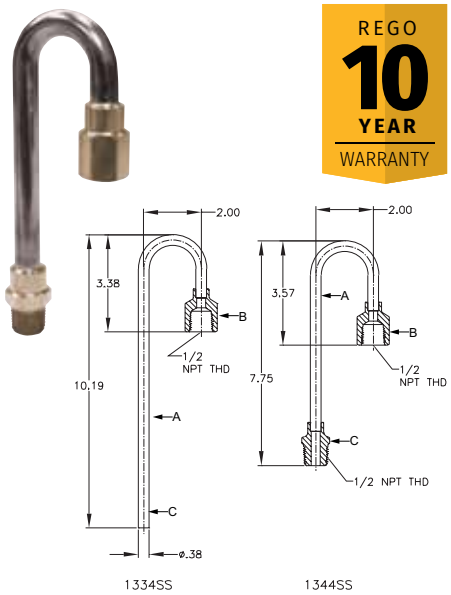
Candy Cane Riser Tubes and Assemblies For Piping-Away PRV9400, SS9400, PRV19400 & PRV29400 Series Relief Valves from Cryogenic Piping.

Materials

Tubing..... Stainless Steel
Fitting: .....Brass

Ordering Information

Part Number	Tubing Material	Fitting Material	"A" PRV Connection		"B" Tubing OD		"C" Inlet Connection		Maximum Operating Pressure
			Inches	mm	Inches	mm	Inches	mm	
1332SS	Stainless Steel	Brass	¼" FNPT	6	.375"	9	Tubing 0.375"	9	600 psig (41.37 barg)
1334SS			½" FNPT	13			½" MNPT	13	
1344SS									
1344SSA					.625"	16			



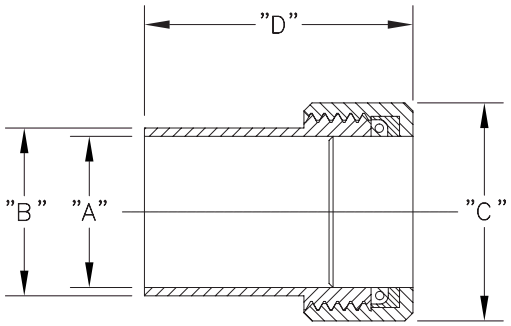
REGO 10 YEAR WARRANTY

Quikonnect Vacuum Couplings

Features

- An extensive range of tube sizes available. Most sizes nest, and can be used as reducers in combination with one another.
- May be used for vacuum down to $1x10^{-8}$ Microns
- Viton O-rings are standard
- "Quikonnect" vacuum couplings have four basic components:
  * Knurled Nut
  * Retainer Ring
  * O-ring
  * Sleeve

REGO 10 YEAR WARRANTY



Ordering Information

Quikonnect Vacuum Couplings

Brass Machine Finish	"A"		"B"		"C"		"D"		Tube OD Size	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
B-006-M	0.072"	2	0.375"	10	5/8"	16	1 1/32"	26	1/16"	2
B-012-M	0.135"	3							1/8"	3
B-018-M	0.197"	5							3/16"	5
B-025-M	0.260"	7							1/4"	6
B-031-M	0.322"	8	0.500"	13	13/16"	16	1 1/4"	32	5/16"	8
B-038-M	0.385"	10							3/8"	9
B-050-M	0.510"	13	0.625"	16	7/8"	22			1/2"	13
B-062-M	0.635"	16	0.750"	19	1 1/8"	28	1 3/8"	35	5/8"	16
B-075-M	0.760"	19	0.875"	22	1 1/4"	32	1 1/2"	38	3/4"	19
B-087-M	0.885"	22	1.000"	25	1 7/16"	36	1 23/32"	44	7/8"	22
B-100-M	1.010"	26	1.125"	28	1 1/2"	38	1 13/16"	46	1"	25
B-112-M	1.135"	29	1.250"	32	1 5/8"	41	1 15/16"	49	1 1/8"	28
B-125-M	1.260"	32	1.500"	38	2"	51	1 3/16"	30	1 1/4"	32
B-138-M	1.385"	35	1.625"	41					1 3/8"	35
B-150-M	1.150"	29	1.750"	44	2 1/4"	57			1 1/2"	38
B-162-M	1.635"	41	1.875"	48	2 3/8"	60	2 1/4"	57	1 5/8"	41
B-200-M	2.010"	51	2.250"	57	2 3/4"	70	2.70"	69	2"	51

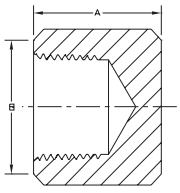
Brass Pipe Caps

Application

For capping cryogenic tank piping or gas pipelines.

Features

- Machined from brass
- For 600 psig (41.37 barg) maximum working pressure service.
- Part number stamped on cap
- Cleaned for oxygen per CGA G-4.1



REGO 10 YEAR WARRANTY

Ordering Information

Part Number	Thread Connections		Dim. A		Dim. B		Dim. C	
	Inches	mm	Inches	mm	Inches	mm	Inches	mm
CAP750	3/4" Female NPT	19	1.250"	32	1.313"	33	1.313"	33
CAP1000	1" Female NPT	25	1,500"	38	1.750"	44	1.750"	44
CAP1500	1 1/2" Female NPT	38	1.750"	44	2.375"	60	2.375"	60
CAP2000	2" Female NPT	51	2.000	51	3.250"	82	3.250"	82

Repair Kits

T9450 Series, T9460 Series, ES8450 Series, TES8450 Series, BK9450 Series and BK9470 Series

Kit Number	Part Number	Kit Contents
ES8450R	T9450 Series and T9460 Series	(1) Stem assembly (4"), (1) packing, (1) bonnet, (1) handwheel.
BK9450-80	9450 Series, 9460 Series	(1) Stem assembly ,(1) Spring, (1) Jam Ring,(1)Packing V-ring,(1) Packing Gland,(1) O-ring, Washer,(1) Locknut, (1) Gasket.
BK9450R *	9450 Series, 9460 Series	(1) Extended Bonnet Assembly Kit, (1) Spring load packing for conversion of extended stem valves and topworks replacement
BKA8400R	BKA8412SE	(1) Stem assembly,(1) handwheel, (1) seat assembly Converts SE Series to New Style S Series
T9464-80	T9450 Series, T9460 Series,9450 Series, 9460 Series	(1) Complete valve trim assembly including Silver handwheel
T9464-80B		(1) Complete valve trim assembly including Blue handwheel
T9464-80G		(1) Complete valve trim assembly including Green handwheel
T9464-80R		(1) Complete valve trim assembly including Red handwheel
BK-9450-KIT**	ES8450 Series,ES9450 Series,BK9450 Series	(1) Extended Bonnet Assembly Kit,(1) Spring load packing for conversion of extended stem valves and topworks replacement

* Changes to a 6.5" (165mm) stem.
**Retrofits ES8450 and ES9450 to a 6.5" (165mm) stem and a repair kit for the BK9450 Series.

RG Series, CBH & CBC Series and LCR Series

Kit Number	Part Number	Kit Contents
RG-80*	RG22, RG75, RG125,CBC125, CBH125,LCR.	(1) Backcap gasket, (1) diaphragm assembly, (1) diaphragm gasket,(1) seat assembly.
RG-80A*	RG300	
RG-81**	RG75A, RG125A, CBC125A & CBH125A,LCR.	
RG-81A**	RG300A, CBC300A & CBH300A,LCR.	
RG-82	RG Series,LCR Series	(1) Diaphragm assembly,(1) gasket.
1784NG-80	1784NG Series	(1) Diaphragm assembly,(1) seat assembly,(1) gasket.

*Good for valves manufactured before Fall 2010
**Good for valves manufactured after Fall 2010

PB Series

Kit Number	Part Number	Kit Contents
PB504-80R	PB504 Series	(1) Poppet O-ring, (1) Seat Retainer, (1) Seat Disc,(1) Stem Seat,(1) Back O-ring, (1) Backcap Seal.
PB504-81R	PB504 Series	(1) Diaphragm, (1) gasket

ECL502 Series

Kit Number	Part Number	Kit Contents
ECL502-80	ECL502-22 to ECL502-175.	Diaphragms, Diaphragm liner, Spring guide, ball seat.
ECL502-80A	ECL502-180 to ECL502-350.	
ECL-80	ECL22, ECL70, ECL100, ECL140	Diaphragm assembly, diaphragm gasket, poppet, retaining ring, spring, washer.
ECL-80A	ECL325	

CB504 Series

Kit Number	Part Number	Kit Contents
CB504	CB504-B	Seat Retainer,Seat Disc, Stem, Ball, Cylindrical Spring, Check Retainer, Spring Seal, Thrusr Button, Diaphragm gasket, Diaphragm, Gasket.

CBH502 & CBC502 Series

Kit Number	Part Number	Kit Contents
CB502-80	CBC502-22 to CBC502-175, CBH502-22 to CBH502-175	Diaphragm assembly, diaphragm gasket, Backcap gasket,poppet seat, seat pin.
CB502-80A	CBC502-180 to CBC502-350, CBH502-180 to CBH502-350	

Repair Kits

BB Series, BBS Series, SKB Series and Old SK Series

Kit Number	Part Number	Kit Contents
SK9404-81*	BB9402, BB9404,SKB9402, SKB9404,SK9402,SK9404	(1) Gasket, (1) Spring, (1) Washer, (1) Ring V Male. (3) Ring V female,(1) O'ring.
SK9408-81*	BB9406, BB9408,SKB9406, SKB9408,SK9406,SK9408	
SK9412-81*	BB9412,SKB9412,SK9412	
SK9416-81*	BB9416,SKB9416,SK9416	
SK9404-82*	BB9402, BB9404,SKB9402, SKB9404,SK9402,SK9404,BBS9402, BBS9404.	(1) Gasket and (1) Seat Disc Assembly.
SK9408-82*	BB9406, BB9408,SKB9406, SKB9408,SK9406,SK9408, BBS9406, BBS9408.	
SK9412-82*	BB9412,SKB9412,SK9412,BBS9412.	
BB9412-82A***	BB9412,SKB9412,BBS9412.	
SK9416-82*	BB9416,SKB9416,SK9416,BBS9416.	
SK9404-83*	BB9402, BB9404,SKB9402, SKB9404,SK9402,SK9404,BBS9402, BBS9404.	(1) Gasket.
SK9408-83*	BB9406, BB9408,SKB9406, SKB9408,SK9406,SK9408, BBS9406, BBS9408.	
SK9412-83*	BB9412,SKB9412,SK9412,BBS9412.	
BB9412-83A***	BB9412,SKB9412,BBS9412.	
SK9416-83*	BB9416,SKB9416,SK9416,BBS9416.	
BB9404-85	BB9402, BB9404,SKB9402, SKB9404.	(1) Gasket, (1)Stem,(1) Bonnet & tube Assy, (1) Spring, (1) Washer, (1)Ring V Male. (3) Ring V female,(1) O-ring, (1) Nut, Bonnet, (4) Screw, (1) Handwheel, (1) Nut, Hex, and (1) Washer.
BB9408-85	BB9406, BB9408,SKB9406, SKB9408.	
BB9412-85**	BB9412,SKB9412.	
BB9412-85A***	BB9412,SKB9412.	
BB9416-85	BB9416,SKB9416.	
BB9412-81A***	BB9412,SKB9412.	(1)Gland Follower, (1)Bonnet Bearing, (1)Packing Adapter,(1) Bonnet Packing, (1)Packing Separator, (1) Gasket.
BBS9404-81	BBS9402,BBS9404, SKB9402BWS, SKB9402SWS, SKB9404BWS, SKB9404SWS.	
BBS9408-81	BBS9406,BBS9408, SKB9406BWS, SKB9406SWS, SKB9408BWS, SKB9408SWS.	
BBS9412-81**	BBS9412, SKB9412BWS, SKB9412SWS.	
BBS9412-81A***	BBS9412, SKB9412BWS, SKB9412SWS.	
BBS9404-81	BBS9416,SKB9416BWS, SKB9416SWS	
BBS9404-85	BBS9402,BBS9404, SKB9402BWS, SKB9402SWS, SKB9404BWS, SKB9404SWS.	(4) Screw, (1) Kit Upper Assembly, (10 Handwheel, (1) Nut lock, (1) Washer, (1)Gland Follower, (1)Bonnet Bearing, (1)Packing Adapter,(1) Bonnet Packing, (1) Packing Separator, (1) Gasket.
BBS9408-85	BBS9406,BBS9408, SKB9406BWS, SKB9406SWS, SKB9408BWS, SKB9408SWS.	
BBS9412-85**	BBS9412, SKB9412BWS, SKB9412SWS.	
BBS9412-85A***	BBS9412, SKB9412BWS, SKB9412SWS.	
BBS9404-85	BBS9416,SKB9416BWS, SKB9416SWS	

*Good for SK Series valves manufactured before 2017.
** Good for Valves produced on or before 05C19.
*** Good for Valves produced on or after 05D19.

BK Series

Kit Number	Part Number	Kit Contents
BK8400-80J	BK8404,BK8406,BK8408,BKY8408,BK9404,BK9406,BK9408	(1)Jam ring,(1) O-ring, (3)Pressure seal rings , (1)Spring, (1) Tape, (1) Washer, (1) Gasket.
BKA8412-80J	BK8408,BK9408,BKA8408,BKA9408.	
BK9400-80J*	BK9410, BK9412.	
BK9416-80JS	BK9416.	
BK8400-80AJ	BK8404,BK8406,BK9404,BK9406.	(1) Seat Disc Assembly,(1) Gasket.
BK9400-80AJ	BK9410, BK9412.	
BKY8408-80AJ	BKY8408.	
BK8400-80BJ	BK8408,BK9408,BKA8408,BKA9408.	
BKA8412-80JA*	BKA8412, BKA8408, BKA9408.	
BK9416-80AJ	BK9416.	
BK8404-Kit	BK8404.	(1)Stem, (1) Bonnet & tube Assembly, (1) Seal housing, (1) Spring, (1) Packing Gland, (1) Washer, (1) Jam Ring, (3)Pressure seal rings, (1) O-ring, (1) Seat Assembly, (1) Locknut, (1) Washer, (1) Handwheel, (1) Gasket.

*Only for valves produced after 1991.

Repair Kits

222 Series and 202 Series

Kit Number	Part Number	Kit Contents
B-222X-4-81	B-222X-2, B-222X-4, B-00202X-4.	(1) Handwheel nut, Bonnet bearing, (1) Gland Follower, (5) Bonnet Packing, (4) Packing Separator, (1) Bonnet packing adapter.
B-222X-6-81	B-222X-6	
B-222X-8-81	B-222X-8	
B-222X-12-81	B-222X-12, B-222XBS-12, SB-222X-12SW	
B-222X-16-81	B-222X-16	
B-222X-24-81	B-222X-24, GB-0222WE-24PC.	
B-222X-4-82	B-222X-2, B-222X-4, B-00202X-4.	(1) Seat Disc Assembly,(1) Gasket.
B-222X-6-82	B-222X-6	
B-222X-8-82	B-222X-8	
B-222X-12-82	B-222X-12, B-222XBS-12, SB-222X-12SW	
B-222X-16-82	B-222X-16	
B-222X-24-82	B-222X-24, GB-0222WE-24PC.	
B-222X-4-83	B-222X-2, B-222X-4, B-00202X-4.	(1) Gasket.
B-222X-6-83	B-222X-6	
B-222X-8-83	B-222X-8	
B-222X-12-83	B-222X-12, B-222XBS-12, SB-222X-12SW	
B-222X-16-83	B-222X-16	
B-222X-24-83	B-222X-24, GB-0222WE-24PC.	
B-222X-4KIT	B-222X-2, B-222X-4.	(1)Stem, (1) Bonnet & tube Assembly, (1) Handwheel nut, Bonnet bearing, (1) Gland Follower, (5) Bonnet Packing, (4) Packing Separator, (1) Bonnet packing adapter, (1) Seat Assembly, (1) Locknut, (1) Washer, (1) Handwheel, (1) Gasket.
B-222X-6KIT	B-222X-6	
B-222X-8KIT	B-222X-8	
B-222X-12KIT	B-222X-12, B-222XBS-12, SB-222X-12SW	
B-222X-16KIT	B-222X-16	
B-222X-24KIT	B-222X-24, GB-0222WE-24PC.	

226LL Series

Kit Number	Part Number	Kit Contents
B-226LL-4-81	B-226LL-2, B-226LL-3, B-226LL-4.	(1) Handwheel nut, (1) Live-Load Spring, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (1) Bonnet Packing, (1) Bonnet Packing Adapter.
B-226LL-8-81	B-226LL-6, B-226LL-8, PB-226LL-8T6Y1.	
B-226LL-4-82	B-226LL-2, B-226LL-3, B-226LL-4.	(1) Seat Disc Assembly,(1) Gasket.
B-226LL-8-82	B-226LL-6, B-226LL-8, PB-226LL-8T6Y1.	
B-226LL-4-83	B-226LL-2, B-226LL-3, B-226LL-4.	(1) Gasket.
B-226LL-8-83	B-226LL-6, B-226LL-8, PB-226LL-8T6Y1.	
B-226LL-4KIT	B-226LL-2, B-226LL-3, B-226LL-4.	(1) Handwheel nut, (1) Handwheel, (1)Stem, (1) Bonnet nut, (1)Bonnet & tube ASM, (1) Bonnet ring, (1)Seat Assembly, (1) Live-Load Spring, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (1) Bonnet Packing, (1) Bonnet Packing Adapter, (1) Bonnet gasket.
B-226LL-8KIT	B-226LL-6, B-226LL-8, PB-226LL-8T6Y1.	

226ULL Series

Kit Number	Part Number	Kit Contents
B-226ULL-12-81	B-206ULL-12, B-226ULL-12.	(1) Handwheel nut, (1) Live-Load Spring, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (1) Bonnet Packing, (1) Bonnet Packing Adapter.
B-226ULL-16-81	B-206ULL-16, B-226ULL-16.	
B-226ULL-12-82	B-206ULL-12, B-226ULL-12.	(1) Seat Disc Assembly,(1) Gasket.
B-226ULL-16-82	B-206ULL-16, B-226ULL-16.	
B-226ULL-12-83	B-206ULL-12, B-226ULL-12.	(1) Gasket.
B-226ULL-16-83	B-206ULL-16, B-226ULL-16.	
B-226ULL-12KIT	B-226ULL-12.	(1) Handwheel nut, (1) Handwheel, (1)Stem, (1) Bonnet nut, (1)Bonnet & tube ASM, (1) Bonnet ring, (1)Seat Assembly, (1) Live-Load Spring, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (1) Bonnet Packing, (1) Bonnet Packing Adapter, (1) Bonnet gasket.
B-226ULL-16KIT	B-226ULL-16.	

Repair Kits

226XGF Series

Kit Number	Part Number	Kit Contents
VB-226XGF-4-81	VB-226XGF-4	(1) Handwheel nut, (1)Bonnet bearing, (1) Packing Follower, (1) Grafoil Packing, (1) Packing adapter.
VB-226XGF-6-81	VB-226XGF-6	
VB-226XGF-8-81	VB-226XGF-8	
VB-226XGF-12-81	VB-226XGF-12	
VB-226XGF-4-82	VB-226XGF-4	(1) Seat Disc Assembly,(1) Grafoil Gasket.
VB-226XGF-6-82	VB-226XGF-6	
VB-226XGF-8-82	VB-226XGF-8	
VB-226XGF-12-82	VB-226XGF-12	
VB-226XGF-4-83	VB-226XGF-4	(1) Grafoil Gasket.
VB-226XGF-6-83	VB-226XGF-6	
VB-226XGF-8-83	VB-226XGF-8	
VB-226XGF-12-83	VB-226XGF-12	
VB-226XGF-4KIT	VB-226XGF-4	(1) Handwheel nut, (1) Handwheel, (1)Stem, (1) Bonnet nut, (1)Bonnet & tube ASM, (1) Bonnet ring, (1)Seat Assembly, Bonnet Packing, (1) Bonnet Packing Adapter, (1) Bonnet gasket,(1)Bonnet bearing, (1) Packing Follower, (1) Grafoil Packing, (1) Packing adapter.
VB-226XGF-6KIT	VB-226XGF-6	
VB-226XGF-8KIT	VB-226XGF-8	
VB-226XGF-12KIT	VB-226XGF-12	

226BLL Series

Kit Number	Part Number	Kit Contents
B-226BLL-12-81	B-206BLL-12, B-226BLA-12, B-226BLL-12.	(1) Handwheel nut, (1) Live-Load Spring, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (1) Bonnet Packing, (1) Bonnet Packing Adapter, (1) Packing separator.
B-226BLL-16-81	B-226BLL-16.	
B-226BLL-12-82	B-206BLL-12, B-226BLA-12, B-226BLL-12.	(1) Seat Disc Assembly,(1) Gasket.
B-226BLL-16-82	B-226BLL-16.	
B-226BLL-12-83	B-206BLL-12, B-226BLA-12, B-226BLL-12.	(1) Gasket.
B-226BLL-16-83	B-226BLL-16.	
B-226BLL-12KIT	B-206BLL-12, B-226BLA-12, B-226BLL-12.	(1) Handwheel nut, (1) Handwheel, (1)Stem, (1) Bonnet nut, (1)Bonnet & tube ASM, (1) Bonnet ring, (1)Seat Assembly, (1) Live-Load Spring, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (1) Bonnet Packing, (1) Bonnet Packing Adapter, (1) Bonnet gasket.
B-226BLL-16KIT	B-226BLL-16.	

202 Series

Kit Number	Part Number	Kit Contents
B-202X-8-81	B-202X-8	(1) Handwheel nut, (1) Bonnet Bearing, (1) Gland Follower, (5) Bonnet Packing, (1) Bonnet Packing Adapter, (1) Packing separator.
B-202X-12-81	B-202X-12	
B-202X-16-81	B-202X-16	
B-202X-8-82	B-202X-8	(1) Seat Disc Assembly,(1) Gasket.
B-202X-12-82	B-202X-12	
B-202X-16-82	B-202X-16	
B-202X-8-83	B-202X-8	(1) Gasket.
B-202X-12-83	B-202X-12	
B-202X-16-83	B-202X-16	
B-202X-4KIT	B-202X-4	(1) Handwheel nut, (1) Handwheel, (1)Stem & Seat ASM, (1) Bonnet nut, (1)Bonnet , (1) Bonnet ring, (1)Seat Assembly, (1) Live-Load Spring, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (5) Bonnet Packing, (1) Bonnet Packing Adapter, (1) Bonnet gasket, (1) Packing separator.
B-202X-8KIT	B-202X-8	
B-202X-12KIT	B-202X-12	
B-202X-16KIT	B-202X-16	

Repair Kits

206GF Series

Kit Number	Part Number	Kit Contents
VB-206GF-2-81	VB-206GF-2	(1) Handwheel nut, (1)Bonnet bearing, (1) Gland Follower, (1) Grafoil Packing, (1) Bonnet packing adapter.
VB-206GF-4-81	VB-206GF-4	
VB-206GF-6-81	VB-206GF-6	
VB-206GF-8-81	VB-206GF-8	
VB-206GF-12-81	VB-206GF-12	
VB-206GF-16-81	VB-206GF-16	
VB-206GF-2-82	VB-206GF-2	(1) Seat Disc Assembly,(1) Grafoil Gasket.
VB-206GF-4-82	VB-206GF-4	
VB-206GF-6-82	VB-206GF-6	
VB-206GF-8-82	VB-206GF-8	
VB-206GF-12-82	VB-206GF-12	
VB-206GF-16-82	VB-206GF-16	
VB-206GF-2-83	VB-206GF-2	(1) Grafoil Gasket.
VB-206GF-4-83	VB-202GF-3, VB-206GF-4	
VB-206GF-6-83	VB-206GF-6	
VB-206GF-8-83	VB-206GF-8	
VB-206GF-12-83	VB-206GF-12	
VB-206GF-16-83	VB-206GF-16	
B-206GF-02-85	VB-206GF-2	(1) Handwheel nut, (1) Handwheel, (1)Stem, (1) Bonnet nut, (1)Bonnet & tube ASM, (1) Bonnet ring, (1)Seat Assembly, Bonnet Packing, (1) Bonnet Packing Adapter, (1) Bonnet gasket,(1)Bonnet bearing, (1) Packing Follower, (1) Grafoil Packing, (1) Packing adapter.
B-206GF-04-85	VB-206GF-4	
B-206GF-06-85	VB-206GF-6	
B-206GF-08-85	VB-206GF-8	
B-206GF-12-85	VB-206GF-12	
B-206GF-16-85	VB-206GF-16	

206LL Series

Kit Number	Part Number	Kit Contents
B-206LL-4KIT	B-206LL-3, B-206LL-4.	(1) Handwheel nut, (1) Handwheel, (1)Stem , (1) Bonnet nut, (1)Bonnet , (1) Bonnet ring, (1)Seat Assembly, (1) Live-Load Spring, (1) Live-Load Washer, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (5) Bonnet Packing, (1) Bonnet Packing Adapter, (1) Bonnet gasket, (4) Packing separator.
B-206LL-8KIT	B-206LL-6, B-206LL-8.	

206ULL Series

Kit Number	Part Number	Kit Contents
B-206ULL-12KIT	B-206ULL-12	(1) Handwheel nut, (1) Handwheel, (1)Stem , (1) Bonnet nut, (1)Bonnet , (1) Bonnet ring, (1)Seat Assembly, (1) Live-Load Spring, (1) Live-Load Washer, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (5) Bonnet Packing, (1) Bonnet Packing Adapter, (1) Bonnet gasket, (4) Packing separator.
B-206ULL-16KIT	B-206ULL-16	

206BLL Series

Kit Number	Part Number	Kit Contents
B-206BLL-12KIT	B-206BLL-12	(1) Handwheel nut, (1) Handwheel, (1)Stem , (1) Bonnet nut, (1)Bonnet , (1) Bonnet ring, (1)Seat Assembly, (1) Live-Load Spring, (1) Live-Load Washer, (1) Spring Washer, (1) Bonnet Bearing, (1) Gland Follower, (5) Bonnet Packing, (1) Bonnet Packing Adapter, (1) Bonnet gasket, (4) Packing separator.

Repair Kits

SK Advantage Series

Kit Number	Part Number	Kit Contents
SKM9404-83	SKL9402,SKM9402, SKS9402,SKL9404,SKM9404 and SKS9404	(1) Gasket.
SKM9408-83	SKL9406,SKM9406, SKS9406,SKL9408,SKM9408, SKS9408 and SKA9408	
SKM9412-83	SKL9412, SKM9412, SKS9412 and SKA9412	
SKM9416-83	SKL9416 and SKM9416	
SKM9404-80AJ	SKL9402,SKM9402, SKS9402,SKL9404,SKM9404 and SKS9404	(1) Gasket and (1) Seat Disc Assembly.
SKM9408-80AJ	SKL9406,SKM9406, SKS9406,SKL9408,SKM9408, SKS9408 and SKA9408	
SKM9412-80AJ	SKL9412, SKM9412, SKS9412 and SKA9412	
SKM9416-80AJ	SKL9416 and SKM9416	
SKM9408-80J	SKL9402, SKM9402,SKS9402, SKL9404, SKM9404, SKS9404, SKL9406,SKM9406,SKS9406 SKL9408,SKM9408, SKS9408 and SKA9408	(2) Spring, Belleville, (1) Washer, Live-loading, (5) Packing, Bonnet, (4) Packing,separator, (1) Bearing, Bonnet, (1)Follower, Gland, (1) Packing, Adapter.
SKM9412-80J	SKL9412, SKM9412, SKS9412 and SKA9412	
SKM9416-80J	SKL9416 and SKM9416	
SKS9404-KIT	SKS9402 and SKS9404	(1) Gasket, (1) Stem, (1) Bonnet & tube Assy, (2) Spring, Belleville,(1) Washer, Live-loading, (5) Packing, Bonnet, (4)Packing, Separator, (1) Bearing, Bonnet, (1) Follower, Gland, (1) Nut, Stem, (1) Ring, Retaining, (1)Packing, Adapter, (1) Nut, Bonnet, (4) Screw, (1) Handwheel, (1) Nut, Hex, and (1) Washer.
SKS9408-KIT	SKS9406 and SKS9408	
SKS9412-KIT	SKS9412	
SKM9404-KIT	SKM9402 and SKM9404	(1) Gasket, (1) Stem, (1) Bonnet & tube Assy, (2) Spring, Belleville,(1) Washer, Live-loading, (5) Packing, Bonnet, (4)Packing, Separator, (1) Bearing, Bonnet, (1) Follower, Gland, (1) Nut, Stem, (1) Ring, Retaining, (1)Packing, Adapter, (1) Nut, Bonnet, (4) Screw, (1) Handwheel, (1) Nut, Hex, and (1) Washer.
SKM9408-KIT	SKM9406 and SKM9408	
SKM9412-KIT	SKM9412	
SKM9416-KIT	SKM9416	
SKL9404-KIT	SKL9402 and SKL9404	(1) Gasket, (1) Stem, (1) Bonnet & tube Assy, (2) Spring, Belleville,(1) Washer, Live-loading, (5) Packing, Bonnet, (4)Packing, Separator, (1) Bearing, Bonnet, (1) Follower, Gland, (1) Nut, Stem, (1) Ring, Retaining, (1)Packing, Adapter, (1) Nut, Bonnet, (4) Screw, (1) Handwheel, (1) Nut, Hex, and (1) Washer.
SKL9408-KIT	SKL9406, SKL9408 and SKA9408	
SKL9412-KIT	SKL9412 and SKA9412	
SKL9416-KIT	SKL9416	

210 Series

Kit Number	Part Number	Kit Contents
S-210-8-81	GS-210W-4, GS-210W-6 and GS-210W-8	(1) Packing adapter, (1) Chevron adapter, (1) Chevron set, (1) Gasket.
S-210-16-81	GS-210W-12 and GS-210W-16	
S-210-24-81	GS-210W-24	
S-210-32-81	GS-210W-32	
S-210WHZ-8-81	GS-210WHZ-4, GS-210WHZ-6 and GS-210WHZ-8	(1) Packing adapter, (1) Chevron adapter, (1) Grafoil Packing, (1) Gasket.
S-210WHZ-16-81	GS-210WHZ-12 and GS-210WHZ-16	
S-210-8-82	GS-210W-4, GS-210W-6 and GS-210W-8	(1) Seat/Seat Assembly, (1) Gasket.
S-210-16-82	GS-210W-12 and GS-210W-16	
S-210-24-82	GS-210W-24	
S-210-32-82	GS-210W-32	
S-210WHZ-8-82	GS-210WHZ-4, GS-210WHZ-6 and GS-210WHZ-8	(1) Seat/Seat Assembly, (1) Grafoil Gasket.
S-210WHZ-16-82	GS-210WHZ-12 and GS-210WHZ-16	
S-210-8-83	GS-210W-4, GS-210W-6 and GS-210W-8	(1) Bonnet Gasket.
S-210-16-83	GS-210W-12 and GS-210W-16	
S-210-24-83	GS-210W-24	
S-210-32-83	GS-210W-32	
S-210WHZ-8-83	GS-210WHZ-4, GS-210WHZ-6 and GS-210WHZ-8	(1) Bonnet Grafoil Gasket.
S-210WHZ-9-84	GS-210WHZ-4, GS-210WHZ-6 and GS-210WHZ-8	
S-210WHZ08-853	GS-210WHZ-4, GS-210WHZ-6 and GS-210WHZ-8	(1) Handwheel, (2) Packing Bolt, (2) Nut, (1) Stem & Seat Assembly, (4) Bonnet Bolt, (1)Bonnet & Yoke ASM, (1) Retaining ring, (1) Stem bearing, (1) Gland Flange, (1) Grafoil Packing Set, (1) Chevron adapter, (1) Packing adapter, (1) Gasket, (1) Jam nut, (1) Washer, (1) Grafoil Gasket.
S-210WHZ16-853	GS-210WHZ-12 and GS-210WHZ-16	

Repair Kits

231 Series

Kit Number	Part Number	Kit Contents
S-231-4-81	S-231-4	(1) Packing adapter, (1) Chevron adapter, (1) Grafoil packing, (1) Grafoil Gasket.
S-231-8-81	S-231-8	
S-231-12-81	S-231-12	
S-231-4-82	S-231-4	(1) Seat/Seat Assembly, (1) Grafoil Gasket.
S-231-8-82	S-231-8	
S-231-12-82	S-231-12	
S-231-4-83	S-231-4	(1) Grafoil Gasket.
S-231-8-83	S-231-8	
S-231-12-83	S-231-12	
S-231-4-85	S-231-4	(1) Handwheel, (2) Packing Bolt, (2) Nut, (1) Stem & Seat Assembly, (4) Bonnet Bolt, (4) Bonnet nut, (1) Bonnet & Yoke ASM, (1) Retaining ring, (1) Stem bearing, (1) Gland Flange, (1) Grafoil Packing Set, (1) Chevron adapter, (1) Packing adapter, (1) Gasket, (1) Jam nut, (1) Washer, (1) Grafoil Gasket.
S-231-8-85	S-231-8	
S-231-12-85	S-231-12	

232 Series

Kit Number	Part Number	Kit Contents
S-232-4-81	S-232-4	(1) Packing adapter, (1) Chevron adapter, (1)Chevron set, (1) Gasket.
S-232-8-81	S-232-8	
S-232-12-81	S-232-12	
S-232-4-82	S-232-4	(1) Seat/Seat Assembly, (1) Gasket.
S-232-8-82	S-232-8	
S-232-12-82	S-232-12	
S-232-4-83	S-232-4	(1) Gasket.
S-232-8-83	S-232-8	
S-232-12-83	S-232-12	
S-232-4-85	S-232-4	(1) Handwheel, (2) Packing Bolt, (2) Nut, (1) Stem & Seat Assembly, (4) Bonnet Bolt, (4) Bonnet nut, (1) Bonnet & Yoke ASM, (1) Retaining ring, (1) Stem bearing, (1) Gland Flange, (1)Chevron Set, (1) Chevron adapter, (1) Packing adapter, (1) Gasket, (1) Jam nut, (1) Washer, (1) Gasket.
S-232-8-85	S-232-8	
S-232-12-85	S-232-12	

CFM, AFM, PFM, SFM, CSB, & CSM Series

Kit Number	Part Number	Kit Contents
CFM2D-82	SFM, CFM, AFM, PFM, CSB, CSM Fill Manifolds Series	(1) Piston Assy, (1) Spring,(1) Strainer, (1) Gasket.
CFM2D-86	CFM-2D & CFM-4D, CSB2D, CSB4D	(1) Copper gasket, (1) Retrofit Kit, (01) Gasket, (04) Cap screw, (01) Rear Flange Assy.
CSM2D-86	CSM2D, CSM4D	
SKM9408-83	CSB2D, CSM2D	(1) Gasket.
SKM9412-83	CSB4D, CSM4D	
SKM9408-80AJ	CSB2D, CSM2D	(1) Gasket and (1) Seat Disc Assembly.
SKM9412-80AJ	CSB4D, CSM4D	
SKM9408-80J	CSB2D, CSM2D	(2) Spring, Belleville, (1) Washer, Live-loading, (5) Packing, Bonnet, (4)Packing,separator, (1) Bearing, Bonnet, (1)Follower, Gland, (1) Packing, Adapter.
SKM9412-80J	CSB4D, CSM4D	
SKM9408-KIT	CSB2D, CSM2D	(1) Gasket, (1) Stem, (1) Bonnet & tube Assy, (2) Spring, Belleville,(1) Washer, Live-loading, (5) Packing, Bonnet, (4)Packing, Separator, (1) Bearing, Bonnet, (1) Follower, Gland, (1) Nut, Stem, (1) Ring, Retaining, (1)Packing, Adapter, (1) Nut, Bonnet, (4) Screw, (1) Handwheel, (1) Nut, Hex, and (1) Washer.
SKM9412-KIT	CSB4D, CSM4D	

2500 and 2550 Series

Kit Number	Part Number	Kit Contents
2505AC-80	2505AC	(2) Seat disc,(1) Diaphragm,(1) Washer, (1) Gaskets.
2507AC-80	2507AC	
2511AC-80	2511AC	
2513AC-80	2513AC	
2553AC-80	2553AC, 2553AAC.	(1) Diaphragm Assembly, (1) Washer.
2554AC-80	2554AC, 2554AAC.	

