



CLEAN ENERGY SOLUTIONS
BY AXEL LARSSON

REGO 10 YEAR WARRANTY	REGO 100% TESTED ★	CLEANED FOR OXYGEN SERVICE O₂ CGA G-4.1
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REGO

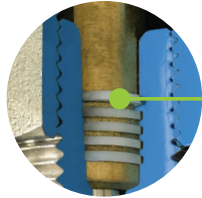
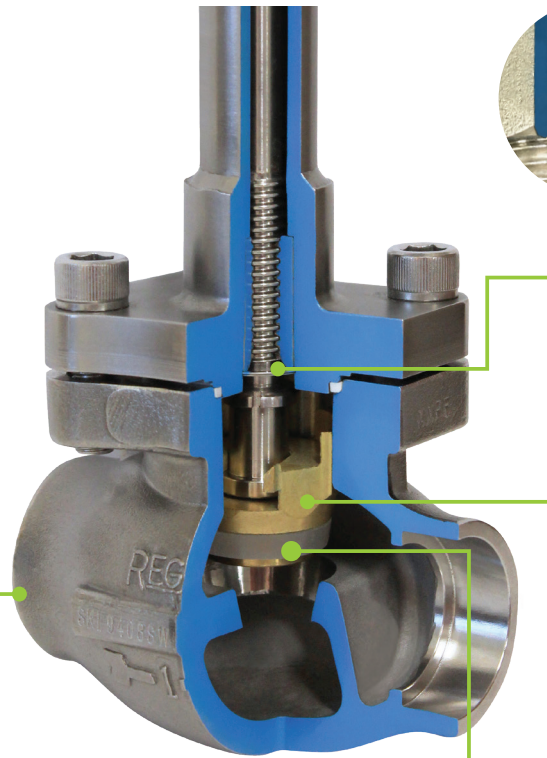
Featured Cryogenic Product Information

- Stainless Steel Globe Valves for Cryogenic Service
- Stainless Steel Relief Device Diverter
- Cryogenic Regulators
- Hydrogen Products

RegO® SK Advantage Series cryogenic globe valves:

A better built valve, builds a better system

For over 100 years, RegO have been manufacturing gas regulating equipment to the highest standards of precision and durability. As the company that pioneered gas regulators, RegO still have the largest installed base in the industry. In addition to an industry leading 10 year warranty all RegO products are 100% tested at multiple steps in the process from incoming component quality to final assembly testing for leakage, lock up and set pressure.



Less adjustment & maintenance

- RegO Kold-Seal™ technology
- Live loaded PTFE stem packing seals tighter to reduce loss

Longer life, less maintenance, and safe, no waste operation

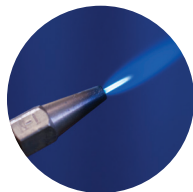
- Innovative bonnet pressure release system
- Instead of wasteful weep holes, the SK Advantage Series captures excess pressure in the Kold-Seal protected valve stem on open and then returns it to the system upon close.

Up to 39% greater Cv

- RegO conical seat for faster fills and secure shutoff
- Opens wider for exception flow rates
- More contact area between the seat and the seal for a tighter seal than other technologies
- Less chance of debris accumulation for less frequent service
- Up to 15x more durable in heavily used valves

Weld-in-place

- No disassembly required to install into a system.
- Simply follow proper installation and welding procedures
- Available in socket and butt weld configurations



Fast, easy maintenance with single seat assembly

- PCTFE material for best cryogenic performance
- No washers and nuts to retain the seat. Less adjustment and fast, easy maintenance.
- Reduced risk of components vibrating loose that could affect downstream equipment



LONG STEM MEDIUM STEM SHORT STEM
1/4" - 3" SIZES AVAILABLE

LONG STEM ANGLE MEDIUM STEM ANGLE



Up to 16% lighter than the competition
Robust, stainless steel design

Patented Ergonomic handwheel

Requires less torque than other styles, increases safety and reduces repetitive motion stress

CRYOGENIC LIQUID & VAPOR SERVICE:

OXYGEN

NITROGEN

ARGON

CARBON DIOXIDE

NITROUS OXIDE

METHANE

ETHANE

ETHYLENE

KRYPTON

LNG

APPLICATIONS:

BULK STORAGE TANKS

MICRO BULK TANKS

TRANSPORT TRAILERS

PIPING

END CONNECTIONS:

SOCKET WELD

BUTT WELD

THREADED NPT

SOCKET WELD X NPT

PIPE STUB X NPT



2 1/2" Stainless Steel Globe Valves for Cryogenic Service SK Advantage 9420 Series

Application

SK stainless steel globe valves are designed for handling cryogenic liquids through trailer, bulk vessels and piping configurations. Live-loaded packing system and bonnet nut o-ring seal design assure 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, carbon oxide and LNG.

