



PART OF OPW | a **DOVER** company



LNG-500 Catalog

LNG and Natural Gas Equipment

Cylinder Equipment



LNG Dispenser Equipment



Globe Valves



Gate Valves



Regulators



Pressure Relief Valves



Miscellaneous Equipment



Repair Kits



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

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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.

Features

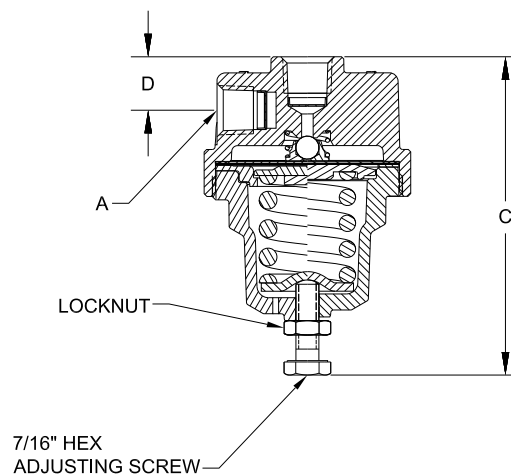
- ECL502 series design provides premium flow characteristics allowing for fast pressure reduction while maintaining sensitive flow control at lower pressure settings
- All materials of construction- copper alloy, PTFE and stainless steel were selected for compatibility with cryogenic service
- 150 count 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



ECL Series



Ordering Information

Part Number	Inlet / Outlet Connections (FNPT) A	Width B	C	D	E	Operating Range (psig)
ECL502-22	1/4" 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.

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

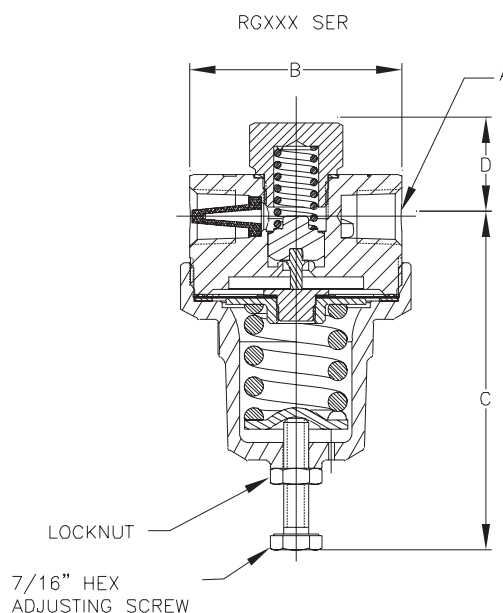
Body	Brass
Bonnet	Brass
Seat	PTFE
Springs	Stainless Steel
Diaphragm Gasket.....	PTFE
Backcap Gasket	Copper
Diaphragm.....	Bronze



RG Series



RGXXXAG with gauge port and T-handle



Ordering Information

Part Number	Inlet / Outlet Connections (FNPT) A	Width B	C	D	Operating Range (psig)
RG022A	1/4"	2 1/16"	3"	1"	0-30 psig (0-2.1 barg)
RG125A					25-250 psig (1.7-17.2 barg)
RG125C3					
RG175C3					
RG300A	1/4"	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 (-40°C to +74°C)
- Designed in accordance with & approved by ECE R110
- 100% Factory Tested

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

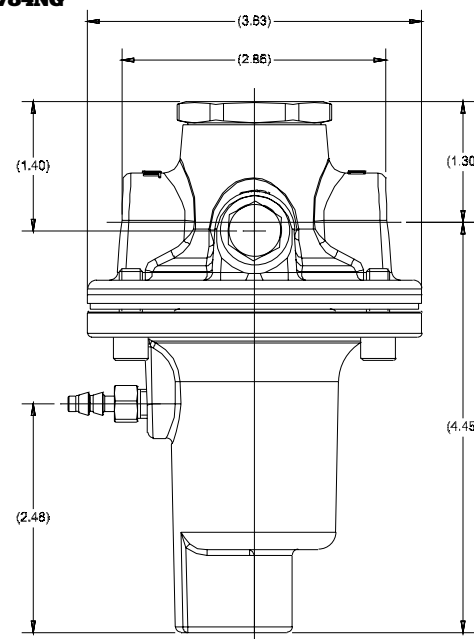
Ordering Information

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.



1784NG



Cryogenic 1/4" Combination Pressure Builder/Economizer CBH502 & CBC502 Series

Application

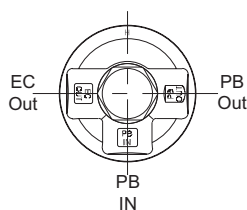
The regulator combines the function of Pressure Building and Economizer functions in one compact unit. Available in Chart and Taylor-Wharton piping geometries and a variety of pressure ratings.

Features

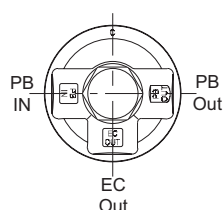
- All parts are copper alloy (brass), PTFE and stainless steel materials selected specifically for compatibility with cryogenic temperatures down to -320° F. (-196°C)
- PTFE seat helps assure a positive shut-off at cryogenic temperatures down to -320° F. (-196°C)
- High and low pressure builder/economizers 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.

Materials

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



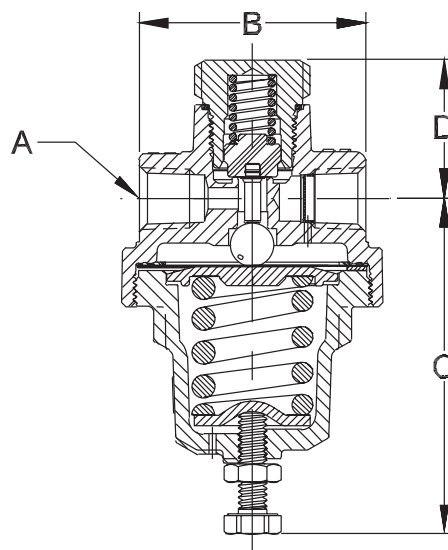
CBH Series



CBC Series



CBH502 Series



Ordering Information

Part Number	Inlet/Outlet Connections (FNPT)	"A"	"B"	"C"	"D"	Factory Pressure Setting (psig)	Operating Range (psig)
CBH502-025	1/4"	1/4"	1.97"	2.89"	1.19"	25 psig (1.7 barg)	20-60 psig (1.3-4.1 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)	
CBC502-025						25 psig (1.7 barg)	20-60 psig (1.3-4.1 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)	



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. (-196°C to +74°C)
- Designed in accordance with & approved by ECE R110
- 100% Factory Tested