Repair Kits

302 and 322 Series

Kit Number	Part Number	Kit Contents
B-322-8-81	B-302-8, B-312-8, B-322-8, WCB-8, WCBN-8, GB-322WE-8.	(1) Handwheel nut, (1) Bonnet Bearing, (1) Grand follower, (5) Bonnet packing, (4) packing separator, (1) Bonnet packing adapter.
B-322-12-81	B-302-12, B-312-12, B-322-12, WCB-12, WCBN-12.	
B-322-16-81	B-322-16	
B-322-20-81	B-302-20, B-312-20, B-322-20, WCB-20, WCBN-20.	
B-322-24-81	B-302-24, B-312-24, B-322-24, WCB-24, WCBN-24.	
B-322-8-82	B-302-8, B-312-8, B-322-8, WCB-8, WCBN-8, GB-322WE-8.	(1) Split Wedge Assembly, (1) Bonnet Gasket.
B-322-12-82	B-302-12, B-312-12, B-322-12, WCB-12, WCBN-12.	
B-322-16-82	B-322-16	
B-322-20-82	B-302-20, B-312-20, B-322-20, WCB-20, WCBN-20.	
B-322-24-82	B-302-24, B-312-24, B-322-24, WCB-24, WCBN-24.	
B-322-8-83	B-302-8, B-312-8, B-322-8, WCB-8, WCBN-8, GB-322WE-8.	(1) Bonnet Gasket.
B-322-12-83	B-302-12, B-312-12, B-322-12, WCB-12, WCBN-12.	
B-322-16-83	B-322-16	
B-322-20-83	B-302-20, B-312-20, B-322-20, WCB-20, WCBN-20.	
B-322-24-83	B-302-24, B-312-24, B-322-24, WCB-24, WCBN-24.	
B-322-4KIT	B-322-4	(1)Handwheel, (1) Handwheel nut, (1) Stem, (1) Bonnet Nut, (1) Bonnet & Tube ASM, (1) Bonnet ring, (1) Split wedge ASM, (1) Bonnet bearing, (1) Gland follower, (5) Bonnet packing, (4) Packing separator, (1) Bonnet packing adapter, (1) Bonnet gasket.
B-322-8KIT	B-322-8	
B-322-12KIT	B-322-12	
B-322-16KIT	B-322-16	
B-322-20KIT	B-322-20	
B-322-24KIT	B-322-24	

302, 306, 322, and 326 Series

Kit Number	Part Number	Kit Contents
B-326-4-81	B-312-4, B-322-4, B-326-4, GB-326WE-4, WCB-4, WCBN-4.	(1) Handwheel nut, (1) Bonnet bearing, (1) Gland follower, (5) Packing, (4) Packing Separator, (1) Packing adapter.
B-326-6-81	B-302-6, B-306-6, B-312-6, B-326-6, WCB-6, WCBN-6.	
B-326-8-81	B-306-8, B-326-8, GB-0326EP-8, GB-0326WE-8.	
B-326-12-81	B-306-12, B-326-12, GB-0326EP-12, GB-0326WE-12.	
B-326-16-81	B-302-16, B-306-16, B-312-16, B-322-16, B-326-16, GB-322WE-16, GB-326EP-16, WCB-16, WCBN-16.	
B-326-4-82	B-312-4, B-322-4, B-326-4, GB-326WE-4, WCB-4, WCBN-4	(1) Split Wedge Assembly, (1) Bonnet gasket.
B-326-6-82	B-302-6, B-306-6, B-312-6, B-326-6, WCB-6, WCBN-6.	
B-326-8-82	B-306-8, B-326-8, GB-0326EP-8, GB-0326WE-8.	
B-326-12-82	B-306-12, B-326-12, GB-0326EP-12, GB-0326WE-12.	
B-326-16-82	B-302-16, B-306-16, B-312-16, B-322-16, B-326-16, GB-322WE-16, GB-326EP-16, WCB-16, WCBN-16.	
B-326-4-83	B-312-4, B-322-4, B-326-4, GB-326WE-4, WCB-4, WCBN-4	(1) Bonnet gasket.
B-326-6-83	B-302-6, B-306-6, B-312-6, B-326-6, WCB-6, WCBN-6.	
B-326-8-83	B-306-8, B-326-8, GB-0326EP-8, GB-0326WE-8.	
B-326-12-83	B-306-12, B-326-12, GB-0326EP-12, GB-0326WE-12.	
B-326-16-83	B-302-16, B-306-16, B-312-16, B-322-16, B-326-16, GB-322WE-16, GB-326EP-16, WCB-16, WCBN-16.	
B-326-4KIT	B-326-4	(1)Handwheel, (1) Handwheel nut, (1) Stem, (1) Bonnet Nut, (1) Bonnet & Tube ASM, (1) Bonnet ring, (1) Split wedge ASM, (1) Bonnet bearing, (1) Gland follower, (5) Bonnet packing, (4) Packing separator, (1) Bonnet packing adapter, (1) Bonnet gasket.
B-326-6KIT	B-326-6	
B-326-8KIT	B-326-8	
B-326-12KIT	B-326-12	
B-326-16KIT	B-326-16	

302 Series

Kit Number	Part Number	Kit Contents
B-302-4KIT	B-302-4	(1)Handwheel, (1) Handwheel nut, (1) Stem, (1) Bonnet Nut, (1) Bonnet & Tube ASM, (1) Bonnet ring, (1) Split wedge ASM, (1) Bonnet bearing, (1) Gland follower, (5) Bonnet packing, (4) Packing separator, (1) Bonnet packing adapter, (1) Bonnet gasket.
B-302-8KIT	B-302-8	
B-302-12KIT	B-302-12	
B-302-16KIT	B-302-16	
B-302-20KIT	B-302-20	
B-302-24KIT	B-302-24	

Repair Kits

306 Series

Kit Number	Part Number	Kit Contents
B-000306-6KIT	B-000306-6	(1)Handwheel, (1) Handwheel nut, (1) Stem, (1) Bonnet Nut, (1) Bonnet & Tube ASM, (1) Bonnet ring, (1) Split wedge ASM, (1) Bonnet bearing, (1) Gland follower, (5) Bonnet packing, (4) Packing separator, (1) Bonnet packing adapter, (1) Bonnet gasket.
B-000306-8KIT	B-000306-8	
B-000306-12KIT	B-000306-12	
B-000306-16KIT	B-000306-16	

310 Series

Kit Number	Part Number	Kit Contents
B-310X-24-81	B-310-20, B-310-24, B-310C-24, B-310X-20, B-310X-24, SB-310S-24SW.	(1) Handwheel nut, (1) Bonnet bearing, (1) Gland follower, (5) Packing, (4) Packing separator, (1) Packing adapter.
B-310X-24-82		(1) Wedge, (1) Seat,(1) Seat clamp, (3) Cap screw, (1) Gasket.
B-310X-24-83		(1) Gasket.
B-310X-24-84		(1) Seat,(1) Seat clamp, (3) Cap screw, (1) Gasket.
B-310X-24KIT	B-310X-20, B-310X-24.	(1)Handwheel, (1) Handwheel nut, (1) Stem, (1) Bonnet Nut, (1) Bonnet & Tube ASM, (1) Bonnet ring, (1) Split wedge ASM, (1) Bonnet bearing, (1) Gland follower, (5) Bonnet packing, (4) Packing separator, (1) Bonnet packing adapter, (1) Bonnet gasket.
B-310-24KIT	B-310-20, B-310-24.	

110 Series

Kit Number	Part Number	Kit Contents
S-110-08-81	GS-110W-4, GS-110W-6 and GS-110W-8.	(1) Packing Adapter, (1) Chevron adapter, (01) Chevron set, (1) Gasket.
S-110-16-81	GS-110W-12 and GS-110W-16.	
S-110-24-81	GS-110W-24.	
S-110-32-81	GS-110W-32.	
S-110-48-81	GS-110W-48.	
S-110WHZ-08-81	GS-110WHZ-4, GS-110WHZ-6 and GS-110WHZ-8.	(1) Packing Adapter, (1) Chevron adapter, (01) Grafoil set, (1) Gasket.
S-110WHZ-16-81	GS-110WHZ-12 and GS-110WHZ-16.	
S-110WHZ-24-81	GS-110WHZ-24.	
S-110WHZ-32-81	GS-110WHZ-32.	
S-110WHZ-48-81	GS-110WHZ-48.	
S-110-08-82	GS-110W-4, GS-110W-6 and GS-110W-8.	(1) Wedge/Stem Assembly, (1) Seat, (1) Seat Clamp, (1) Cap Screw, (1) Gasket.
S-110-16-82	GS-110W-12 and GS-110W-16.	
S-110-24-82	GS-110W-24.	
S-110-32-82	GS-110W-32.	
S-110-48-82	GS-110W-48.	
S-110WHZ-8-82	GS-110WHZ-4, GS-110WHZ-6 and GS-110WHZ-8.	
S-110WHZ-16-82	GS-110WHZ-12 and GS-110WHZ-16.	
S-110WHZ-24-82	GS-110WHZ-24.	
S-110WHZ-32-82	GS-110WHZ-32.	
S-110WHZ-48-82	GS-110WHZ-48.	
S-110-08-83	GS-110W-4, GS-110W-6 and GS-110W-8.	(1) Gasket.
S-110-16-83	GS-110W-12 and GS-110W-16.	
S-110-24-83	GS-110W-24.	
S-110-32-83	GS-110W-32.	
S-110-48-83	GS-110W-48.	
S-110WHZ-08-83	GS-110WHZ-4, GS-110WHZ-6 and GS-110WHZ-8.	
S-110WHZ-16-83	GS-110WHZ-12 and GS-110WHZ-16.	
S-110WHZ-24-83	GS-110WHZ-24.	
S-110WHZ-32-83	GS-110WHZ-32.	
S-110WHZ-48-83	GS-110WHZ-48.	
S-110-08-84	GS-110W-4, GS-110W-6 and GS-110W-8.	(1) Gasket, (1) Seat, (1) Seat Clamp, (1) Cap Screw.
S-110-16-84	GS-110W-12 and GS-110W-16.	
S-110-24-84	GS-110W-24.	
S-110-32-84	GS-110W-32.	
S-110-48-84	GS-110W-48.	
S-110WHZ-08-84	GS-110WHZ-4, GS-110WHZ-6 and GS-110WHZ-8.	
S-110WHZ-16-84	GS-110WHZ-12 and GS-110WHZ-16.	
S-110WHZ-24-84	GS-110WHZ-24.	
S-110WHZ-32-84	GS-110WHZ-32.	
S-110WHZ-48-84	GS-110WHZ-48.	
S-110WHZ08-853	GS-110WHZ-4, GS-110WHZ-6 and GS-110WHZ-8.	(1) Handwheel Assembly, (2) Bolt, (2) Nut, (1) Stem & Wedge Assembly, (4) Bolt, (1) Bonnet & Yoke Assembly, (1) Retaining Ring, (1) Stem Bearing, (1) Gland Flange, (1) Packing Set, (1) Chevron Adapter, (1) Packing Adapter, (2) Gasket- Grafoil, (1) Seat, (1) Seat Clamp, (2) Socket Head Cap Screw, (1) Set Screw.
S-110WHZ16-853	GS-110WHZ-12 and GS-110WHZ-16.	
S-110WHZ24-853	GS-110WHZ-24.	
S-110WHZ32-853	GS-110WHZ-32.	
S-110WHZ48-853	GS-110WHZ-48.	

Repair Kits

LOX110 Series

Kit Number	Part Number	Kit Contents
LOX110W-08-85	LOX110W-04, LOX110W-06,and LOX110W-08.	(1) Handwheel Assembly, (2) Bolt, (2) Nut, (1) Stem & Wedge Assembly, (4) Bolt, (1) Bonnet & Yoke Assembly, (1) Retaining Ring, (1) Stem Bearing, (1) Gland Flange, (1) Packing Set, (1) Chevron Set, (1) Chevron Adapter, (1) Packing Adapter, (2) Gasket, (1) Seat, (1) Seat Clamp, (2) Socket Head Cap Screw, (1) Set Screw.
LOX110W-16-85	LOX110W-12,and LOX110W-16.	
LOX110W-24-85	LOX110W-24.	
LOX110W-32-85	LOX110W-32.	
LOX110W-48-85	LOX110W-48.	
LOX110WEP-16-85	LOX110WEP-12,and LOX110WEP-16.	
LOX110WEP-32-85	LOX110WEP-32.	
LOX110WEP-48-85	LOX110WEP-48.	

840 and 846M Series

Kit Number	Part Number	Kit Contents
B-840-4-82	B-840-4.	(1) Disc/Arm Assembly, (1) Gasket, (1) Pivot Pin, (2) Side Plug, (2) Plug Gasket.
B-840-6-82	B-840-6.	
B-840-8-82	B-840-8.	
B-840-12-82	B-840-12.	
B-840-16-82	B-840-16.	
B-846M-4-82	B-846M-4.	
B-846M-6-82	B-846M-6.	
B-846M-8-82	B-846M-8.	
B-846M-12-82	B-846M-12.	
B-846M-16-82	B-846M-16.	

886 Series

Kit Number	Part Number	Kit Contents
S-886-04-82	S-886-4	(1) Disc/Arm Assembly, (1) Pin, (1) Gasket.
S-886-08-82	S-886-8	
S-886-12-82	S-886-12	
S-886-16-82	S-886-16	
S-886-24-82	S-886-24	
S-886-32-82	S-886-32	
S-886M-04-82	S-886M-4	
S-886M-08-82	S-886M-8	
S-886M-12-82	S-886M-12	
S-886M-16-82	S-886M-16	
S-886M-24-82	S-886M-24	
S-886M-32-82	S-886M-32	
S-886GF-04-82	S-886GF-4	(1) Disc/Arm Assembly, (1) Pin, (1) Grafoil Gasket.
S-886GF-08-82	S-886GF-8	
S-886GF-12-82	S-886GF-12	
S-886-04-83	S-886-4	(01) Gasket.
S-886M-8-83	S-886M-8	
S-886M-12-83	S-886M-12	
S-886M-16-83	S-886M-16	
S-886M-24-83	S-886M-24	
S-886M-32-83	S-886M-32	
S-886GF-04-83	S-886GF-4	(1) Grafoil Gasket.
S-886GF-08-83	S-886GF-8	
S-886GF-12-83	S-886GF-12	

TA3217AR410 Series

Kit Number	Part Number	Kit Contents
TA3217AR-80	TA3217AR410	(1) Gasket , (1) Gasket, (1) Seat, (1) Stem Bearing, (1) Seat Retainer, (1) Bearing Seal Grand, (1) Retainer Ring, (1) "V" Packing Male Ring, (3) "V" Packing Female Ring, (1) Body Bearing, (1) O-ring, (1) Dust Seal, (1) Coiling Spring Ring, (1) Seal Housing, (1) Seal Spring, (1) Groove Pin, (1) Upper Stem Bearing, (1) Retaining Ring.

Repair Kits

1780 and BR-1780 Series.

Kit Number	Part Number	Kit Contents
BR-1784-80	1784 Series	Diaphragm assembly, stem and seat assembly, seal, Viton seat
BR-1786-80	1786 Series and 1788 Series	Diaphragm assembly, stem and seat assembly, seal, viton seat for oxygen service
BR-1784-7SKA	1784 Series	Spring kit for 1784, “A” spring range, 5 to 55 psig (.34 o 3.79 barg) delivery pressure 1784 “B” spring range, 40 to 110 psig (2.75 to 7.58 barg) delivery pressure Spring kit for 1784, “C” spring range, 100 to 200 psig (6.89 to 13.78 barg) delivery pressure, Spring kit for 1784, “D” spring range 175 to 300 psig (12 o 20.7 barg) delivery pressure
BR-1784-7SKB		
BR-1784-7SKC		
BR-1784-7SKD		
BR-1786-7SKA	1786 Series	Spring kit for 1786, “A” spring range, 5 to 55 psig (.34 o 3.79 barg) delivery pressure 1786 “B” spring range, 40 to 110 psig (2.75 to 7.58 barg) delivery pressure Spring kit for 1786, “C” spring range, 100 to 200 psig (6.89 to 13.78 barg) delivery pressure, Spring kit for 1786, “D” spring range 175 to 300 psig (12 o 20.7 barg) delivery pressure
BR-1786-7SKB		
BR-1786-7SKC		
BR-1786-7SKD		
BR-1788-7SKA	1788 Series	Spring kit for 1788, “A” spring range, 5 to 55 psig (.34 o 3.79 barg) delivery pressure 1788 “B” spring range, 40 to 110 psig (2.75 to 7.58 barg) delivery pressure Spring kit for 1788, “C” spring range, 100 to 200 psig (6.89 to 13.78 barg) delivery pressure, Spring kit for 1788, “D” spring range 175 to 300 psig (12 o 20.7 barg) delivery pressure
BR-1788-7SKB		
BR-1788-7SKC		
BR-1788-7SKD		

1682M and C-1682M Series.

Kit Number	Part Number	Kit Contents
1682Y-80	1682Y Series	Diaphragm assembly, stem and seat assembly seal.
C-1682M-80	C-1682M Series	
1686Y-80	1686Y, 1688Y Series	
1684MHP-80	1684MHP	
1684M-80	BR-1684M Series	
1686M-80	1686M, 1688M Series	
1682M-80	1682M Series	Molded diaphragm assembly, stem and seat assembly seal.
1684M-80	1684M Series	
1684Y-80	1684Y Series	Diaphragm assembly, stem and seat assembly seal, guide.

M2523HP Series.

Kit Number	Part Number	Kit Contents
2523HP-80A	M2523HP350, M2523HP540, M2523HP580,M2523HP590, M2523HP1320	Seat and centerpiece assembly, diaphragm assembly, nozzle, spring, washer, gaskets.
2523HP-80B	M2523HP320	

HP9560 Series.

Kit Number	Part Number	Kit Contents
9500-80K*	UL9500 Series,NUL9500 Series	(1) Packing ring set, (1) Washer, 1) Seal washer, (1) Seat Disc & Retainer Assembly.
9550-80	9550 Series	(1) Seat Assembly, (1) O-ring, (2) Back up Ring, (3) Washer, (1) O-ring.
9550-3-80	9550 Series	(1) Sleeve.
9560-81	9560 Series	(1) O-ring, (1) Back up ring, (1) Thrust Bearing, (1) Friction washer.
9560C-80	HP9560C Series, 9560C Series	(1) Seat Assembly, (1) O-ring, (1) Back up Ring, (2) Washer, (1) Thrust bearing, (1)Retainer lower, (1) Nut, (1) friction washer, (1) Retainer, (1) Seat insert.
9560-80	HP9560 Series, 9560 Series	(1) Seat Assembly, (1) O-ring, (1) Back up Ring, (2) Washer, (1) Thrust bearing, (1)Retainer lower, (1) Nut, (1) friction washer, (1) Retainer.
9560N-80 Repair Kit	HP9560N Series, 9560N Series	(1) Seat Assembly Nylon, (1) O-ring, (1) Back up Ring, (2) Washer, (1) Thrust bearing, (1)Retainer lower, (1) Nut, (1) friction washer, (1) Retainer.
9560-4-80	HP9560 Series, HP9560N Series	(1) Stem.
9560-7-80	HP9560P Series, 9560P Series	(1) Stem, (1) Nut, (1) Bonnet cap.
9560-8-80	HP9560P Series, 9560P Series	(1) Stem.

* Post 1978

7160 Series.

Kit Number	Part Number	Kit Contents
7160-80B	7160 Series	(1) Bonnet, (1) Stem, (1)Lower Stem Assembly,(1) Screw, (1) Handwheel.

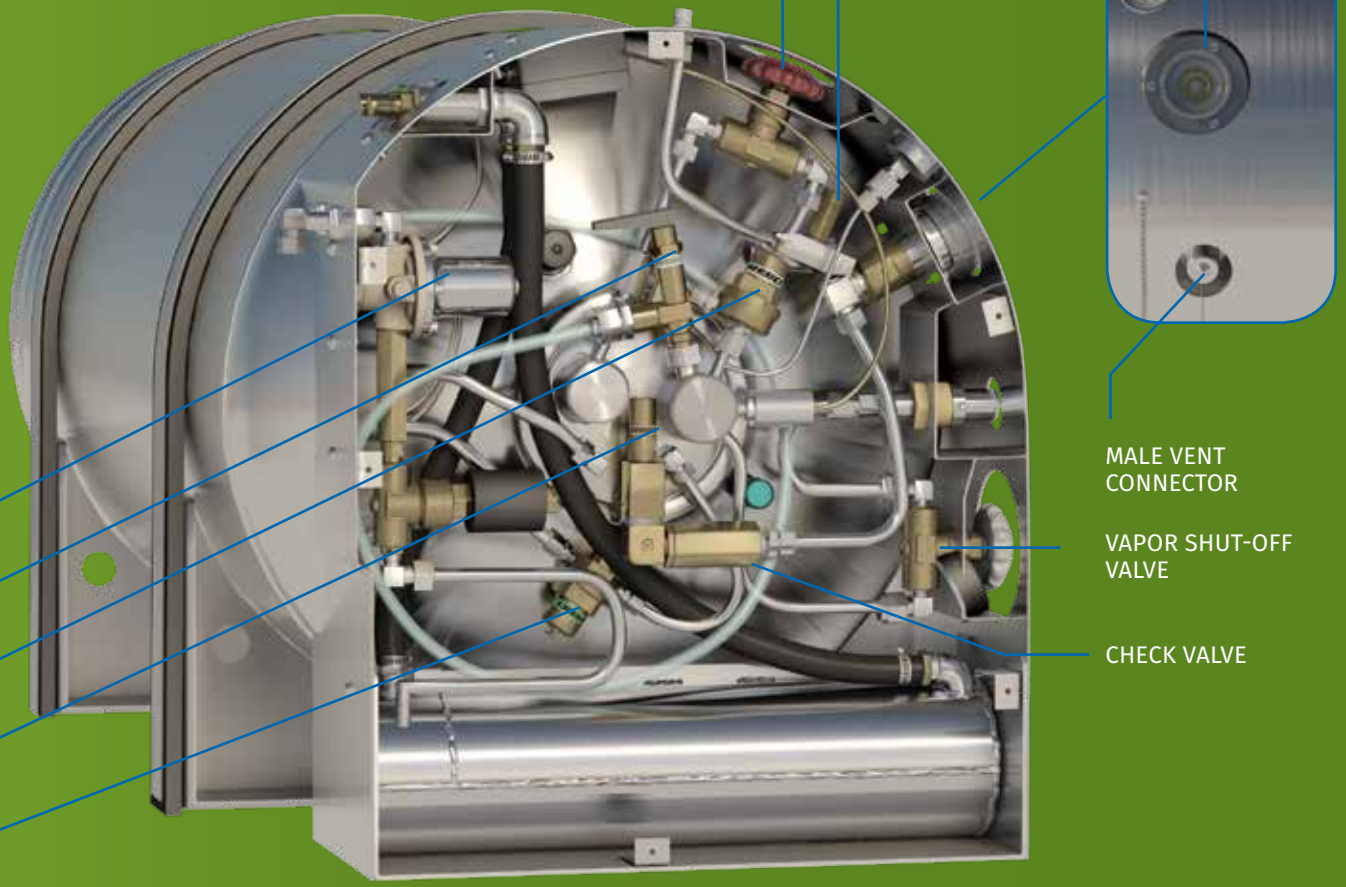
LNG and Natural Gas Equipment

- Cylinder Equipment
- LNG Dispenser Equipment
- Globe Valves
- Gate Valves
- Regulators
- Pressure Relief Valves
- Miscellaneous Equipment
- Repair Kits

LNG cylinders

The driving force behind LNG vehicles

RegO technology and know-how helped create the LNG vehicle cylinder. Today, we offer the industry's only R110 compliant line of LNG cylinder flow control products. From filler receptacles to shut-off valves, our long-lasting, low maintenance products are engineered to give you mile after mile of fuel efficient driving—without a lot of costly pit stops.



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

REGO 18 MONTH WARRANTY

REGO LIQUID CYLINDER PRODUCTS

PLEASE NOTE: RegO Macro LNG products have new part numbers. You can find a listing of old and new LNG part numbers at regoproducts.com

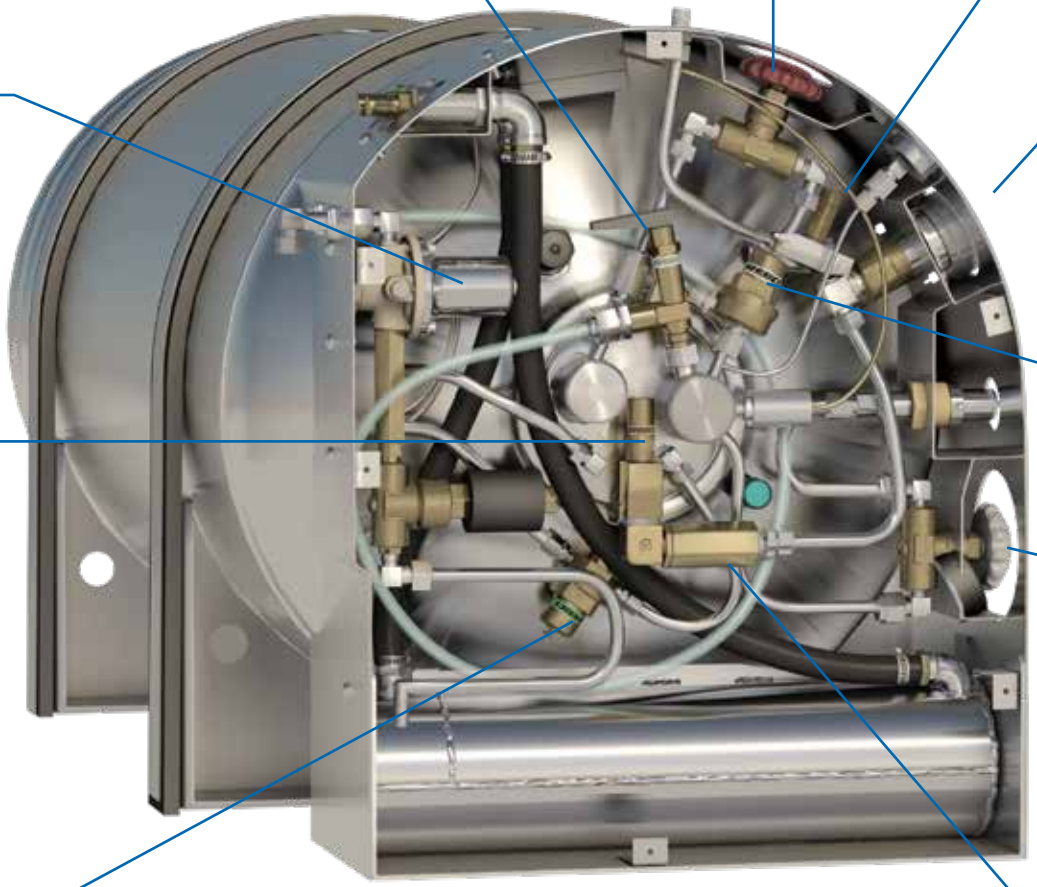
NEW! PRESSURE RELIEF VALVES
NG9000 SERIES

SHUT-OFF VALVE
T9450 SERIES

NEW! EXCESS FLOW VALVE
NG303 SERIES

NEW! LNG RECEPTACLE
MFR100 SERIES

GAS PHASE REGULATOR
1784NG SERIES



NEW! QUICK DISCONNECT VENT
MQD100 SERIES

PRESSURE RELIEF VALVES
9400 SERIES

NEW! PRESSURE BUILDER REGULATOR
RG SERIES

NEW! ECONOMIZER
ECL SERIES

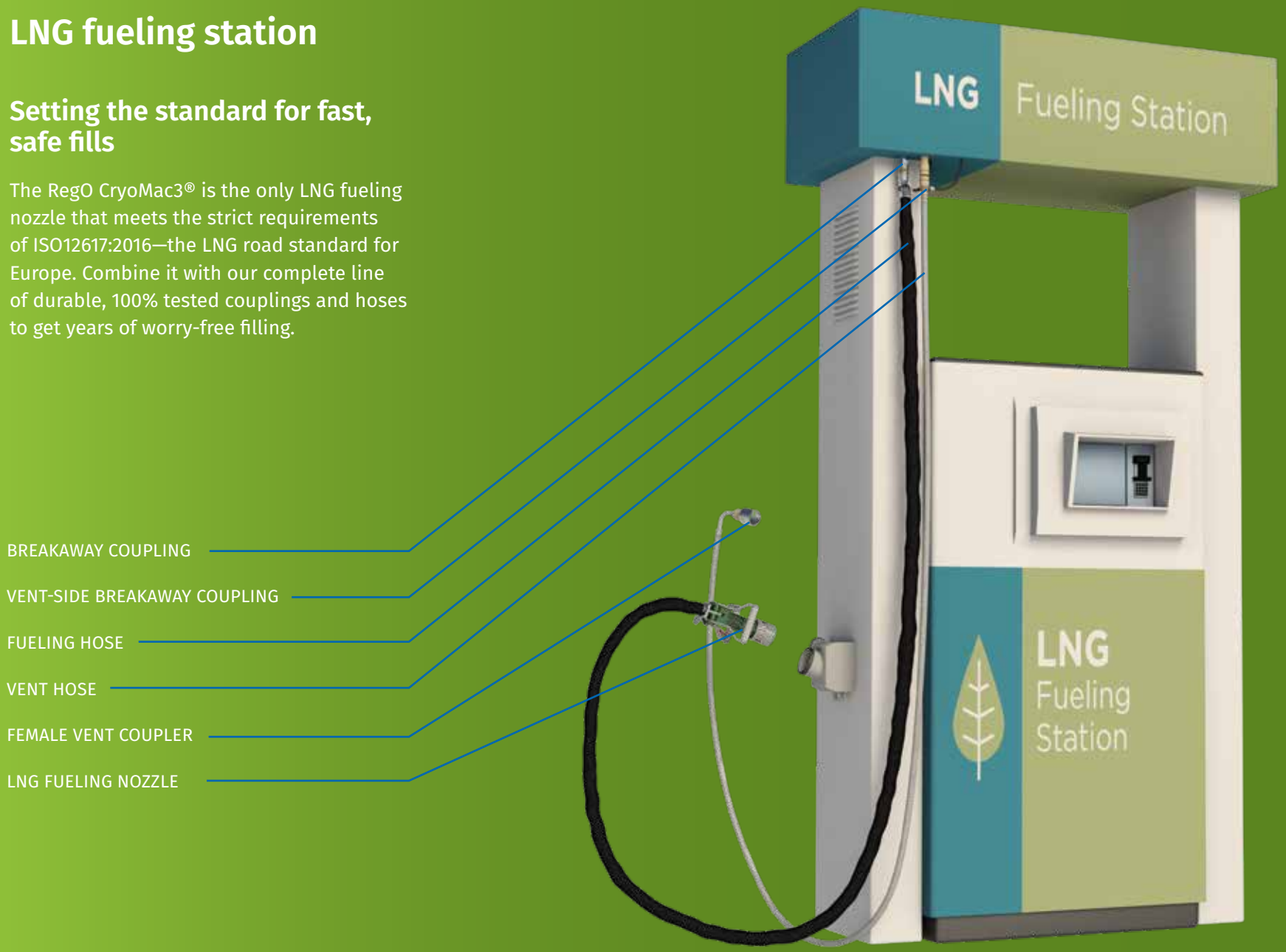
NEW! IN LINE CHECK VALVES
NG300 SERIES

SHUT-OFF VALVE
T9460 SERIES

LNG fueling station

Setting the standard for fast, safe fills

The RegO CryoMac3® is the only LNG fueling nozzle that meets the strict requirements of ISO12617:2016—the LNG road standard for Europe. Combine it with our complete line of durable, 100% tested couplings and hoses to get years of worry-free filling.



REGO 18 MONTH WARRANTY

REGO LNG FUELING STATION PRODUCTS

LNG VENT BREAKAWAY
VLF-5001 SERIES

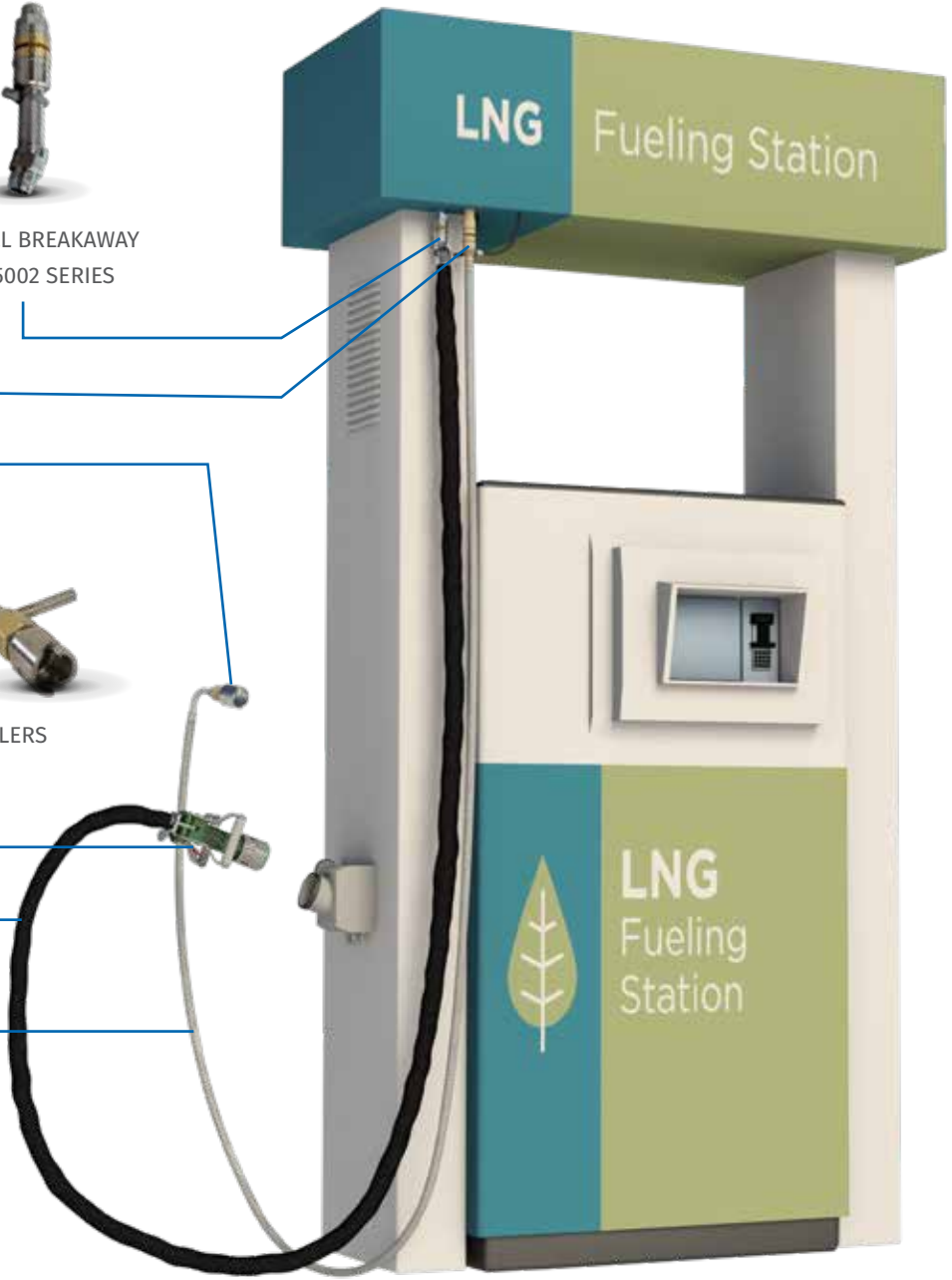
LNG FILL BREAKAWAY
VLF-5002 SERIES

FUELING NOZZLE
CRYOMAC3® SERIES

LNG FEMALE VENT COUPLERS
FQD-10 SERIES

LIQUID LINE
FUELING HOSE
CHS SERIES

VENTING LINE
VENT HOSE
CHB SERIES



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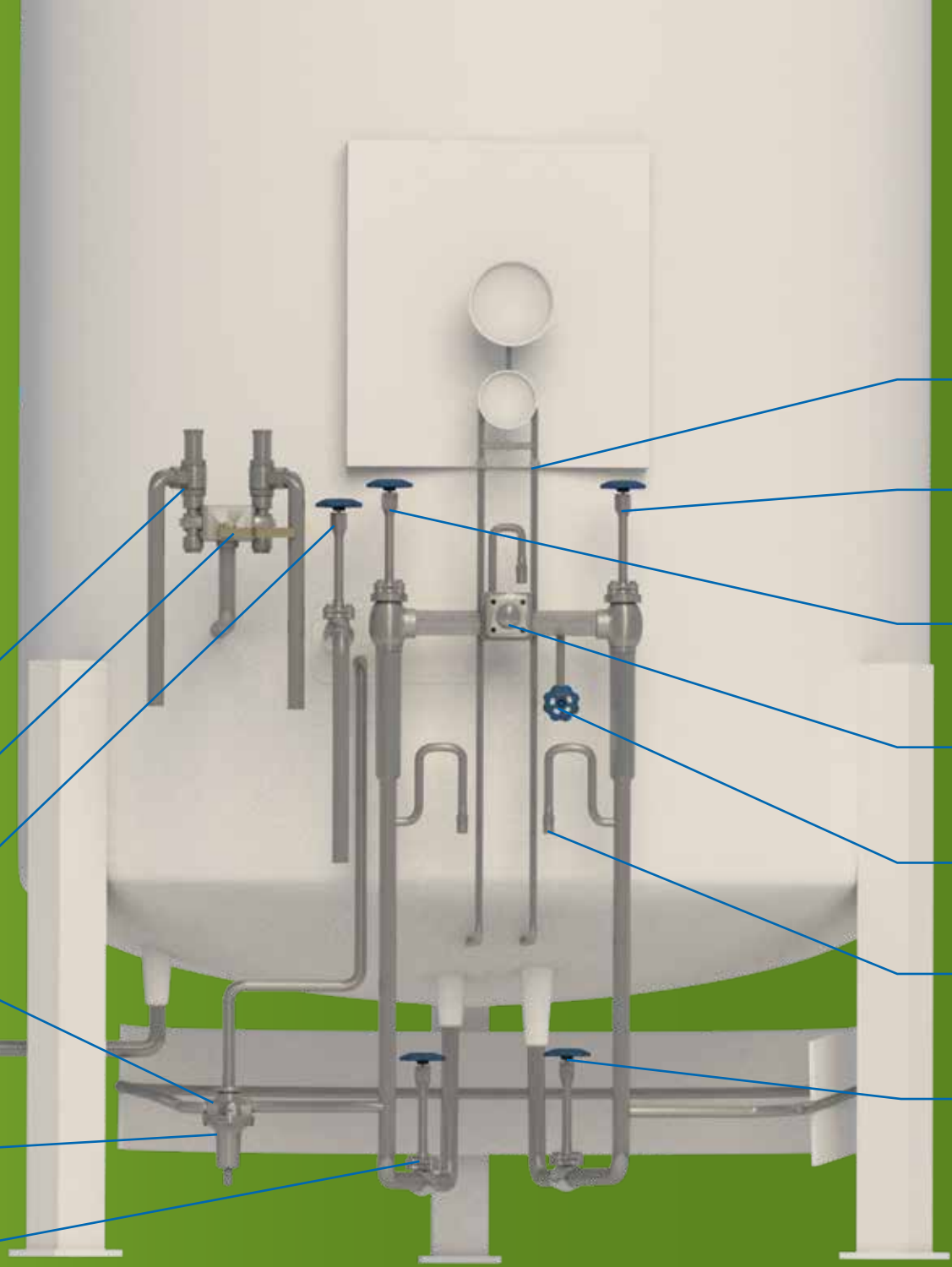
Bulk tank storage

Breadth of line meets depth of knowledge

Combine RegO's industry experience, design assistance, and broad product line to build a flow control system that enables maximum efficiency and excellent value for bulk storage applications.