Features

- Lower stem guide rings maintain proper centering of seat position to ensure a tight shutoff every time the valve is closed and reduce potential for liquid ingress into the bonnet to increase packing system longevity
- Bonnet nut o-ring seal reduces potential for introduction of water or humidity to prevent ice formation in the bonnet area, further increasing the packing system life and reducing required maintenance
- 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: Spring loaded PTFE
- Connection: Socket weld and SCH10 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, 720 PSIG (50 BAR) Class 300 (PN 50)
- Cleaned and packaged for oxygen service per CGA G-4.1

Materials

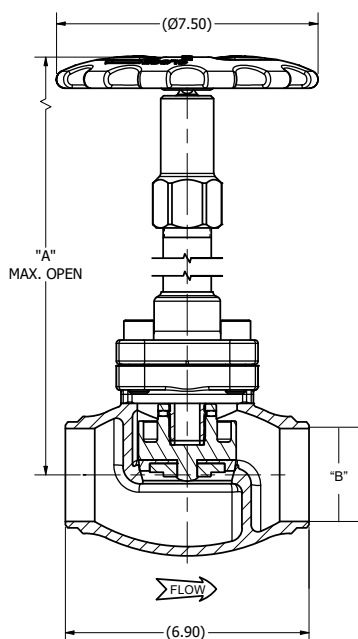
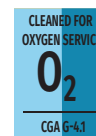
Body: Stainless Steel ASTM A351 CF8
 Bonnet/Tube: Stainless Steel ASTM A351 CF8/ASTM A479 type 304
 Stem: Stainless Steel ASTM A582 S30300
 Spring: Stainless Steel ASTM A313 S30200
 Packing: Live Loaded PTFE Packing
 Gasket: PTFE 25% Glass Fill
 Seat Disc: PCTFE ASTM D1430
 Seat Retainer: Brass ASTM B16
 Bonnet Screws: ASTM F837
 Handwheel: Painted Aluminum

Quality / Facility Features

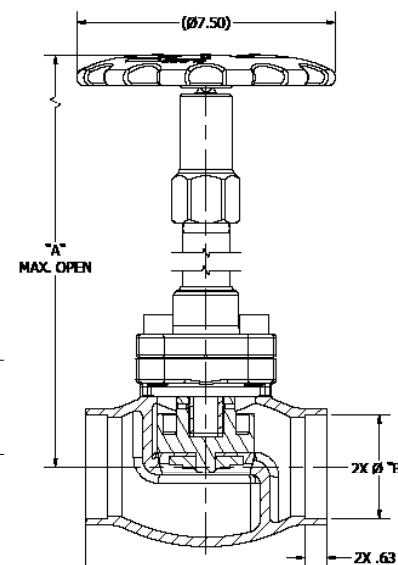
- Material traceability in accordance with BS EN 10204 3.1



SKL9420 Series



SK Advantage 9420BW Series



SK Advantage 9420SW Series

Ordering Information

Part Number	Size Inches	Size DN	Connection*	A Inches	A mm	B Inches	B mm	Cv	Kv	Weight lbs	Weight kg
SKM9420SW	2 1/2"	65	Socket Weld	11.8	300	2.64	67.1	75	65	20.5	9.8
SKL9420SW				15.8	401						
SKM9420BW			Butt Weld	11.8	300	2.68	60.1				
SKL9420BW				15.8	401						

* Other connection options available upon request.



3" Stainless Steel Globe Valves for Cryogenic Service SK Advantage 9424 Series

Application

SK stainless steel globe valves are designed for handling cryogenic liquids through trailer, bulk vessels and piping configurations. RegO Live-loaded packing system and bonnet nut o-ring seal design assure 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, carbon oxide and LNG.