Materials

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

Ordering Information

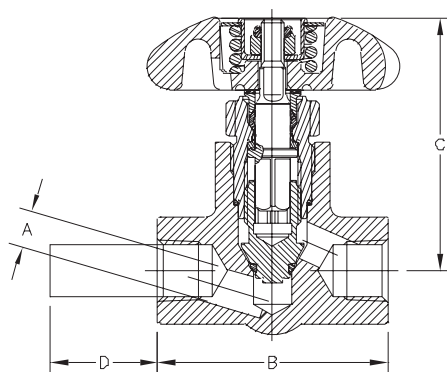
Part Number	Inlet	Outlet	Orifice A	Length B	Height (Approx.) C	Tube D	C _v Factor
T9452	¼" FNPT	¼" FNPT	.250	2½"	2¾"	None	.99
T9453	⅝" FNPT	⅝" FNPT	.406				1.76
T9454	½" FNPT	½" FNPT					1.79
T9464CA	.675" O.D. Tube	⅝" FNPT	.406	2½"	2¾"	1⅝"	1.76
T9464DA						2⅞"	
T9464ADA						3⅝"	



T9450 Series



T9460 Series



Extended Stem Retrofit Kits

Application

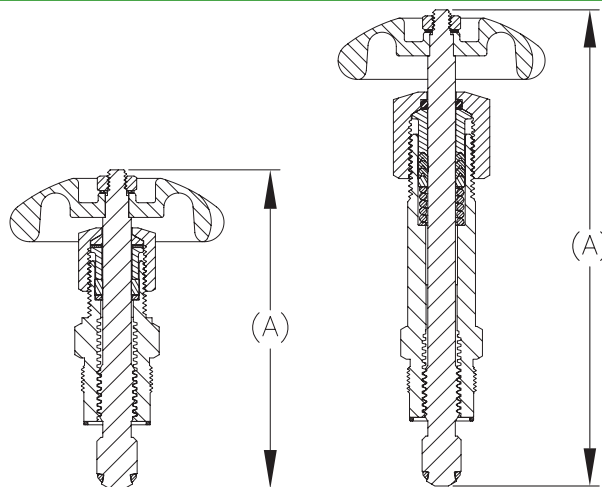
Retrofit kits are used to convert the 9450 and 9460 series short stem shut-off valves into extended stem style. The conversion can be done without removing the valve from your system. Available in two stem lengths. All kits are Oxygen cleaned and packaged per CGA G-4.1.

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

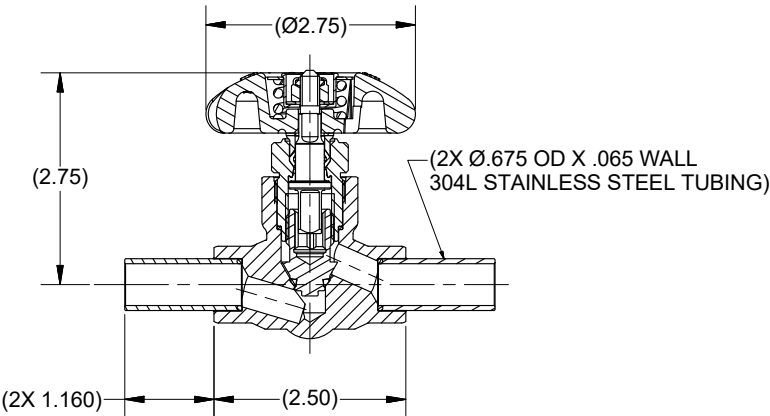


T9464CCAG



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

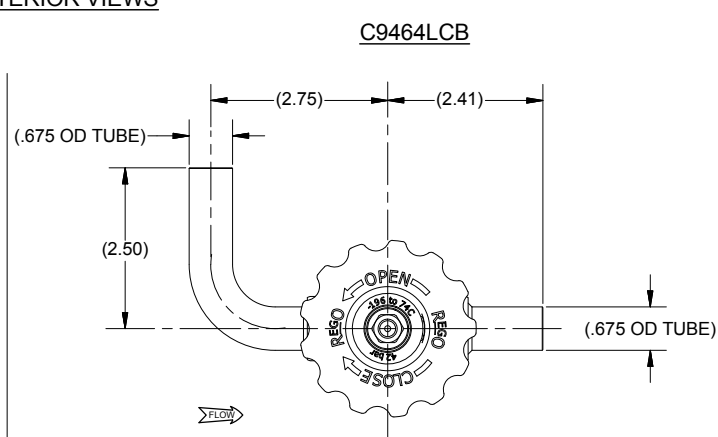
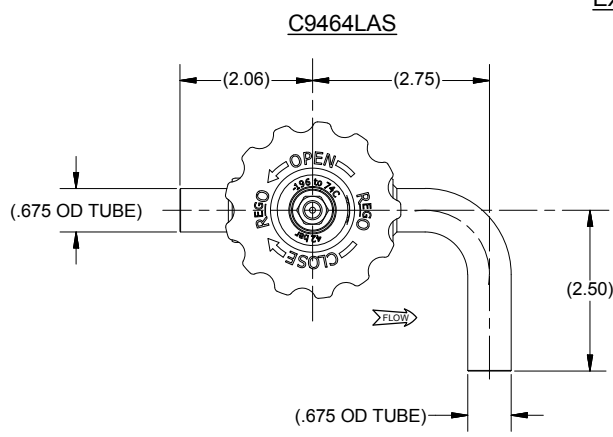
Materials

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



T9464LAS

EXTERIOR VIEWS



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

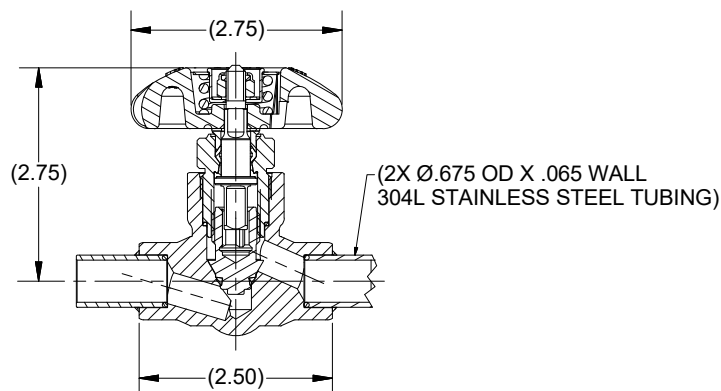
Designed to conform to space constraints in LNG fueling systems. Maintains the same flow and outstanding service life of all RegO cryogenic in-line shut-off valves.

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

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



Ordering Information

Part Number	Outlet	Inlet	C _v Factor for Gaseous Flow	C _v Factor for Liquid Flow
T9464LDR	1/2" Flared tube fitting 45° elbow.	.675 Tube	1.08"	1.79"
T9464LES	3/8" NTPF	.813 Tube		
T9464LJS				



T9464LDR



T9464LES



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. (-196°C to 74°C)
- 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

Materials

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

Conversion Kit

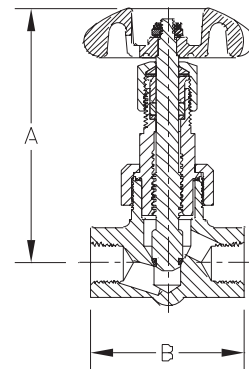
BK 9450-KIT is a bonnet and stem assembly kit to convert ES 8450 series and previous ES 9450 Series to the BK 9450 style.