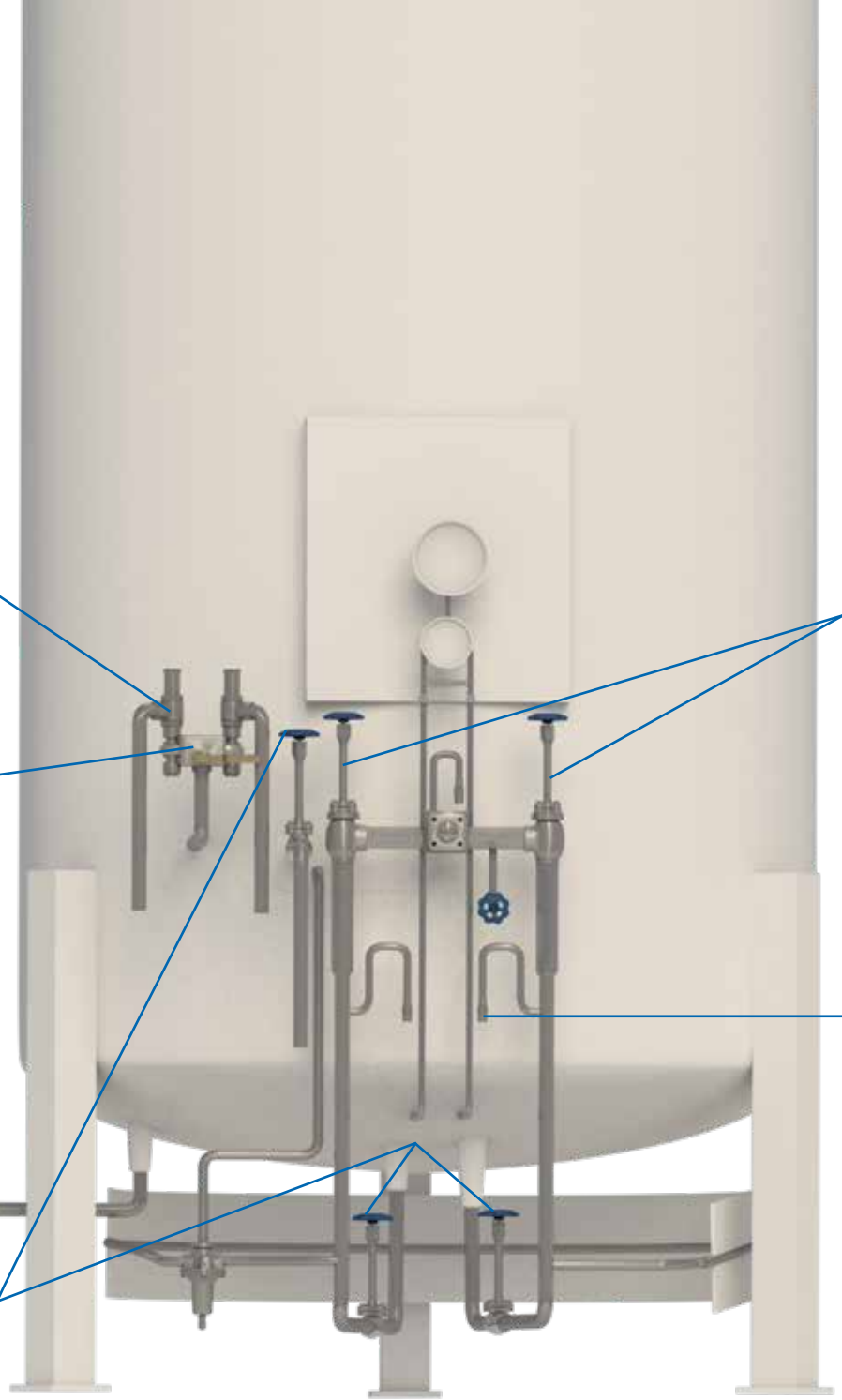


REGO BULK STORAGE PRODUCTS

ANGLE PRESSURE RELIEF VALVE
AR SERIES

DIVERTER VALVE
DR SERIES

GLOBE VALVE
SK SERIES



ANGLE VALVE
SK SERIES

PRESSURE RELIEF VALVE
9400 SERIES

PRV RISER TUBE
1300SS SERIES

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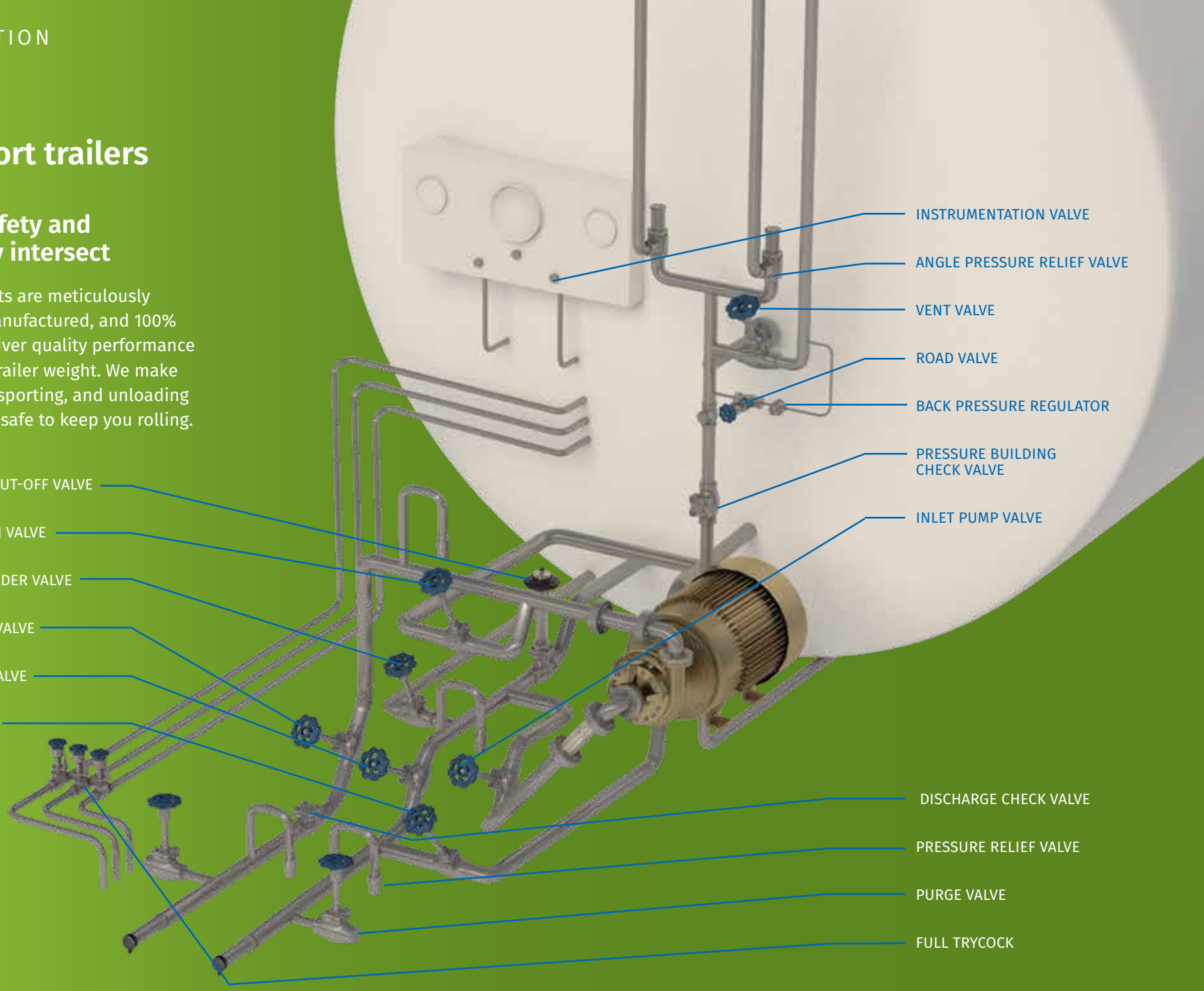
Transport trailers

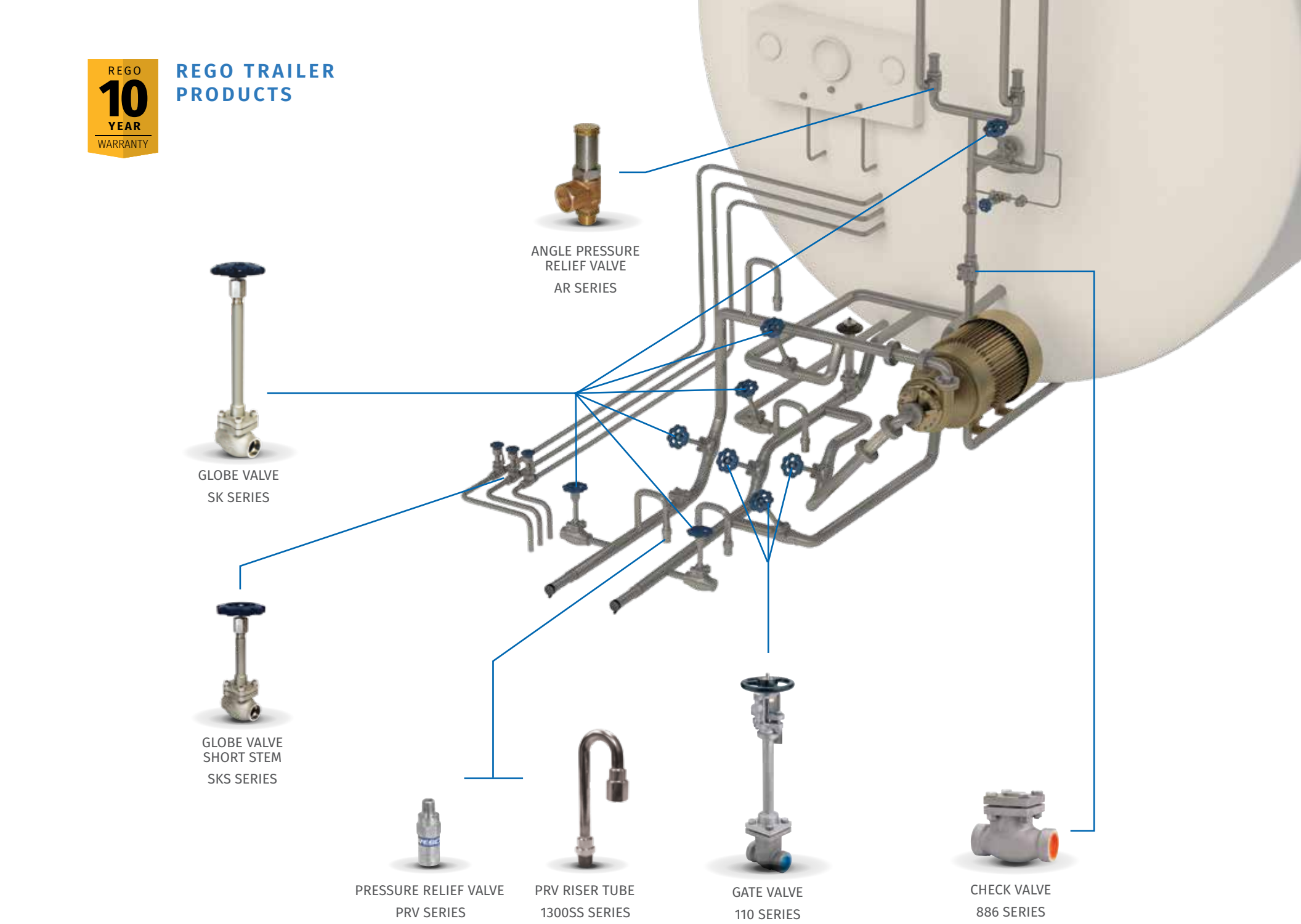
Where safety and reliability intersect

RegO products are meticulously designed, manufactured, and 100% tested to deliver quality performance and reduce trailer weight. We make loading, transporting, and unloading efficient and safe to keep you rolling.



REGO 10 YEAR WARRANTY

REGO TRAILER PRODUCTS



ANGLE PRESSURE RELIEF VALVE
AR SERIES

GLOBE VALVE
SK SERIES

GLOBE VALVE SHORT STEM
SKS SERIES

PRESSURE RELIEF VALVE
PRV SERIES

PRV RISER TUBE
1300SS SERIES

GATE VALVE
110 SERIES

CHECK VALVE
886 SERIES

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

Foreword

This catalog briefly describes the Rego® LNG Equipment. As a result of condensing information in this catalog, some highly technical and special application material has been omitted. Proper application, installation and maintenance of the product is essential. Buyers should obtain further information if there are any doubts or questions. All information contained in this catalog is subject to change by RegO without notice. Additional product information is available from RegO or authorized product distributors. Illustrations and drawings of individual products are representative of “product groups” and all products within a product group are similar in construction.

Warning

Never use any product on Oxygen service if another gas has been previously used on the product. 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.

Materials

RegO may make suggestions for a material to use with a specific media. These suggestions will be based on technical compatibility resources through associations and manufacturers. RegO does not guarantee the material to be compatible with the specific media – this is the responsibility of the user. Users must test under their own operating conditions to determine the suitability of any material in a particular application.

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 57, NFPA 30A, NFPA 59A, CGA, ASME, DOT, ANSI, R110 and all applicable federal, state, provincial and local standards, codes, regulations and laws.

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

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

For Sales in California:

WARNING: This product can expose you to chemicals including lead which is known to the state of California to cause cancer, birth defects or reproductive harm. For more information go to **www.P65Warnings.ca.gov**

Cryogenic Economizers
ECL502 Series

Application

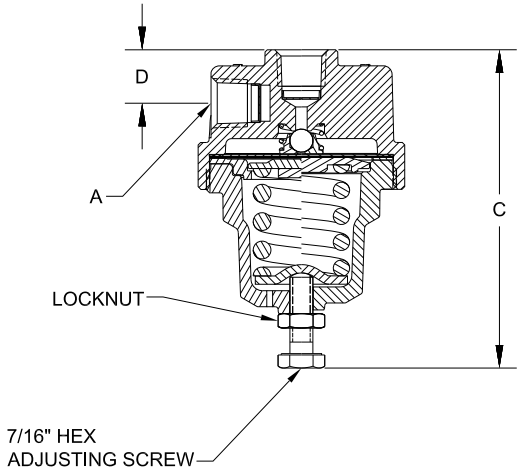
ECL502 series cryogenic economizers are designed to be used as pressure reducing valves to automatically maintain a constant inlet or back pressure, normally closed at pressures below its set-points and open at pressures above its set-point. The ECL502 is primarily designed to assist in maintaining a desired system pressure ideal for Nitrogen, Oxygen, Argon and other cryogenic cylinder applications with a performance improvement over RegO's ECLXXX series. ECL502 series offers outstanding performance for maintaining LNG fuel line pressure.

REGO 10 YEAR WARRANTY

ECL Series

Features

- ECL502 series design provides premium flow characteristics allowing for fast pressure reduction while maintaining sensitive flow control at lower pressure settings
- All materials of construction- copper alloy, PTFE and stainless steel were selected for compatibility with cryogenic service
- 150 count mesh Monel screens installed into the inlet and outlet ports prevent debris from entering or damaging any downstream components
- Interchangeable with existing cryogenic economizer units.
- Bi-directional flow for LNG fuel systems
- Temperature range: -320°F to +165°F (-196°C to +74°C)
- Max inlet pressure:
- Low Pressure Models ≤175: 375 psig (≤ 12,1: 25.3 barg)
- High Pressure Models >175: 550 psig (> 12,1: 37.9 barg)
- Pressure setting range: 10-350 psig (0.7-24.1 barg)
- Clean for Oxygen service per CGA G-4.1
- Designed in accordance with & approved by ECE R110



Materials

Body ..... Brass
Diaphragm Liner ..... PTFE
Poppet Seat ..... Stainless Steel
Adjusting Screw ..... Stainless Steel
Bonnet ..... Brass
Screen ..... Monel
Diaphragm ..... Bronze
Springs ..... Stainless Steel

Ordering Information

Part Number	Inlet / Outlet Connections (FNPT) A	Width B	C	D	E	Operating Range (psig)
ECL502-22	¼" NPT	2.25" 57 mm	3.5" 89 mm	.58" 15 mm	1" 25 mm	10-60 psig 0.7 - 4.1 barg
ECL502-100						50 - 175 psig 3.4 - 12.1 barg
ECL502-123						
ECL502-140						
ECL502-175						
ECL502-325						150 - 350 psig 10.3 - 24.1 barg

*Contact sales representative for additional settings.

Cryogenic Pressure Builder
RG Series

Application

RG series cryogenic regulators are primarily designed to maintain pressure on cryogenic liquid within cryogenic containers. They may also be used in cryogenic lines, vaporizer and converter applications. They are especially useful in installations where space and cost limitations are important.

REGO 10 YEAR WARRANTY

RG Series

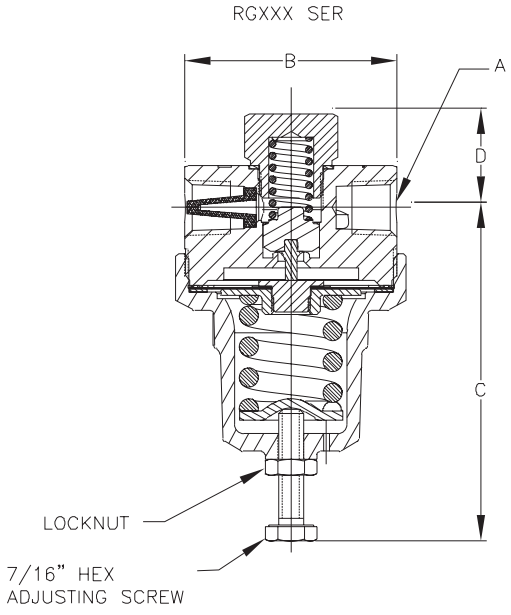
RGXXXAG with gauge port and T-handle

Features

- All parts are copper alloy (brass), PTFE and stainless steel—materials selected specifically for compatibility with cryogenic temperatures down to -320°F (-196° C)
- PTFE seat helps assure a positive shut-off at cryogenic temperatures down to -320°F (-196° C)
- High and low pressure regulators are the same compact size—designed to fit in close quarters
- Interchangeable with existing cryogenic regulator units
- Inlet filter helps prevent foreign material from entering the regulator
- Locknut is provided to maintain adjusting screw setting
- RG125C and RG175C Series available with flat inlet screen
- RG90AG is available with T-handle adjustment screw and gauge ports
- Maximum inlet pressure of 550 psig (37.9 barg)
- Cleaned for Oxygen service per CGA G-4.1
- 100% Factory Tested

Materials

Body ..... Brass
Bonnet ..... Brass
Seat ..... PTFE
Springs ..... Stainless Steel
Diaphragm Gasket..... PTFE
Backcap Gasket ..... Copper
Diaphragm ..... Bronze



Ordering Information

Part Number	Inlet / Outlet Connections (FNPT) A	Width B	C	D	Operating Range (psig)
RG022A	¼"	2 1/16"	3"	1"	0-30 psig (0-2.1 barg)
RG125A					25-250 psig (1.7-17.2 barg)
RG125C3	⅜"	2 ⅛"	3.33"	0.80"	
RG175C3					
RG300A	¼"	2 1/16"	3"	1"	125-350 psig (17.2-24.2 barg)
RG000090AG					25-250 psig (1.7-17.2 barg)

*Contact sales representative for additional settings.

Gas Phase Regulator
1784NG

Application

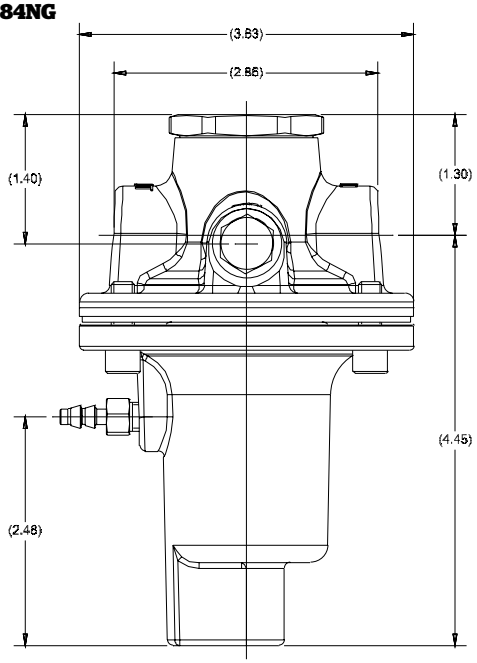
The 1784NG Series Regulators are designed for the Natural Gas vehicle market. The 1784NG Series Regulators are engineered with unique design features ideal for optimal natural gas engine performance.

Features

- Highly responsive to changes in flow, pressure remains steady if flow increases
- New bonnet construction features hose barb and choice of ports for dome loading
- Adjusting screw is pre-set and protected against tampering by a pressure tight sealed plug
- Pre-set adjusting screw allows for internal adjustment
- Design utilizes abrasion resistant bushing for smooth performance
- Tied diaphragm minimizes risk of damage to downstream components in case outlet pressure increases above set-point
- Design optimized to provide stable performance with natural gas
- Maintains a steady downstream pressure across a range of inlet pressure commonly provided by a LNG bulk tank or cylinder
- Large seat and diaphragm areas provide high capacity with sensitive control of delivery pressure with low falloff
- Two ¼" FNPT delivery pressure gauge ports are located (plugged) on each side of the valve
- Two bonnet drain/vent holes to allow for different mounting orientation
- Maximum inlet pressure is 435 psig (30 barg)
- Temperature range: -40° F to +165 F (-40ºC to +74ºC)
- Designed in accordance with & approved by ECE R110
- 100% Factory Tested

REGO 10 YEAR WARRANTY

1784NG



Materials

Body ..... Forged Brass
Bonnet ..... Nickel Plated Aluminum
Diaphragm ..... Viton
Springs and Fasteners ..... Stainless Steel
Other valve parts ..... S/S and Brass
Seat Disc and O-Rings ..... Viton

Ordering Information

Part Number	Inlet Pressure psig (barg)	Delivery Pressure psig (barg)	Hose Barb,Drain and Plug Option	Inlet and Outlet	Cv
1784NG45	137.5 (9.5)	63.5 (4.5)	No hose barb, plug in the side.	½" FNPT	3.1
1784NG86	188.5 (13.0)	124.7 (8.6)			
1784NG145	188.5 (13.0)	144.0-145.5 (10.0)			
1784NGB	137.5 (9.5)	36.0 - 101.0 (2.5 -7.0)	Hose barb over outlet, plug in the top.		
1784NGC	220.0 (15.2)	87.0 - 189.0 (6.0 - 13.0)			
1784NGB93	137.5 (9.5)	93.0 (6.4)			

*Contact sales representative for additional settings and/or configuration options.

Short Stem Cryogenic Valves
T9450 Series and T9460 Series

Application

The T9450 and T9460 series valves are designed for use on portable cryogenic cylinders, LNG fueling systems and other in-line shut-off valve applications. T9460 Series Approved for TPED in accordance with EN1626.

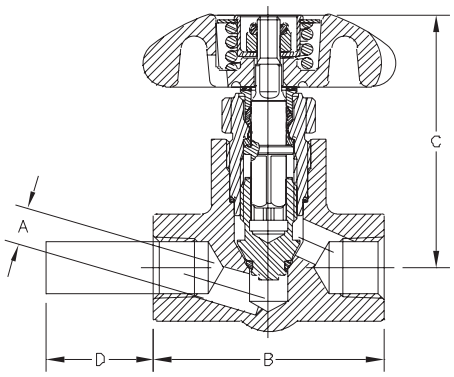
Features

- Spring-loaded stem seal automatically adjusts for any gasket wear, eliminating the need to constantly retighten the packing nut
- Non-rising stem and low profile allow the valve to fit into tight areas and still provide easy access
- Unique pressure-sealed moisture barrier helps prevent freeze-up at cryogenic temperatures
- Conical swivel seal design helps prevent seat galling from over-torquing
- Cleaned for Oxygen service per CGA G-4.1.
- Maximum working pressure is 600 psig (42 barg)
- Working temperature range is -320°F to +165°F. (-196ºC to +74ºC)
- Designed in accordance with & approved by ECE R110
- 100% Factory Tested

REGO 10 YEAR WARRANTY

T9450 Series

T9460 Series



Materials

Body ..... Brass
Bonnet ..... Brass
Seat Disc ..... PCTFE
Stem Seal Gasket ..... PTFE
Handwheel ..... Aluminum
Spring ..... Stainless Steel
Stem ..... Brass
Poppet ..... Brass

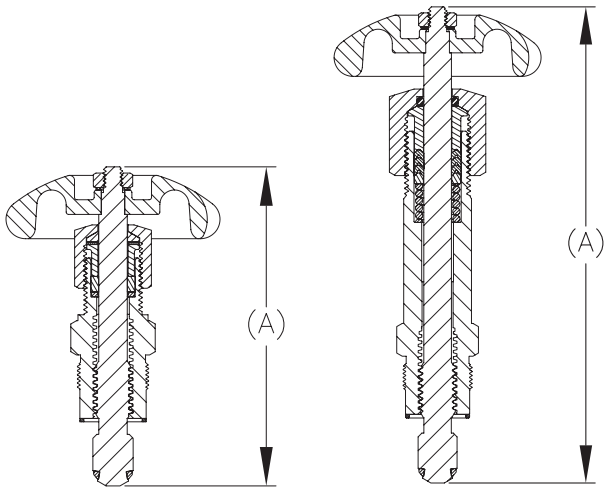
Ordering Information

Part Number	Inlet	Outlet	Orifice A	Length B	Height (Approx.) C	Tube D	C_V Factor
T9452	¼" FNPT	¼" FNPT	.250	2½"	2¾"	None	.99
T9453	⅜"FNPT	⅜"FNPT	.406				1.76
T9454	½" FNPT	½" FNPT					1.79
T9464CA	.675" O.D. Tube	⅜"FNPT	.406	2½"	2¾"	1⅛"	1.76
T9464DA						2⅛"	
T9464ADA						3⅜"	

Extended Stem Retrofit Kits

Application

Retrofit kits are used to convert the 9450 and 9460 series short stem shut-off valves into extended stem style. The conversion can be done without removing the valve from your system. Available in two stem lengths. All kits are Oxygen cleaned and packaged per CGA G-4.1.



Materials

Body ..... Brass
Seat Disc ..... PCTFE
Handwheel ..... Aluminum
Packing ..... PTFE
Stem ..... Stainless Steel
Stem Seal Gasket ..... PTFE

Ordering Information

Part Number	Stem Length A	Style
ES8450R	4"	Extended Stem, Std. Bonnet, Manual Packing
BK9450R	6.5"	Extended Bonnet and Stem, Spring-loaded Packing

Shut-off Valve with Tubing Connections
T9464CCAG

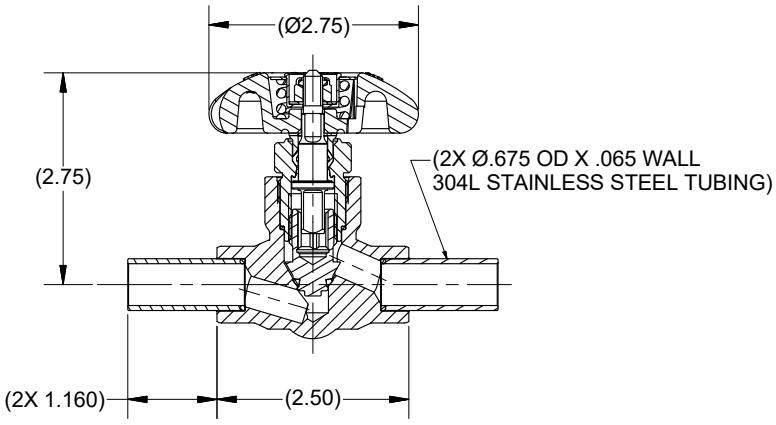
Application
Short stem valves are designed for use on LNG fueling systems to provide reliable performance at cryogenic temperatures.

Features
- Spring-loaded stem seal automatically adjusts for any gasket wear, eliminating the need to constantly retighten the packing nut
- Non-rising stem and low profile allow the valve to fit into tight areas of LNG fueling systems and still provide easy access
- Unique pressure-sealed moisture barrier helps prevent freeze-up at cryogenic temperatures
- Conical swivel seal design helps prevent seat galling from over-torquing
- Maximum working pressure is 600 psig (41.4 barg)
- Working temperature range is -320°F to +165°F (-196°C to +74°C)
- Designed in accordance with & approved by ECE R110
- 100% factory tested

REGO 10 YEAR WARRANTY

T9464CCAG

Materials
Tube ..... Stainless Steel
Body ..... Brass
Bonnet ..... Brass
Seat ..... CTFE
Gasket ..... PTFE
Handwheel ..... Aluminum
Spring ..... Stainless Steel
Stem ..... Brass



Ordering Information

Part Number	Inlet/Outlet Connections	Handwheel	C_V Factor for Gaseous Flow	C_V Factor for Liquid Flow
T9464CCAG	0.675" Tubing	Green	1.08	1.79

Shut-off valve w/90°bent tubes
T9464LAS and T9464LCB

Application
Designed to conform to space constraints in LNG fueling systems. Maintains the same flow and outstanding service life of all RegO cryogenic in-line shut-off valves.

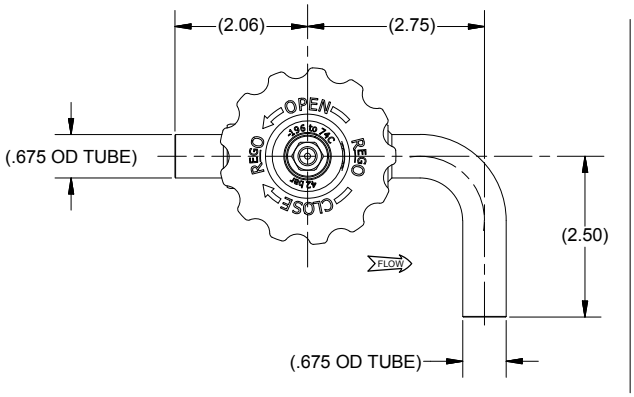
Features
- Spring-loaded stem seal automatically adjusts for any gasket wear, eliminating the need to constantly retighten the packing nut
- Non-rising stem and low profile allow the valve to fit into tight areas of LNG fueling systems and still provide easy access
- Unique pressure sealed moisture barrier helps prevent freeze-up at cryogenic temperatures
- Conical swivel seal design helps prevent seat galling from over-torquing
- Maximum working pressure is 600 psig (41.4 barg)
- Working temperature range is -320°F to +165°F. (-196°C to +74°C)
- Designed in accordance with & approved by ECE R110
- 100% factory tested

T9464LAS

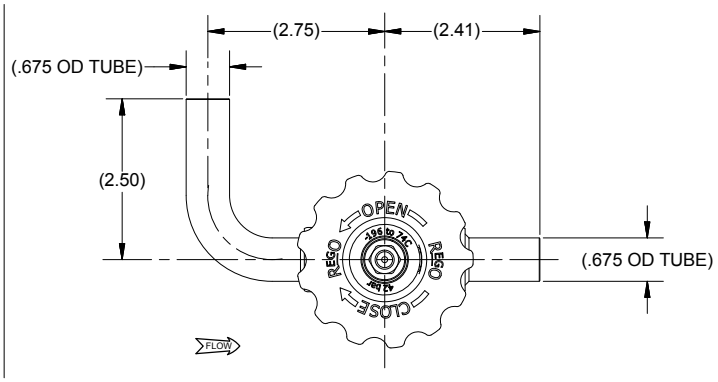
Materials
Tube ..... Stainless Steel
Body ..... Brass
Bonnet ..... Brass
Seat ..... CTFE
Gasket ..... PTFE
Handwheel ..... Aluminum
Spring ..... Stainless Steel
Stem ..... Brass

EXTERIOR VIEWS

C9464LAS



C9464LCB



Ordering Information

Part Number	Tube Diameter	Bent Tube Location	Handwheel	C_V Factor for Gaseous Flow	C_V Factor for Liquid Flow
T9464LAS	.675	Outlet	Silver	1.08	1.79
T9464LCB		Inlet	Blue		

Shut-off valves
T9464LDR and T9464LES

Application
Designed to conform to space constraints in LNG fueling systems. Maintains the same flow and outstanding service life of all RegO cryogenic in-line shut-off valves.

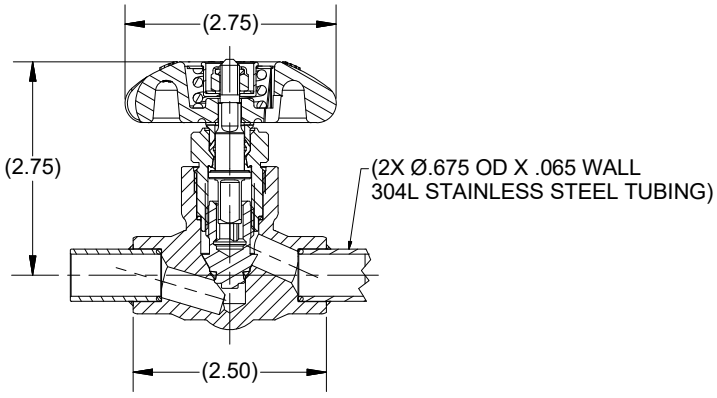
Features
- Spring-loaded stem seal automatically adjusts for any gasket wear, eliminating the need to constantly retighten the packing nut
- Non-rising stem and low profile allow the valve to fit into tight areas of LNG fueling systems and still provide easy access
- Unique pressure-sealed moisture barrier helps prevent freeze-up at cryogenic temperatures
- Conical swivel seal design helps prevent seat galling from over-torquing
- Maximum working pressure is 600 psig (41.3 barg)
- Working temperature range is -320°F to +165°F (-196°C to +74°C)
- Designed in accordance with & approved by ECE R110
- 100% factory tested

REGO 10 YEAR WARRANTY

T9464LDR

T9464LES

Materials
Tube ..... Stainless Steel
Body ..... Brass
Bonnet ..... Brass
Seat ..... CTFE
Gasket ..... PTFE
Handwheel ..... Aluminum
Spring ..... Stainless Steel
Upper Stem ..... Brass
Lower Stem ..... Magnesium Bronze
Fitting ..... Brass



T9464LJS

Ordering Information

Part Number	Outlet	Inlet	C_V Factor for Gaseous Flow	C_V Factor for Liquid Flow
T9464LDR	½" Flared tube fitting 45° elbow.	.675 Tube	1.08"	1.79"
T9464LES	⅜" NTPF	.813 Tube		
T9464LJS				

ES8450 and TES8450 Series Extended Stem Valves
BK9450 and BK9470 Series Extended Bonnet Valves

Application
For use as a trycock valve or hose drain valve on cryogenic tanks, or use as a liquid fill or vent valve on mini-bulk cryogenic tanks. These valves can be used also for other cold gas applications requiring extended stem valves as LNG fueling.

Features
- Union bonnet
- One piece stainless steel stem
- Conical seat design
- Maximum working pressure is 600 psig (42 barg)
- Working temperature is –320°F to +165°F. (-196ºC to 74ºC)
- Cleaned for Oxygen service per CGA G-4.1
- 100% Factory Tested

TES8450 Series specific feature:

- Grafoil® packing
- Approved by PED and TPED

ES8450 Series specific feature:

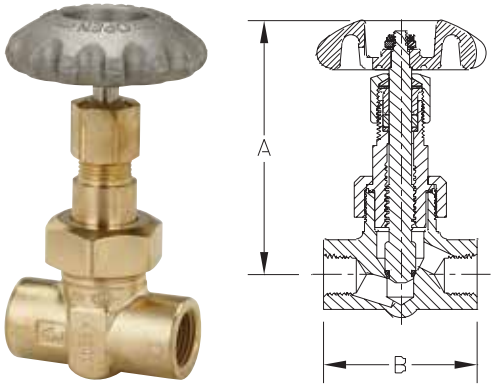
- Manual torque compression packing

BK9450 and BK9470 Series specific feature:

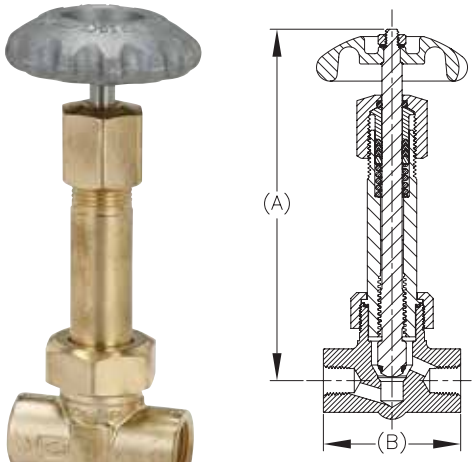
- Extended bonnet and spring-loaded packing

BK9470 Series specific feature:

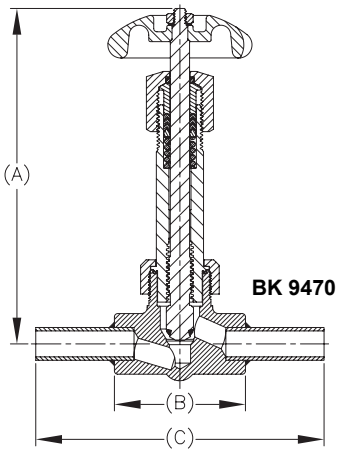
- 304 St. Stl Tube brazed into both ends



ES 8450 Series



BK 9450 Series



BK 9470 Series

Materials
Body and Bonnet.....Brass
Stem..... Stainless Steel
Seat Disc..... PCTFE
Handwheel..... Aluminum
Bonnet Gasket..... PTFE
Packing..... PTFE
Packing (TES..... Grafoil

Conversion Kit
BK 9450-KIT is a bonnet and stem assembly kit to convert ES 8450 series and previous ES 9450 Series to the BK 9450 style.

Ordering Information

Part Number	Inlet/Outlet Connections	Height "A"	Body Width "B"	Width with Tube "C"	Cv
ES8452	¼" FNPT	4.2"	2.5"	NA	0.70
TES8452					
ES8453	⅜" FNPT				1.10
TES8453					
ES8454	½"FNPT				
TES8454					
BK9452	¼" FNPT	6.5"			0.70
BK9453	⅜" FNPT				1.10
BK9454	½"FNPT				
BK9453FA	⅝" OD tubing x ⅜"FNPT			4.0"	
BK9475A	⅝" OD tubing both ends			5.5"	

Cryogenic Gas Relief Valves, Non-ASME
9400 Series

Application
9400 series relief valves are specifically designed for vapor line safety relief applications and cryogenic liquid containers.

Features
- Cleaned for Oxygen service per CGA G-4.1
- Bubble-tight at 95% of set pressure
- Easy to read color coded barg/mpa labels
- Tamper resistant
- Adapters provide standard pipe thread connections for venting gas to the outdoors
- Repeatable performance
- 100% factory tested
- Temperatures Range (Teflon Seat) -320° to +165° F. (-196°C to +74°C)
- Temperatures Range (Flurosilicone Seat) -60° to +165° F. (-51°C to +74°C)
- Rated for gas service only
- Designed in accordance with & approved by ECE R110

Materials **SS Style**
Body ..... Stainless Steel
Spring ..... Stainless Steel
Seat Retainer..... Stainless Steel
Pipe-Away Adapter ..... Stainless Steel

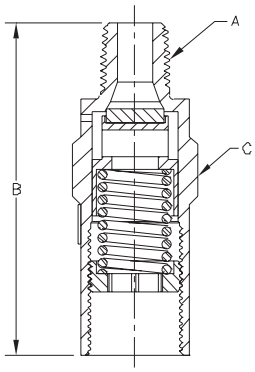
Materials **PRV and B-Style**
Body ..... Brass
Spring ..... Stainless Steel
Seat Retainer..... Brass
Pipe-Away Adapter ..... Brass

Flow Performance
- For set pressures 90 - 600 capacity is 0.783 SCFM of air per psig of flow pressure. For set pressures 15 - 89 capacity is 0.750 SCFM of air per psig of flow pressure. Flow pressure per ASME is 10% above set pressure or +3 psig, whichever is greater.
- B-9425N flow of 6.7 SCFM Air/psig at 120% of set pressure
- B-9426N flow of 11.0 SCFM Air/psig at 120% of set pressure

Seat Material Option
F for Fluorosilicone for PRV and SS styles for 15-139 psig
T for PTFE for PRV and SS styles for 140-600 psig
N for B-9425 and B-9426, Fluorosilicone seat, all set pressures

Drain Hole Option
Relief valves without pipeaway typically provided with drain holes, leave blank. **P** - for relief valves without drain hole, for example PRV9432TP350

WARNING: 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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.



9400 Series

Ordering Information
Fill in the blanks with options below.

Example: PRV9432T350

			Blank or "P"		Blank or "P"
PRV	9432	T		350	
Style	Size	Seat Material	Drain Hole	Set Pressure	Pipe-away Option

This example part number indicates a ¼" MNPT PRV style brass relief valve with PTFE seat, set at 350 psig with drain hole and no pipe-away adapter.

Pipe-away Option
P Pipeaway included and attached, No drain hole in relief valve
For example PRV9432TP350**P**
Leave blank for relief valve without pipe-away attached
For example PRV9432TP350

Set Pressure
Specify set pressure within range specified for style and size. The B-9425 and B-9426N are available in select settings only. Special order.