Features

- Lower stem guide rings maintain proper centering of seat position to ensure a tight shutoff every time the valve is closed and reduce potential for liquid ingress into the bonnet to increase packing system longevity
- Bonnet nut o-ring seal reduces potential for introduction of water or humidity to prevent ice formation in the bonnet area, further increasing the packing system life and reducing required maintenance
- 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: Spring loaded PTFE
- Connection: Socket weld and SCH10 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, 720 PSIG (50 BAR) Class 300 (PN 50)
- Cleaned and packaged for oxygen service per CGA G-4.1

Materials

Body: Stainless Steel ASTM A351 CF8
 Bonnet/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 F837
 Handwheel: Painted Aluminum

Quality / Facility Features

Material traceability in accordance with BS EN 10204 3.1

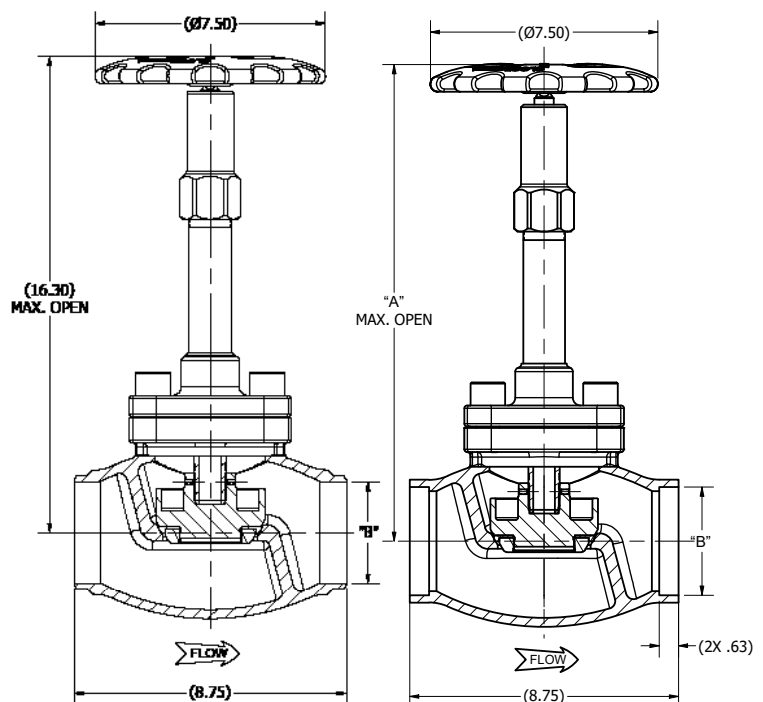
Ordering Information

Part Number	Size Inches	Size DN	Connection*	A Inches	A mm	B Inches	B mm	Cv	Kv	Weight lbs	Weight kg
SKL9424SW	3"	80	Socket Weld	16.3	414	3.52	89.4	115	100	33.1	15
SKL9424BW			Butt Weld			3.26	82.8				

* Other options, including connections, available upon request.



SKL9424 Series



SK Advantage 9424BW Series

SK Advantage 9424SW Series

REGO
10
YEAR
WARRANTY

CLEANED FOR
OXYGEN SERVICE
O₂
CGA G-4.1

REGO
100% TESTED
★



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

Application

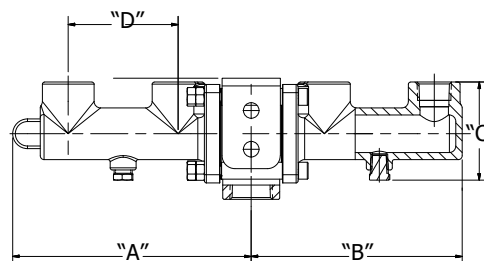
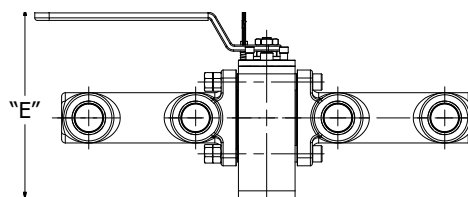
The DV4108 Diverter Valve Series provides a lightweight, simplified solution for the isolation of pressure relief valves during testing and change out of relief valves and burst discs without requiring evacuation of the vessel and guaranteeing that one port will be available to work during the operation. 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.