Ordering Information

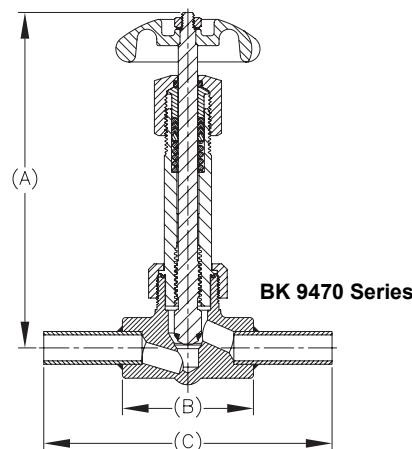
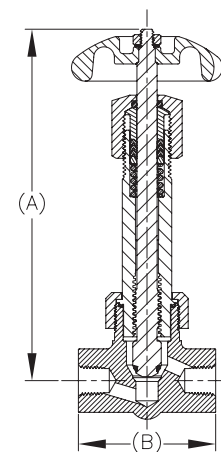
Part Number	Inlet/Outlet Connections	Height "A"	Body Width "B"	Width with Tube "C"	Cv
ES8452	¼" FNPT	4.2"	2.5"	NA	0.70
TES8452					
ES8453	⅜" FNPT				
TES8453					
ES8454	½"FNPT				
TES8454					
BK9452	¼" FNPT	6.5"		0.70	
BK9453	⅜" FNPT			1.10	
BK9454	½"FNPT				
BK9453FA	⅝" OD tubing x ⅜"FNPT				4.0"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



ES 8450 Series



BK 9450 Series



BK 9470 Series

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 (Fluorosilicone 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

- 9400 for set pressure 90-600 psig, flow of 0.783 SCFM Air/psig at 110% of set pressure.
- 9400 for set pressure 15-89 psig, flow of 0.750 SCFM Air/psig at 110% of set 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

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

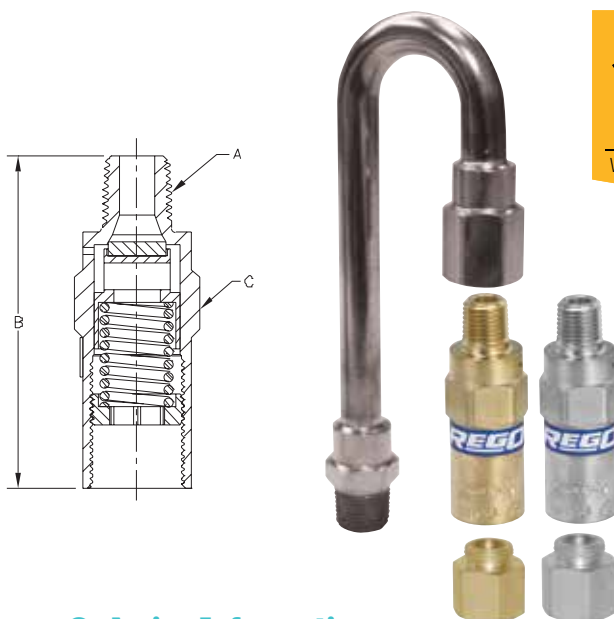
Drain Hole Option

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.

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					2.8"	B-9412-2	⅜"
SS			Stainless Steel						SS-9412-4	½"
PRV	9434	½"	Brass					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"	2⅝"	.62	B-3132-10	1¼"	



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

9400 Series

This example part number indicates a 1/4" 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 PRV9432TP350P
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	

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			

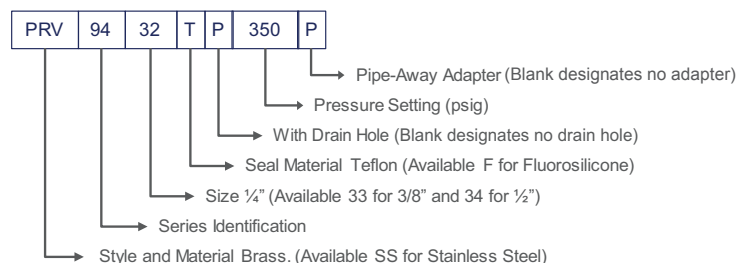
Color Identification

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



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.

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. (-196°C to +74°C)
- Temperatures Range (Fluorosilicone Seat) -60° to +165° F. (-51°C to +74°C)
- 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

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 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.

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

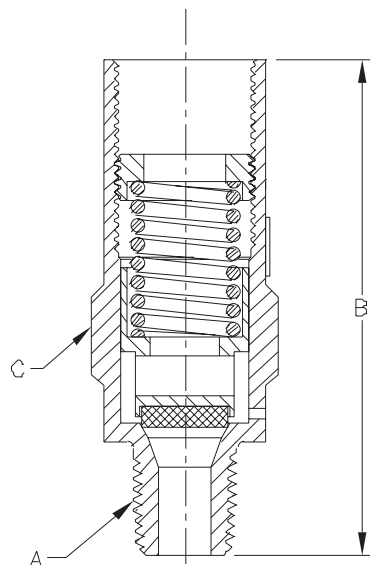
Enter number for set pressure in psig (6.2 - 41.4 barg) from 15 to 600.

Ordering Information

Part Number	Material	Inlet A	Height B	Wrenching Hex C	Orifice Size
PRV19432	Brass	1/4"	2.6	7/8"	.062 sq. inch
PRV29432	Stainless Steel				
PRV19433	Brass	3/8"	2.8	7/8"	.062 sq. inch
PRV29433	Stainless Steel				
PRV19434	Brass	1/2"	2.8	7/8"	.062 sq. inch
PRV29434	Stainless Steel				



19430 Series



Set-point tolerance is $\pm 3\%$ 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.

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			

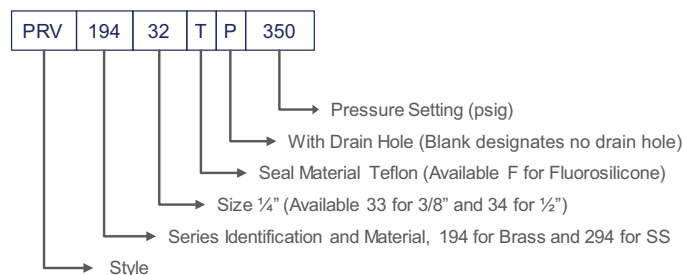
Color Identification

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



Right Angle Relief Valves

NG-900 Series

Application

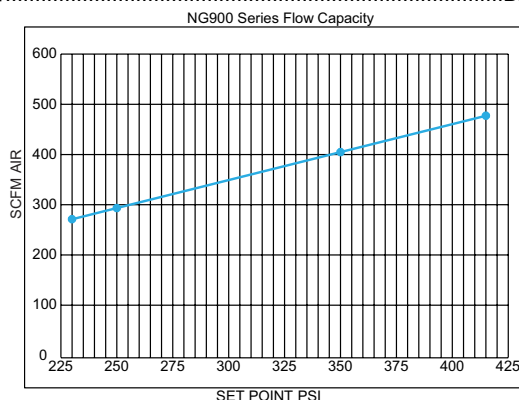
The NG-900 series relief valves are specifically designed for vapor line safety relief applications and cryogenic liquid containers. These valves open and close at preset pressures to ensure reliable performance at cryogenic temperatures. Specifically designed to avoid over pressurization in LNG fuel tank application and LNG installation.