For easy identification, the following standard settings have color coded labels for all PRV and SS Style sizes and settings marked in psig and barg:

Color Identification

22 psig	**230 psig**
35 psig	**350 psig**
50 psig	**450 psig**
100 psig	**500 psig**
150 psig	

Ordering Information

Style	Size	Inlet MNPT A	Body and Valve Material	Pressure Setting Range psig	Height B	Wrenching Hex C	Orifice Size Sq. Inch	Pipe-Away Adapter P/N	Pipe-Away Outlet FNPT
PRV	9432	¼"	Brass	15-600	2.6"	⅞"	.062	B-9412-2	⅜"
SS			Stainless Steel					SS-9412-4	½"
PRV	9433	⅜"	Brass					B-9412-2	⅜"
SS			Stainless Steel					SS-9412-4	½"
PRV	9434	½"	Brass		2.8"			B-9412-4	
SS			Stainless Steel					SS-9412-4	
B-	9425	¾"	Brass	20-300	3.4"	1¾"	.44	B-3131-10	1"
	9426	1"		60-300	5.3"	2⅜"	.62	B-3132-10	1¼"

Cryogenic Gas Relief Valves, ASME PRV19430 and PRV29430 Series

Application

The 19430 and 29430 relief valves are designed for Oxygen and other industrial gases and for cryogenic service in the vapor space. Apply on piping systems, liquid cylinders or mini-bulk cryogenic containers where an ASME relief valve is required.

REGO 10 YEAR WARRANTY

Features

- A.S.M.E. rated, National Board Certified
- Bubble-tight at 95% of set pressure
- Full flow at 110% at set pressure
- Repeatable performance
- 100% factory tested
- Temperatures Range (Teflon Seat) -320° to +165° F. (-196ºC to +74ºC)
- Temperatures Range (Flurosilicone Seat) -60° to +165° F. (-51ºC to +74ºC)
- Cleaned for Oxygen service per CGA G-4.1
- Rated for gas service only
- Easy to read color coded barg/mpa labels
- Tamper resistant
- Designed in accordance with & approved by ECE R110

19430 Series

Materials SS Style

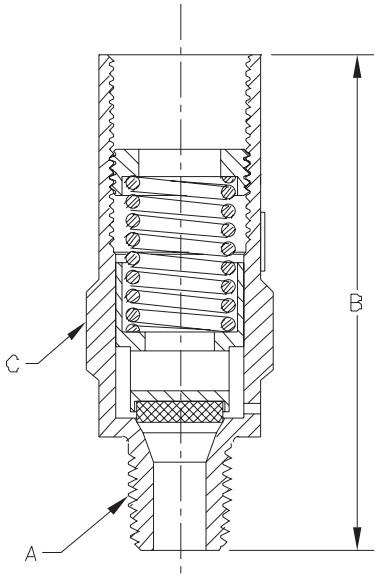
Body	Stainless Steel
Spring	Stainless Steel
Seat Retainer	Stainless Steel
Pipe-Away Adapter	Stainless Steel

Materials PRV and B-Style

Body	Brass
Spring	Stainless Steel
Seat Retainer	Brass
Pipe-Away Adapter	Brass

Flow Performance

For set pressures 90 - 600 capacity is 0.783 SCFM of air per PSIA of flow pressure. For set pressures 15 - 89 capacity is 0.750 SCFM of air per PSIA of flow pressure. Flow pressure per ASME is 10% above set pressure or +3 psig, whichever is greater.



Set-point tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater.

WARNING: 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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Ordering Information

Fill in the blanks with options below.

Example: PRV019432T350

PRV	1	9432	T	Blank or "P"	350
Style	Body Material	Size	Seat Material	Drain Hole	Set Pressure

Body Material

1 ASME approved valve made of brass
2 ASME approved valve made of stainless steel

Seat Material

F for Fluorosilicone for 15 to 139 psig (6.2 - 9.5 barg) set-points.
T for PTFE for 140-600 psig (9.6 - 41.4 barg) set-points.

Drain Hole

Leave blank for relief with drain hole. Insert **P** if no drain hole.

Set Pressure

Enter number for set pressure in psig (6.2 - 41.4 barg) from 15 to 600.

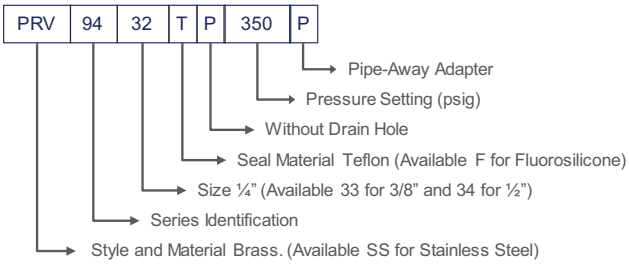
Ordering Information

Part Number	Material	Inlet A	Height B	Wrenching Hex C	Orifice Size
PRV19432	Brass	¼"	2.6	⅞"	.062 sq. inch
PRV29432	Stainless Steel				
PRV19433	Brass	⅜"			
PRV29433	Stainless Steel				
PRV19434	Brass	½"	2.8		
PRV29434	Stainless Steel				

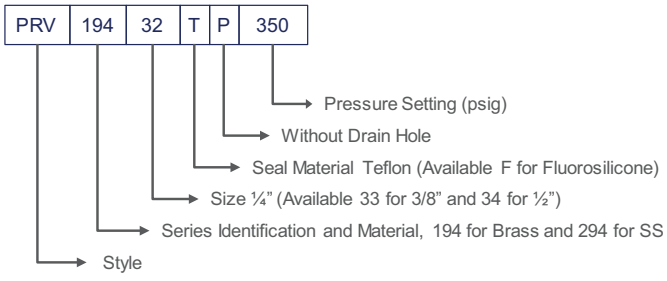
Pressure Setting and Flow Data
PRV9400, PRV19430 and PRV29430

Pressure Setting and Flow Data PRV9430 Series								
Pressure Setting psig	barg	Air Flow Capacity SCFM	Pressure Setting psig	barg	Air Flow Capacity SCFM	Pressure Setting psig	barg	Air Flow Capacity SCFM
15	1.0	25	215	14.8	197	450	31.0	399
20	1.4	28	220	15.2	201	460	31.7	408
22	1.5	30	225	15.5	205	470	32.4	416
25	1.7	32	230	15.9	210	480	33.1	425
30	2.1	36	235	16.2	214	490	33.8	434
35	2.4	40	240	16.5	218	500	34.5	442
40	2.8	44	250	17.2	227	510	35.2	451
45	3.1	48	260	17.9	235	520	35.9	459
50	3.4	52	270	18.6	244	530	36.5	468
55	3.8	56	275	19.0	248	540	37.2	477
60	4.1	61	280	19.3	253	550	37.9	485
65	4.5	65	285	19.7	257	560	38.6	494
70	4.8	69	290	20.0	261	570	39.3	502
75	5.2	73	300	20.7	270	580	40.0	511
80	5.5	77	310	21.4	279	590	40.7	520
85	5.9	81	320	22.1	287	600	41.4	528
90	6.2	89	325	22.4	291			
100	6.9	98	330	22.8	296			
110	7.6	106	340	23.4	304			
120	8.3	115	350	24.1	313			
125	8.6	119	360	24.8	322			
130	9.0	123	370	25.5	330			
140	9.7	132	375	25.9	334			
150	10.3	141	380	26.2	339			
160	11.0	149	390	26.9	347			
170	11.7	158	400	27.6	356			
175	12.1	162	410	28.3	365			
180	12.4	167	420	29.0	373			
190	13.1	175	425	29.3	378			
200	13.8	184	430	29.6	382			
210	14.5	192	440	30.3	390			

Non-ASME Ordering Information



ASME Ordering Information



Right Angle Relief Valves
NG-900 Series

Application

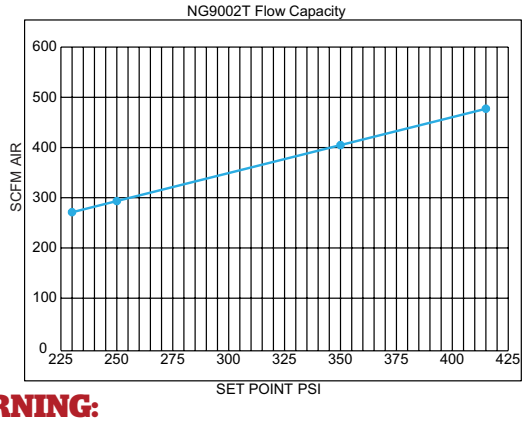
The NG-900 series is designed specifically to avoid over pressurization in LNG fuel tank applications and LNG installations. These valves open and close at preset pressures to ensure reliable performance at cryogenic temperatures.

Features

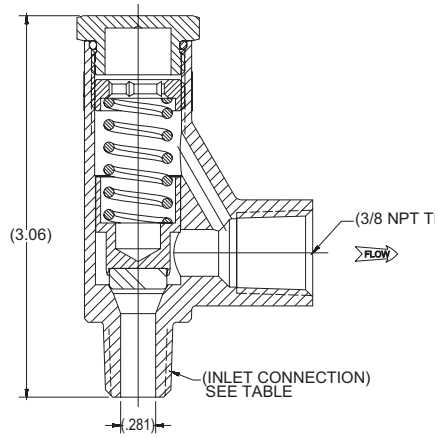
- Optional pull lever for manual override
- Materials selected specifically for compatibility with Natural Gas
- 100% Factory tested
- Temperature range -320ºF to +196ºF (-196ºC to +74ºC)
- Designed in accordance with & approved by ECE R110

Materials

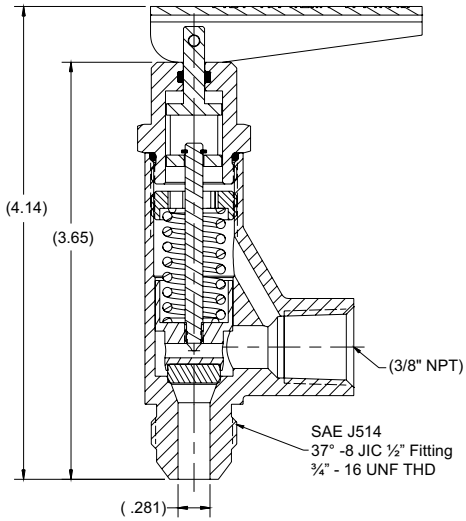
Spring Pin	Stainless Steel
Handle	Stainless Steel
O-rings	Fluorosilicone
Connector	Brass
Stem	Stainless Steel
Bonnet	Brass
Seat Disc	PTFE
Spring	Stainless Steel
Adjusting Screw	Stainless Steel
Body	Brass
Poppet	Brass



NG-9002T



NG-9008M



WARNING:

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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Ordering Information

Part Number	Inlet Connection	Outlet Connection	Manual Override	Pressure setting	
				psig	barg
NG9002T022	¼" MNPT	⅜" FNPT	No	22	1.52
NG9002T058				58	4.0
NG9002T230				230	15.85
NG9002T250				250	17.23
NG9002T275				275	18.96
NG9002T350				350	24.13
NG9002T415				415	28.61
NG9003T230	⅜" MNPT			230	15.85
NG9003T250				250	17.23
NG9003T350				350	24.13
NG9003T415				415	28.61
NG9008M230	SAE J514 (37˚-8JIC ½" fitting) (¾"-16 UNF thread male)		Yes	230	15.85
NG9008M250				250	17.23
NG9008M280				280	19.30
NG9008M350				350	24.13
NG9008M415				415	28.61

*Contact your sales representative for additional settings.

LNG Male Fueling Receptacle
MFR50 Series

Application

When mounted on the tank of a Liquid Natural Gas fueled vehicle, the LNG Tank Receptacle offers a safe and secure connection with the CryoMac3 50M LNG Nozzle. In addition to providing a perfect fit with the CryoMac3 50M LNG Nozzle, the LNG Tank Receptacle is engineered to offer the same safe and secure connection with many other LNG Nozzles.

Features

- Max internal pressure 300 psig /20.7 barg (while fueling)
- Max system pressure 550 psig /38 barg (static)
- Flow capacity 50 GPM
- Available in the more standard inlet connections
- Temperature range -350°F to 150°F (-212°C to 65°C)
- 100% pressure tested
- Global certifications
- 66% lower LNG emissions during disconnect
- Easy service
- Different outlet available upon request
- Robust poppet design and protection of seat for longer life
- Patent pending

MFR5008

Materials

Body .....316L Cres Per ASTM A312
Poppet .....303 ASTM A 582
Spring .....302 Cres ASTM A313
Seal ASSY (C version) ..... UHMWL Brass
Seal ASSY (Non-C Version) ..... Duronl Stainless Steel
Retainer .....Brass
Retainer ring .....Stainless Steel

Ordering Information

Part Number	Certification	Outlet Connection	GPM
MFR5008	ECE Mark, R110	¾" FNPT	50
MFR5010		37° SAE flare fitting	
MFR5011		M30x1.5 thread metric tube fitting	
MFR5013		M36x2.0 thread metric tube fitting	

MQD100 Series

Application

For venting excess pressure in LNG vehicle tanks.

Engineered for easy connection / disconnection with quick disconnect vent couplers.

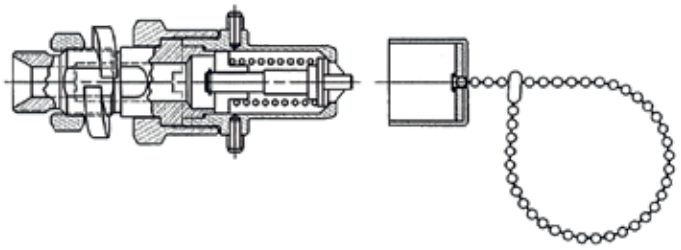
Features

- Designed for durability and long lasting performance
- Materials selected specifically for compatibility with LNG
- PTFE seat provides positive shut off at cryogenic temperatures
- Temperature range: -325°F(-198°C) to +150°F(+65°C)
- 100% factory tested
- Max fueling pressure: 300 psig (20.7 barg)
- Max system pressure: 550 psig (38 barg)
- Designed in accordance with & approved by ECE R110

MQD100

Materials

Inlet body ..... Stainless Steel
Body ..... Stainless Steel
Seat ..... PTFE
Spring ..... Stainless Steel
Cap (optional) ..... Vinyl



Ordering Information

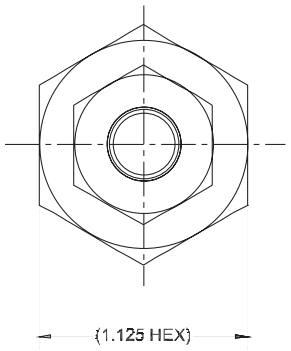
Old Part Number	New Part Number	Inlet Connection	Subjection to Base
11170	MQD100401N	⅜" SW	n
14075	MQD100701P	⅜" MNPT	Panel mount with nut
14000	MQD100101P	M20 X 1.5	Bulkhead. Panel Mount
12895	MQD100201P	⅜" -18 MNPT	
12680	MQD100201N	⅜" -18 MNPT	Without
14190	MQD100201F		Bulkhead, Flanged
	MQD100701P		Bulkhead
14080	MQD100701N		Without, Extended
14410-1	MQD100501F	37° SAE Flare Fitting	Bulkhead, Flanged

RegO® Excess Flow Valve
NG303

Application
For use with LNG liquid lines as an effective shut-off when an excess flow condition occurs downstream to prevent uncontrolled release of system media.

Features
- Materials selected specifically for compatibility with LNG
- Poppet design provides high-flow capacity
- Design allows spring to reset poppet automatically when system pressure equalizes
- Maximum inlet pressure: 4MPa
- Temperature range: -320° F to 165° F
- Designed in accordance with & approved by ECE R110
- 100% factory tested

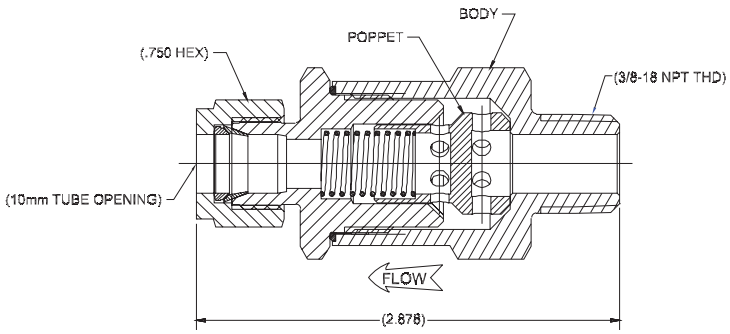
REGO 10 YEAR WARRANTY



NG303

Materials
Body ..... Brass
Spring ..... Stainless Steel
Poppet ..... Brass
Bonnet ..... Stainless Steel

Configuration Options
- NG303XYZ
- X is a Material option
- Y is a Connection option
- Z is a Poppet orifice size option
- Currently have 24 configuration options:
  - 2 materials
  - 4 connections
  - 3 poppet sizes



Ordering Information

Part Number	Inlet	Outlet	Poppet Orifice mm (inch)	Ferrule Nut Hex inches	Closing Flow
NG303B	⅜"	10mm Tube	2.0 (.079)	.750	3.5 - 5.5 GPM
NG303B3		⅜" Tube		.688	
NG303S		10mm Tube		.750	
NG303S3		⅜" Tube		.688	

RegO® LNG Check Valves
NG Series

Application

NG301

For use with LNG liquid lines as an effective shut-off utilizing ball and spring mechanism. ⅛" design fits compact piping systems. Heavy-duty spring and precision ball provide dependable service in LNG fuel applications.

NG304

For use with LNG fuel lines as an effective one-way shut-off utilizing. soft seated design for quick acting response to flow. Poppet design is ideal for LNG and resistant to particulates.

NG304

NG304SSA

REGO 10 YEAR WARRANTY

Features

NG301

- Materials selected specifically for compatibility with LNG
- Quick acting ball and spring mechanism.
- Metal to metal seating provides durable service life.
- Maximum inlet pressure 1000 psig (69 barg).
- 100% factory tested.
- Temperature Range: -320° F to 165°F (-196°C to 74°C).
- Designed in accordance with & approved by ECE R110.

Features

NG304

- Materials selected specifically for compatibility with LNG.
- Maximum inlet pressure 1000 psig (69 barg).
- 100% factory tested.
- Temperature Range: -320° F to 165°F (-196°C to 74°C).
- Designed in accordance with & approved by ECE R110.

Materials for NG301

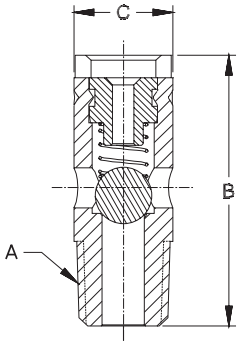
Body ..... Brass ASTM B16 C36000
Spring ..... Stainless Steel 302 ASTM A313
Plug ..... Brass ASTM B16 C36000
Ball ..... Stainless Steel 316

Materials for NG304

Body ..... Brass ASTM B16 C36000
Spring ..... Stainless Steel 302 ASTM A313
Gasket ..... Copper ASTM B152 UNS C11000
Poppet ..... Brass ASTM B16 UNS C36000
Seat Disc ..... PTFE Virgin Teflon

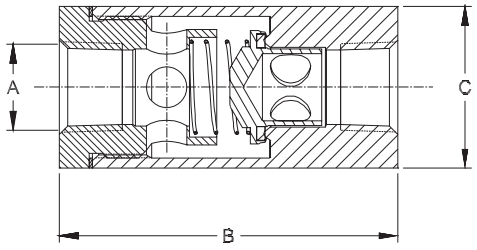
Materials NG304SS

Body ..... Stainless Steel 304 ASTM276
Spring ..... Stainless Steel 302 ASTM A313
Gasket ..... Copper ASTM B152 UNS C11000
Poppet ..... Brass 360 FC (UNS C36000 PER ASTM B16)
Seat Disc ..... UHMWPE (ASTM D4020)



NG301

NG301



NG304

Ordering Information

Part Number	Body Material	Connection (A)	B	C	Weight Lbs	Silver Plated End Piece
NG301	Brass	Threaded MNPT F ⅛	1.200	.438	0.01	N/A
NG304		Threaded FNPT F ½	3.135	1.5 (Hex)	1.25	
NG304SSA	Stainless Steel	M36x2 Male	3.346		1.10	
NG304SSB		M30x1.5 Male	3.346			
NG304SSC		½"-14 NPT Female	2.953			
NG304SSAP		M36x2 Male	3.346			Yes
NG304SSBP		M30x1.5 Male	3.346			
NG304SSCP		½"-14 NPT Female	2.953			

50 GPM LNG Fueling Nozzle
CryoMac® 3

Application
The CryoMac 3 is a high technology LNG fueling nozzle, unique with safety stop to guarantee a safe operation and prevents safety stop from resetting prematurely during nozzle removal.

Features
- Fluid Compatibility: LNG, Methane and LN2
- Maximum Pressure: 500 psig/34.5 barg
- Burst Pressure: greater than 1,500 psig/103.5 barg
- Rated Flow: 50 GPM @ 250 psig (LNG)
- Nozzle Weight: 10 lbs
- Port Size: 1" Male SAE 37 degree flare (SAE J514) (1 5/16 -12 thd.)
- Operating Temperature: -320°F to +140°F / -195°C to 60°C
- 3rd Party KIWA Testing in accordance with ISO 12617
- 100% pressure tested
- Improved positive "safety stop" does not release until triggered after venting trapped gas and before disconnecting the nozzle for added safety and operator protection
- Improved longer service life of the receptacle end seal
- Reconfigured to be more compatible with Macro and other receptacle designs
- Ball bearing design "guides and locks" the nozzle in place during fueling for easier connections
- Designed to prevent freezing onto the receptacle utilizing non-metallic bearings, air gaps and insulation
- Easy access for maintenance on the receptacle end seal, poppet assembly and seat

CryoMac 3

CERTIFIED
according to ISO 12617 approved product as specified by ISO 16924
Natural gas fueling stations – LNG stations for fueling vehicles

CE Ex II 2G c IIA T3 X

ATEX

Designed, tested and marks in accordance with ATEX directive 2014/34/EU

Materials
Seat ..... UHMW
Poppet Body ..... Brass
Spring ..... Stainless Steel or Spring Wire
Probe ..... Stainless Steel
Tube ..... Stainless Steel
Fitting ..... Stainless Steel
Housing ..... Aluminum

Ordering Information

Old Part Number	New Part Number	Inlet Connection	Handle
CryoMac3-50M	CryoMac3-50M	SAE J514 (37° Flare JIC)	Standard
CryoMac3-50M-S	CryoMac3-50M-S	SAE J514 (37° Flare JIC)	Short

LNG Female Vent Coupler
FQD10 Series

Application
The most popular Female Vent Coupler for dispensers of LNG. Safe and easy operation.

Features
- Over 100,000 in service worldwide
- LNG vent/fill connection (male). Handles both LNG Vent Gas and LNG Liquid
- Max internal pressure 300 psig /20.7 barg (while fueling)
- Max system pressure 550 psig /38 barg (static)
- Temperature range -350°F to 150°F (-212°C to 65°C).
- 100% pressure tested

Materials
Female Housing ..... Stainless Steel 316L
Seal Retainer..... Stainless Steel 303
Seal ASSY ..... TFE/Viton
Seal ..... TFE
Poppet ..... Stainless Steel 303
Seal Poppet..... PCTFE
Spring ..... Stainless Steel 301/302

FQD100602N

Ordering Information

Old Part Number	New Part Number	Inlet Connection
11175	FQD100604N	90° Tubing. ⅝" 45° SAE Fitting (CGA 440)
13775	FQD100602N	⅝" 45° SAE Fitting (CGA 440) Short Straight Handle
13785	FQD100603N	⅝" 45° SAE Fitting (CGA 440) Long Straight Handle

LNG Hoses Brass Connections
CHB Series

Application

The CHB Series are cryogenic transfer hoses with brass nuts used in the venting line of the LNG dispensers. The flexibility and resistance of this cryogenic hoses guarantee a safe operation and easy handling during the refilling of liquid cylinders.

Features

- Stainless steel corrugated inner core, a 304 stainless steel single braid.
- Armor cover protection.
- Max Working Pressure: 1100 psi (76 bar) for ½" hoses.
- Minimum Operating Temperature -454°F (-270°C)
- Serial number included
- 100% pressure tested

Materials

Core tube ..... 321/316 Stainless Steel
Exterior Braid ..... 304 Stainless Steel
Armor ..... 304 Stainless Steel
Ferrule,Flare, Tube ..... 304L/316 Stainless Steel
Nut ..... Brass ISO 10806

Ordering Information

Old Part Number	New Part Number	Size	Length Inches (mts)	Double Armor Cover	Spiral Supporting Spring	End Connections
CHB-440-440-48	CHB-4-440-440-048	½"	48 (120)	Yes	No	CGA 440 (⅝ 45° SAE)
CHB-440-440-60	CHB-4-440-440-060		60 (150)			
CHB-440-440-72	CHB-4-440-440-72		72 (180)			
CHB-440-440-96	CHB-4-440-440-96		96 (2.40)			
CHB-440-440-120	CHB-4-440-440-120		120 (3.0)			
CHB-440-440-144	CHB-4-440-440-144		144 (3.60)			
CHB-440-440-156	CHB-4-440-440-156		156 (3.90)			
CHB-440-440-180	CHB-4-440-440-180		180 (4.50)			
CHB-440-440-196	CHB-4-440-440-196		196 (5.0)			

LNG Hoses Stainless Steel Connections
CHS Series

Application

The CHS Series are cryogenic transfer hoses with stainless steel nuts used in the LNG dispensers. The flexibility and resistance of this cryogenic hoses guarantee a safe operation and easy handling during the refilling of liquid cylinders. The spiral support spring protects the hoses giving a longer term life.

Features

- Stainless steel corrugated inner core, a 304 stainless steel single braid.
- Armor cover protection.
- Max Working Pressure: 1100 psi (76 bar) for ½" hoses.
- Max Working Pressure: 450 psi (31.0 bar) for 1" hoses.
- Minimum Operating Temperature -454°F (-270°C)
- Serial number included
- 100% pressure tested

CHS-440-440-072

Materials

Core tube.....321/316 Stainless Steel
Exterior Braid.....304 Stainless Steel
Armor.....304 Stainless Steel
Ferrule,Flare, Tube.....304L/316 Stainless Steel
Nut.....304/316 Stainless Steel

Ordering Information

Old Part Number	New Part Number	Size	Length Inches (mts)	Double Armor Cover	Spiral Supporting Spring	End Connections
CHS-440-440-24	CHS-4-440-440-024	½"	24 (0.60)	Yes	No	CGA 440 (⅝ 45° SAE)
CHS-440-440-36	CHS-4-440-440-036		36 (0.90)			
CHS-440-440-48	CHS-4-440-440-048		48 (120)			
CHS-440-440-60	CHS-4-440-440-060		60 (150)			
CHS-440-440-72	CHS-4-440-440-072		72 (180)			
CHS-440-440-96	CHS-4-440-440-096		96 (2.40)			
CHS-440-440-120	CHS-4-440-440-120		120 (3.0)			
CHS-440-440-144	CHS-4-440-440-144		144 (3.60)			
CHS-440-440-197	CHS-4-440-440-197		197 (5.0)			
CHS-440-440-240	CHS-4-440-440-240		240 (6.0)			
11910-072	CHS-8-514-514-072	1"	72 (180)			SAE J514 (37° Flare JIC)
11910-120	CHS-8-514-514-120		120 (3.0)			
11910-144	CHS-8-514-514-144		144 (3.60)			
11910-156	CHS-8-514-514-156		156 (3.90)			
11910-180	CHS-8-514-514-180		180 (4.50)			
11910-197	CHS-8-514-514-197		197 (5.0)			
11910-240	CHS-8-514-514-240X		240 (6.0)			
14340-120	CHS-8-514-514-072X		120 (3.0)			
14340-144	CHS-8-514-514-120X		144 (3.60)			
14340-156	CHS-8-514-514-144X		156 (3.90)			
14340-180	CHS-8-514-514-180X		180 (4.50)			
14340-197	CHS-8-514-514-197X		197 (5.0)			
14340-240	CHS-8-514-514-240X		240 (6.0)			
14340-120 Special	CHS-8-514-514-072XS		120 (3.0)		Yes	
14340-144 Special	CHS-8-514-514-120XS		144 (3.60)			

LNG Vent/Fill Breakaway
VFL Series

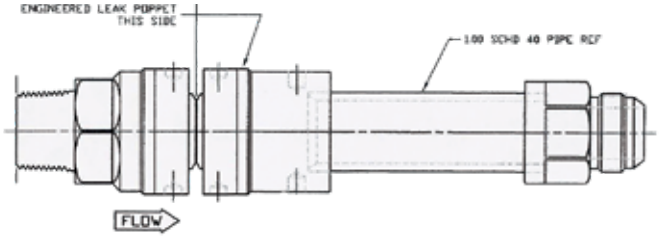
Application

The VFL Series are LNG vent/fill breakaway are designed to prevent pull away accidents, protect fill station/dispenser and eliminate unwanted product release.

Features

- Max internal pressure 300 psig/20.7 barg (while fueling)
- Max system pressure 550 psig/38 barg (static)
- Temperature range -340°F to 140°F (-206°C to 60°C).
- Fill Breakaway Flow Capacity 50 GPM
- Vent Breakaway Flow Capacity 10 GPM
- 100% pressure tested

VFL-500202NA-10



Materials

Housing ..... 304 Stainless Steel ASME SA479
Housing ..... Brass ASTM B16
Poppet ..... Brass ASTM B16
Spring ..... 302 Stainless Steel
Guide ..... Brass ASTM B16
Hose Adapter ..... 304 Stainless Steel ASME SA479

Ordering Information

Old Part Number	New Part Number	Inlet Connection	Outlet Connection	Sensor Plug	Length	Angled
14370	VFL-500101NA-6	CGA 440 (⅝" 45° SAE)	¾" -14 NPTF	Yes	6"	No
14390-4	VFL-500202AN-7	1.00-11.5 MNTP	SAE J514 (37° Flare JIC)	No	7.25"	Yes
14390-8	VFL-500203AN-7		M36x2.0	No		
13740-4	VFL-500202AA-7		SAE J514 (37° Flare JIC)	Yes		
	VFL-500203AA-7		M36x2.0	Yes		
14390-2	VFL-500202AN-10		SAE J514 (37° Flare JIC)	No	10.50"	
	VFL-500203AN-10		M36x2.0	No		
13740-2	VFL-500202AA-10		SAE J514 (37° Flare JIC)	Yes		
13740-6	VFL-500203AA-10S		M36x2.0	Yes		
14585	VFL-500202AN-10		SAE J514 (37° Flare JIC)	No		
14390-5	VFL-500202NN-10			No		No
13740-5	VFL-500202NA-10			Yes		

Stainless Steel Globe Valves for Cryogenic Service
SKL Advantage Series Long Stem

Application

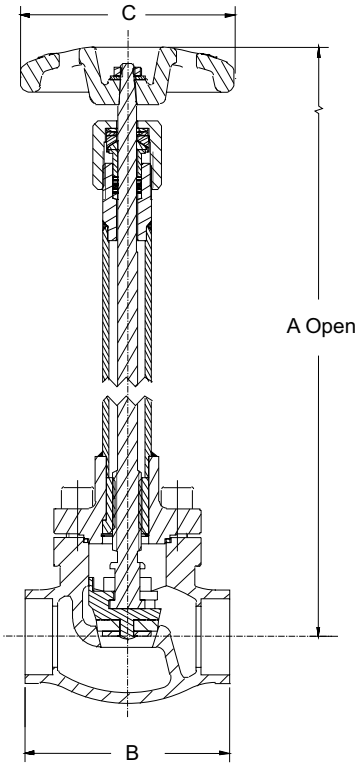
The SK Advantage Series of Stainless Steel Globe Valves are designed for handling cryogenic liquids through trailer, bulk vessels and piping configurations. Ideal service medium includes Oxygen, Nitrogen, Krypton, Carbon Dioxide, Dinitrogen Monoxide, Carbon Dioxide, Methane, Ethane, Ethylene, Argon and LNG . Our Kold-Seal stem seal technology assures a tight seal preventing cryogen gas loss. The conical seat design allows exceptional flow, positive shut-off and less chance of debris accumulation in the flow path, all resulting in an overall longer service life. Maintenance on the packing and seat is quick and easy.

REGO 10 YEAR WARRANTY

Features

- Soft Seat: PCTFE material which is the most widely specified cryogenic seat material in the industry
- Construction: Bolted bonnet allows easy access to the valve internals for servicing
- Stem Packing: Proven Kold-Seal technology, Live-loaded PTFE
- Sizes: ¼" through 2"
- Connection: Socket Weld and Butt Weld
- Service: Liquefied and vaporized atmospheric gases, LNG
- Temperature Rating: -320°F to +150°F (-198°C to +65°C)
- Pressure Rating: Cold, Non-Shock, 725 psig (50 barg) Class 300 (PN 50)
- Cleaned for Oxygen service per CGA G-4.1
- Application: Multiple stem lengths available for selected service
- Packaging: Each valve is individually bagged and boxed to arrive in factory new condition until installation

SK Advantage



Materials

Body ..... Stainless Steel ASTM A351 CF8
Bonnet and Tube Stainless Steel ASTM A351 CF8/ASTM A479 type 304
Stem .....Stainless Steel ASTM A582 S30300
Spring.....Stainless Steel ASTM A313 S30200
Packing..... Live-loaded PTFE Packing
Gasket.....PTFE 25% Glass Fill
Seat Disc.....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet Screws.....ASTM B16 C36000
Handwheel..... Painted Aluminum

Quality / Facility Features

- Material traceability in accordance with BS EN 10204 3.1
- CE Marking per European Pressure Equipment Directive

TPED and PED Certified

Ordering Information

Part Number	Size (Inches)	Size dn	Connection	A (Inches)	A (mm)	B (Inches)	B (mm)	C (Inches)	C (mm)	Cv	Kv	Weight lbs	Weight kg
SKL9402SW	¼"	8	Socket Weld	14.6	370	2.7	68	4	102	1.7	1.47	3.76	1.70
SKL9404SW	½"	15								5	4.30	3.47	1.68
SKL9406SW	¾"	20				3.6	92			9.4	8.10	5.17	2.34
SKL9408SW	1"	25								14	12.10	5.34	2.42
SKL9412SW	1½"	40				4.7	121	5	127	28.3	24.5	9.48	4.30
SKL9416SW	2"	50		13.6	345	5.7	146			53	45.8	16.3	7.39
SKL9402BW	¼"	8	Butt Weld	14.6	370	2.7	68	4	102	1.7	1.47	3.76	1.70
SKL9404BW	½"	15								5	4.30	3.47	1.68
SKL9406BW	¾"	20				3.6	92			9.4	8.10	5.17	2.34
SKL9408BW	1"	25								14	12.10	5.34	2.42
SKL9412BW	1½"	40				4.7	121	5	127	28.3	24.5	9.48	4.30
SKL9416BW	2"	50		13.6	345	5.7	146			53	45.80	16.3	7.39

SW = Socket Weld; BW = Butt Weld

Stainless Steel Globe Valves for Cryogenic Service
SKM Advantage Series Medium Stem

Application

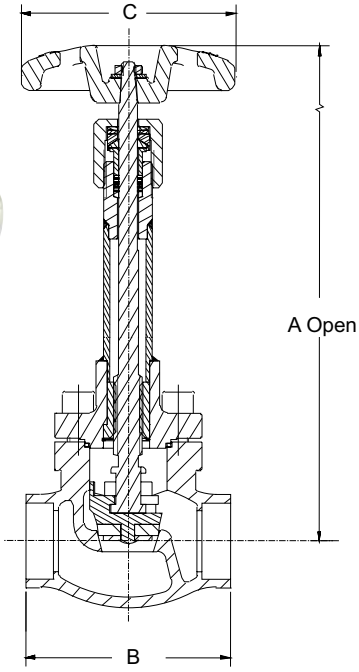
The SK Advantage Series of Stainless Steel Globe Valves are designed for handling cryogenic liquids through trailer, bulk vessels and piping configurations. Ideal service medium includes Oxygen, Nitrogen, Krypton, Carbon Dioxide, Dinitrogen Monoxide, Carbon Oxide, Methane, Ethane, Ethylene, Argon and LNG . Our Kold-Seal stem seal technology assures a tight seal preventing cryogen gas loss. The conical seat design allows exceptional flow, positive shut-off and less chance of debris accumulation in the flow path, all resulting in an overall longer service life. Maintenance on the packing and seat is quick and easy.

REGO 10 YEAR WARRANTY

Features

- Soft Seat: PCTFE material which is the most widely specified cryogenic seat material in the industry
- Construction: Bolted bonnet allows easy access to the valve internals for servicing
- Stem Packing: Proven Kold-Seal technology, Live-loaded PTFE
- Sizes: ¼" through 2"
- Connection: Socket Weld and Butt Weld
- Service: Liquefied and vaporized atmospheric gases, LNG
- Temperature Rating: -325°F to +150°F (-198°C to +65°C)
- Pressure Rating: Cold, Non-Shock, 725 psig (50 barg) Class 300 (PN 50)
- Cleaned for Oxygen service per CGA G-4.1
- Application: Multiple stem lengths available for selected service
- Packaging: Each valve is individually bagged and boxed to arrive in factory new condition until installation

SKM9406BW



Materials

Body ..... Stainless Steel ASTM A351 CF8
Bonnet and Tube Stainless Steel ASTM A351 CF8/ASTM A479 type 304
Stem .....Stainless Steel ASTM A582 S30300
Spring .....Stainless Steel ASTM A313 S30200
Packing..... Live-loaded PTFE Packing
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer..... Brass ASTM B16
Bonnet Screws .....ASTM B16 C36000
Handwheel..... Painted Aluminum

Quality / Facility Features

- Material traceability in accordance with BS EN 10204 3.1
- CE Marking per European Pressure Equipment Directive

TPED and PED Certified

Ordering Information

Part Number	Size (Inches)	Size dn	Connection	A (Inches)	A (mm)	B Inches)	B (mm)	C (Inches)	C (mm)	Cv	Kv	Weight lbs	Weight kg
SKM9402SW	¼"	8	Socket Weld	10.6	270	2.7	68	4	102	1.7	1.47	3.31	1.50
SKM9404SW	½"	15								5.0	4.30	3.29	1.48
SKM9406SW	¾"	20				3.6	92			9.4	8.10	4.86	2.20
SKM9408SW	1"	25								14.0	12.10	5.02	2.27
SKM9412SW	1½"	40				4.7	121	5	127	28.3	24.50	8.92	4.04
SKM9416SW	2"	50				5.7	146			53.0	45.80	15.30	6.94
SKM9402BW	¼"	8	Butt Weld			2.7	68	4	102	1.7	1.47	3.31	1.50
SKM9404BW	½"	15								5.0	4.30	3.29	1.48
SKM9406BW	¾"	20				3.6	92			9.4	8.10	4.86	2.20
SKM9408BW	1"	25								14.0	12.10	5.02	2.27
SKM9412BW	1½"	40				4.7	121	5	127	28.3	24.50	8.92	4.04
SKM9416BW	2"	50				5.7	146			53.0	45.80	15.30	6.94

SW = Socket Weld; BW = Butt Weld

Stainless Steel Globe Valves for Cryogenic Service
SKS Advantage Series Short Stem

Application

The SKS Series globe valves short stem are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations. Our time tested spring-loaded stem packing and superior seat design provide for long life and easy maintenance.