Features

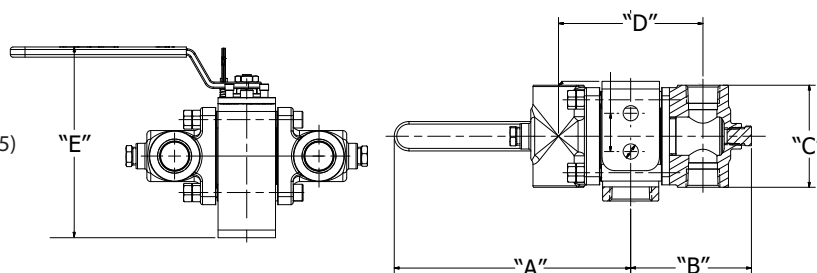
- PED Certified
- High flow rates complement the RegO AR and PRV series pressure relief valves
- Outlet ports sufficiently spaced to allow AR and PRV series relief valves as well as burst discs to be easily installed and removed
- Compact, lightweight design
- Unique resilient seat design with Dyneon™ 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



DV4108SU Series



DV4108SM Series



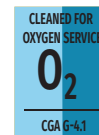
Materials

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)	1/2 (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)	
DV4108SU06		3/4 (DN20)									Both Sides	21.7 (18.8)	
DV4108SU08		1 (DN25)									One Side	13.3 (11.5)	
DV4108SM04		1/2 (DN15)									Both Sides	22.5 (19.5)	
DV4108SM06		3/4 (DN20)		One Side	16.0 (13.8)								
DV4108SM08		1 (DN25)		1 (DN25)	1 port up, 1 port down on each side		1/4" NPTF, 90° from inlet	3.72 (95)	3.2 (80)		4.45 (113)	Both Sides	25.3 (21.9)
												One Side	11.0 (9.5)
												Both Sides	20.0 (17.3)
	One Side		12.7 (11.0)										
										Both Sides	21.6 (18.7)		
											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.



Stainless Steel Diverter (3-way) Valve DV4112 Series

Application

The DV4112 Diverter Valve Series provides a lightweight, simplified solution for the isolation 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 cryogenic and gaseous oxygen, nitrogen, krypton, carbon dioxide, nitrous oxide, dinitrogen monoxide, carbon oxide, methane, ethane, ethylene, argon, and LNG.

Features

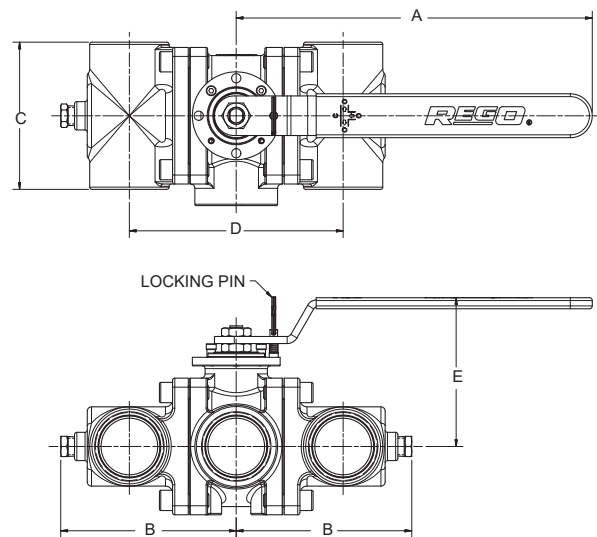
- Unique resilient seat design with Dyneon™ TFM 160 material provides smooth operation and bubble tight seal in cryogenic conditions
- Special seal design using proven Kold-Seal technology, live loaded PTFE in conjunction with wave springs and added sealing protection prevent internal and external leakage (EN 1626:2008 compliant)
- Clearly labeled, heavy duty lever arm and locking pin provide positive isolation verification
- Various connection and configuration options available
- Two outlet ports per side provide ability for connection of RegO Angle Relief valves and/or burst discs.
- Service: Liquefied and vaporized atmospheric gases and 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)
- Design tested under cryogenic conditions to 4000 cycles and for vibration at 17 Hz on three axis (X.Y.Z) EN1626:2008 compliant
- Cleaned and packaged for oxygen service per CGA G-4.1
- High flow rates complement the RegO AR Series pressure relief valves
- Outlet ports sufficiently spaced to allow AR Series relief valves as well as burst discs to be easily installed and removed
- Compact, lightweight design
- Threaded body for easy diverter installation
- Welded pipe extension inlet option available*
- 100% factory tested; each valve is individually bagged and boxed to arrive in factory new condition until installation
- Vent port in each chamber for easy and safe maintenance process

Materials

Body: 316 Stainless Steel ASTM A351-CF-8M (DIN 1.4408)
 Stem: 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 (DIN1.4544)
 Wave Spring Washers: 304 Stainless Steel ASTM A182 (DIN 1.5415)
 Ball: 316L Stainless Steel ASTM A276 (DIN 1.4006)
 Packing: Live Loaded PTFE
 Lever: 304 Stainless Steel ASTM A182 (DIN 1.5415)