Features

- Pressure Range 15 - 600 PSI (0.7 - 41.4 BARG)
- Optional pull lever for manual override
- Materials selected specifically for compatibility with Natural Gas
- 100% Factory tested
- Temperature range -320°F to +196°F (-196°C to +74°C)
- Designed in accordance with & approved by ECE R110

Materials

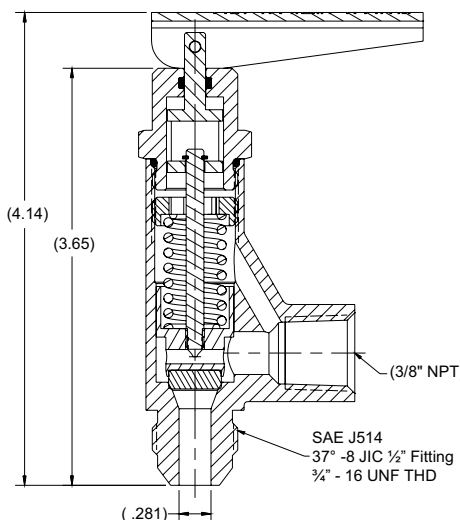
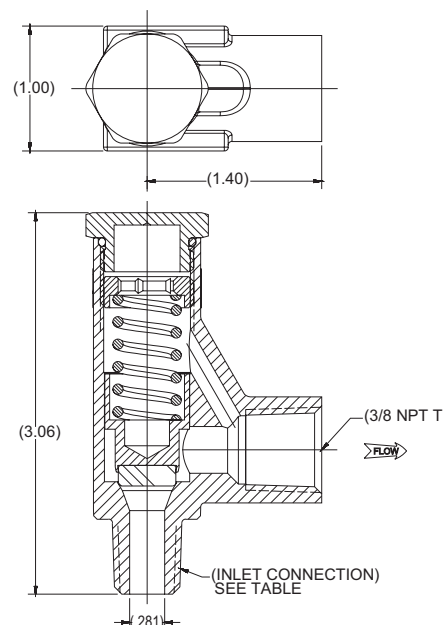
Spring Pin	Stainless Steel
Handle	Stainless Steel
O-rings	Fluorosilicone
Connector	Brass
Stem	Stainless Steel
Bonnet	Brass
Seat Disc	PTFE
Spring	Stainless Steel
Adjusting Screw	Stainless Steel
Body	Brass
Poppet	Brass



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)	DuronI 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

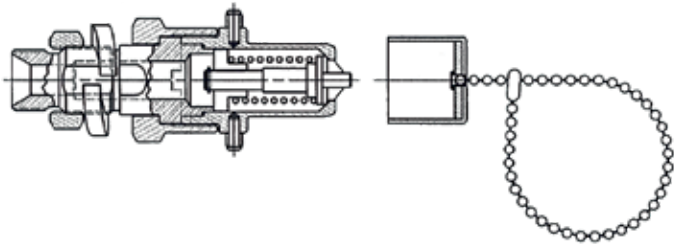
- Designed for durability and long lasting performance
- Materials selected specifically for compatibility with LNG
- PTFE seat provides positive shut off at cryogenic temperatures
- Temperature range: -325°F(-198°C) to +150°F(+65°C)
- 100% factory tested
- Max fueling pressure: 300 psig (20.7 barg)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

Materials

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



MQD100



Ordering Information

Old Part Number	New Part Number	Inlet Connection	Subjection to Base
11170	MQD100401N	3/8" SW	n
14075	MQD100701P	3/8" MNPT	Panel mount with nut
14000	MQD100101P	M20 X 1.5	Bulkhead. Panel Mount
12895	MQD100201P	3/8" -18 MNPT	
12680	MQD100201N	3/8" -18 MNPT	Without
14190	MQD100201F		Bulkhead, Flanged
	MQD100701P		Bulkhead
14080	MQD100701N	37° SAE Flare Fitting	Without, Extended
14410-1	MQD100501F		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

Materials

Body (NG303B Series).....	Brass
Body (NG303S Series).....	Stainless Steel
Spring	Stainless Steel
Poppet (NG303B Series).....	Brass
Poppet (NG303S Series).....	Stainless Steel
Bonnet	Stainless Steel

Configuration Options

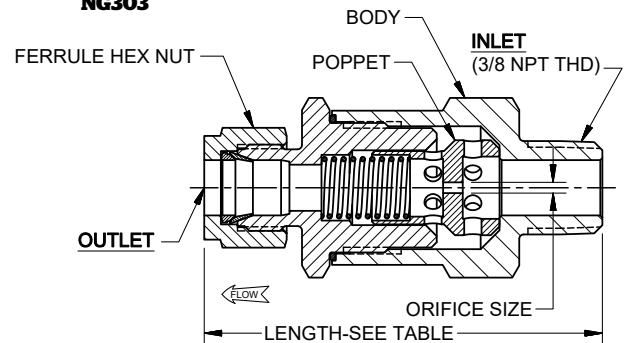
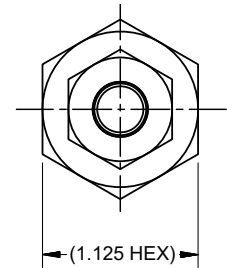
- NG303XYZ
- X is a Material option
- Y is a Connection option
- Z is a Poppet orifice size option
- Currently have 24 configuration options:
 - 2 materials
 - 4 connections
 - 3 poppet sizes

Ordering Information

Part Number	Inlet	Outlet	Poppet Orifice inch (mm)	Ferrule Nut Hex inches (mm)	Length	Closing Flow		
NG303B	3/8"	10mm Tube	.079 (2.0)	.750 (19)	2.9 (74)	3.5 - 5.5 GPM		
NG303B1A			.059 (1.5)					
NG303B1B			.031 (0.8)					
NG303B3		3/8" Tube	0.79 (2.0)	.688 (17)				
NG303B3A			.059 (1.5)					
NG303B3B			.031 (0.8)					
NG303B3M270		3M27 x 2 THD	0.79 (2.0)	N/A	2.8 (71)			
NG303B3M27A			.059 (1.5)					
NG303B3M27B			.031 (0.8)					
NG303BN030		3/8" NPT THD	0.79 (2.0)				N/A	2.8 (71)
NG303BN03A			.059 (1.5)					
NG303BN03B			.031 (0.8)					
NG303S		10mm Tube	0.79 (2.0)	.750 (19)	2.9 (74)			
NG303S1A			.059 (1.5)					
NG303S1B			.031 (0.8)					
NG303S3		3/8" Tube	0.79 (2.0)	.688 (17)				
NG303S3A			.059 (1.5)					
NG303S3B			.031 (0.8)					
NG303SM270		3M27 x 2 THD	0.79 (2.0)	N/A	2.8 (71)			
NG303SM27A			.059 (1.5)					
NG303SM27B			.031 (0.8)					
NG303SN30		3/8" NPT THD	0.79 (2.0)				N/A	2.8 (71)
NG303SN3A			.059 (1.5)					
NG303SN3B			.031 (0.8)					



NG303



RegO® LNG Check Valves

NG301 Series

Application

For use with LNG liquid lines as an effective shut-off utilizing ball and spring mechanism. 1/8" design fits compact piping systems. Heavy-duty spring and precision ball provide dependable service in LNG fuel applications.