REGO 10 YEAR WARRANTY

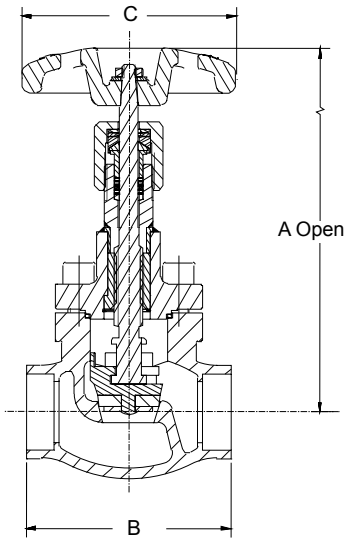
Features

- Superior Flow: Provides high Cv for rapid and reliable loading and unloading.
- Designed with the unique Kold-Seal™.
- Conical PCTFE Seat: provides exceptional flow; bubble-tight seal; less chance of debris trapped in the seat and longer service life.
- Connections: Socket Weld and Butt Weld.
- Sizes: ¼" to 1½".
- Bonnet Type: Bolted.
- Pressure Rating: 720 psig (50 barg)
- Temperature Rating: -320°F (-196°C) to +150°F (+65°C).
- Service: Liquefied and Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, ISO-Containers and Piping Configurations.
- Cleaned for Oxygen service per CGA G-4.1.

SKS9406BW

Materials

Body ..... Stainless Steel ASTM A351 CF8
Bonnet and Tube Stainless Steel ASTM A351 CF8/ASTM A479 type 304
Stem .....Stainless Steel ASTM A582 S30300
Spring .....Stainless Steel ASTM A313 S30200
Packing..... Live-loaded PTFE Packing
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer..... Brass ASTM B16
Bonnet Screws .....ASTM B16 C36000
Handwheel..... Painted Aluminum



Quality / Facility Features

- Material traceability in accordance with BS EN 10204 3.1
- CE Marking per European Pressure Equipment Directive

PED Certified CE

Ordering Information

Part Number	Size Inches	Size dn	Connection	A (Inches)	A (mm)	B (Inches)	B (mm)	C (Inches)	C (mm)	Cv	Kv	Weight lbs	Weight kg
SKS9402SW	¼"	8	Socket Weld	6.7	170	2.7	68	4	102	1.7	1.47	2.64	1.20
SKS9404SW	½"	15								5	4.30	2.62	1.19
SKS9406SW	¾"	20				3.6	92			9.4	8.10	4.21	1.91
SKS9408SW	1"	25								14	12.10	4.10	1.86
SKS9412SW	1½"	40		7.0	178	4.7	120	5	127	28.3	24.50	7.16	3.25
SKS9402BW	¼"	8	Butt Weld	6.7	170	2.7	68	4	102	1.7	1.47	2.64	1.20
SKS9404BW	½"	15								5	4.30	2.62	1.19
SKS9406BW	¾"	20				3.6	92			9.4	8.10	4.21	1.91
SKS9408BW	1"	25								14	12.10	4.10	1.86
SKS9412BW	1½"	40		7.0	178	4.7	120	5	127	28.3	24.50	7.16	3.25

Stainless Steel Angle Globe Valves for Cryogenic Service
SKA Advantage Series

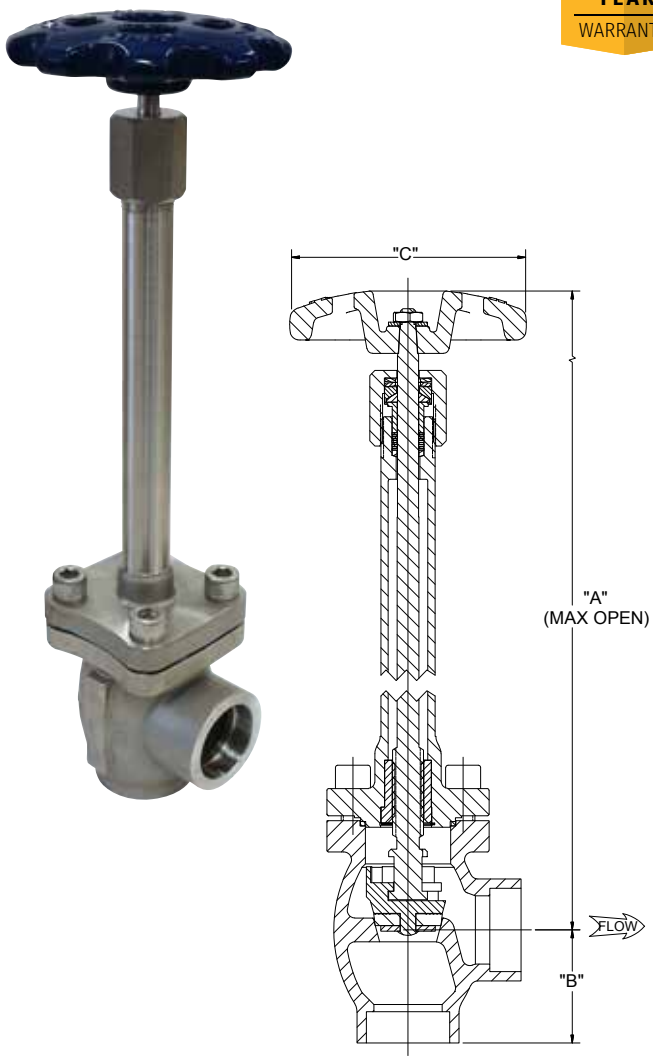
Application

RegO/Goddard stainless steel angle globe valves are designed for handling cryogenic liquids. Designed for fill manifolds applications of bulk tanks. RegO Kold-Seal™ stem seal technology assures a tight seal preventing gas loss. The conical seat design allows exceptional flow, positive shut off and less chance of debris accumulation in the flow path—resulting in an overall longer service life. Maintenance on the packing and seat is quick and easy. Ideal service medium includes Oxygen, Nitrogen, Argon, Carbon Dioxide, Nitrous Oxide, Methane, Ethane, Ethylene, Krypton, and LNG.

REGO 10 YEAR WARRANTY

Features

- Sizes: 1" through 1½"
- Connection: Socket Weld
- Service: Liquefied and vaporized atmospheric gases, LNG
- Temperature rating: -320°F to +150°F (-196°C to +65°C)
- Pressure rating: Cold, Non-Shock, 720 psig (50 barg) Class 300 (PN 50)
- Cleaned for Oxygen service per CGA G-4.1
- Soft Seat: PCTFE material which is the most widely specified cryogenic seat material in the industry
- Stem Packing: Proven Kold-Seal technology, live-loaded PTFE
- Conical seat, provides more Cv
- Seat assembly without nut and washer. No loose materials from vibration. Less chance of failure
- Pressure relief system of the bonnet increases life of packing system
- Ergonomic handwheels for ease of use
- 100% factory tested. Each valve is individually bagged and boxed to arrive in factory new condition until installation



Materials

Body ..... Stainless Steel ASTM A351 CF8
Bonnet and Tube .Stainless Steel ASTM A351 CF8/ASTM A479 type 304
Stem .....Stainless Steel ASTM A582 S30300
Spring .....Stainless Steel ASTM A313 S30200
Packing..... Live-loaded PTFE Packing
Gasket .....PTFE 25% Glass Fill
Seat Disc .....PCTFE ASTM D1430
Seat Retainer..... Brass ASTM B16
Bonnet Screws .....ASTM B16 C36000
Handwheel..... Painted Aluminum

PED Certified

Ordering Information

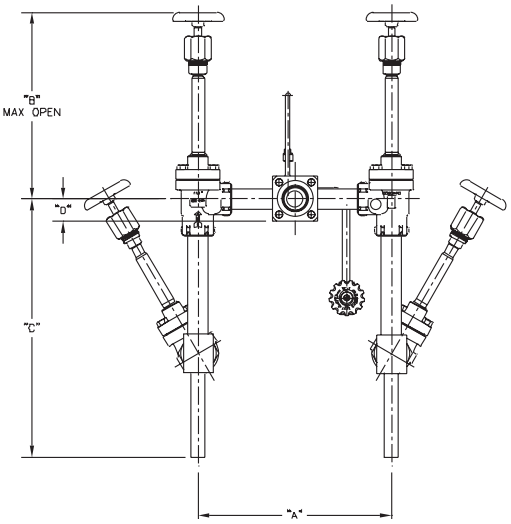
Part Number	Size Inches	Size DN	Connection	A (Inches)	A mm)	B (Inches)	B (mm)	C (Inches)	C (mm)	Weight Lbs	Weight Kg
SKA9408LSW	1"	25	Socket Weld	14.6	370	1.81	46	4	102	5.41	2.45
SKA9412LSW	1½"	40				2	51	5	127	8.85	4.01
SKA9408MSW	1"	25		10.6	270	1.81	46	4	102	4.8	2.17
SKA9412MSW	1½"	40				2	51	5	127	8.2	3.72

Cryogenic Fill Manifold
CFM, AFM, PFM and SFM Series

Application

RegO® Goddard high quality brazed and welded assemblies are ideally suited for the original equipment manufacturer of bulk cryogenic vessels. A wide variety of valve types including union or bolted bonnet, bronze or stainless steel bodies and top works and piping of stainless steel or copper construction are available as production unit.

Ideal for all cryogenic liquids including Liquefied Nitrogen, Oxygen and Argon. Safe and reliably used in LNG Systems. In addition RegO® can custom design configurations that are welded and brazed in a factory setting.



REGO 10 YEAR WARRANTY

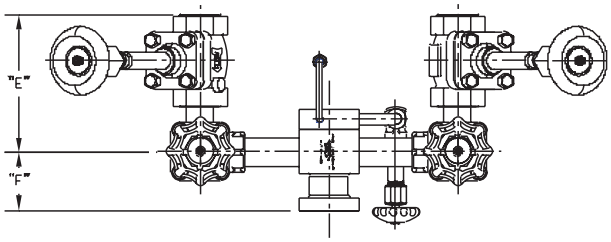
Features

- Unitized construction eliminates leaks and provides easy fit-up to tank piping
- Modules commonly include top and bottom fill valves, fill check with strainer and hose bleed and relief valve
- Many options are available which can include specific end user dimensions and specifications
- Our valve products stand up to high cycle environments, without the need for field adjustment of valve packing
- Available alone or as a unitized welded assembly for bulk tank filling
- Repeatable performance and geometry
- Precision silver brazed and welded assembly
- Cleaned for Oxygen service per CGA G-4.1
- Pressure Rating: 600 psig (41 barg)
- Temperature Rating: -320°F (-196°C) to +165°F (+74°C)
- 100% Factory tested

SFM-4D

Materials

Globe Valve ..... Stainless Steel
Check Valve..... Brass
Bleed Valve..... Brass
Tube ..... 304L Stainless Steel or Copper



Ordering Information

Part Number	Size Inches	Size mm	Bonnet Type	Pipe Material	Valve Material	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches
SFM00004D	1½"	40	Bolted	Stainless Steel	Stainless Steel	15.00	14.63	20	1.75	2.54	3.4
SFM00004E								9.5		2.5	

Stainless Steel Globe Valve for Cryogenic Service
210 Series

Features

- Top Entry: This valve can be permanently installed in the line and serviced from the top
- Soft Seated: PCTFE Seat provides a bubble-tight seal and is replaceable
- Construction: Body and Bonnet ASTM A351 J92600 Stainless steel
- Sizes: ½" - 4" (15mm - 100mm)
- Ends: RF Flange, Butt Weld, Socket Weld, Threaded (FNPT)
- Service: Liquefied and vaporized atmospheric gases, LNG
- 100% Factory Tested
- Clean for use in Oxygen per CGA G-4.1
- Temperature Rating: -320°F - 150°F (-196°C +65°C)
- Pressure Rating: (Cold, Non-shock)
  Class 150 valve - 275 psig (19 barg)
  Class 300 valve - 720 psig (50 barg)

  ½" - 4" Class 150
  PED Approved
  ½" - 4" Class 300
  PED Approved

Our investment cast stainless steel is specified by leading industrial gas companies for storage tank and yard operations. Special order bonnet extensions are available for cold box applications. Valves for hydrogen use can be supplied.

210 Series

REGO 10 YEAR WARRANTY

Ordering Information

Stainless Body • RF Flange Ends

150# Part Number	300# Part Number	Valve Size		Ends	150# Weight		300# Weight		Estimated C_V
		Inches	MM		Lbs.	Kg.	Lbs.	Kg.	
GS-00210W-8F	GS-00210W-8F3	1"	25 mm	Flange	15	6.80	20	9.07	11.50
GS-00210W-16F	GS-00210W-16F3	2"	50 mm		35	15.88	40	18.14	40.00
GS-00210W-24F	GS-00210W-24F3	3"	80 mm		65	29.48	70	31.75	60.00
GS-00210W-32F	GS-00210W-32F3	4"	100 mm		95	43.09	100	45.35	175

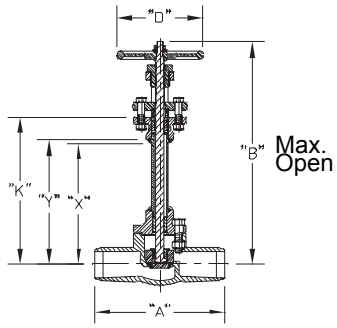
150# ANSI Class (275 psig Cold Working Pressure)
300# ANSI Class (720 psig Cold Working Pressure)

Stainless Body • Butt Weld, Socket Weld, Threaded Ends

150# Part Number	300# Part Number	Valve Size		Ends	Weight		Estimated C_V
		Inches	MM		Lbs.	Kg	
GS-00210W-4S3	GS-00210W-4S3	½"	15 mm	Socket Weld	15	6.80	3.90
GS-00210W-4T3	GS-00210W-4T3	½"	15 mm	Threaded	15	6.80	3.90
GS-00210W-6S3	GS-00210W-6S3	¾"	20 mm	Socket Weld	15	6.80	7.10
GS-00210W-6T3	GS-00210W-6T3	¾"	20 mm	Threaded	15	6.80	7.10
GS-00210W-8S3	GS-00210W-8S3	1"	25 mm	Socket Weld	15	6.80	11.50
GS-00210W-8T3	GS-00210W-8T3	1"	25 mm	Threaded	15	6.80	11.50
GS-00210W-12S3	GS-00210W-12S3	1½"	40 mm	Socket Weld	25	11.34	29.00
GS-00210W-16W3A	GS-00210W-16W3A	2"	50 mm	Butt Weld SCH10	35	15.88	40.00
GS-00210W-16W3J	GS-00210W-16W3J	2"	50 mm	Butt Weld SCH40	35	15.88	40.00
GS-00210W-24W3A	GS-00210W-24W3A	3"	80 mm	Butt Weld SCH10	55	24.95	60.00
GS-00210W-24W3J	GS-00210W-24W3J	3"	80 mm	Butt Weld SCH40	55	24.95	60.00
GS-00210W-32W3A	GS-00210W-32W3A	4"	100 mm	Butt Weld SCH10	80	36.29	175.00
GS-00210W-32W3J	GS-00210W-32W3J	4"	100 mm	Butt Weld SCH40	80	36.29	175.00

* Second number indicates valve for 300# part number.
150# ANSI Class (275 psig Cold Working Pressure)
300# ANSI Class (720 psig Cold Working Pressure)

Stainless Steel Globe Valve for Cryogenic Service
210 Series

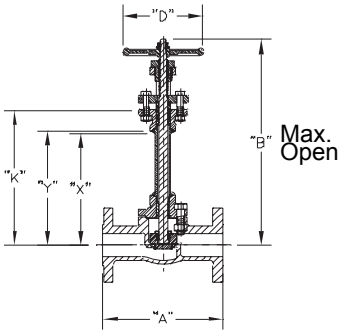


Butt Weld Ends

Size	"A"	"B"	"D"	"K"	"X"	"Y"
2"	10½"	22¼"	7"	15"	12¾"	13 1/16"
3"	12"	30½"	10"	21½"	19 1/16"	19⅜"
4"	13½"	36¾"	12"	24¼"	21 11/16"	22"

Δ For SCH. 40 A=12½"
Θ For SCH. 40 A=14"

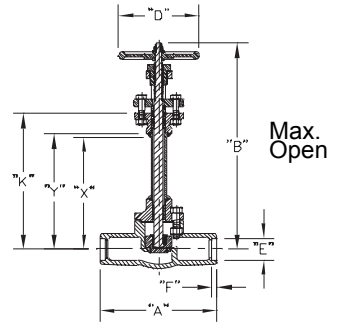
* Unless otherwise specified, SCH 10 weld ends are supplied
- Special B,K,X and Y dimensions available.



Raised Face Flange Ends*

Size	"A" 150#	"A" 300#	"B"	"D"	"K"	"X"	"Y"
1"	6½"	8"	18⅛"	5"	12¾"	11 1/16"	11⅜"
2"	8"	10½"	22¼"	7"	15"	12¾"	13 1/16"
3"	9½"	12½"	30½"	10"	21½"	19 1/16"	19⅜"
4"	11½"	14"	36¾"	12"	24¼"	21 11/16"	22"

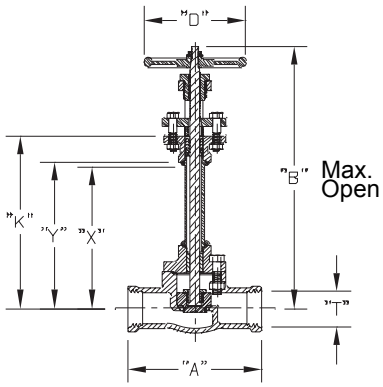
- Special B,K,X and Y dimensions available.



Socket Weld Ends

Size	"A"	"B"	"D"	"E"	"F"	"K"	"X"	"Y"
½"	5"	18⅛"	5"	.855	⅜"	12¾"	11 1/16"	11⅜"
¾"				1.065	½"			
1"				1.330	½"			
1½"	10¼"	22¼"	7"	1.915	½"	15"	12¾"	13 1/16"

- Special B,K,X and Y dimensions available.



Threaded Ends

Size	"T" - NPT	"A"	"B"	"D"	"K"	"X"	"Y"
½"	½"-14	5"	18⅛"	5"	12¾"	11 1/16"	11⅜"
¾"	¾"-14						
1"	1"-11½	5¾"					

- Special B,K,X and Y dimensions available.

Stainless Steel Gate Valve for Cryogenic Service
110 Series

Application

RegO Goddard gate valves are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ASU plants and piping configurations. Compatible with Oxygen, Nitrogen, CO2, Argon and LNG.

Features

- Top Entry: This valve can be permanently installed in the line and serviced from the top
- Soft Seated: PCTFE Seat provides a bubble-tight seal and is replaceable
- Construction: Body and Bonnet ASTM A351-CF8 J92600 Stainless steel
- Sizes: ½" - 6" (15mm - 150mm)
- Ends: RF Flange, Butt Weld, Socket Weld, Threaded (FNPT)
- Service: Liquefied and vaporized atmospheric gases, LNG
- WHZ valves with Grafoil® stem packing available
- Temperature Rating: -320°F - 150°F (-196°C +65°C)
- 100% Factory Tested
- Clean for use in Oxygen per CGA G-4.1
- PED Approved
- Pressure Rating: (Cold, Non-shock)
  Class 150 valve - 275 psig (19 barg)
  Class 300 valve - 720 psig (50 barg)

110 Series

REGO 10 YEAR WARRANTY

Ordering Information

Stainless Body ● RF Flange Ends

150# Part Number	300# Part Number	Valve Size		Ends	Weight 150#		Weight 300#		Estimated C_V
		Inches	MM		Lbs.	Kg	Lbs.	Kg.	
GS-00110W-8F	-	1"	25 mm	Flange	15	6.80	-	-	30.00
GS-00110W-12F	GS-00110W-12F3	1½"	40 mm		35	15.88	45	20.41	85.00
GS-00110W-16F	GS-00110W-16F3	2"	50 mm		35	15.88	50	22.68	100.00
GS-00110W-24F	GS-00110W-24F3	3"	80 mm		65	29.48	85	35.56	310.00
GS-00110W-32F	GS-00110W-32F3	4"	100 mm		90	40.82	120	54.43	700.00
GS-00110W-48F	GS-00110W-48F3	6"	150 mm		150	68.04	200	90.72	850.00

150# ANSI Class (275 psig Cold Working Pressure) 300# ANSI Class (720 psig Cold Working Pressure)

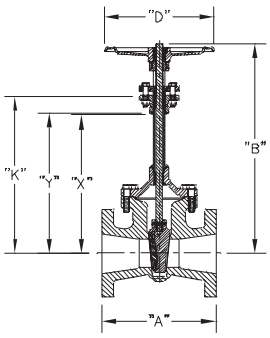
Ordering Information

Stainless Body ● Butt Weld, Socket Weld, Threaded Ends

150# Part Number	300# Part Number	Valve Size		Ends	Weight		Estimated Cv
		Inches	MM		Lbs.	Kg.	
GS-00110W-4WA	-	½"	15 mm	Butt Weld SCH10	10	4.54	7.00
GS-00110W-4S3	GS-00110W-4S3			Socket Weld	15	6.80	
GS-00110W-4T	-			Threaded	10	4.54	
GS-00110W-6WA	-	¾"	20 mm	Butt Weld SCH10			23.00
GS-00110W-6S3	GS-00110W-6S3			Socket Weld	15	6.80	23.00
GS-00110W-8WA	-	1"	25 mm	Butt Weld SCH10	10	4.54	30.00
GS-00110W-8S3	GS-00110W-8S3			Socket Weld	15	6.80	
GS-110W-8T	-			Threaded	10	4.54	
GS-00110W-12WA	-	1½"	40 mm	Butt Weld SCH10	30	13.61	85.00
GS-00110W-12S3	GS-00110W-12S3			Socket Weld	35	15.88	
GS-00110W-16W3A	GS-00110W-16W3A	2"	50 mm	Butt Weld SCH10			100.00
GS-00110W-16W3J	GS-00110W-16W3J			Butt Weld SCH40			
GS-00110W-16S	-			Socket Weld	30	13.61	
GS-00110W-24W3A	GS-00110W-24W3A	3"	80 mm	Butt Weld SCH10	65	29.48	310.00
GS-00110W-24W3J	GS-00110W-24W3J			Butt Weld SCH40			
GS-00110W-32W3A	GS-00110W-32W3A	4"	100 mm	Butt Weld SCH10	80	40.82	700.00
GS-00110W-32W3J	GS-00110W-32W3J			Butt Weld SCH40			
GS-00110W-48WA	GS-00110W-48W3A	6"	150 mm	Butt Weld SCH10	120/150*	54.43/68.04*	850.00
GS-00110W-48W3J	GS-00110W-48W3J			Butt Weld SCH40			

150# ANSI Class (275 psig Cold Working Pressure) 300# ANSI Class (720 psig Cold Working Pressure)* Second number indicates valve for 300# part number.
Service: 300#-720 psig Non-shock Cold ● Service: 150#-275 psig Non-shock Cold ● Temperature Rating +150°F - 325°F ● Mounting plate option available

Stainless Steel Gate Valve for Cryogenic Service
110 Series

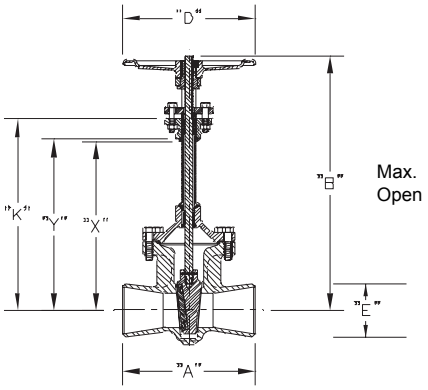


Max. Open

Raised Face Flange Ends*

Size	"A" 150#	"A" 300#	"B"	"D"	"K"	"X"	"Y"
1"	4⅛"	N/A	17¾"	4½"	12¾"	11 1/16"	11⅜"
1½"	4⅝"	6⅛"*	21⅞"	7"	14"	12 5/16"	12⅝"
2"	7"	7¼"*	21⅞"	7"	14"	12 5/16"	12⅝"
3"	8"	8¾"*	31½"	12"	20"	17¾"	18 1/16"
4"	9"	12"	33¾"	12"	21½"	19¼"	19 9/16"
6"	10½"	15⅞"	41½"	16"	26"	23 9/16"	23⅞"

*Face-to-face dimensions (A) are Goddard standard not to ANSI standard.
- Special B,K,X and Y Dimensions Available

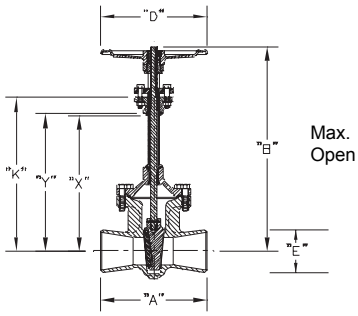


Max. Open

Socket Weld Ends

Size	"A" 150#	"A" 300#	"B"	"D"	"E"	"F"	"K"	"X"	"Y"
½"	3¾"	3¾"	17¾"	4½"	.855	⅜"	12¾"	11 1/16"	11⅜"
¾"					1.065	½"			
1"	3½"	4"			1.330				
1½"	4⅝"	5"	21⅞"	7"	1.915		14"	12 5/16"	12⅝"
2"	8½"	N/A			2.406	⅝"			

- Special B,K,X and Y Dimensions Available



Max. Open

Butt Weld Ends

Size	"A" 150#	"A" 300#	"B"	"D"	"K"	"X"	"Y"
½"	4¼"	N/A	17¾"	4½"	12¾"	11 1/16"	11⅜"
¾"	4⅝"	N/A	17¾"	4½"	12¾"	11 1/16"	11⅜"
1"	5"	N/A	17¾"	4½"	12¾"	11 1/16"	11⅜"
1½"	6"	6"	21⅞"	7"	14"	12 5/16"	12⅝"
2"	8½"	8½"	21⅞"	7"	14"	12 5/16"	12⅝"
3"	11⅛"	11⅛"	31½"	12"	20"	17¾"	18 1/16"
4"	12"	12"	33¾"	12"	21½"	19¼"	19 9/16"
6"	15⅞"	15⅞"	41½"	16"	26"	23 9/16"	23⅞"

- Special B,K,X and Y Dimensions Available
- Unless otherwise specified, Schedule 10 weld ends are supplied

Cryogenic ½" Pressure Builder
PB Series

Application

PB series cryogenic regulators are primarily designed to maintain the pressure in cryogenic containers; they may also be used as a line regulator for cryogenic lines and cold gas lines. They are specifically useful in installations where the precision in pressure control and flow capability are important. For use with Oxygen, Nitrogen, Argon, LNG and CO2.

Features

- All parts are copper alloy (brass), PTFE and stainless steel—materials selected specifically for compatibility with cryogenic temperatures down to -320°F (-196° C)
- PTFE seat helps assure a positive shut-off at cryogenic temperatures down to -320°F (-196° C)
- High and low pressure regulators are the same compact size—designed to fit in close quarters
- Customizable pressure settings between 20 - 550 psig (1.4 - 37.9 barg)
- Interchangeable with existing cryogenic regulator units
- Inlet filter (150 Mesh) helps prevent foreign material from entering the regulator.
- Easier to service, use an Allen wrench versus large crescent wrench
- Less field repair because diaphragm is squeezed versus twisted
- Locknut is provided to maintain adjusting screw setting
- Maximum inlet pressure of 600 psig (41.4 barg)
- Cleaned for Oxygen service per CGA G-4.1
- 100% Factory Tested

Materials

Body .....Brass
Bonnet .....Brass
Seat .....PTFE
Springs ..... Stainless Steel
Diaphragm Gasket.....PTFE
Backcap Seal.....PTFE
Diaphragm..... Bronze
Inlet Filter.....Monel)

PB504 Series part number configuration

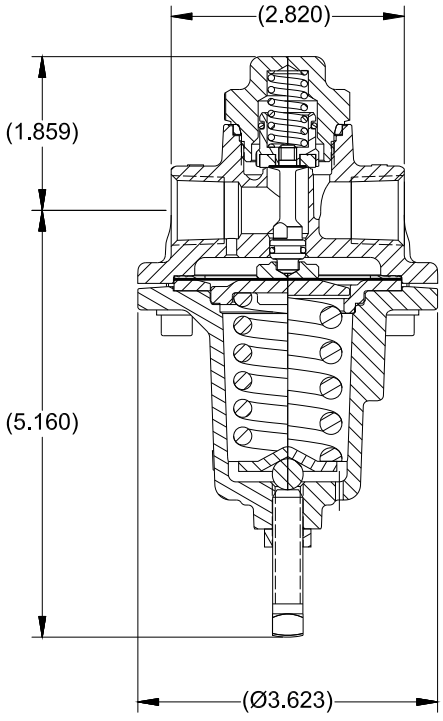
PB504 - 205

Series

Set Pressure psig

REGO 10 YEAR WARRANTY

PB504



Ordering Information

Part Number	Inlet / Outlet Connections (FNPT) A	Delivery Pressure Setting Range psig (barg)
PB504-020 to 070	½"	20 - 75 psig (1.4 - 5.2 barg)
PB504-071 to 175		50 - 180 psig (3.4 - 12.4 barg)
PB504-176 to 300		150 - 300 psig (10.3 - 20.7 barg)
PB504-301 to 550		250 - 550 psig (17.2 - 37.9 barg)

Delivery pressure setting psig specified by suffix in PB regulator number. Example: An order for PB504-125 has a maximum inlet pressure rating of 600 psig (41.3 barg) and is set at an outlet pressure of 125 psig (8.6 barg).

Heavy-duty Gas Line Regulator
1780 Series

Application

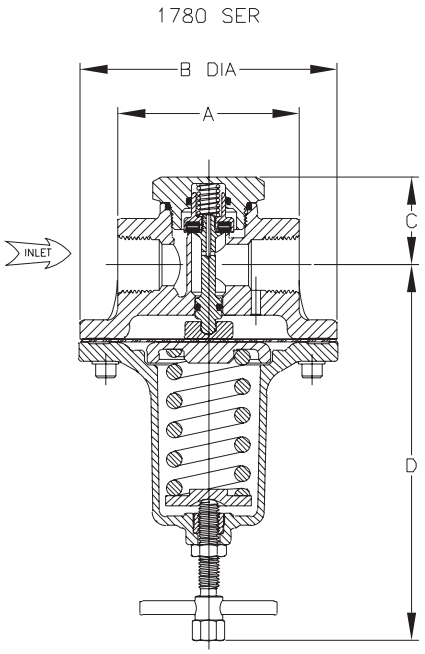
The 1780 Series Regulators are designed for final line pressure regulation on gas distribution systems. They are suitable for a variety of gases in medical or industrial applications. The 1780 Series Regulators have a balanced seat, are constructed with Oxygen compatible materials, and have the same valve design, brass body, and internal parts as the premium BR-1780 Series. Flow performance is equal to the BR-1780 Series.

REGO 10 YEAR WARRANTY

1780 Series

Features

- Maintains a steady downstream pressure across a range of inlet pressures commonly provided by a cryogenic bulk tank
- Large seat and diaphragm areas provide high capacity with sensitive control of delivery pressure with low falloff
- Two ¼" FNPT delivery pressure gauge ports are located (plugged) on each side of the valve
- Two bonnet drain/vent holes to allow for different mounting orientation
- T-handle adjusting screw
- Maximum inlet pressure is 500 psig (34.5 barg)
- Available in four delivery pressure ranges (A-D)
- Temperature range: -40° F to +165° F. (-40°C to +74°C)
- Cleaned for Oxygen service per CGA G-4.1
- 100% Factory Tested



Materials

Body ..... Forged Brass
Bonnet ..... Nickel Plated Aluminum
Diaphragm ..... Nitrile with PTFE liner
Springs and Fasteners ..... Stainless Steel
Other valve parts ..... Brass
Seat Disc and O-Rings ..... Viton is standard

For Carbon Dioxide or Nitrous Oxide service: Specify EPDM material for seat disc and O-rings, add "E" to end of part number.

Ordering Information

Part Number	Delivery Pressure Range	Pressure Gauge*		Inlet and Outlet (FNPT.)	Dimensions				Cv
		Range (psig)	P/N		"A"	"B"	"C"	"D"	
1784A	5-55 psig (0.3-3.8 barg)	1-100	1286	½"	2.82"	3.62"	1.38"	5.47"	3.1
1784B	40-110 psig (2.8-7.6 barg)	1-200	S1679						
1784C	100-200 psig (6.9-13.8 barg)	1-400	15578						
1784D	175-300 psig (12.1-20.7 barg)								
1786A	5-55 psig (0.3-3.8 barg)	1-100	1286	¾"	3.31"	4.69"	1.60"	6.84"	4.8
1786B	40-110 psig (2.8-7.6 barg)	1-200	S1679						
1786C	100-200 psig (6.9-13.8 barg)	1-400	15578						
1786D	175-275 psig (12.1-19.0 barg)								
1788A	5-55 psig (0.3-3.8 barg)	1-100	1286	1"					5.5
1788B	40-110 psig (2.8-7.6 barg)	1-200	S1679						
1788C	100-200 psig (6.9-13.8 barg)	1-400	15578						
1788D	175-275 psig (12.1-19.0 barg)								

*Regulator sold without gauge. Order gauge separately.

Angle Relief Valve, ASME
AR4100 Series

Application
The ASME approved 90° relief valves AR Series, provide precise relief set-points which protect cryogenic vessels and piping systems for over-pressurization.

Features
- High flow rates are approved by rigorous testing to ASME BVPC Code Section VIII
- The 90° configuration provides relief of gases eliminating direct flow through the spring
- The 90° configuration allows easy incorporation to plumbing for output containment
- Bubble-tight seat provides 100% shut off when reseating or static mode
- A variety of inlets and pressure settings assure adherence to application requirements
- Temperature Range: -320°F (-196°C) to +165°F (+74°C)
- Cleaned for Oxygen service per CGA G-4.1
- 100% Factory Tested
- PED, TPED, ASME and CRN Certified

Materials
Body ..... Bronze ASTM B61
Upper Body..... Stainless Steel ASTM A582
Seat and Stem..... Brass ASTM B16
Poppet Guide..... Brass ASTM B16
Spring Retainer..... Brass ASTM B16
Adjusting Screw..... Brass ASTM B16
Cap ..... Brass ASTM B16
Ball..... Stainless Steel
Gasket ..... Copper ASTM B152-17
Spring ..... Stainless Steel ASTM A313
Seal ..... Modified PTFE

Ordering Information
Fill in the blanks with options below.
Example: AR4106A300

AR	4106	A	300
Angle Relief	Size	Cert Requirements and Pressure Unit	Set Pressure

Certifications
A - ASME, TPED, PED
B - ASME, TPED, PED
N - TPED, PED
: - B Version Assembled in Europe

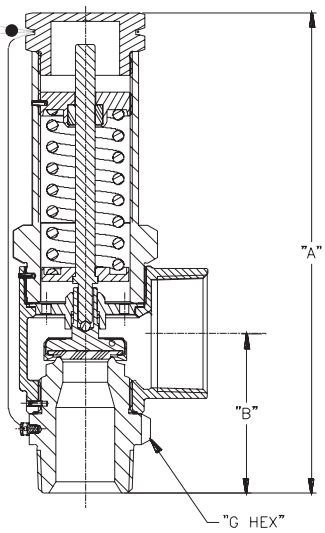
Set Pressure
A,N - psig
B - barg

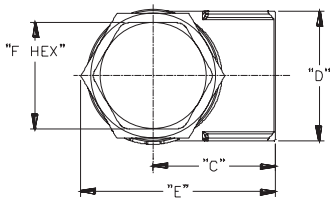
Size
04=½"
06=¾"
08=1"
12=1½"

Set-point tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater.

Note: For psig pressure settings, the part numbers end in A
For barg pressure settings, the part numbers end in B

AR4100 Series





Air Capacity= m x P
Where:
m = Slope Value
P= Pressure, Absolute @10% overpressure.

Example: Pressure relief valve, ½" inlet x 1" outlet, at 80 psig. Part number AR4108A080.
m = 1.4
P= 80 psig
Air Capacity= 1.4 x [(80psig x 1.10) +14.7]
Air Capacity= 143.8 SCFM (air)

Flow Performance
AR4104A set pressures 75 - 500 capacity is 1.4 SCFM of air per psig of flow pressure.
AR4106A set pressures 75 - 400 capacity is 1.56 SCFM of air per psig of flow pressure.
AR4108A set pressures 75 - 425 capacity is 3.463 SCFM of air per psig of flow pressure.
AR4112A set pressures 80 - 425 capacity is 7.86 SCFM of air per psig of flow pressure.
Flow pressure per ASME is 10% above set pressure or +3 psig, whichever is greater.

Ordering Information

Part Number	Inlet Inches (mm)	Outlet Inches (mm)	Ends	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	Set Pressure	ASME Flow Capacity (Air) at 110% Set Pressure	Weight Lbs (Kg)
AR4104A	½" (15)	1" (25)	Thread NPT	6.03" (153.16)	1.97" (50.04)	1.63" (41.40)	1.63" (41.40)	2.49" (63.25)	250 psig	406 SCFM *	2.75 (1.25)
AR4104B									17.23 barg*	690 m³/hr	
AR4106A	¾" (20)		Thread NPT						250 psig*	451 SCFM	
AR4106B									17.23 barg*	766 m³/hr	
AR4108A	1" (25)	1¼" (32)	Thread NPT	6.88" (174.75)	2.37" (60.20)	2.00" (50.80)	1.90" (48.26	3.01" (76.45)	250 psig*	1,003 SCFM	3.75 (1.70)
AR4108B									17.23 barg*	1704 m³/hr	
AR4112A	1½" (40)	2" (50)	Thread NPT	9.64" (244.86)	3.20" (81.28)	2.45" (62.23)	2.60" (66.04)	3.89" (98.81)	250 psig*	2,277 SCFM	8.00 (3.63)
AR4112B									17.23 barg*	3869 m³/hr	

*Custom psig and barg settings are available
Note: For Non-ASME stamp, the part numbers are: AR4104N, AR4106N, AR4108N, AR4112N.

Angle Relief Valve, ASME
AR5100 Series

Application
The ASME approved 90° relief valves AR Series, provide precise relief set-points which protect cryogenic vessels and piping systems for over-pressurization.

Features
- High flow rates are approved by rigorous testing to ASME BVPC Code Section VIII
- The 90° configuration provides relief of gases eliminating direct flow through the spring
- The 90° configuration allows easy incorporation to plumbing for output containment
- Bubble-tight seat provides 100% shut off when reseating or static mode
- A variety of inlets and pressure settings assure adherence to application requirements
- Temperature Range: -320°F (-196°C) to +165°F (+74°C)
- Cleaned for Oxygen service per CGA G-4.1
- 100% Factory Tested
- PED, TPED and ASME Certified

Materials
Body ..... Bronze ASTM B61
Upper Body..... Stainless Steel ASTM A582
Seat and Stem..... Brass ASTM B16
Poppet Guide..... Brass ASTM B16
Spring Retainer..... Brass ASTM B16
Adjusting Screw..... Brass ASTM B16
Cap ..... Brass ASTM B16
Ball..... Stainless Steel
Gasket ..... Copper ASTM B152-17
Spring ..... Stainless Steel ASTM A313
Seal ..... Modified PTFE

Ordering Information
Fill in the blanks with options below.
Example: AR5106A300

AR	5106	A	300
Angle Relief	Size	Cert Requirements and Pressure Unit	Set Pressure

Certifications
A - ASME, TPED, PED
B - ASME, TPED, PED
N - TPED, PED
: - B Version Assembled in Europe

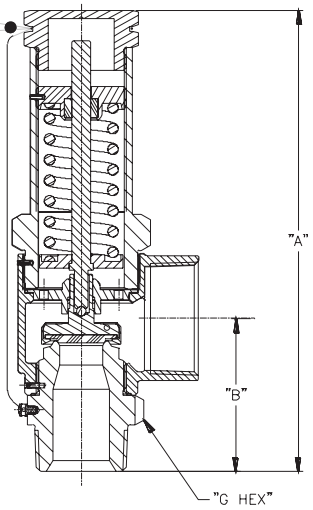
Set Pressure
A,N - psig
B - barg

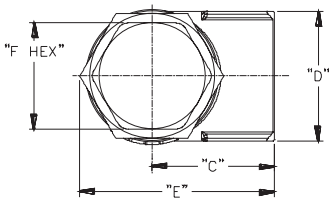
Size
04=½"
06=¾"
08=1"
12=1½"

Set-point tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater.