DV4112 Series



Ordering example: DV4112SM12S12BJ

Outlet Port Configuration Style	Outlet Port Size	Inlet Connection	Inlet Pipe Size*	Inlet Pipe Schedule	Inlet Pipe Length
M = 1 outlet up, one down each side	08 = 1" 12 = 1 1/2"	Blank = NPT S = Socket weld B = Butt Weld	Blank = No pipe 4 = 1/2" 6 = 3/4" 8 = 1" 12 = 1 1/2"	Blank = No pipe A = SCH 10 B = SCH 40 C = SCH 80	A = 3" B = 4" C = 5" D = 6" E = 7" F = 8" H = 10" J = 12"

* Additional options available upon request

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)	Weight Lbs (Kg)
DV4112SM08	1 1/2 (DN40)	1 (DN25)	Thread NFPT	1 port up, 1 port down on each side	1/4" NFPT, 90° from inlet	9.84 (250)	4.88 (124)	4.09 (104)	5.95 (152)	4.14 (105)	One Side	27.7 (23.9)	17 (7.7)
		Both Sides									48.8 (42.2)		
DV4112SM12		1 1/2 (DN40)									One Side	38.6 (33.4)	15 (6.8)
											Both Sides	75.4 (65.2)	



Cryogenic 1/2" Combination Pressure Builder / Economizer CBE Series

Application

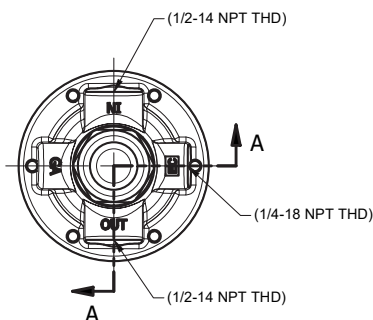
CBE series regulators maintain the pressure of the cryogenic vessels (Bulk Tanks or Micro bulks) during the operation or usage. The pressure building and economizer function are both combined in one unit, saving space and weight on the tank, simplifying the tank plumbing and reducing the leakage points.

Features

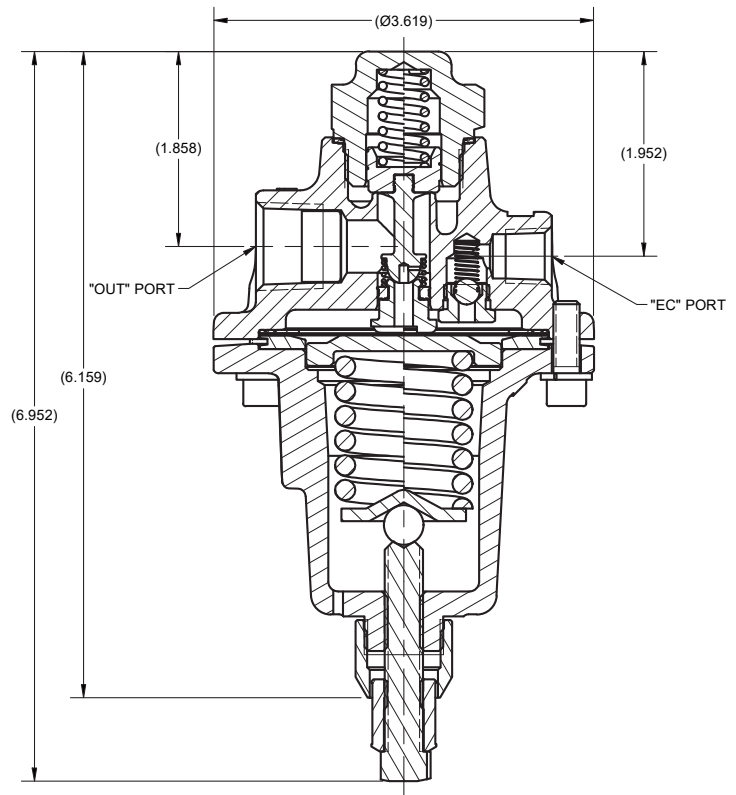
- Compact design fits well in tight plumbing geometries
- Built-in economizer check included on all models to prevent reverse flow during filling and operational upset conditions
- Economizer seal ring between PB (pressure build) OUT and EC (economizer) OUT (as compared to PB IN and EC OUT) prevents pressure runaways
- Diaphragm senses EC OUT pressure (as compared to PB OUT), accelerating pressure building function during gas use
- Improved calibrated pressure adjustment feature on bonnet cap aids in easier, more accurate pressure adjustment
- All parts are copper alloy (brass), PTFE, and stainless steel materials selected specifically for compatibility with cryogenic temperatures down to -320°F (-196°F)
- PTFE seat provides positive shut off at cryogenic temperatures
- Maximum inlet pressure of 600 PSIG (41.4 barg)
- Pressure range setting 25 psig to 550 psig (1.7 barg to 37.9 barg)
- Monel screens included on pressure builder (PB) inlet and outlet
- Cleaned per CGA G-4.1 for oxygen service
- Suitable for argon, CO₂, nitrogen, oxygen and LNG
- 100% factory tested