Features

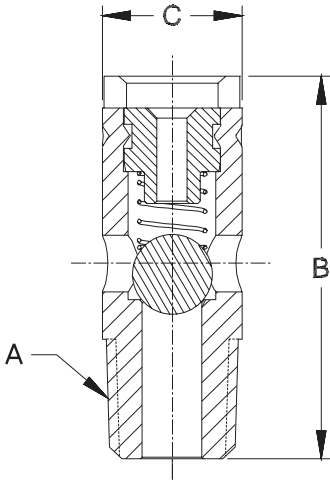
- Materials selected specifically for compatibility with LNG
- Quick acting ball and spring mechanism.
- Metal to metal seating provides durable service life.
- Maximum inlet pressure 1000 psig (69 barg).
- 100% factory tested.
- Temperature Range: -320° F to 165°F (-196°C to 74°C).
- Designed in accordance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

Materials for NG301

BodyBrass ASTM B16 C36000
 Spring Stainless Steel 302 ASTM A313
 PlugBrass ASTM B16 C36000
 Ball..... Stainless Steel 316



NG301



NG301

Ordering Information

Part Number	Body Material	Connection (A)	B	C	Weight Lbs	Silver Plated End Piece
NG301	Brass	Threaded MNPT F 1/8"	1.200	.438	0.01	N/A

RegO® LNG Check Valves NG304 Series

Application

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.

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 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

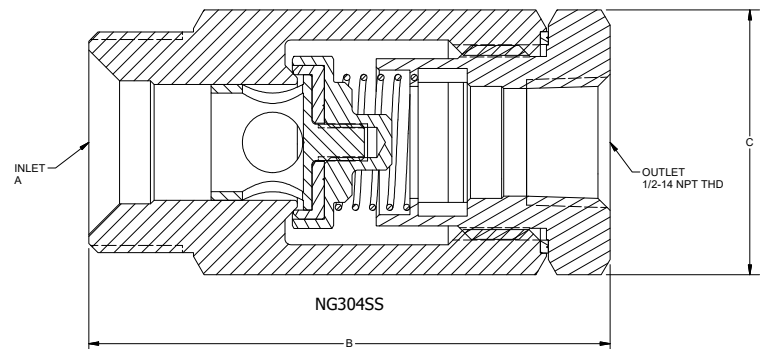
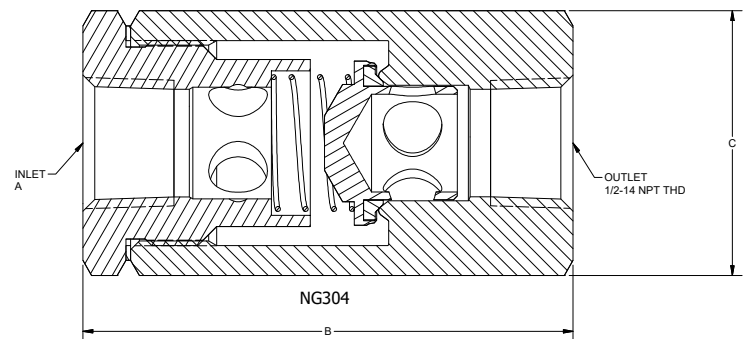
Body Stainless Steel 304 ASTM276
Spring Stainless Steel 302 ASTM A313
Gasket Copper ASTM B152 UNS C11000
Poppet Brass 360 FC (UNS C36000 PER ASTM B16)
Seat Disc UHMWPE (ASTM D4020)



NG304



NG304SSA



Ordering Information

Part Number	Body Material	Connection (A)	B	C	Weight Lbs	Silver Plated End Piece
NG304	Brass	Threaded FNPT F ½	3.135	1.5 (Hex)	1.25	N/A
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			

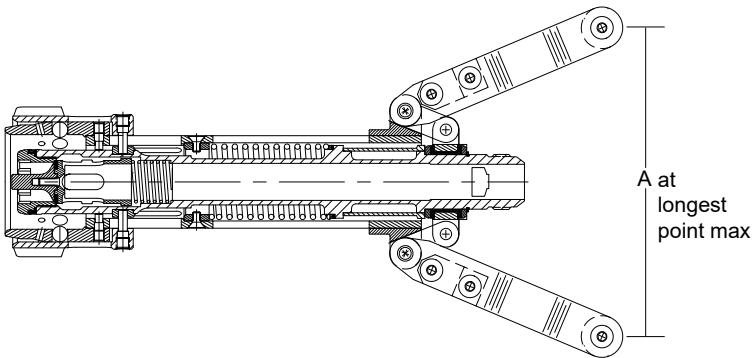
CryoMac® 3 50 GPM LNG Fueling Nozzle

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



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	Handle Distance "A"
CryoMac3-50M	CryoMac3-50M	SAE J514 (37° Flare JIC)	Standard 7.5"	18.5"
CryoMac3-50M-S	CryoMac3-50M-S	SAE J514 (37° Flare JIC)	Short 6"	14.5"

CryoMac® 4 50 GPM LNG Fueling Nozzle

Application

The CryoMac 4 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 4

CERTIFIED

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

Materials

Seat	PCTFE (KEL-F)
Poppet Body	Brass
Spring	Stainless Steel or Spring Wire
Probe	Stainless Steel
Tube	Stainless Steel
Fitting	Stainless Steel
Housing	Aluminum



ATEX

CE Ex II 2G c IIA T3 X

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

Ordering Information

Part Number	Inlet Connection	Handle
CryoMac4-50M	SAE J514 (37° Flare JIC)	Standard

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. 5/8" 45° SAE Fitting (CGA 440)
13775	FQD100602N	5/8" 45° SAE Fitting (CGA 440) Short Straight Handle
13785	FQD100603N	5/8" 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 (¾ 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

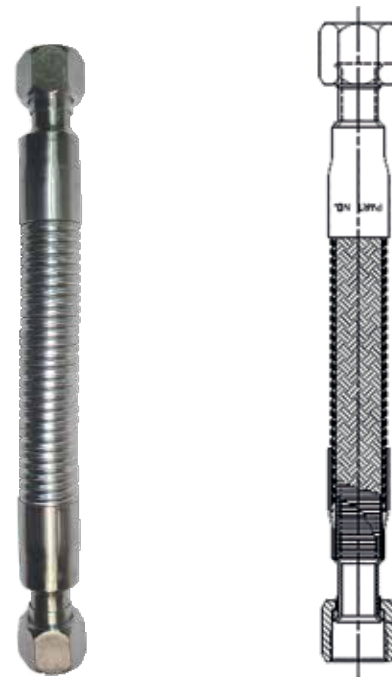
The CHS Series are cryogenic transfer hoses with stainless steel nuts used in the LNG dispensers. The flexibility and resistance of this cryogenic hoses guarantee a safe operation and easy handling during the refilling of liquid cylinders. The spiral support spring protects the hoses giving a longer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

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



CHS-440-440-072

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 (5⁄8 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)		No	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

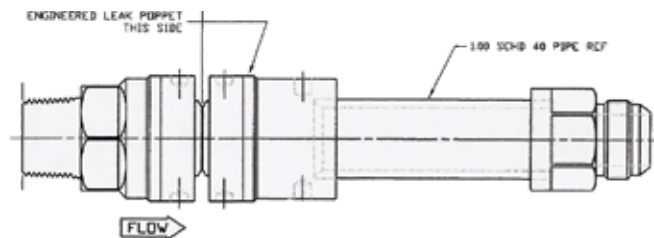
- Max internal pressure 300 psig/20.7 barg (while fueling)
- Max system pressure 550 psig/38 barg (static)
- Temperature range -340°F to 140°F (-206°C to 60°C).
- Fill Breakaway Flow Capacity 50 GPM
- Vent Breakaway Flow Capacity 10 GPM
- 100% pressure tested



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 (¾" 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		
13740-5	VFL-500202NA-10			Yes	No	

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.