Note: For psig pressure settings, the part numbers end in A
For barg pressure settings, the part numbers end in B

AR5100 Series





Air Capacity= m x P
Where:
m = Slope Value
P= Pressure, Absolute @10% overpressure.

Example: Pressure relief valve, ½" inlet x 1" outlet, at 80 psig. Part number AR5108A080.
m = 1.4
P= 80 psig
Air Capacity= 1.4 x [(80psig x 1.10) +14.7]
Air Capacity= 143.8 SCFM (air)

Flow Performance
AR5104A set pressures 75 - 500 capacity is 1.4 SCFM of air per psig of flow pressure.
AR5106A set pressures 75 - 400 capacity is 1.56 SCFM of air per psig of flow pressure.
AR5108A set pressures 75 - 425 capacity is 3.463 SCFM of air per psig of flow pressure.
AR5112A set pressures 80 - 425 capacity is 7.86 SCFM of air per psig of flow pressure.
Flow pressure per ASME is 10% above set pressure or +3 psig, whichever is greater.

Ordering Information

Part Number	Inlet Inches (mm)	Outlet Inches (mm)	Ends	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	Set Pressure	ASME Flow Capacity (Air) at 110% Set Pressure	Weight Lbs (Kg)
AR5104A	½" (15)	1" (25)	Thread BSPP	6.03" (153.16)	1.97" (50.04)	1.63" (41.40)	1.63" (41.40)	2.49" (63.25)	250 psig*	406 SCFM	2.75 (1.25)
AR5104B									17.23 barg*	690 m³/hr	
AR5106A	¾" (20)								250 psig*	451 SCFM	
AR5106B									17.23 barg*	766 m³/hr	
AR5108A	1" (25)	1¼" (32)		6.88" (174.75)	2.37" (60.20)	2.00" (50.80)	1.90" (48.26	3.01" (76.45)	250 psig*	1,003 SCFM	3.75 (1.70)
AR5108B									17.23 barg*	1704 m³/hr	
AR5112A	1½" (40)	2" (50)		9.64" (244.86)	3.20" (81.28)	2.45" (62.23)	2.60" (66.04)	3.89" (98.81)	250 psig*	2,277 SCFM	8.00 (3.63)
AR5112B									17.23 barg*	3869 m³/hr	

*Custom psig and barg settings are available
Note: For Non-ASME stamp, the part numbers are: AR5104N, AR5106N, AR5108N, AR5112N.

Pressure Setting and Flow Data
AR Series

Pressure Setting and Flow Data AR Series SCFM (air)						
Pressure Setting psig	barg	MPA	AR4104A AR5104A	AR4106A AR5106A	AR4108A AR5108A	AR4112A AR5112A
22	1.5	.15	54	61	135	306
25	1.7	.17	59	66	146	332
30	2.1	.21	67	74	165	375
35	2.4	.24	74	83	184	418
40	2.8	.28	82	91	203	461
45	3.1	.31	90	100	222	505
50	3.4	.34	98	108	241	548
55	3.8	.38	105	117	260	591
60	4.1	.41	113	126	279	634
65	4.5	.45	121	134	299	678
70	4.8	.48	128	143	318	721
75	5.2	.52	136	151	337	764
80	5.5	.55	144	160	356	807
90	6.2	.62	159	177	394	894
100	6.9	.69	175	194	432	980
110	7.6	.76	190	211	470	1067
120	8.3	.83	205	228	508	1153
130	9.0	.90	221	245	546	1240
140	9.7	.97	236	262	584	1326
145	10.0	1.0	244	271	603	1369
150	10.3	1.03	252	280	622	1413
175	12.1	1.21	290	322	718	1629
200	13.8	1.38	329	365	813	1845
225	15.5	1.55	367	408	908	2061
230	15.9	1.59	375	417	927	2104
235	16.2	1.62	382	425	946	2148
240	16.6	1.66	390	434	965	2191
250	17.2	1.72	406	451	1003	2277
260	17.9	1.79	421	468	1041	2364
265	18.3	1.83	429	476	1060	2407
275	19.0	1.90	444	494	1098	2494
280	19.3	1.93	452	502	1118	2537
285	19.7	1.97	459	511	1137	2580
290	20.0	2.0	467	519	1156	2623
295	20.3	2.03	475	528	1175	2666
300	20.7	2.07	483	536	1194	2710
325	22.4	2.24	521	579	1289	2926
350	24.1	2.41	560	622	1384	3142
375	25.9	2.59	598	665	1479	3358
400	27.6	2.76	637	708	1575	3574
425	29.3	2.93	675	750	1670	3791
450	31.0	3.1	714	793	1765	4007
475	32.8	3.28	752	836	1860	4223
500	34.5	3.45	791	879	1956	4439
525	36.2	3.62	829	921	2051	4655
550	37.9	3.79	868	964	2146	4871

RegO® - Relief Device Diverter (3-Way) Valve
DR6100 Series

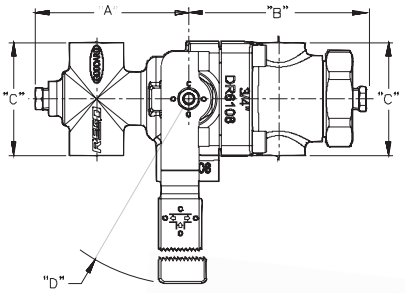
Application

The DR Diverter Valve Series provides a simple solution for the isolation of pressure relief devices during routine change out of a relief valve and burst discs without evacuating the vessel. Excellent for protecting bulk liquid vessels, transport trailers, industrial pipelines, and LNG systems.

REGO 10 YEAR WARRANTY

Features

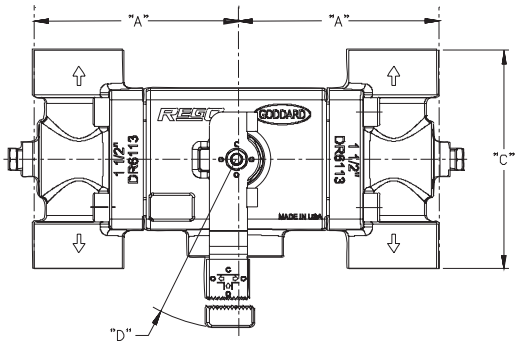
- High flow rates complement our AR series pressure relief valves
- Valve side selection is accomplished with a heavy-duty control arm clearly labeled for positive isolation
- RegO® needle valves accessorize for easy bleed of gas before removing pressure relief devices
- Fitted with threaded top Relief Valve ports and bottom Burst Disk connections
- Pressure Rating: 600 psig (41.37 barg) CWP
- Temperature Rating: -320°F (-196°C) to +165°F (+74°C)
- 100% Factory tested
- Cleaned for Oxygen service per CGA G-4.1



DR6108

Materials

Bodies	Bronze ASTM B61 UNS C92200
Bushing, End Cap	Brass B16 C36000
Seat Rings	PCTFE ASTM D1430
Gasket	PTFE
Ball	316 Stainless Steel
Lever	Cadmium Plated Steel
Packing	PTFE
Stem	Stainless Steel ASTM A582 UNS S30300



DR6112 and DR6113

Ordering Information

Part Number	Inlet Inches (mm)	Outlet Inches (mm)	Connection Type	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	Height Inches (mm)	Weight Lbs (Kg)	Open Port	C_V
DR6108	1" (25.4)	¾" (19.05)	Thread NPT	4" (101.7)	4.65" (118.3)	2.94" (74.90)	R 7.36" (187.1)	5.18" (63.25)	10# (4.50)	Right	13.3
										Left	
										Both	20.1
DR6112	1½" (38.1)	1" (25.4)		4.12" (104.6)	-	5.70 (145.0)	R 7.36" (187.1)	5.770" (146.6)	28# (12.70)	Right	18.8
										Left	
										Both	37
DR6113	1½" (38.1)	1½" (38.1)			-	5.70 (145.0)	R 7.36" (187.1)	5.770" (146.6)	30# (13.60)	Right	22.6
										Left	
										Both	40.2

RegO® - Bulk Vessel Safety Assembly - Relief Valve and Diverter DA6200 Series

Application

RegO® provides a complete unitized solution for pressure relief devices assembled in a factory setting ready for attachment to cryogenic bulk tanks. Ideal for OEM applications where pre-fabricated assemblies are favored to streamline construction. Excellent for protecting bulk liquid vessels, transport trailers, industrial pipelines and LNG systems.

REGO 10 YEAR WARRANTY

Features

- High flow rates complement our AR series pressure relief valves and burst disks
- Valve side selection is accomplished with a heavy-duty control arm clearly labeled for positive isolation
- RegO® needle valves accessorize for easy bleed of gas before removing pressure relief devices
- Pressure Rating: 600 psig (41.37 barg) CWP
- Temperature Rating: -320°F (-196°C) to +165°F (+74°C)
- Cleaned for Oxygen service per CGA G-4.1
- Packaged ready for installation

DA6206

DA6208

Ordering Information

Fill in the blanks with options below.

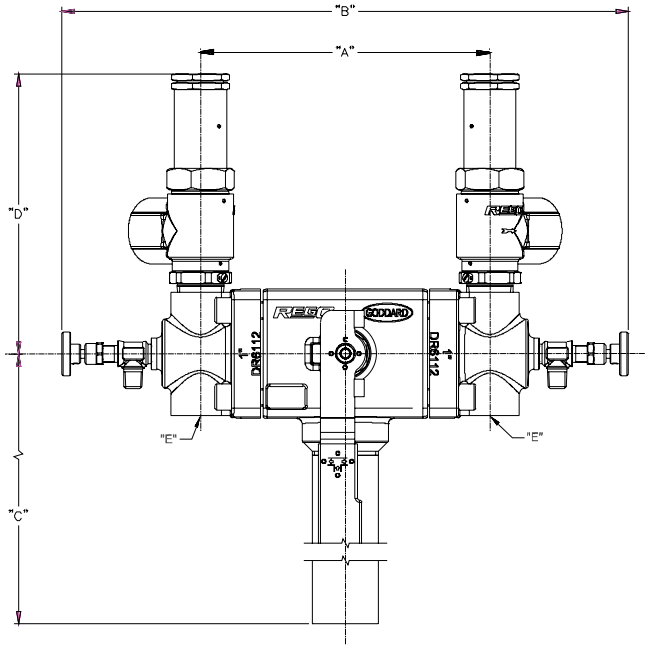
Example: DA6206A300

DA	6206	A	300
Diverter Assembly	Size	Cert Requirements and Pressure Unit	Set Pressure

Certifications
A - ASME, TPED, PED
B - ASME, TPED, PED
N - TPED, PED
: - B Version Assembled in Europe

Set Pressure	Size
A,N - psig	04=½"
B - barg	06=¾"
	08=1"
	12=1½"

Set-point tolerance is ± 3% of the set pressure or ± 2 psig whichever is greater.



Ordering Information

Part Number	Inlet Inches (mm)	Connection Type	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)
DA6206	¾"	Thread NPT	4.76" (120.9)	13.25" (336.55)	9.75" (247.7)	7.00" (177.8)	¾" NPT (19.0)
DA6208	1"		8.33" (211.6)	16.30" (414)	16.47" (418.34)	8.06" (204.7)	1" NPT (25.0)

Stainless Steel Swing Check Valve for Cryogenic Service
886 Series

Application

The RegO Goddard 886 Series check valve is designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations. Compatible with Oxygen, Nitrogen, CO2 Argon and LNG.

REGO 10 YEAR WARRANTY

Features

- Top Entry: This bolted bonnet valve can be permanently installed in the line and service from the top
- Construction: Designed to prevent back flow in cryogenic systems. Higher fluid capacity (C_V) than poppet or lift check valves. 316L stainless steel investment cast body, cap and arm
- Sizes: ½" through 4" (15mm through 100mm)
- Ends: Socket Weld and Butt Weld schedule 10 and 40
- Temperature Rating: -320°F to 150°F (-196°C to +66°C)
- Cleaned for Oxygen service per CGA G-4.1.
- Pressure Rating: (Cold, Non-shock)
  400 psig (27 barg) ½" - 2"
  275 psig (19 barg) 150# ANSI Class 3" and 4"
  720 psig (50 barg) 300# ANSI Class 3" and 4"
  PED Approved
- Note: Do not use for reciprocating gas service.
- Our investment cast stainless steel is specified by leading industrial gas companies for storage tank and yard operations.
- Ideal for liquid atmospheric gases and LNG storage and handling.
- High cycle life and superior sealing.
- Valves for hydrogen service can be supplied. (-425°F to +350°F)
- Cracking Pressure: 0.5 psig (0.03) barg

886 Series

Ordering Information

886

Stainless Steel Swing Check Valves
Soft Seat

GRAFOIL® Gasket - Hydrogen Service - Socket Weld

Part Number	Valve Size		End Connection	Seat	Pressure Rating	Estimated C_V	Weight Lbs.
	Inches	mm					
S-0886GF-4S	½"	15 mm	Socket Weld	Soft	400 (27.5 barg)	4.50	3 Lbs.
S-0886GF-8S	1"	25 mm				61.00	11 Lbs.
S-0886GF-12S	1½"	40 mm				99.00	17 Lbs.

PTFE Gasket - Socket Weld

Part Number	Valve Size		End Connection	Seat	Pressure Rating	Estimated C_V	Weight Lbs.
	Inches	mm					
S-000886-4S	½"	15 mm	Socket Weld	Soft	400 (27.5 barg)	4.50	3 Lbs.
S-000886-8S	1"	25 mm				61.00	11 Lbs.
S-000886-12S	1½"	40 mm				99.00	17 Lbs.

Stainless Steel Swing Check Valve for Cryogenic Service
886 Series

PTFE Gasket - Buttweld

Part Number	Valve Size		End Connection	Seat	Butt Weld Schedule	Pressure Rating	Estimated C_V	Weight Lbs.
	Inches	mm						
S-000886-4WA	½"	15 mm	Butt Weld	Soft	10	400 (27.5 barg)	4.50	3 Lbs.
S-000886-8WA	1"	25 mm					18.00	11 Lbs.
S-000886-12WA	1½"	40 mm					61.00	17 Lbs.
S-000886-16W3A	2"	50 mm				720 (50 barg)	99.00	17 Lbs.
S-000886-24WA	3"	80 mm				275 (19 barg)	255.00	47 Lbs.
S-000886-24WJ	3"	80 mm			40		225.00	46 Lbs.
S-000886-32W3J	4"	100 mm				720 (50 barg)	475.00	95 Lbs.
S-000886-32WA	4"	100 mm			10	275 (19 barg)	475.00	95 Lbs.

886M

Stainless Steel Swing Check Valves - Metal Seat

PTFE Gasket - Socket Weld

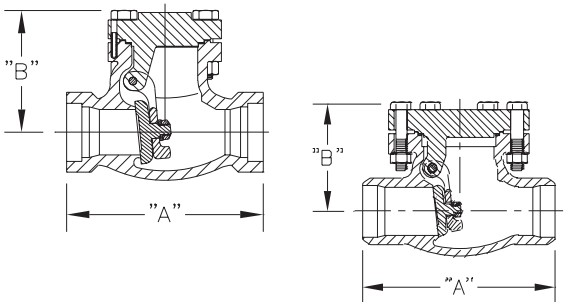
Part Number	Valve Size		End Connection	Seat	Pressure Rating	Estimated C_V	Weight Lbs.
	Inches	mm					
S-00886M-4S3	½"	15 mm	Socket Weld	Metal	720 (50 barg)	4.50	3 Lbs.
S-00886M-8S3	1"	25 mm				18.00	11 Lbs.
S-00886M-12S3	1½"	40 mm				61.00	17 Lbs.

Butt Weld Ends

Part Number	Valve Size		End Connection	Seat	Butt Weld Schedule	Pressure Rating	Estimated C_V	Weight Lbs.
	Inches	mm						
S-0886M-16W3A	2"	50 mm	Butt Weld	Metal	10	720 (50 barg)	99.00	17 Lbs.
S-00886M-24W3J	3"	80 mm			40		225.00	46 Lbs.
S-00886M-24W3A	3"				10		225.00	
S-00886M-32WA	4"	100 mm				275 (19 barg)	475.00	95 Lbs.
S-00886M-32W3J	4"				40	720 (50 barg)	475.00	

Butt Weld Ends with GRAFOIL® Gasket for Hydrogen Service

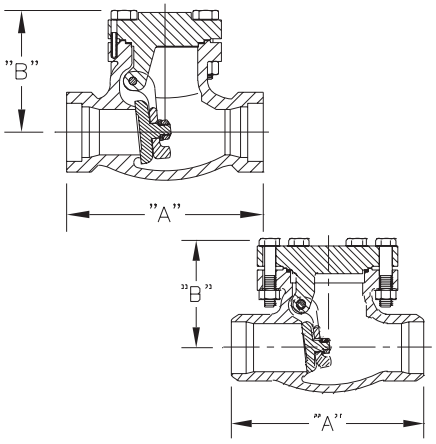
Part Number	Valve Size		End Connection	Seat	Butt Weld Schedule	Pressure Rating	Estimated C_V	Weight Lbs.
	Inches	mm						
S-886MGF-16W3A	2"	50 mm	Butt Weld	Metal	10	720 (50 barg)	99.00	17 Lbs.
S-886MGF-24W3A	3"	80 mm					225.00	46 Lbs.



886

Pressure Rating 300 psig Non-Shock Cold, Temperature Rating +150° F to - 325° F
All Dimensional Data are in inches.

Size	"A"	"B"
½"	4¼"	2½"
¾"	5"	3¼"
1"		
1½"	6½"	4"
2"	8"	4½"



886M

Service 300 Class 720 psig Non-Shock Cold, Temperature Rating +150° F to - 325° F
All Dimensional Data are in inches.

Size	"A"	"B"	Butt Weld End Schedule
1½"	6½"	4"	10
2"	8"	4½"	
3"	9½"	5¾"	10 and 40
4"	11½"	8⅜"	10
4"	14"	8⅜"	40

Size	"A"	"B"	End	End Dimension
½"	$2^{7}/_{16}$"	4¼"	Socket Weld	SCH 10
				½" Pipe Socket

Strainer
STR000002

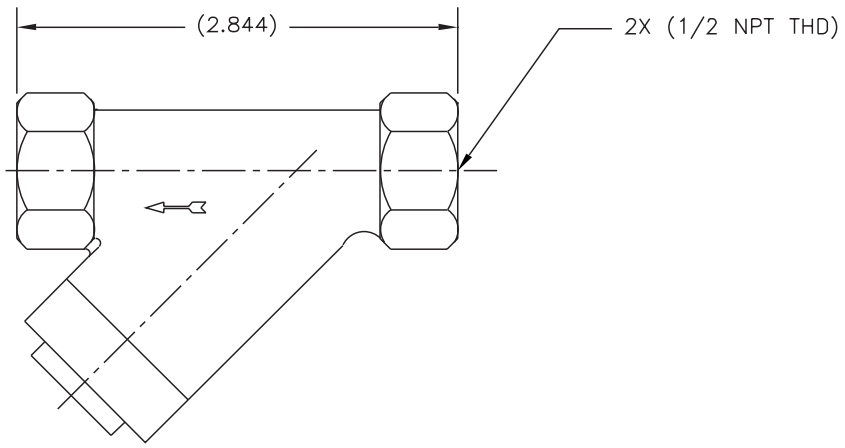
Application
The STR000002 strainers have been designed to retain debris and any other pollution that could be in the lines, and could affect the performance of regulators and other devices. The STR000002 use a Monel filter material. Designed for the handling of cryogenic liquids through bulk tanks, trucks, trailers, ISO-containers and piping configurations.

REGO 10 YEAR WARRANTY

Features
- Temperature range: -320°F to 165°F. (-196°C to 74°C)
- Maximum working pressure: 600 psig (41,37 barg)
- Connections: FNPT
- Sizes: ½”
- Service: Liquefied and Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, ISO-Containers and Piping Configurations.
- Cleaned for Oxygen service per CGA G-4.1
- 100% Factory tested.

STR000002

Materials
Body .....Brass
Cap .....Brass
Filter Material..... 100 Mesh Monel



Ordering Information

Part Number	Inlet Inches	Outlet Inches	A Inches
STR000002	½”	½	2⁴/₅”

Repair Kits

Ordering Information

Kit Number	Part Number	Kit Contents
ECL502-80R	ECL502-22 to ECL502-175.	Diaphragms, Diaphragm liner, Spring guide, ball seat.
ECL502-80A	ECL502-180 to ECL502-350.	
CB502-80	CBC502-22 to CBC502-175, CBH502-22 to CBH502-175	Diaphragm assembly, diaphragm gasket, Backcap gasket,poppet seat, seat pin.
CB502-80A	CBC502-180 to CBC502-350, CBH502-180 to CBH502-350	
ECL-80	ECL22, ECL70, ECL100, ECL140	Diaphragm assembly, diaphragm gasket, poppet, retaining ring, spring, washer.
ECL-80A	ECL325	
RG-80*	RG22, RG75, RG125, BC125, CBH125	Backcap gasket, diaphragm assembly, diaphragm gasket, seat assembly.
RG-80A*	RG300	
RG-81**	RG75A, RG125A, CBC125A & CBH125A	
RG-81A**	RG300A, CBC300A & CBH300A	
RG-82	RG Series	Diaphragm assembly, gasket.
1784NG-80	1784NG Series	Diaphragm assembly,seat assembly,gasket.

*Good for valves manufactured before Fall 2010
**Good for valves manufactured after Fall 2010

Ordering Information

Kit Number	Part Number	Kit Contents
ES8450R	T9450 Series and T9460 Series	Stem assembly (4”), packing, bonnet, handwheel
BK9450-80	9450 Series, 9460 Series	Stem assembly , Spring, Jam Ring,Packing V-ring,Packing Gland, O-ring, Washer, Locknut, Gasket.
BK9450R **	9450 Series, 9460 Series	Extended Bonnet Assembly Kit, Spring load packing for conversion of extended stem valves and topworks replacement
BKA8400R	BKA8412SE	Stem assembly, handwheel, seat assembly Converts SE Series to New Style S Series
T9464-80	T9450 Series, T9460 Series,9450 Series, 9460 Series	Complete valve trim assembly including Silver handwheel
T9464-80B		Complete valve trim assembly including Blue handwheel
T9464-80G		Complete valve trim assembly including Green handwheel
T9464-80R		Complete valve trim assembly including Red handwheel
BK-9450-KIT***	ES8450 Series,ES9450 Series,BK9450 Series	Extended Bonnet Assembly Kit, Spring load packing for conversion of extended stem valves and topworks replacement

** Changes to a 6.5” stem.
***Retrofits ES8450 and ES9450 to a 6.5” stem and a repair kit for the BK9450 Series

Ordering Information

Old kit Part Number	New kit Part Number	Part Number	Description
13665	13665	MFR50 Series	Aluminum Cap for 50 GPM Male Fueling Receptacle
13685	13685		Dock, fueling Nozzle Receptacle
14237	14237		Dock, fueling Nozzle Receptacle closed-end
T-3003	MFR50-Tool		Repair Kit Tool for Male Fueling Receptacle, for 14405, 13990,14050 and 14005.
14596	14596		Seal for Male Fueling Receptacle, for 14405, 13990,14050 and 14005.

Ordering Information

Old kit Part Number	New kit Part Number	Part Number	Description
11170-1	MQD10-84	MDV100 Series	Repair Kit for 11170, 12680, 12895
12524-1	MQD10-81		Black plastic Cap cover and chain assembly for Male QDV vent
13675	MQD10-82		Aluminum anodized blue Cap cover and lanyard assembly for Male QDV vent
13937	MQD10-83		Male Quick Disconnect Vent Poppets-leakdown

Ordering Information

Old kit Part Number	New kit Part Number	Part Number	Description
14103	CryoMac3-80	CRYOMAC3	Sleeve Assembly for CryoMac (sleeve, nose piece, 16 balls, 6 guide pins, and a rubber band)
14255	CryoMac3-81		Seat & Seal Assembly for CryoMac
14591	CryoMac3-82		Cryomac Interface Seal replacement (to ensure a correct seal replacement use tool kit p/n 14590)
14576	CRYOMAC3-90		Macro Retaining Ring for CRYOMAC
14566	CRYOMAC3-91		Macro Hinge Pin for CRYOMAC 3
13999	CRYOMAC3-92		Macro Washer Brass for CRYOMAC 3
14574	CRYOMAC3-93		Spring for CRYOMAC 3
14424	CryoMac3-82B		Cryomac Interface Seal replacement – OBSOLETE VERSION (please use latest release p/n 14591)
14590	CryoMac3-TOOL1		Cryomac Seal Repair Tool Kit
13960	CryoMac3-84		Poppet Assembly for CryoMac3
T-2961	CryoMac3-TOOL2		Tool for poppet removal for CryoMac
11157	CryoMac2-84	CRYOMAC2	Poppet Assembly for CryoMac2

Ordering Information

Old kit Part Number	New kit Part Number	Part Number	Description
11175-2	FQD10-80	FDQ10 Series	Repair Kit for Quick Disconnect Vent Female containing #14535 Poppet Assembly, #11173 Seal and 11093 Seal Assembly.
11093	FQD10-81		Seal Kit for Quick Disconnect Vent Female
14535	FQD10-82		Poppet Assembly for Quick Disconnect Vent Female
11173	FQD10-81-A		Body Seal for Quick Disconnect Vent Male/Female
T-1948	FQD10-TOOL		Vent Thread Ring Tool for Quick Disconnect Vent Female

Ordering Information

Kit Number	Part Number	Kit Contents
SKM009404-80AJ	SKL9402,SKM9402, SKS9402,SKL9404,SKM9404 and SKS9404	(1) Gasket and (1) Seat Disc Assembly.
SKM009408-80AJ	SKL9406,SKM9406, SKS9406,SKL9408,SKM9408, SKS9408 and SKA9408	
SKM009412-80AJ	SKL9412, SKM9412, SKS9412 and SKA9412	
SKM009416-80AJ	SKL9416 and SKM9416	
SKM009408-80J	SKL9402, SKM9402,SKS9402, SKL9404, SKM9404, SKS9404, SKL9406,SKM9406,SKS9406 SKL9408,SKM9408, SKS9408 and SKA9408	(2) Spring, Belleville, (1) Washer, Live-loading, (5) Packing, Bonnet, (4) Packing,separator, (1) Bearing, Bonnet, (1)Follower, Gland, (1) Packing, Adapter.
SKM009412-80J	SKL9412, SKM9412, SKS9412 and SKA9412	
SKM009416-80J	SKL9416 and SKM9416	
SKS009404-KIT	SKS9402 and SKS9404	(1) Gasket, (1) Stem, (1) Bonnet & tube Assy, (2) Spring, Belleville,(1) Washer, Live-loading, (5) Packing, Bonnet, (4)Packing, Separator, (1) Bearing, Bonnet, (1) Follower, Gland, (1) Nut, Stem, (1) Ring, Retaining, (1) Packing, Adapter, (1) Nut, Bonnet, (4) Screw, (1) Handwheel, (1) Nut, Hex, and (1) Washer.
SKS009408-KIT	SKS9406 and SKS9408	
SKS009412-KIT	SKS9412	
SKM009404-KIT	SKM9402 and SKM9404	(1) Gasket, (1) Stem, (1) Bonnet & tube Assy, (2) Spring, Belleville,(1) Washer, Live-loading, (5) Packing, Bonnet, (4)Packing, Separator, (1) Bearing, Bonnet, (1) Follower, Gland, (1) Nut, Stem, (1) Ring, Retaining, (1) Packing, Adapter, (1) Nut, Bonnet, (4) Screw, (1) Handwheel, (1) Nut, Hex, and (1) Washer.
SKM009408-KIT	SKM9406 and SKM9408	
SKM009412-KIT	SKM9412	
SKM009416-KIT	SKM9416	
SKL009404-KIT	SKL9402 and SKL9404	(1) Gasket, (1) Stem, (1) Bonnet & tube Assy, (2) Spring, Belleville,(1) Washer, Live-loading, (5) Packing, Bonnet, (4)Packing, Separator, (1) Bearing, Bonnet, (1) Follower, Gland, (1) Nut, Stem, (1) Ring, Retaining, (1) Packing, Adapter, (1) Nut, Bonnet, (4) Screw, (1) Handwheel, (1) Nut, Hex, and (1) Washer.
SKL009408-KIT	SKL9406, SKL9408 and SKA9408	
SKL009412-KIT	SKL9412 and SKA9412	
SKL009416-KIT	SKL9416	

Repair Kits

Ordering Information

Kit Number	Part Number	Kit Contents
CFM-2D-82	SFM Fill Manifold Series	Piston Assy, Spring, Strainer, Gasket

Ordering Information

Kit Number	Part Number	Kit Contents
S-000210-8-81	GS-210W-4, GS-210W-6 and GS-210W-8	Upper Packing ½", ¾" & 1"
S-000210-8-82		Seat/Stem Assy ½", ¾" & 1"
S-000210-8-83		Bonnet Gasket ½", ¾" & 1"
S-000210-16-81	GS-210W-12 and GS-210W-16	Upper Packing 1½" & 2"
S-000210-16-82		Seat/Stem Assy 1½" & 2"
S-000210-16-83		Bonnet Gasket 1½" & 2"
S-000210-24-81	GS-210W-24	Upper Packing 3"
S-000210-24-82		Seat/Stem Assy 3"
S-000210-24-83		Bonnet Gasket 3"
S-000210-32-81	GS-210W-32	Upper Packing 4"
S-000210-32-82		Seat/Stem Assy 4"
S-000210-32-83		Bonnet Gasket 4"
S-210WHZ-8-81	GS-210WHZ-4, GS-210WHZ-6 and GS-210WHZ-8	Upper Packing ½", ¾" & 1"
S-210WHZ-8-82		Seat/Stem Assy ½", ¾" & 1"
S-210WHZ-8-83		Bonnet Gasket ½", ¾" & 1"
S-210WHZ08-853		Upper Assembly Repair Kit ½", ¾" & 1"
S-210WHZ-16-81	GS-210WHZ-12 and GS-210WHZ-16	Upper Packing 1½" & 2"
S-210WHZ-16-82		Seat/Stem Assy 1½" & 2"
S-210WHZ-16-83		Bonnet Gasket 1½" & 2"
S-210WHZ16-853		Upper Assembly Repair

Repair Kits

Ordering Information

Kit Number	Part Number	Kit Contents
S-000110-8-81	GS-110W-4, GS-110W-6 and GS-110W-8	Upper Packing ½", ¾" & 1"
S-000110-8-82		Seat/Stem Assy ½", ¾" & 1"
S-000110-8-83		Bonnet Gasket ½", ¾" & 1"
S-000110-8-84		Seat Replacement ½", ¾" & 1"
S-000110-16-81	GS-110W-12 and GS-110W-16	Upper Packing 1½" & 2"
S-000110-16-82		Seat/Stem Assy 1½" & 2"
S-000110-16-83		Bonnet Gasket 1½" & 2"
S-000110-16-84		Seat Replacement 1½" & 2"
S-000110-24-81	GS-110W-24	Upper Packing 3"
S-000110-24-82		Seat/Stem Assy 3"
S-000110-24-83		Bonnet Gasket 3"
S-000110-24-84		Seat Replacement 3"
S-000110-32-81	GS-110W-32	Upper Packing 4"
S-000110-32-82		Seat/Stem Assy 4"
S-000110-32-83		Bonnet Gasket 4"
S-000110-32-84		Seat Replacement 4"
S-000110-48-81	GS-110W-48	Upper Packing 6"
S-000110-48-82		Seat/Stem Assy 6"
S-000110-48-83		Bonnet Gasket 6"
S-000110-48-84		Seat Replacement 6"
S-110WHZ-8-81	GS-110WHZ-4, GS-110WHZ-6 and GS-110WHZ-8	Upper Packing ½", ¾" & 1"
S-110WHZ-8-82		Seat/Stem Assy ½", ¾" & 1"
S-110WHZ-8-83		Bonnet Gasket ½", ¾" & 1"
S-110WHZ-8-84		Seat Replacement ½", ¾" & 1"
S-110WHZ08-853		Upper Assembly Repair Kit ½", ¾" & 1"
S-110WHZ-16-81	GS-110WHZ-12 and GS-110WHZ-16	Upper Packing 1½" & 2"
S-110WHZ-16-82		Seat/Stem Assy 1½" & 2"
S-110WHZ-16-83		Bonnet Gasket 1½" & 2"
S-110WHZ-16-84		Seat Replacement 1½" & 2"
S-110WHZ16-853		Upper Assembly Repair Kit 1½" & 2"
S-110WHZ-24-81	GS-110WHZ-24	Upper Packing 3"
S-110WHZ-24-82		Seat/Stem Assy 3"
S-110WHZ-24-83		Bonnet Gasket 3"
S-110WHZ-24-84		Seat Replacement 3"
S-110WHZ24-853		Upper Assembly Repair Kit 3"
S-110WHZ-32-81	GS-110WHZ-32	Upper Packing 4"
S-110WHZ-32-82		Seat/Stem Assy 4"
S-110WHZ-32-83		Bonnet Gasket 4"
S-110WHZ-32-84		Seat Replacement 4"
S-110WHZ32-853		Upper Assembly Repair Kit 4"
S-110WHZ-48-81	GS-110WHZ-48	Upper Packing 6"
S-110WHZ-48-82		Seat/Stem Assy 6"
S-110WHZ-48-83		Bonnet Gasket 6"
S-110WHZ-48-84		Seat Replacement 6"
S-110WHZ48-853		Upper Assembly Repair Kit 6"

Ordering Information

Kit Number	Part Number	Kit Contents
PB504-80R	PB504 Series	Poppet (0-ring, Seat Reatiner, Seat Disc, Stem Seat, Back O-ring, Backcap Seal.
PB504-81R	PB504 Series	Diaphragm, gasket

Ordering Information

Kit Number	Part Number	Kit Contents
BR-1784-80	1784 Series	Diaphragm assembly, stem and seat assembly, seal, Viton seat
BR-1786-80	1786 Series and 1788 Series	Diaphragm assembly, stem and seat assembly, seal, viton seat for oxygen service
BR-1784-7SKA	1784 Series	Spring kit for 1784, “A” spring range, 5 to 55 psig delivery pressure 1784 “B” spring range, 40 to 110 psig delivery pressure Spring kit for 1784, “C” spring range, 100 to 200 psig delivery pressure, Spring kit for 1784, “D” spring range 175 to 300 psig delivery pressure
BR-1784-7SKB		
BR-1784-7SKC		
BR-1784-7SKD		
BR-1786-7SKA	1786 Series	Spring kit for 1786, “A” spring range, 5 to 55 psig delivery pressure 1786 “B” spring range, 40 to 110 psig delivery pressure Spring kit for 1786, “C” spring range, 100 to 200 psig delivery pressure, Spring kit for 1786, “D” spring range 175 to 300 psig delivery pressure
BR-1786-7SKB		
BR-1786-7SKC		
BR-1786-7SKD		
BR-1788-7SKA	1788 Series	Spring kit for 1788, “A” spring range, 5 to 55 psig delivery pressure 1788 “B” spring range, 40 to 110 psig delivery pressure Spring kit for 1788, “C” spring range, 100 to 200 psig delivery pressure, Spring kit for 1788, “D” spring range 175 to 300 psig delivery pressure
BR-1788-7SKB		
BR-1788-7SKC		
BR-1788-7SKD		

Ordering Information

Kit Number	Part Number	Kit Contents
S-000886-4-82	S-886-4	Seat Assembly ½”
S-000886-4-83	S-886-4	Bonnet Gasket ½”
S-000886-8-82	S-886-8	Seat Assembly 1”
S-000886-12-82	S-886-12	Seat Assembly 1½”
S-000886-16-82	S-886-16	Seat Assembly 2”
S-000886-24-82	S-886-24	Seat Assembly 3”
S-000886-32-82	S-886-32	Seat Assembly 4”
S-0886GF-4-82	S-886GF-4	Seat Assembly ½”
S-0886GF-4-83	S-886GF-4	Bonnet Gasket ½”
S-0886GF-8-82	S-886GF-8	Seat Assembly 1”
S-0886GF-8-83	S-886GF-8	Bonnet Gasket 1”
S-0886GF-12-82	S-886GF-12	Seat Assembly 1½”
S-0886GF-12-83	S-886GF-12	Bonnet Gasket 1½”
S-0886M-4-82	S-886M-4	Seat Assembly ½”
S-0886M-8-82	S-886M-8	Seat Assembly 1”
S-0886M-8-83	S-886M-8	Bonnet Gasket 1”
S-0886M-12-82	S-886M-12	Seat Assembly 1½”
S-0886M-12-83	S-886M-12	Bonnet Gasket 1½”
S-0886M-16-82	S-886M-16	Seat Assembly 2”
S-0886M-16-83	S-886M-16	Bonnet Gasket 2”
S-0886M-24-82	S-886M-24	Seat Assembly 3”
S-0886M-24-83	S-886M-24	Bonnet Gasket 3”
S-0886M-32-82	S-886M-32	Seat Assembly 4”
S-0886M-32-83	S-886M-32	Bonnet Gasket 4”


REGO®
Flow Controls

Stainless Steel Flow Controls
TMF Series with Color Bands

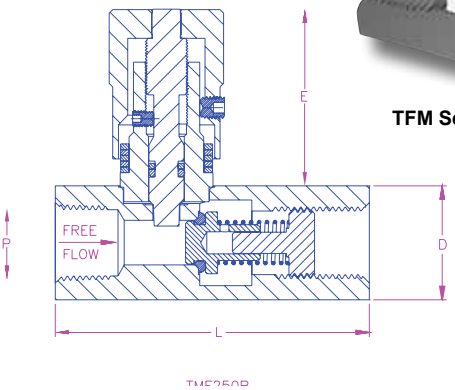
Application

Designed for extremely precise control of hydraulic and pneumatic actuators. Provides metered flow in one direction and free-flow in the reverse direction. Specifically designed for use in food processing industries and other highly corrosive environments.

Features

- Easy-to-read color bands and micrometer knob for exact flow settings.
- Re-set repeatability within 1%.
- Precision-machined Double-Step stem with fine threading provides accurate control, even at extremely low flows.
- Rugged, all-metal construction — no plastic parts.
- Bleed holes in piston provide a cushion to soften closing impact and extend valve life.
- Brazed construction to withstand high pressure.
- 303 stainless steel body construction for maximum corrosion protection.