Materials

Body: CDA 377 (UNS C37700) Commercial Brass Alloy per ASTM B283
 Bonnet: Commercial Yellow Brass Alloy per ASTM B283
 Delivery Spring: 302 / 17-7PH Stainless Steel per ASTM A313
 Return Spring: 304 Stainless Steel per ASTM A313
 Diaphragm Gasket: Filled PTFE
 Diaphragm: Phosphor Bronze (UNS C51000) per ASTM B103
 EC Poppet Seal Ring: PTFE
 PB Seat: Modified PTFE
 Backcap Gasket: Copper (UNS C11000) per ASTM B152



CBE Series

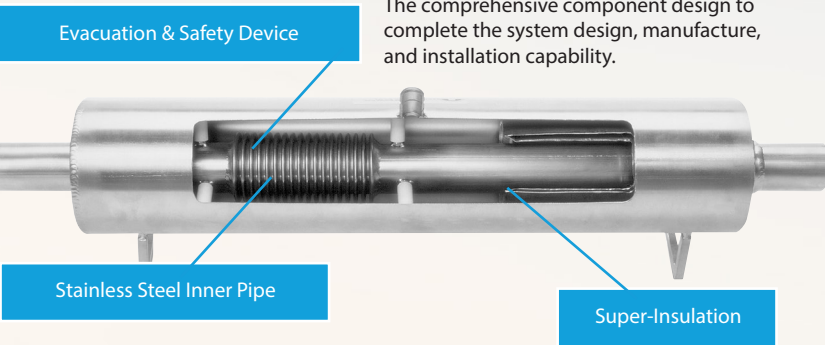


Ordering Information

Part Number	Inlet/Outlet Connections in. (DN)	Operating Range psig (barg)	Weight lb (kg)
CBE504-025 to 075	Pressure Build Inlet/Outlet: 1/2" (15) Economizer Outlet: 1/4" (8)	25 - 85 (1.7 - 5.9)	4.4 (2.0)
CBE504-076 to 155		50 - 170 (3.4 - 11.7)	
CBE504-156 to 260		100 - 280 (6.9 - 19.3)	
CBE504-261 to 450		200 - 460 (13.8 - 31.7)	
CBE504-451 to 550		400 - 550 (27.6 - 37.9)	



Vacuum Jacketed Pipe (VJP)
The most cost-effective way to transfer cryogenic liquids



The comprehensive component design to complete the system design, manufacture, and installation capability.

Maximum service life thanks to these advanced features to produce exceptional efficiencies across the entire system.

Cryogenic insulation for Nitrogen, Oxygen, Argon, Helium, Natural Gas, Carbon Dioxide, Hydrogen

Super-Insulation
 The inner and outer pipe is constructed of 300 series stainless steel. Insulation is a low vacuum with multiple layer insulation (MLI).



Acme Cryogenic Valve

The patented design builds on a conventional globe configuration by incorporating numerous unique features that decrease heat leak and increase the service life of the valve.

Rego® brings decades of cryogenic experience to liquid and gas hydrogen applications.

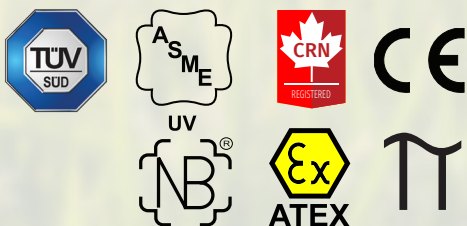
When you partner with us, you get 100% tested products backed by our global support network and our industry-leading 10-year warranty. From regulators to valves, our products are easy to use, and designed for maximum performance and long life.



316L Stainless Steel Check Valves for Liquid Hydrogen Service

Stainless Steel Gate Valves for Gas Hydrogen Service

316L Stainless Steel Globe Valves for Liquid & Gas Hydrogen Service



For further information, please contact Business Area Manager Arjan Jacobs

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