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: 1/4" 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
- Weld-in-place - No disassembly required to install into a system*

Materials

Body Stainless Steel ASTM A351 CF8
Bonnet and Tube .. Stainless Steel ASTM A351 CF8/ASTM A479 type 304
StemStainless Steel ASTM A582 S30300
Spring.....Stainless Steel ASTM A313 S30200
Packing..... Live-loaded PTFE
Gasket.....PTFE 25% Glass Fill
Seat Disc.....PCTFE ASTM D1430
Seat Retainer.....Brass ASTM B16
Bonnet ScrewsASTM F837
Handwheel..... Painted Aluminum

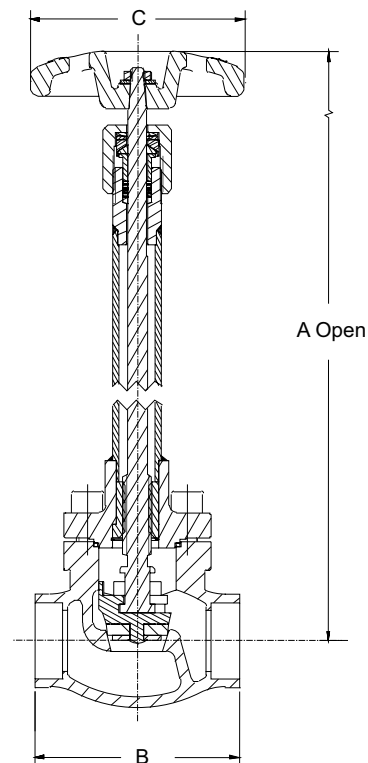
Quality / Facility Features

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

TPED and PED Certified



SK Advantage



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				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	24.45	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				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	24.45	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

* Other end connection options are available per request

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.

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: 1/4" 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
- Weld-in-place - No disassembly required to install into a system*

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 F837
 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

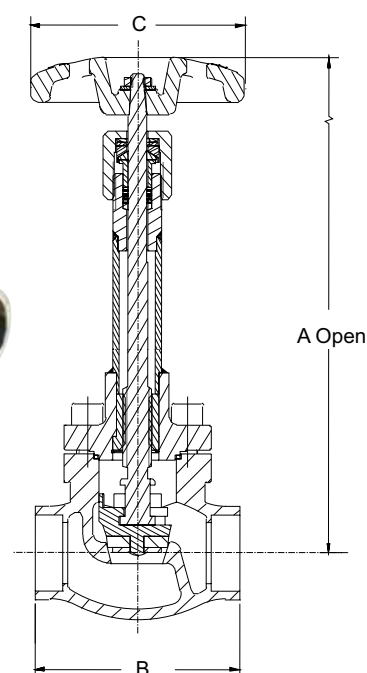
Part Number	Size Inches	Size DN	Connection	A Inches	A mm	B Inches	B mm	C Inches	C mm	Cv	Kv	Weight lbs	Weight kg		
SKM9402SW	¼"	8	Socket Weld	10.6	270	2.7	68	4	102	1.7	1.47	3.31	1.50		
SKM9404SW	½"	15				3.6	92			5	4.30	3.29	1.48		
SKM9406SW	¾"	20								9.4	8.10	4.86	2.20		
SKM9408SW	1"	25								14	12.10	5.02	2.27		
SKM9412SW	1½"	40				4.7	121	5	127	28.3	24.45	8.92	4.04		
SKM9416SW	2"	50				5.7	146			53	45.80	15.30	6.94		
SKM9402BW	¼"	8	Butt Weld			10.6	270	2.7	68	4	102	1.7	1.47	3.31	1.50
SKM9404BW	½"	15						3.6	92			5	4.30	3.29	1.48
SKM9406BW	¾"	20										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	24.45	8.92	4.04
SKM9416BW	2"	50						5.7	146			53	45.80	15.30	6.94

SW = Socket Weld; BW = Butt Weld

* Other end connection options are available per request



SKM9406BW



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.

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.
- Weld-in-place - No disassembly required to install into a system*

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 F837
 Handwheel Painted Aluminum

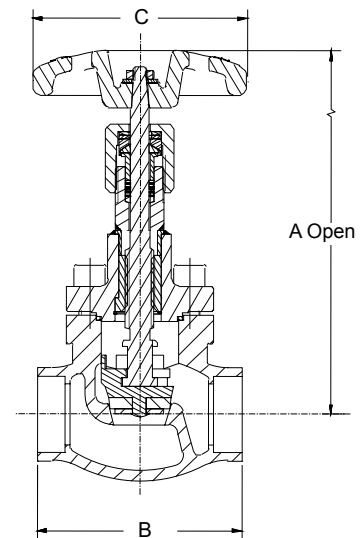
Quality / Facility Features

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

PED Certified



SKS9406BW



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	24.45	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	24.45	7.16	3.25

SW = Socket Weld; BW = Butt Weld

* Other end connection options are available per request

Stainless Steel Globe Valves for Cryogenic Service

SK Advantage Series Long Stem Threaded Connection

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.

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:** 1/4" through 2"
- **Connection:** Threaded NPT
- **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
- Weld-in-place - No disassembly required to install into a system*

Materials

Body Stainless Steel ASTM A351 CF8
 Bonnet and Tube .. Stainless Steel ASTM A351 CF8/ASTM A479 type 304
 StemStainless 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 ScrewsASTM F837
 Handwheel..... Painted Aluminum

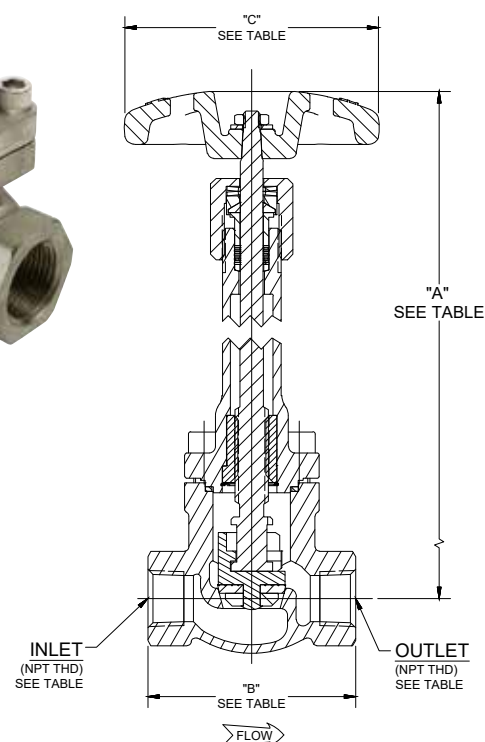
Quality / Facility Features

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

TPED & PED Certified



SKL9408T



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
SKL9404T	1/2"	15	Threaded NPT	14.6	370	3.09	78.48	4	102	5	4.30	3.47	1.68
SKL9408T	1"	25				3.95	100.33			14	12.10	5.34	2.42
SKL9412T	1 1/2"	40				5.00	127	5	127	28.3	24.45	9.48	4.30
SKL9416T	2"	50		14.5	368	5.92	150.37			53	45.8	16.3	7.39



Stainless Steel Globe Valves for Cryogenic Service

SK Advantage Series Medium Stem Threaded Connection

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.