TFM Series



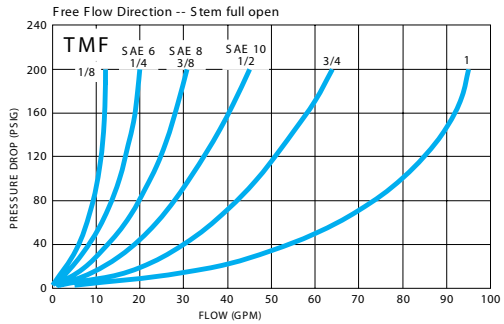
Specifications

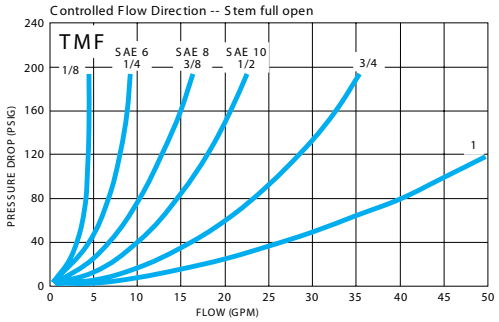
Maximum Operating Pressure ..... 5000 PSIG
Temperature Range ..... -20ºF to +400ºF
Cracking Pressure (Check Valve) ..... 2 PSIG
Stem Taper ..... 2º x 45º DOUBLE-STEP
Stem Pitch ..... 40 Threads/Inch
CV Factor ..... See Ordering Information

Materials

Body ..... 303 Stainless Steel
Piston ..... Stainless Steel
Piston Seal ..... Metal to Metal
Spring ..... Stainless Steel
Stem ..... Stainless Steel
Knob ..... Nickel-Chrome Plated Brass
Color Bands ..... Anodized Aluminum
Piston Retainer ..... Stainless Steel
Set Screw ..... Stainless Steel
Stem Packing ..... Viton O-ring with “Teflon” Backup

Performance





Ordering Information

Part Number	Body Material	Piston Seal	P Female	D (In.) Square	L (In.)	E (In.) Max.	Orifice Diameter (In.)	CV (Free-Flow Direction)	CV (Controlled Flow Direction)
TMF250SS	Stainless Steel	Metal	¼” NPT	13/16”	2⅝”	1⅜”	5/32”	1.47	.47
TMF375SS			⅜” NPT	1”	2¾”	1 23/32”	7/32”	2.95	.72
TMF500SS			½” NPT	1⅛”	3 7/16”	2¼”	5/16”	4.50	1.07
TMF750SS			¾” NPT	1½”	3⅞”	⅝”	⅜”	5.41	1.71
TMF1000SS			1” NPT	2”	5”	3⅞”	7/32”	5.90	2.45
TMF620SS			9/16”-18 SAE 6	13/16”	3⅛”	1⅜”	5/32”	1.47	.47
TMF820SS			¾”- 16 SAE 8	1”	3½”	1 23/32”	7/32”	2.95	.72
TMF1020SS			7/14” - 14 SAE 10	1⅛”	4”	2¼”	5/16”	4.50	1.07

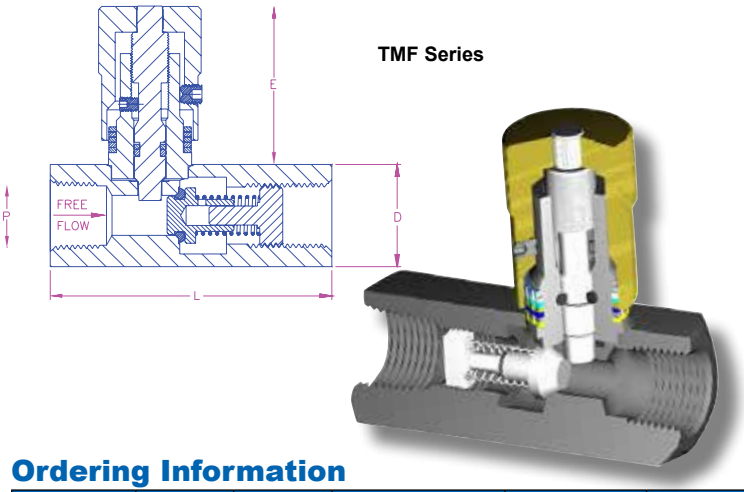
Flow Controls
TRU Micro TMF Series with Color Bands

Application

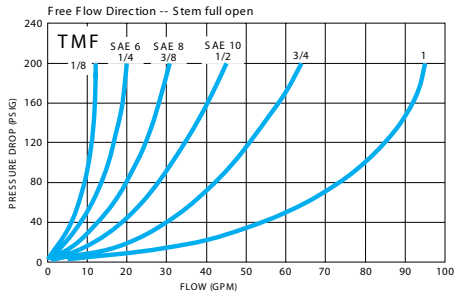
Designed for extremely precise control of hydraulic and pneumatic actuators. Provides metered flow in one direction and free-flow in the reverse direction.

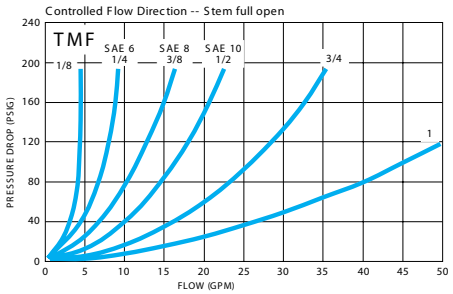
Features

- Easy-to-read color bands and micrometer knob for exact flow settings.
- Re-set repeatability within 1%.
- Precision-machined Double-Step stem with fine threading provides accurate control, even at extremely low flows.
- Rugged, all-metal construction — no plastic parts.
- Bleed holes in piston provide a cushion to soften closing impact and extend valve life.
- Brazed construction to withstand high pressure.
- Soft-seat piston check, available on ¼" and ⅛" brass sizes, assures leak-free air service. All others have metal to metal seat.
- Steel valves are zinc-plated AND sealed with colorless chromate for double corrosion protection. Also available with stainless steel body



TMF Series





Specifications

Maximum Operating Pressure Steel..... 5000 PSIG
Maximum Operating Pressure Brass..... 2000 PSIG
Temperature Range.....-20ºF to +400ºF
Cracking Pressure (Check Valve)..... 2 PSIG
Stem Taper ..... 2º x 45º DOUBLE-STEP
Stem Pitch ..... 40 Threads/Inch
CV Factor ..... See Ordering Information

Materials

Body ..... 12L14 Steel or ASTM B 16 Brass
Piston..... Stainless Steel
Piston Seal ...Viton on ¼" and ⅜" Brass Models with soft seat option
(Metal to Metal seal on all others)
Spring ..... Stainless Steel
Stem ..... Stainless Steel
Knob ..... Brass
Color Bands..... Anodized Aluminum
Piston Retainer ..... Stainless Steel
Set Screw ..... Steel (Black Oxide)
Stem Packing ..... Viton O-ring with "Teflon" Backup

Ordering Information

Part Number	Body Material	Piston Seal	P Female	D (In.) Square	L (In.)	E (In.) Max.	Orifice Diameter (In.)	CV (Free-Flow Direction)	CV (Controlled Flow Direction)
TMF250B	Brass	Metal	⅛ NPT	13/16"	2⅝"	1⅜"	5/32"	1.47	.47
			¼ NPT						
TMF250BL		Viton							
TMF375B		Metal	⅜ NPT	1"	2¾"	1 23/32"	7/32"	2.95	.72
TMF375BL		Viton							
TMF500B		Metal	½ NPT	1⅛"	3 7/16"	2¼"	5/16"	4.50	1.07
TMF750B			¾ NPT	1½"	3⅞"	2 15/32"	⅜"	5.41	1.71
TMF250S	Steel	Metal	¼ NPT	13/16"	2⅝"	1⅜"	5/32"	1.47	.47
TMF375S			⅜ NPT	1"	2¾"	1 23/32"	7/32"	2.95	.72
TMF500S			½ NPT	1⅛"	3 7/16"	2¼"	5/16"	4.50	1.07
TMF620S			9/16 - 18 SAE 6	13/16"	3⅞"	1⅜"	5/32"	1.47	.47
TMF750S			¾ NPT	1½"	3⅞"	2 15/32"	⅜"	5.41	1.71
TMF820S			¾ - 18 SAE 6	1"	3½"	1 23/32"	7/32"	2.95	.72
TMF1000S			1 NPT	2"	5"	3⅞"	⅝"	5.90	2.45
TMF1020S			⅞ - 14 SAE 10	1⅛"	4"	2¼"	5/16"	4.50	1.07

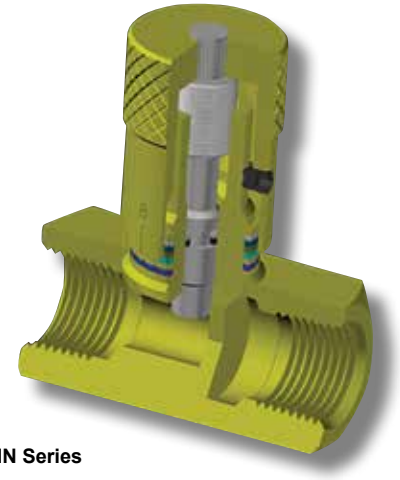
Needle Valves
TRU Micro TMN Series with Color Bands

Application

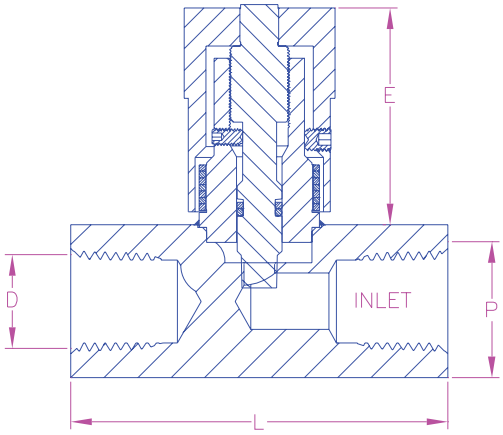
Designed for extremely precise control of air and hydraulic fluids. Metered flow in both directions.

Features

- Easy-to-read color bands and micrometer knob provide exact flow settings.
- Re-Set Repeatability within 1%.
- Precision machined DOUBLE-STEP stem with fine threading provides accurate control, even at extremely low flows.
- Rugged, all-metal construction – no plastic parts.
- Brazed construction to withstand high pressure.
- Steel valves are zinc-plated AND sealed with colorless chromate for double corrosion protection.



TMN Series



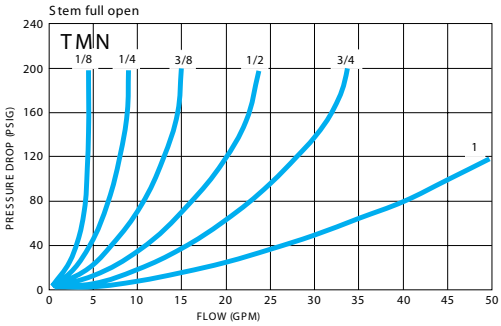
Specifications

Maximum Operating Pressure (Steel) ..... 5000 PSIG
Maximum Operating Pressure (Brass) ..... 2000 PSIG
Temperature Range..... -20ºF to +400ºF
Stem Taper ..... 2º x 45º DOUBLE-STEP
Stem Pitch ..... 40 Threads/Inch
CV Factor ..... See Ordering Information

Materials

Body ..... 12L14 Steel or ASTM B 16 Brass
Stem ..... Stainless Steel
Knob ..... Brass
Color Bands..... Anodized Aluminum
Set Screw ..... Steel
Stem Packing ..... Viton O-ring with "Teflon" Backup

Performance



Ordering Information

Part Number	Body Material	P (NPT) Female	D (In.) Square	L (In.)	E (In.) Max.	Orifice Diameter (In.)	CV
TMN125B	Brass	⅛"	⅝"	1½"	1 7/32"	⅛"	.25
TMN250B		¼"	13/16"	2"	1⅜"	5/32"	.47
TMN375B		⅜"	1"	2½"	1 23/32"	7/32"	.72
TMN500B		½"	1⅛"	2⅝"	2½"	5/16"	1.07
TMN250S	Steel	¼"	13/16"	2"	1⅜"	5/32"	.47
TMN375S		⅜"	1"	2½"	1 23/32"	7/32"	.72
TMN500S		½"	1⅛"	2⅝"	2¼"	5/16"	1.07
TMN750S		¾"	1½"	3¼"	2 15/32"	⅜"	1.71
TMN1000S		1"	2"	4¼"	3⅞"	⅝"	2.45

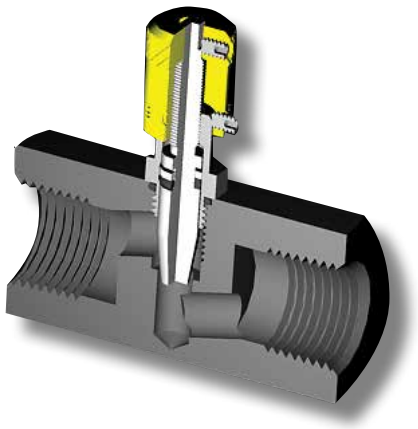
Needle Valves
MN Series

Application

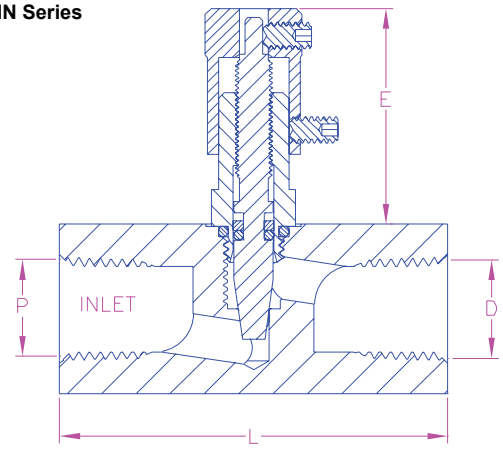
The best value for precise control of air and hydraulic fluids where a calibrated knob is required.

Features

- Precision-machined long tapered stem with fine threading provides exact control.
- Calibrated knob provides setting reference and does not drift from setting.
- Durability provided by rugged, all metal construction with no plastic parts.
- Steel valves are zinc-plated and sealed with “golden” chromate for double corrosion protection.



MN Series



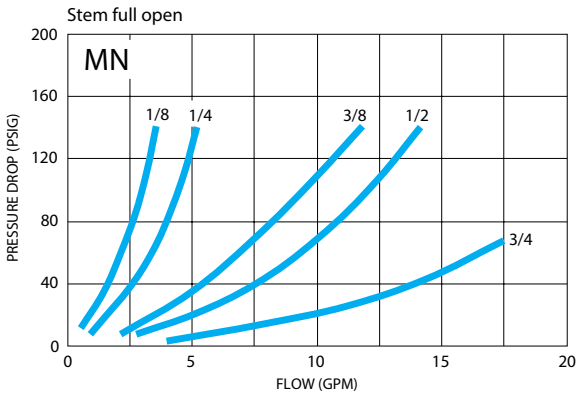
Specifications

Maximum Operating Pressure. 5000 PSIG Steel 2000 PSIG Brass
Temperature Range ..... -20ºF to +212ºF
Stem Taper 8º
Stem Pitch ..... 40 Threads/Inch
Cv Factor ..... See Ordering Information

Materials

Body ..... 12L14 Steel or ASTM B 16 Brass
Stem ..... Stainless Steel or Brass
Knob ..... Brass
Chamber ..... Steel
Set Screw ..... Steel
Stem Packing ..... Viton with “Teflon” Backup

Per formance



Ordering Information

Part Number	Body Material	P (NPT) Female	D (In.) Hex	L (In.)	E (In.) Max.	Orifice Diameter (In.)	CV
MN125B	Brass	1/8”	1 1/16”	1 1/2”	1 1/4”	.156	.25
MN250B		1/4”	7/8”	2”			.39
MN375B		3/8”	1 1/16”	2 1/4”	1 3/8”	.265	.93
MN500B		1/2”	1 5/16”	2 21/32”		.281	1.12
MN250S	Steel	1/4”	7/8”	2”	1 1/4”	.156	.39
MN375S		3/8”	1 1/16”	2 1/4”	1 3/8”	.265	.93
MN500S		1/2”	1 5/16”	2 21/32”		.281	1.12
MN750S		3/4”	1 5/8”	3”	1 1/4”	.343	2.00
MN1000S		1”	1 7/8”	3”	2 1/8”	.343	2.00

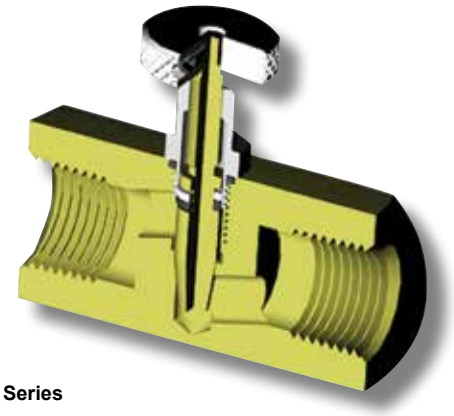
Needle Valves
KLN Series

Application

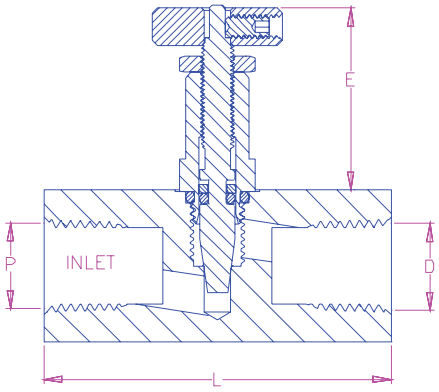
Designed for the precise control of air and hydraulic fluids.

Features

- Precision-machined long tapered stem with fine threading provides exact control.
- Lock nut provided to secure flow settings.
- Durability provided by rugged, all metal construction with no plastic parts.
- Steel valves are zinc plated and sealed with “golden” chromate for double corrosion protection.



KLN Series



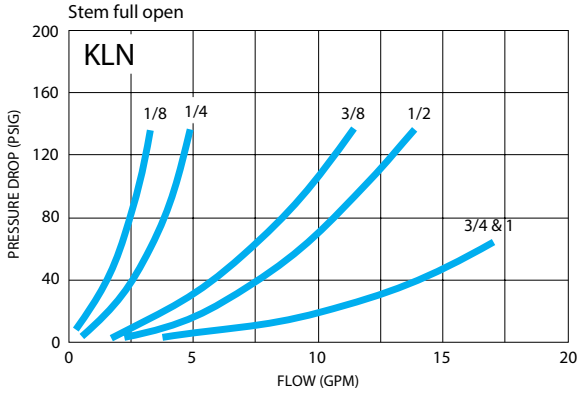
Specifications

Maximum Operating Pressure... 5000 PSIG Steel, 2000 PSIG Brass
Temperature Range.....-20ºF to +212ºF
Stem Taper 8º
Stem Pitch ..... 40 Threads/Inch (⅛”, ¼”, ⅜”, ½” Sizes)
..... 24 Threads/Inch (¾”, 1” Sizes)
CV Factor .....See Ordering Information

Materials

Body ..... 12L14 Steel, ASTM B 16 Brass, or 303 Stainless Steel
Stem .....Stainless Steel or Brass
Knob ..... Aluminum (⅛”, ¼”, ⅜”, ½” Sizes), Brass (¾”, 1” Sizes)
Chamber..... Steel (zinc plated)
Lock Nut .....Brass
Stem Packing ..... Viton O-ring with “Teflon” Backup

Per formance



Ordering Information

Part Number	Body Material	P (NPT) Female	D (In.) Hex	L (In.)	E (In.) Max.	Orifice Diameter (In.)	CV
KLN125B	Brass	⅛”	11/16”	1½”	1¼”	.156	.25
KLN250B		¼”	⅞”	2”			.39
KLN375B		⅜”	1/16”	2¼”	1⅜”	.256	.93
KLN500B		½”	15/16”	221/32”		.281	1.12
KLN750B		¾”	1⅝”	3”	1⅞”	.343	2.00
KLN1000B		1”	1⅞”				
KLN125S	Steel	⅛”	11/16”	1½”	1¼”	.156	.25
KLN250S		¼”	⅞”	2”			.39
KLN375S		⅜”	1/16”	2¼”	13/5”	.256	.93
KLN500S		½”	15/16”	221/32”		.281	1.12
KLN750S		¾”	1⅝”	3”	1⅞”	.343	2.00

Needle Valves
N Series

Application

Economically designed for effective control of air and hydraulic fluids where frequent adjustment is not required.

Features

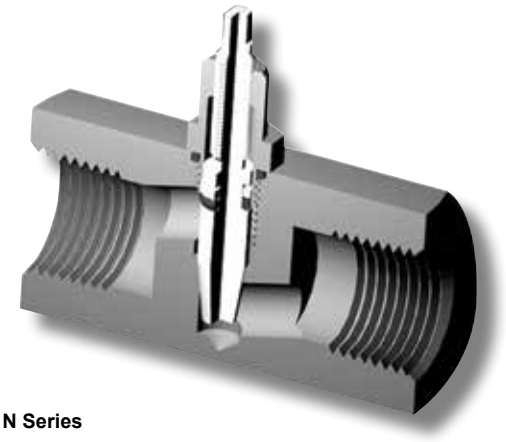
- Wrench flats provided to adjust setting, while resisting unwanted tampering.
- Steel valves are zinc plated and sealed with “golden” chromate for double corrosion protection.
- Durable, rugged, all metal construction — no plastic parts.

Specifications

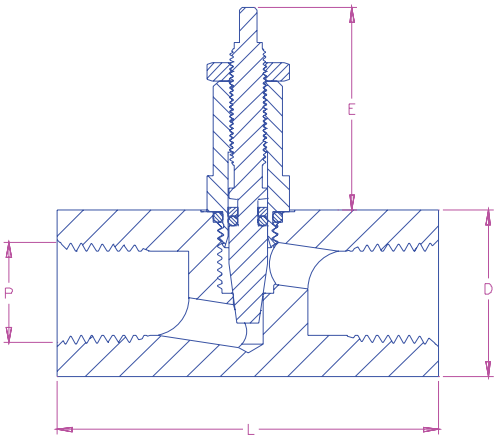
Maximum Operating Pressure..... 5000 PSIG Steel
Maximum Operating Pressure..... 2000 PSIG Brass
Temperature Range..... -20ºF to +212ºF
CV Factor ..... See Ordering Information
Stem Taper 8º
Stem Pitch ..... 40 Threads/Inch

Materials

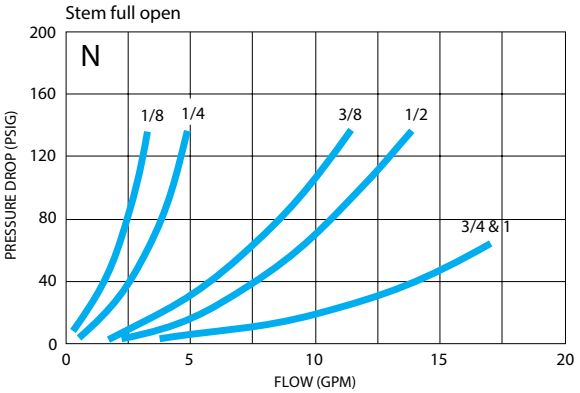
Body ..... 12L14 Steel or ASTM B 16 Brass
Stem ..... Stainless Steel or Brass
Chamber..... Steel (Zinc Plated)
Lock Nut ..... Brass
Stem Packing ..... Viton O-Ring



N Series



Per formance



Ordering Information

Part Number	Body Material	P (NPT) Female	D (In.) Hex	L (In.)	E (In.) Max.	Orifice Diameter (In.)	CV
N125B	Brass	⅛”	11/16”	1½”	1¼”	.156	.25
N250B		¼”	⅞”	2”			.39
N375B		⅜”	1 11/16”	2¼”	1⅜”	.265	.93
N500B		½”	1 5/16”	2 21/32”		.281	1.12
N250S	Steel	¼”	⅞”	2”	1¼”	.156	.39
N375S		⅜”	1 1/16”	2¼”	1⅜”	.265	.93
N500S		½”	1 5/16”	2 21/32”		.281	1.12

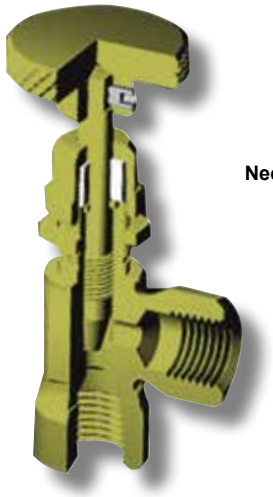
Needle Valves
Mini-Line Series

Application

Ideal for test bench and control panel applications. Designed for use with air, oil, water, vacuum service, and most chemicals.

Features

- Compact design provides easy installation.
- Fine stem threading and long taper allow precise metering and leak-free shut-off.
- Internal stop prevents the stem from being accidentally unscrewed from the body.
- Rugged forged brass bodies withstand higher pressures.
- Available in globe and angle configurations.
- Valves come equipped for panel mounting.
- Some models available with stainless steel stem (ss suffix denotion).



Needle Valve

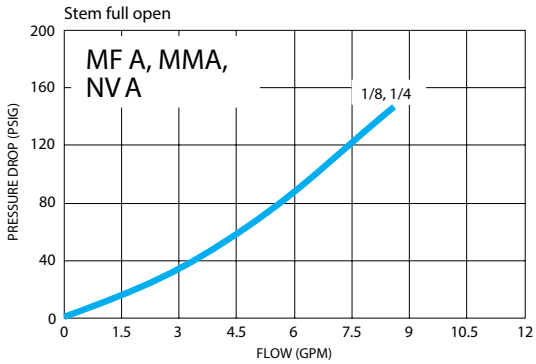
Specifications

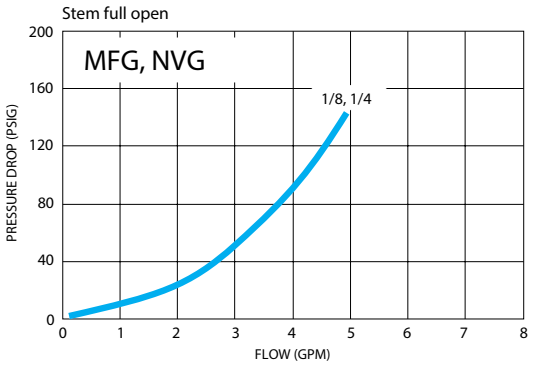
Maximum Operating Pressure ..... 5000 PSIG Hydraulic
Maximum Operating Pressure ..... 2000 PSIG Air
Minimum Burst Pressure ..... 8000 PSIG
Temperature Range ..... -40ºF to +500ºF
Orifice Diameter ..... .182"
Stem Taper 15º
Stem Pitch ..... 28 Threads/Inch
CV Factor ..... See Ordering Information

Materials

Body ..... ASTM B283 Brass
Stem ..... Brass
Knob ..... Brass
Bonnet Nut ..... Brass
Panel Mount Nut ..... Brass
Set Screw ..... Steel
Stem Packing ..... Teflon with Brass Gland

Per formance



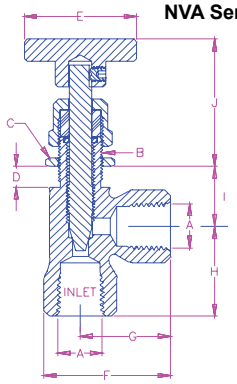


Ordering Information

NVA Series

Part Number	A (NPT)	B (UNS-2B) Thd. Size	C (In.) Hex Size	D (In.) Max.	E (In.)	F (In.)	G (In.)	H (In.)	I (In.)	J (In.) Open	J (In.) Closed	CV
NVA125B	1/8"	1/2" - 27"	11/16"	3/32"	1 1/4"	1 5/32"	3/4"	3/4"	7/16"	1 31/32"	1 11/16"	.7
NVA250B	1/4"			7/32"		1 13/32"	1"	1"		2 5/32"	1 19/32"	

NVA Series



Needle Valves
Mini-Line Series

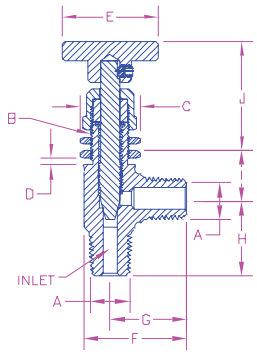
Ordering Information

MMA Series

Part Number	A (NPT)	B (UNS-2B) Thd. Size	C (In.) Hex Size	D (In.) Max.	E (In.)	F (In.)	G (In.)	H (In.)	I (In.)	J (In.) Open	J (In.) Closed	CV
MMA250B	¼"	½" - 27"	11/16"	7/32"	1¼"	1 11/32"	1"	1"	7/16"	2 5/32"	1 19/32"	.7
HHA250B	¼"											

* ¼" Hose Barbs

MMA Series

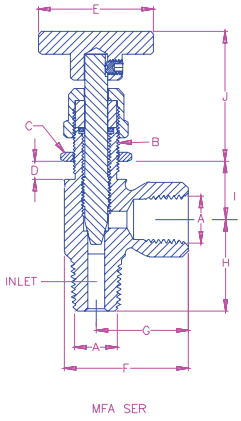


Ordering Information

MFA Series

Part Number	A (NPT)	B (UNS-2B) Thd. Size	C (In.) Hex Size	D (In.) Max.	E (In.)	F (In.)	G (In.)	H (In.)	I (In.)	J (In.) Open	J (In.) Closed	CV
MFA125B	⅛"	½" - 27	11/16"	7/32"	1¼"	1 7/32"	⅞"	⅞"	7/16"	2 5/32"	1 19/32"	.7
MFA250B	¼"					1 11/32"	1"	1"				
MFA250BSS												

MFA Series



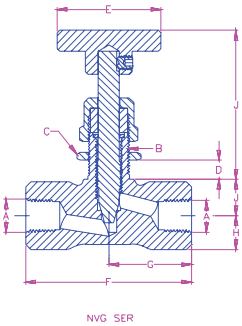
MFA SER

Ordering Information

NVG

Part Number	A (NPT)	B (UNS-2B) Thd. Size	C (In.) Hex Size	D (In.) Max.	E (In.)	F (In.)	G (In.)	H (In.)	I (In.)	J (In.) Open	J (In.) Closed	CV
NVG125B	⅛"	½" - 27	11/16"	7/32"	1¼"	1 7/8"	15/16"	13/32"	7/16"	2 5/32"	1 25/32"	.5
NVG250B	¼"					2"	1"					
NVG250BSS												

NVG Series



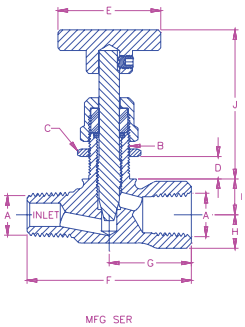
NVG SER

Ordering Information

MFG

Part Number	A (NPT)	B (UNS-2B) Thd. Size	C (In.) Hex Size	D (In.) Max.	E (In.)	F (In.)	G (In.)	H (In.)	I (In.)	J (In.) Open	J (In.) Closed	CV
MFG125BF	⅛"	½" - 27	11/16"	7/32"	1¼"	1 7/8"	15/16"	13/32"	7/16"	2 5/32"	1 25/32"	.5
MFG250BF	¼"					2"	1"					

MFG Series



MFG SER

Needle Valves
2000 Series

Application

Ideal for applications which require fine metering and shut-off. Designed for use with air, oil, water, steam, liquid fuels and most chemicals.

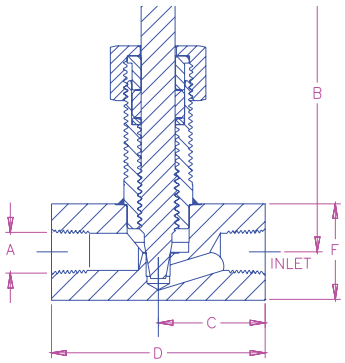
Features

- Heavy duty brazed construction for added strength and safety up to 10,000 psi.
- Precision-machined stems and valve bodies provide perfect seat alignment for leak-free shut-off.
- Carbon steel valves are zinc plated and sealed with colorless chromate for double corrosion protection.
- Available in globe and angle configuration; in-line or panel mounted.
- Machined from carbon steel, or 303 stainless steel.

Ordering Information

Part Number	Body Material	A (NPT) Female	B (In.) Max.	C (In.)	D (In.)	E (In.)	F (In.) Square	G (In.)	H (In.) Diam.	Orifice Diam. (In.)	CV
FFG2001T	Carbon Steel	1/8	3 1/2"	31/32"	1 15/16"	2 1/2"	7/8"	3/8"	5/8"	7/22"	.66
FFG2002T		1/4		1 31/32"	2 1/16"						
FFG2003T		3/8	3 5/8"	1 7/16"	2 3/4"		1 1/8"		3/4"		.70
FFG2004T		1/2									
FFG2006TA		3/4	5 3/16"	1 13/16"	3 5/8"	4 1/4"	1 1/2"	7/8"	1 1/2"	9/16"	3.90
FFG2008TA		1	5 5/16"	2 1/32"	4 1/16"		2"				5.22
FFG2002SST	303 Stainless Steel	1/4	3 1/2"	1 1/32"	2 1/16"	2 1/2"	7/8"	3/4"	5/8"	7/32"	.66
FFG2003SST		3/8	3 5/8"	1 7/16"	2 3/4"		1 1/8"		3/4"		.70
FFG2004SST		1/2									

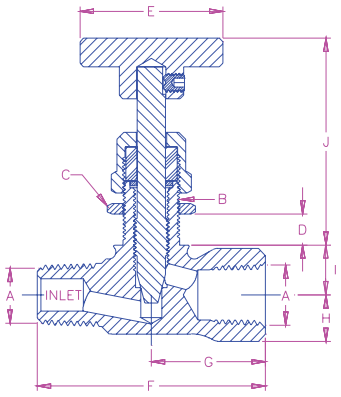
FFG Series



Ordering Information

Part Number	Body Material	A (NPT) Female	B (In.) Max.	C (In.)	D (In.)	E (In.)	F (In.) Square	G (In.)	H (In.) Diam.	Orifice Diam. (In.)	CV
MFG2002T	Carbon Steel	1/4	3 1/2"	1 1/32"	2 11/32"	2 1/2"	7/8"	3/8"	5/8"	.218	.92
MFG2003T		3/8	3 5/8"	1 3/8"	2 3/4"		1 1/8"		3/4"		1.10
MFG2004T		1/2			2 5/8"						

MFG Series



Specifications

Maximum Operating Pressure ..... 10,000 PSIG Hydraulic
Maximum Operating Pressure ..... 2000 PSIG Air
Minimum Burst Pressure ..... 20,000 PSIG
Temperature Range ..... -40ºF to +500ºF
Stem Taper ..... 10½º (⅛, ¼, ⅜, ½" Sizes)
Stem Taper ..... 15º (¾, 1" Sizes)
Stem Pitch ..... 16 Threads/Inch (1⁄8, 1⁄4, 3⁄8, 1⁄2" Sizes)
Stem Pitch ..... 14 Threads/Inch (3⁄4, 1" Sizes)
CV Factor ..... See Ordering Information

Materials

	T and TA Models	SST and STA Models
Body	12L14 Carbon Steel	303 Stainless
Stem	303 Stainless	303 Stainless
Bonnet Nut	Carbon Steel	303 Stainless
Handle	Aluminum	Aluminum
Stem Packing	Teflon	Teflon

Panel Mounting Kits:

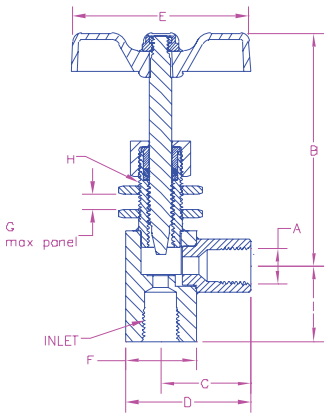
⅛ to ¼ KIT2002S
⅜ to ½ KIT2004S
¾ to 1 ..... KIT2005S

Needle Valves
2000 Series

Ordering Information

Part Number	Body Material	A (NPT) Female	B (In.) Max.	C (In.)	D (In.)	E (In.)	F (In.) sq.	G (In.)	H (In.) Diam.	I (In.)	Orifice Diam. (In.)	CV
FFA2001T	Carbon Steel	1/8	3 1/2"	1"	1 1/2"	2 1/2"	1"	3/8"	5/8"	1 1/16"	7/32"	.92
FFA2002T		1/4		1 9/32"	2 25/32"							
FFA2003T		3/8	3 5/8"	1 17/32"	2 5/32"		1 1/4"		3/4"	1 19/32"		1.10
FFA2004T		1/2										
FFA2006TA	303 Stainless Steel	3/4	5 3/16"	1 27/32"	2 23/32"	4 1/4"	1 3/4"	7/8"	1 1/2"	1 15/16"	9/16"	4.43
FFA2002SST		1/4	3 1/2"	2 9/32"	1 25/32"	2 1/2"	1"	3/8"	5/8"	1 1/16"	7/32"	.92

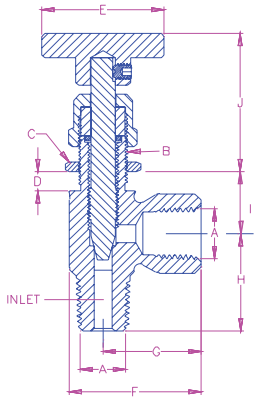
FFA Series

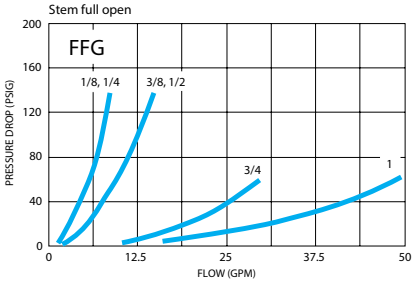


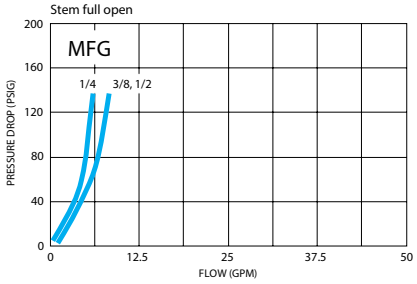
Ordering Information

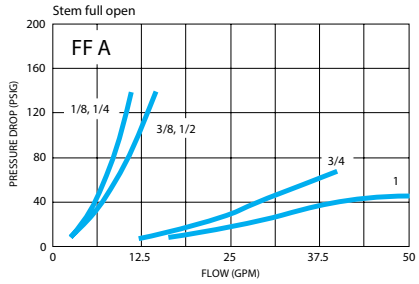
Part Number	Body Material	A (NPT) Female	B (In.) Max.	C (In.)	D (In.)	E (In.)	F (In.) Square	G (In.)	H (In.) Diam.	I (In.)	Orifice Diam. (In.)	CV
MFA2002T	Carbon Steel	1/4	3 1/2"	1 9/32"	1 25/32"	2 1/2"	1"	3/8"	5/8"	1 1/16"	7/32"	.92
MFA2003T		3/8	3 5/8"	1 17/32"	2 5/8"		1 1/4"		3/4"	1 3/4"		1.10
MFA2004T		1/2										

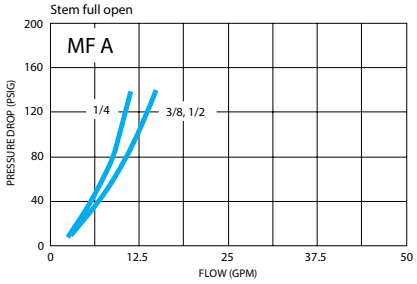
MFA Series







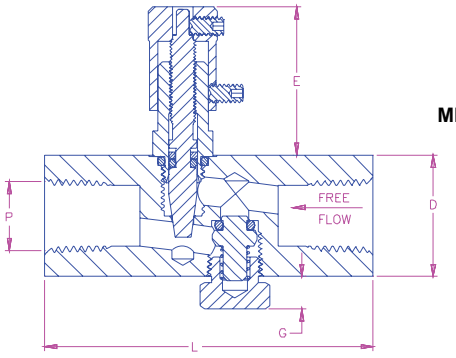




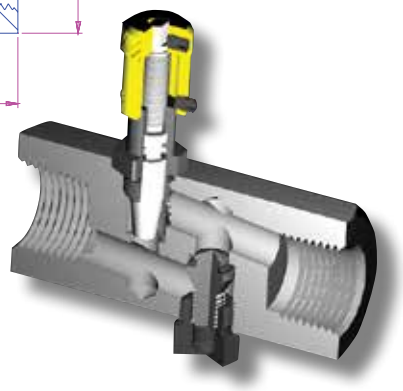
Flow Controls
MF Series

Application

The best valve for precise control of hydraulic and pneumatic actuators where a calibrated knob is required. Provides metered flow in one direction and free-flow in the reverse direction.