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:** 1/4" through 2"
- **Connection:** Threaded NPT
- **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

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 F837
 Handwheel Painted Aluminum

Quality / Facility Features

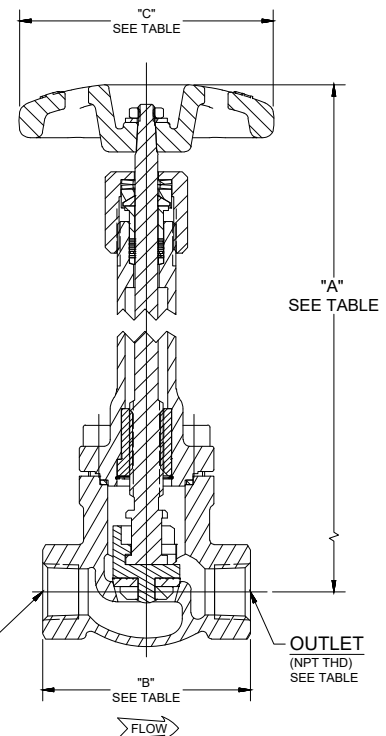
- Material traceability in accordance with BS EN 10204 3.1
- CE Marking per European Pressure Equipment Directive



TPED & PED Certified



SKM9408T



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
SKM9404T	1/2"	15	Threaded NPT	10.6	270	3.09	78.48	4	102	5	4.30	3.29	1.48
SKM9408T	1"	25				3.95	100.33			14	12.10	5.02	2.27
SKM9412T	1 1/2"	40				5.00	127.00	5	127	28.3	24.45	8.92	4.04
SKM9416T	2"	50				5.92	150.37			53	45.80	15.30	6.94



Stainless Steel Globe Valves for Cryogenic Service

SK Advantage Series Short Stem Threaded Connection

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.

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: 1/4" to 1 1/2"
- 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

Materials

Body Stainless Steel ASTM A351 CF8
 Bonnet and Tube Stainless Steel ASTM A351 CF8/ASTMA479 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

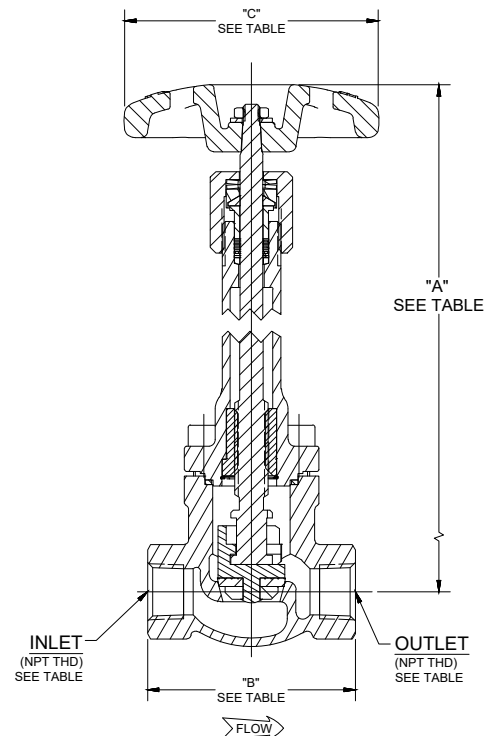
Quality / Facility Features

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

PED Certified



SKS9408T



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
SKS9404T	1/2"	15	Threaded NPT	6.7	170	3.09	78.48	4	102	5	4.30	2.62	1.19
SKS9408T	1"	25				3.95	100.33			14	12.10	4.10	1.86
SKS9412T	1 1/2"	40		7.0	178	5.00	127.00	5	127	28.3	24.45	7.16	3.25

Stainless Steel Globe Valves for Cryogenic Service

SK Advantage Series Long Stem, Inlet Socket Weld, Outlet Threaded NPT

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.

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:** 1/4" through 2"
- **Connection:** Threaded NPT
- **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
 StemStainless 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 ScrewsASTM F837
 Handwheel..... Painted Aluminum

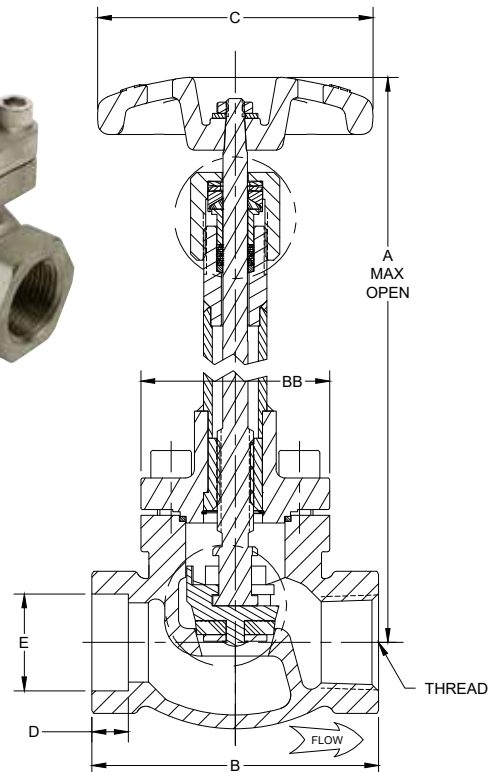
Quality / Facility Features

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

TPED & PED Certified



SKL9408ST



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
			Inlet	Outlet										
SKL9404ST	1/2"	15	Socket Weld	Threaded NPT	14.6	370	3.09	78.48	4	102	5	4.30	3.47	1.68
SKL9408ST	1"	25					3.95	100.33			14	12.10	5.34	2.42
SKL9412ST	1 1/2"	40					5.00	127	5	127	28.3	24.45	9.48	4.30
SKL9416ST	2"	50			14.5	368	5.92	150.37			53	45.8	16.3	7.39

Stainless Steel Globe Valves for Cryogenic Service

SK Advantage Series Medium Stem, Inlet Socket Weld, Outlet Threaded NPT

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.