MF Series



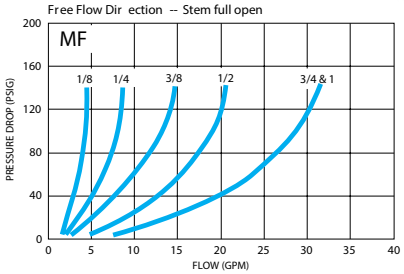
Features

- Precision-machined long tapered stem with fine threading provides exact control.
- Calibrated knob provides setting reference.
- Soft-seat piston check for leak-free service.
- No “draft” setting.
- Optional ball check for high cycle applications.
- Rugged, all-metal construction — no plastic parts.
- Steel valves are zinc-plated and sealed with “golden” chromate for double corrosion protection.

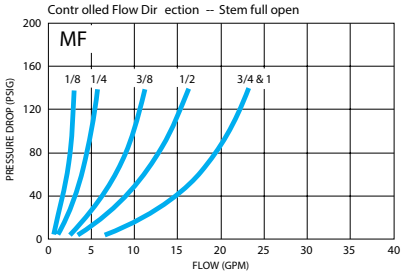
Specifications

Max Operating Pressure Ball Check Models..... 5000 PSIG Steel
Max Operating Pressure Ball Check Models..... 2000 PSIG Brass
Max Operating Pressure Piston Check Models..... 2000 PSIG Brass
Temperature ..... -20ºF to +212ºF
Stem Taper 8º
Stem Pitch ..... 40 Threads/Inch (⅛, ¼, ⅜, ½” Sizes)
Stem Pitch ..... 24 Threads/Inch (¾”, 1” Size)
CV Factor ..... See Ordering Information

Free Flow Dir ection -- Stem full open



Contr olled Flow Dir ection -- Stem full open



Materials

Body ..... 12L14 Steel or ASTM B 16 Brass
Piston Assembly ..... Stainless Steel with Viton O-ring
Spring ..... Stainless Steel
Stem ..... Stainless Steel or Brass
Knob ..... Brass
Check Plug ..... Steel or Brass
Chamber ..... Steel
Set Screw ..... Steel
Stem Packing ..... Viton O-ring with “Teflon” Backup

Ordering Information

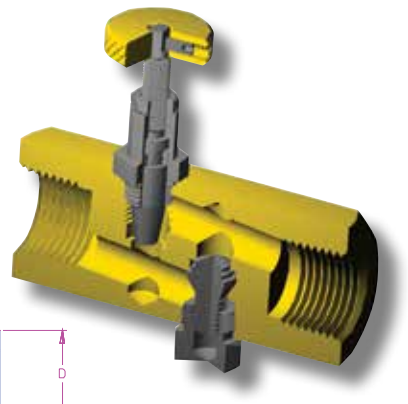
Part Number	Body Material	Check Style	P (NPT) Female	D (In.) Hex	G (In.)	L (In.)	E (In.) Max.	Orifice Diameter (In.)	CV Free-Flow Direction)	CV (Controlled Flow Direction)	Cracking Pressure (PSIG
MF125B	Brass	Piston	⅛”	11/16”	9/32”	1¾”	1¼”	.156”	.32	.23	10
MF250B			¼”	⅞”	5/16”	2⅜”			.70	.44	7
MF375B			⅜”	1 1/16”	11/32”	2¾”	1⅜”	.256”	1.14	.90	8
MF500B			½”	1 5/16”	⅜”	3 3/16”		.281”	1.74	1.32	5
MF750B			¾”	1⅝”	15/32”	3 9/16”	1⅞”	.343”	2.91	2.02	2
MF125BBC		Ball	⅛”	11/16”	9/32”	1¾”	1¼”	.156”	.32	.23	11
MF250BBC			¼”	⅞”	5/16”	2⅜”			.70	.44	7
MF375BBC			⅜”	1 1/16”	11/32”	2¾”	1⅜”	.256”	1.14	.90	3
MF500BBC			½”	1 5/16”	⅜”	3 3/16”		.281”	1.74	1.32	1
MF250SBC	Steel	Brass	¼”	⅞”	5/16”	2⅜”	1¼”	.156”	.70	.44	7
MF375SBC			⅜”	1 1/16”	11/32”	2¾”	1⅜”	.265”	1.14	.90	3
MF500SBC			½”	1 5/16”	⅜”	3 3/16”		.281”	1.74	1.32	1
MF750SBC			¾”	1⅝”	15/32”	3 9/16”	1⅞”	.343	2.91	2.02	3
MF1000SBC			1”	⅞”							

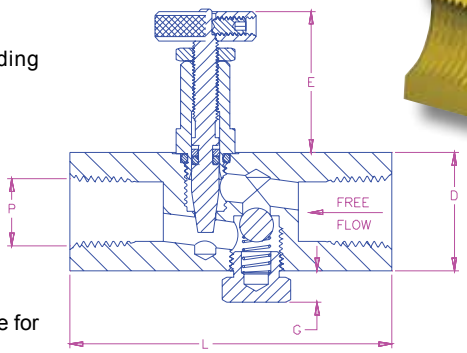
Flow Controls
KLF Series

Application

Designed for the precise control of hydraulic and pneumatic actuators. Provides metered flow in one direction and free-flow in the reverse direction.

KLF Series





Features

- Precision-machined long tapered stem with fine threading provides exact control.
- Lock nut included to secure flow setting.
- Soft-seat piston check for leak-free service.
- Ball check option available for high cycle applications.
- Rugged, all-metal construction — no plastic parts.
- Steel valves are zinc-plated and sealed with “golden” chromate for double corrosion protection.

Specifications

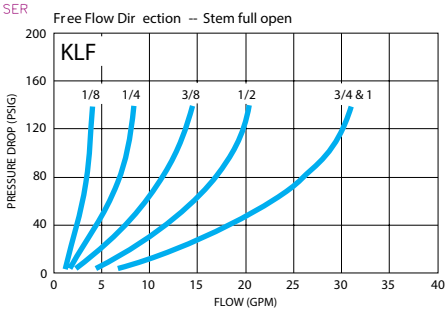
Max Operating Pressure Ball Check Models..... 5000 PSIG Steel
Max Operating Pressure Ball Check Models..... 2000 PSIG Brass
Max Operating Pressure Piston Check Models..... 2000 PSIG Brass
Temperature Range..... -20ºF to +212ºF
CV Factor .....See Ordering Information
Stem Taper 8º
Stem Pitch ..... 40 Threads/Inch (⅛, ¼, ⅜, ½” Sizes)
Stem Pitch ..... 24 Threads/Inch (¾”, 1” Size)

Materials

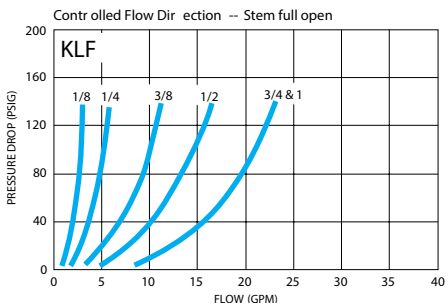
Body ..... 12L14 Steel, ASTM B 16 Brass, or 303 Stainless Steel
Piston Assembly ..... Stainless Steel with Viton O-ring
Ball.....Stainless Steel
Spring ..... Stainless Steel
Stem .....Stainless Steel or Brass
Knob ..... Aluminum (⅛, ¼, ⅜, ½” Sizes) Brass (¾, 1” Sizes)
Check Plug ..... Steel or Brass
Chamber..... Steel
Set Screw ..... Steel (Black Oxide)
Stem Packing ..... Viton O-ring with “Teflon” Backup
Lock Nut ..... Brass

KLF SER

Free Flow Dir ection -- Stem full open



Contr olled Flow Dir ection -- Stem full open



Ordering Information

Part Number	Body Material	Check Style	P (NPT) Female	D (In.) Hex	G (In.)	L (In.)	E (In.) Max.	Orifice Diameter (In.)	CV Free-Flow Direction)	CV (Controlled Flow Direction)	Cracking Pressure (PSIG)
KLF125B	Brass	Piston	⅛”	11/16”	9/32”	1¾”	1¼”	.156	.32	.23	10
KLF250B			¼”	⅞”	5/16”	2⅜”			.70	.44	7
KLF375B			⅜”	1 1/16”	11/32”	2¾”	1⅜”	.265	1.14	.90	8
KLF500B			½”	1 5/16”	⅜”	3 3/16”		.281	1.74	1.32	5
KLF750B			¾”	1⅝”	15/32”	3 9/16”	1⅞”	.343	2.91	2.02	2
KLF1000B			1”	1⅞”							
KLF125BBC		Steel Ball Check	⅛”	11/16”	9/32”	1¾”	1¼”	.156	.32	.23	11
KLF250BBC			¼”	⅞”	5/16”	2⅜”			.70	.44	7
KLF375BBC			⅜”	1 1/16”	11/32”	2¾”	1⅜”	.265	1.14	.90	3
KLF500BBC			½”	1 5/16”	⅜”	3 3/16”		.381	1.74	1.32	1
KLF750BBC			¾”	1⅝”	15/32”	3 9/16”	1⅞”	.343	2.91	2.02	3
KLF125SBC	Steel		⅛”	11/16”	9/32”	1¾”	1¼”	.156	.32	.23	11
KLF250SBC			¼”	⅞”	5/16”	2⅜”			.70	.44	7
KLF375SBC			⅜”	1 1/16”	11/32”	2¾”	1⅜”	.265	1.14	.90	3
KLF500SBC			½”	1 5/16”	⅜”	3 3/16”		.281	1.74	1.32	1
KLF750SBC			¾”	1⅝”	15/32”	3 9/16”	1⅞”	.343	2.91	2.02	3

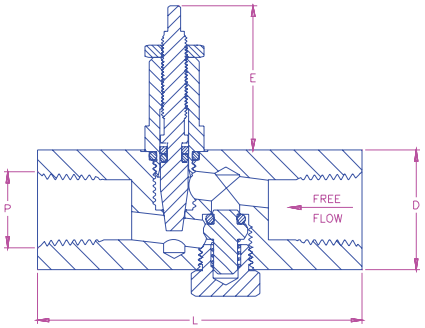
Flow Controls
F Series

Application

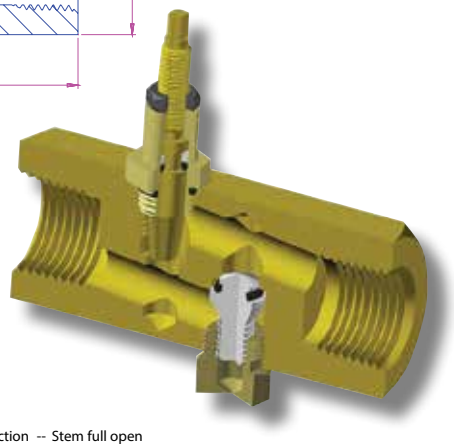
Economically designed for effective control of hydraulic and pneumatic actuators where frequent adjustment is not required.

Features

- Soft-seat piston check for leak-free service.
- Optional ball check for high cycle applications.
- Wrench flats provided to adjust setting, while resisting unwanted tampering.
- Steel valves are zinc plated and sealed with “golden” chromate for double corrosion protection.



F Series



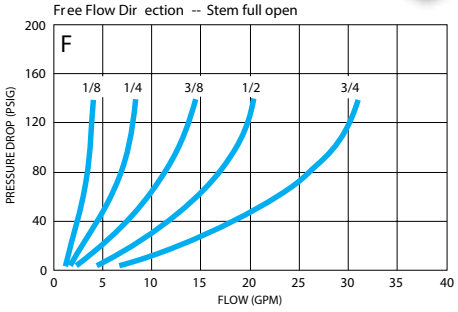
Specifications

Max Operating Pressure Ball Check Models..... 5000 PSIG Steel
Max Operating Pressure Ball Check Models..... 2000 PSIG Brass
Max Operating Pressure Piston Check Models..... 2000 PSIG Brass
Temperature Range..... -20ºF to +212ºF
CV Factor .....See Ordering Information
Stem Taper 8º
Stem Pitch ..... 40 Threads/Inch (⅛, ¼, ⅜, ½” Sizes)
Stem Pitch ..... 24 Threads/Inch (¾”, Size)

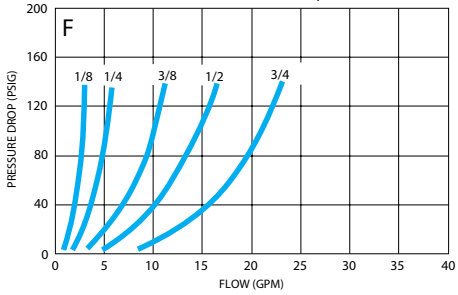
Materials

Body ..... 12L14 Steel or ASTM B 16 Brass
Piston Assembly ..... Stainless Steel with Viton O-Ring
Ball..... Stainless Steel
Spring ..... Stainless Steel
Stem .....Stainless Steel or Brass
Knob ..... Aluminum (⅛, ¼, ⅜, ½” Sizes) Brass (¾, 1” Sizes)
Check Plug ..... Steel or Brass
Lock Nut ..... Brass
Stem Packing .....Viton O-ring with “Teflon” Backup Gland
Chamber..... Steel

Free Flow Dir ection -- Stem full open



Contr olled Flow Dir ection -- Stem full open



Ordering Information

Part Number	Body Material	Check Style	P (NPT) Female	D (In.) Hex	G (In.)	L (In.)	E (In.) Max.	Orifice Diam. (In.)	CV (Free-Flow Direction)	CV (Controlled Flow Direction)	Cracking Pressure (PSIG)
F125B	Brass	Piston	⅛”	11/16”	9/32”	1¾”	1¼”	.156	.32	.23	10
F250B			¼”	⅞”	5/16”	2⅜”			.70	.44	7
F375B			⅜”	1 1/16”	11/32”	2¾”	1⅜”	.265	1.14	.90	8
F500B			½”	1 5/16”	⅜”	3 3/16”		.281	1.74	1.32	5
F250BBC		Ball Check	¼”	⅞”	5/16”	2⅜”	1¼”	.156	.70	.44	7
F375BBC			⅜”	1 1/16”	11/32”	2¾”	1⅜”	.265	1.14	.90	3
F500BBC	Steel		½”	1 5/16”	⅜”	3 3/16”		.281	1.74	1.32	1
F250SBC			¼”	⅞”	5/16”	2⅜”	1¼”	.156	.70	.44	7
F375SBC			⅜”	1 1/16”	11/32”	2¾”	1⅜”	.265	1.14	.90	3
F500SBC			½”	1 5/16”	⅜”	3 3/16”		.281	1.74	1.32	1
F750SBC							1⅞”	.343	2.91	2.02	3

Check Valves
C-Series

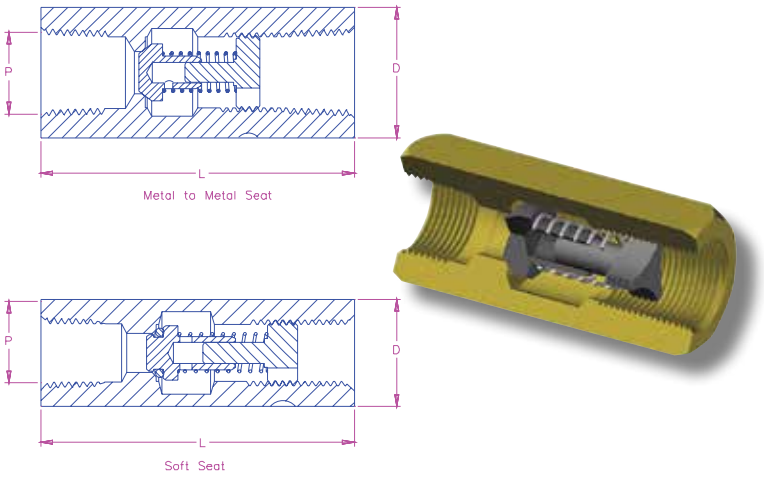
Application

Especially designed for the control of hydraulic and pneumatic systems. Allows full-flow in one direction only.

Features

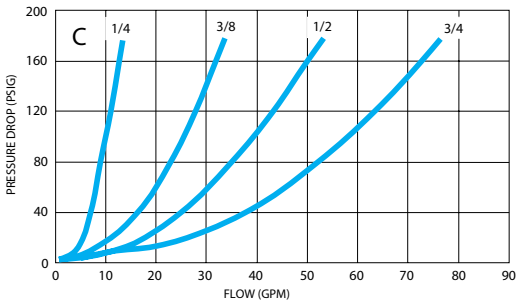
- Efficient in line design provides high flow capability with low pressure drop.
- Soft seat poppet assures leak free service. Durable all metal poppets standard on all other models.
- Steel valves are zinc plated with “golden” chromate for double corrosion protection.
- Versatile design can be mounted in any position.

C Series



Specifications

Maximum Operating Pressure.....See Ordering Information
Temperature Range..... -20ºF to +212ºF
CV Factor .....See Ordering Information
Cracking Pressure ..... 5 PSIG Standard, call for other settings



Materials

Body ..... ASTM B 16 Brass, 12L14 Steel, or 303 Stainless Steel
Spring ..... Stainless Steel
Piston..... Stainless Steel
Piston Seat - soft- ..... Viton

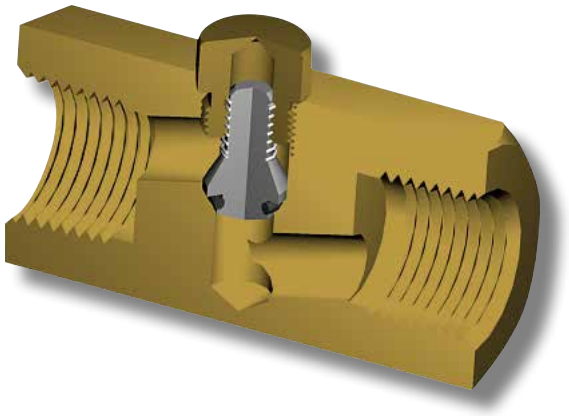
Ordering Information

Part Number	Seating Option	Inlet/Outlet Connections FNPT P	Length L	Wrenching Hex Size D	CV	Maximum Operating Pressure
Stainless Steel Check Valves						
C250SS	Metal	¼”	2⅜”	13/16”	.87	5000 PSIG
C375SS		⅜”	2½”	1”	2.3	
C250SSL	Soft	¼”	2⅜”	13/16”	.87	250 PSIG
C375SSL		⅜”	2½”	1”	2.3	
C500SSL		½”	3”	1⅛”	3.5	3000 PSIG
C750SSL		¾”	3⅝”	1½”	5.2	
Brass Body Check Valves						
C250B	Metal	¼”	2⅜”	13/16”	.87	3000 PSIG
C375B		⅜”	2½”	1”	2.3	
C500B		½”	3”	1⅛”	3.5	
C750B		¾”	3⅝”	1½”	5.2	
C250BL	Soft	¼”	2⅜”	13/16”	.87	250 PSIG
C375BL		⅜”	2½”	1”	2.3	
C500BL		½”	3”	1⅛”	3.5	3000 PSIG
C750BL		¾”	3⅝”	1½”	5.2	
Steel Check Valves						
C250S	Metal	¼”	2⅜”	13/16”	.87	5000 PSIG
C375S		⅜”	2½”	1”	2.3	
C500S		½”	3”	1⅛”	3.5	
C750S		¾”	3⅝”	1½”	5.2	
C250SL	Soft	¼”	2⅜”	13/16”	.87	250 PSIG
C375SL		⅜”	2½”	1”	2.3	
C500SL		½”	3”	1⅛”	3.5	3000 PSIG
C750SL		¾”	3⅝”	1½”	5.2	

Check Valves
BC & PC Series

Application

Compact, versatile design for the control of air and liquids. Allows full-flow in one direction.



Features

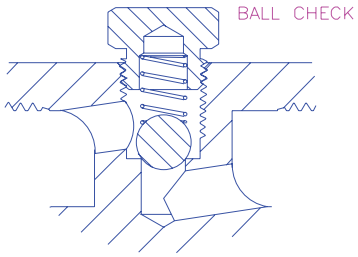
- Piston check design for leak-free air service.
- Ball check design for heavy duty liquid service.
- Low cracking pressures and smooth operation provide efficient service.
- Steel valves are zinc-plated and sealed with “golden” chromate for double corrosion protection.

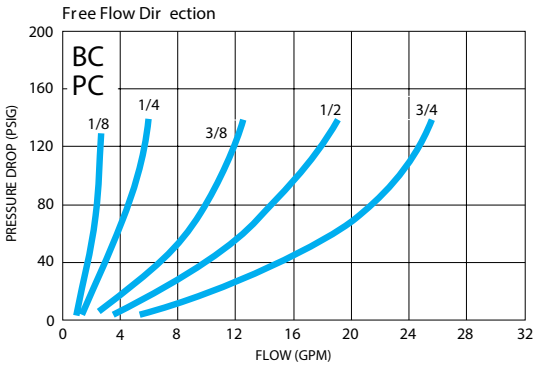
Specifications

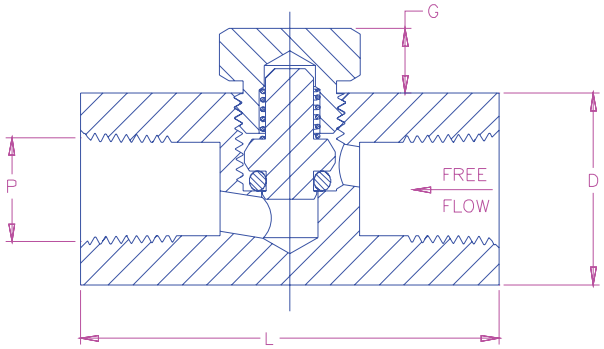
Maximum Operating Pressure “BC” Models..... 5000 PSIG Steel
Maximum Operating Pressure “BC” Models..... 2000 PSIG Brass
Maximum Operating Pressure “PC” Models..... 2500 PSIG Steel
Maximum Operating Pressure “PC” Models..... 2000 PSIG Brass
Temperature Range.....-20ºF to +212ºF
CV Factor ..... See Ordering Information

Materials

Body ..... 12L14 Steel or ASTM B16 Brass
Piston Assembly “PC” Models ..... Stainless Steel with Viton O-Ring
Ball, “BC” Models..... Stainless Steel
Spring ..... Stainless Steel
Plug ..... Steel or Brass







Ordering Information

Part Number	Body Material	Check Style	P (NPT) Female	D (In.) Hex	L (In.)	G (In.)	Orifice Diameter (In.)	CV	Cracking Pressure (PSIG)
PCI25B	Brass	Piston	1/8”	11/16”	1½”	9/32”	.203	.21	10
PC250B			1/4”	7/8”	2”	5/16”		.45	7
PC375B			3/8”	1 1/16”	2¼”	11/32”	.272	1.00	8
PC500B			1/2”	1 5/16”	2 21/32”	3/8”	.328	1.60	½
BC125B	Brass	Ball	1/8”	11/16”	1½”	9/32”	.203	.21	11
BC250B			1/4”	7/8”	2”	5/16”		.45	7
BC375B			3/8”	1 1/16”	2¼”	11/32”	.272	1.00	3
BC500B			1/2”	1 5/16”	2 21/32”	3/8”	.328	1.60	1
BC250S	Steel	Ball	1/4”	7/8”	2”	5/16”	.203	.45	7
BC375S			3/8”	1 1/16”	2¼”	11/32”	.272	1.00	3
BC500S			1/2”	1 5/16”	2 21/32”	3/8”	.328	1.60	1
BC750S			3/4”	1 5/8”	3”	15/32”	.453	2.21	3

Check Valves
CMM Series

Application

Space saving, in-line design for the control of air and liquids.

Features

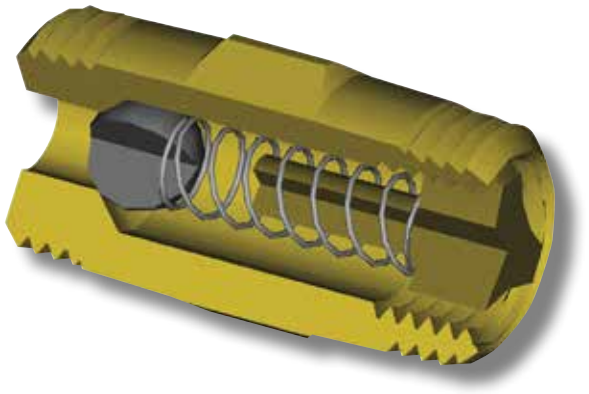
- Metal to Metal seal for leak-free liquid service.
- O-ring design for leak-free air service.
- Steel valves are zinc-plated and sealed with clear chromate for double corrosion protection.

Specifications

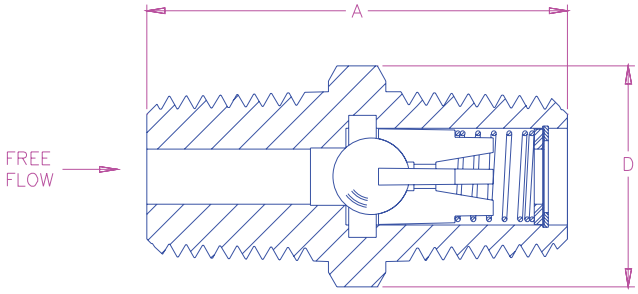
Maximum Operating Pressure.....See Ordering Information
Temperature Range..... -20ºF to +400ºF
Cracking Pressure.....See Ordering Information
CV Factor ..... See Ordering Information

Materials

Body ..... ASTM B 16 Brass
Body ..... 12L14 Steel
Ball..... Stainless Steel
Retainer..... Brass or Steel
Spring ..... Stainless Steel



CMM Series



Ordering Information

Part Number	Body Material	Seal	Port Size (NPT) Male	A (In.)	B (In.) Hex	Orifice Diameter (In.)	CV	Cracking Pressure (PSIG)	Maximum Pressure (PSIG)
CMM250B	Brass	Metal	¼"	1 5/32"	9/16"	3/16"	.5	7	1000
CMM250B-L		Viton							
CMM375B		Metal	⅜"	1⅜"	11/16"	¼"	.8	3	
CMM250S	Steel	Viton			9/16"	3/16"	.5	7	3000
CMM375S		Viton	⅜"	1⅜"	11/16"	¼"	.8	3	

Relief Valves
PRV - Series

Application

The PRV series of relief valves are ideal for air service. The valve will weep slightly at set pressure and achieve full lift and high flow by 110 percent of their rated set pressure.

Features

- Bubble tight at 97% of set pressure.
- Easy to read color coded psig / bar labels.
- Unique tamper resistant and staked adjusting screw.
- Repeatable performance.
- 100% factory tested.
- Temperatures Range -320 to +212 F.
- Set pressures range from 17-600psi.

Materials

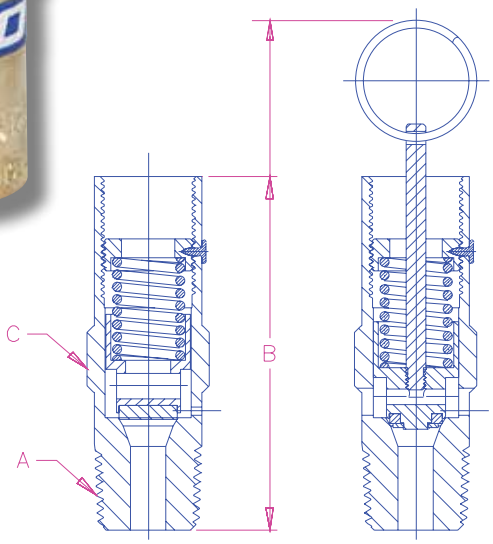
Body ..... Brass
Spring ..... Stainless Steel
Seat Retainer ..... Brass
Adjusting Screw ..... Brass
Seat Disc (Below 140psi) ..... Fluorosilicone
Seat Disc (Above 140psi) ..... Teflon

PRV Series also available with all stainless steel components

Flow Data for Rego ¼", ⅜" & ½" Relief Valves:

Set Pressure PSIG	Flow Pressure PSIG	Flow Rate SCFM Air
22	24	29
50	55	52
100	110	93
150	165	134
230	253	200
350	385	298
400	440	339
450	495	380
500	550	421

PRV Series



WARNING: 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. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Ordering Information

The PRV - series valves are ordered by specifying the basic relief valve part number and specifying with or without pull ring.

Example:

PRV	250B	R	350
Series	Size	Ring or no ring	Pressure Setting

Ordering Information

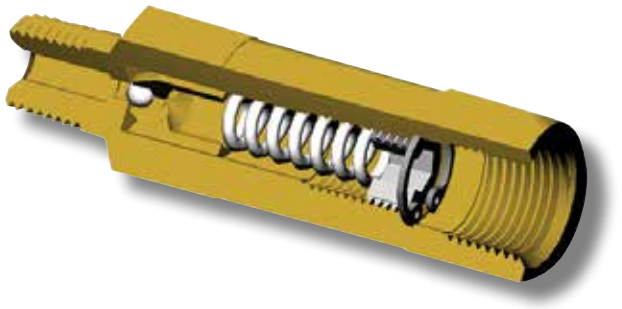
Part Number Specify Relief Setting "XXX"	Ring Pull	Body	(NPT) Male	B Ht.	(HEX.) Hex	Relief Setting
*PRV250BRXXX	Yes	Brass	¼	3.0	⅞	Available in settings from 17-600 psi.
PRV250BXXX	No			2.6		
*PRV500BRXXX	Yes		½	3.2		
PRV500BXXX	No			2.8		

* (R) indicates a relief valve comes with a pull ring.

Relief Valves
ARV SERIES

Application

Adjustable design to relieve liquid pressure above a predetermined setting. For use anywhere excessive pressure may harm system components.



Features

- Space saving in line design.
- Retaining ring prevents adjusting screw from being backed out too far.
- Pop-off action does not “chatter” or “scream”.
- Metal-to-metal seal assures long life.
- Suitable for oil, water and steam.

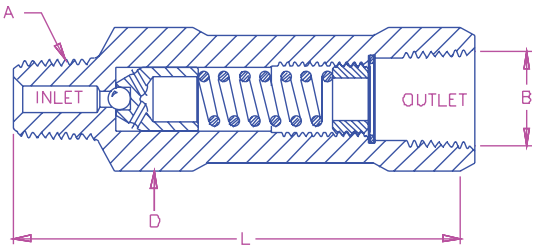
Specifications

Operating Range ..... 400 to 5000 PSIG
Temperature Range..... -60ºF to +450ºF
CV Factor 21
Orifice Diameter.....3⁄32”

Materials

Body ..... ASTM B16 Brass
Spring ..... 303 Stainless Steel
Piston.....Brass
Ball..... Stainless Steel
Adjusting Screw..... 302 Stainless Steel (¼” Allen Wrench)
Retaining Ring..... Stainless Steel

ARV Series



Ordering Information

Part Number	A (NPT) Inlet Port	B (NPT) Outlet Port	C (In.) Length	D (In.) Hex
ARV250B	¼” Male	⅜” Female	3⅛”	⅞”

Flow Data

Flow and pressure drop characteristics for valves manufactured by Engineered Controls International. Inc. are based on laboratory testing of random production samples and by an independent testing agency. The graphs are based on 150 SSU oil at the controlled temperature of 140ºF. Flow coefficient (CV) have been provided for valves in this catalog. Calculating flo or pressure drop at other conditions is achieved with the following equation:

$$\text{Flow in GPM} \quad C_V \frac{\sqrt{P1 - P2}}{\sqrt{Gf}}$$

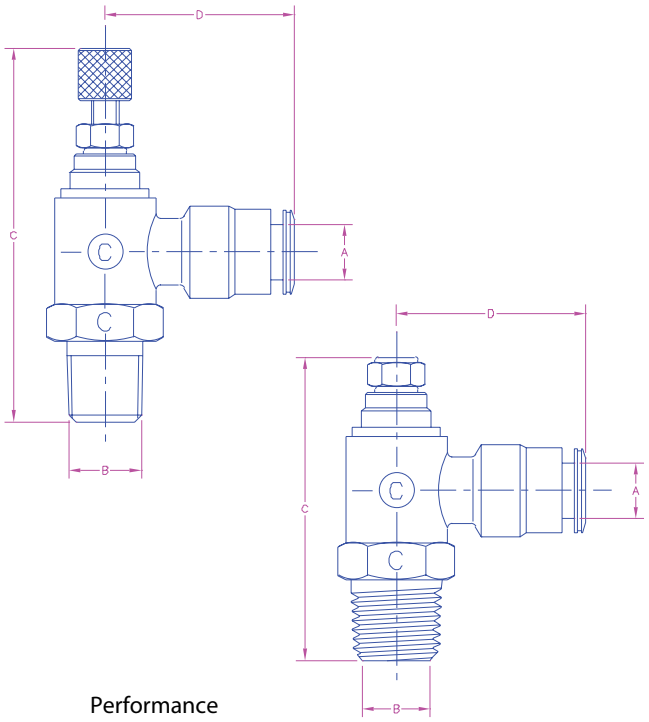
Where...

CV = Flow coefficien
P1 = Inlet pressure (PSIG)
P2 = Outlet pressure (PSIG)
Gf = Specifi gravity of medium at operating temperature

Compact Pneumatic Flow Controls With Push-In-Tube Connection

Features

- Compact design permits mounting directly on pneumatic cylinder.
- Push-In-Tube connections allow convenient tube assembly without the need for tools or other components.
- Tubing easily installed by pushing into outlet and released by pressing collet and pulling.
- Available with convenient knurled knob or tamper resistant recessed screwdriver slot.
- Valves are nickel plated for corrosion protection.
- Unique cup seal provides positive seal during metered flow.
- Precision long-tapered stem provides accurate control.
- Tube Port rotates fully after mounting.



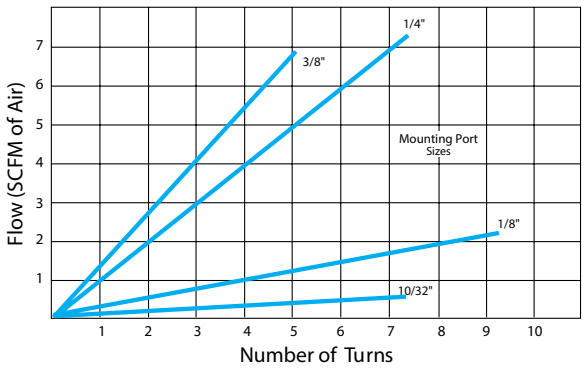
Specifications

Operating Pressure ..... 15 to 150 PSIG
Temperature Range.....+32° F to +176° F
Body Material..... OT58 Brass Body with Nickel Plating
Seal Material.....Buna-N

Ordering Information

Part Number	Actuation	A Tube Port O.D.	B Mounting Port	C Height (Valve Open)	D
RAM 53-02	Knurled Knob	5/32"	1/8" NPT	1 1/8"	7/8"
RAM 4-02		1/4"			1 5/16"
RAM 4-04			1/4" NPT	2 1/4"	1 1/16"
RAM 6-04		3/8"			1 1/8"
RAM 6-06			3/8" NPT	2 5/8"	1 5/16"
RAS 53-02	Recessed Screwdriver Slot	5/32"	1/8" NPT	1 1/2"	7/8"
RAS 4-02		1/4"			1 5/16"
RAS 4-04			1/4" NPT	1 5/8"	1 1/16"
RAS 6-04		3/8"			1 1/8"
RAS 6-06			1/8" NPT	1 13/16"	1 5/16"

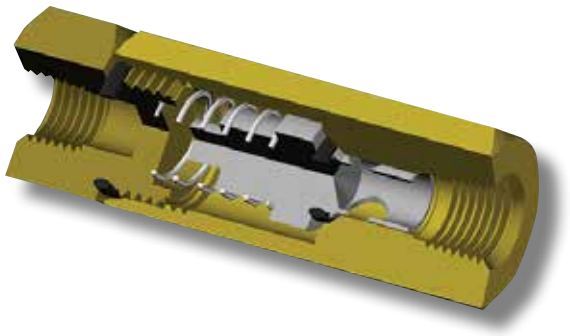
Performance



CW-series check valves

Features

- A check valve specifically designed and manufactured for the car wash/pressure washing industry.
- Unique two piece construction allows the user to dis-assemble the valve, clean and replace seals as necessary.
- Both valves which are available in 1/4" and 3/8"NPTF contain O-rings of Viton7 and Buna-N for long-lasting durability.
- Maximum operating pressure on each valve is 2000 psi.
- Cracking pressure is 5 psig.



Ordering Information

Valve Number	Material	Thread (Both Ends)	A Length (in)	B Width (in)
CW250BL	ASTM B 16 Brass	1/4 NPTF	3.03	1.00
CW375BL		3/8 NPTF		
CW250SSL	303 Stainless Steel	1/4 NPTF		
CW375SSL		3/8 NPTF		

Limited Warranty and Limitation of Liability

LIMITED WARRANTY
RegO warrants 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 12 months from the date of installation or operation or 18 months from the date of shipment from the factory, whichever is earlier. If within thirty days after buyer's discovery of what buyer believes is a defect, buyer notifie RegO thereof in writing, RegO, at its option, and within forty-fiv days, will repair, replace F.O.B. point of manufacture, or refund the purchase price of that part or product found by it to be defective. Failure of buyer to give such written notice 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 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, CGA, and ANSI. This warranty does not extend to any product or part that has been damaged by accident, misuse, abuse or neglect, nor does it extend to any product or part which has been modified altered, or repaired in the field

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 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 material.

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 technical advice and buyer assumes all risks of such advise and the results thereof.
NOTE: Some states do not allow the limitation or exclusion of incidental or consequential damages, so the above limitations or exclusions, wholly or partially, may not apply. 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 materials 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, flammabl 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 firs 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 the distributor from whom he purchased the product/parts. The distributor may or may not at the distributor's option, choose to submit the product/parts to RegO pursuant to its Limited Warranty. Failure by buyer to give such written notice within thirty (30) days shall be deemed an absolute and unconditional waiver or 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 obligates RegO to the terms of the above warranty.

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

Canadian Registration Numbers

The majority of products in this catalog are registered with the Canadian Department of Labor under the following reference Number: 0* 8040.5**
* Represents Fitting Categories: A, C, G, H

Province	CRN
1 British Columbia	0 * 8040.51
2 Alberta	0 * 8040.52
3 Saskatchewan	0 * 8040.53
4 Manitoba	0 * 8040.54
5 Ontario	0 * 8040.5
6 Quebec	0 * 8040.56
7 New Brunswick	0 * 8040.57
8 Nova Scotia	0 * 8040.58
9 Prince Edward Island	0 * 8040.59
0 Newfoundland	0 * 8040.50
N Nunavut	0 * 8040.5N
T Northwest Territories	0 * 8040.5T
Y Yukon Territory	0 * 8040.5Y

* Represents Fitting Categories A, C, F, G, H