Features

- **Soft Seat:** PTFE 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:** 1/4" through 2"
- **Connection:** Threaded NPT
- **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

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 F837
 Handwheel Painted Aluminum

Quality / Facility Features

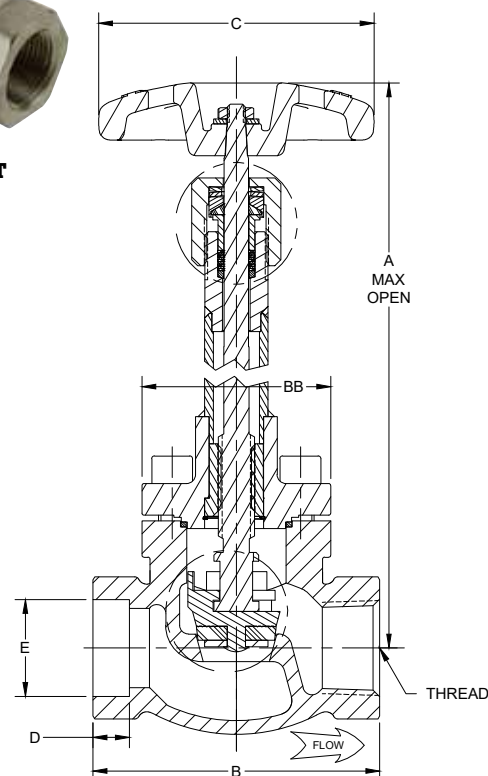
- Material traceability in accordance with BS EN 10204 3.1
- CE Marking per European Pressure Equipment Directive



TPED & PED Certified



SKM9408ST



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
			Inlet	Outlet										
SKM9404ST	1/2"	15	Socket Weld	Threaded NPT	10.6	270	3.09	78.48	4	102	5	4.30	3.29	1.48
SKM9408ST	1"	25					3.95	100.33			14	12.10	5.02	2.27
SKM9412ST	1 1/2"	40					5.00	127.00	5	127	28.3	24.45	8.92	4.04
SKM9416ST	2"	50					5.92	150.37			53	45.80	15.30	6.94



Stainless Steel Globe Valves for Cryogenic Service

SK Advantage Series Short Stem, Inlet Socket Weld, Outlet Threaded NPT

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.

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

Materials

Body Stainless Steel ASTM A351 CF8
 Bonnet and Tube Stainless Steel ASTM A351 CF8/ASTMA479 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

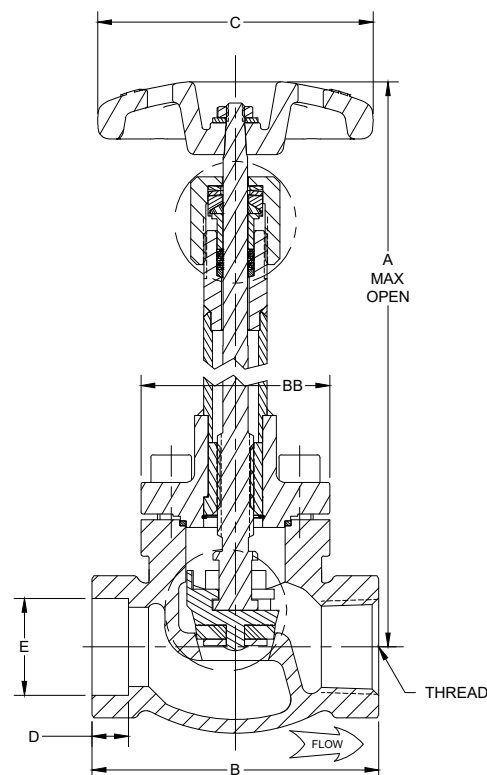
Quality / Facility Features

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

PED Certified



SKS9408T



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
			Inlet	Outlet										
SKS9404ST	½"	15	Socket Weld	Threaded NPT	6.7	170	3.09	78.48	4	102	5	4.30	2.62	1.19
SKS9408ST	1"	25					3.95	100.33			14	12.10	4.10	1.86
SKS9412ST	1½"	40			7.0	178	5.00	127.00	5	127	28.3	24.45	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.

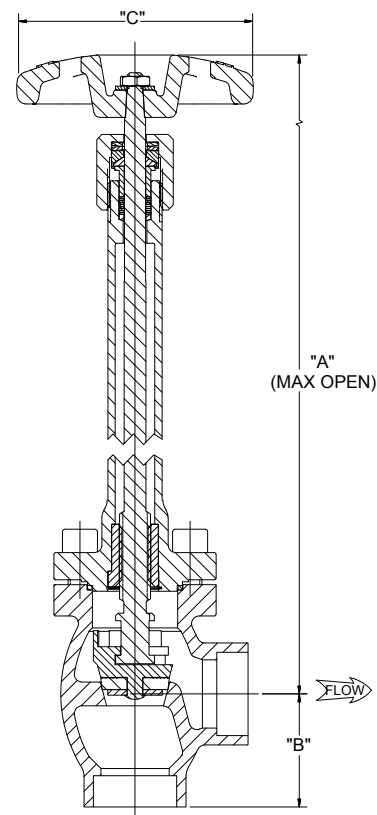
Features

- 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
- Weld-in-place - No disassembly required to install into a system*

Materials

Body Stainless Steel ASTM A351 CF8
 Bonnet and TubeStainless Steel ASTM A351 CF8/ASTM A479 type 304
 StemStainless Steel ASTM A582 S30300
 SpringStainless 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 ScrewsASTM F837
 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		10.6	270	1.33	33.78	4	102	5.0	2.2
SKA9412MSW	1½"	40				1.92	48.77	5	127	8.0	3.6

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.

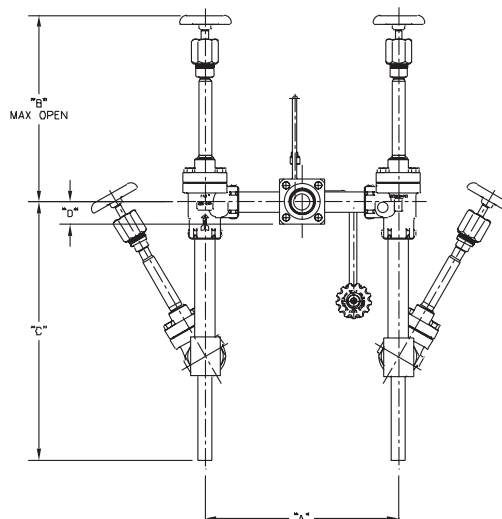
Ideal for all cryogenic liquids including Liquefied Nitrogen, Oxygen and Argon. Safe and reliably used in LNG Systems. In addition RegO® can custom design configurations that are welded and brazed in a factory setting.

Features

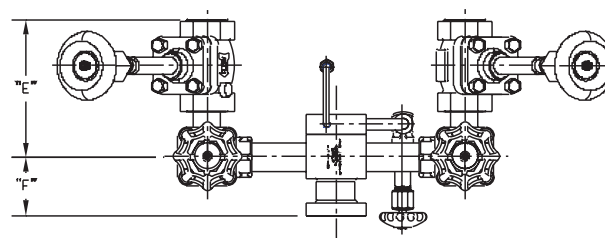
- Unitized construction eliminates leaks and provides easy fit-up to tank piping
- Modules commonly include top and bottom fill valves, fill check with strainer and hose bleed and relief valve
- Many options are available which can include specific end user dimensions and specifications
- Our valve products 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

Materials

Globe Valve Stainless Steel
 Check Valve..... Brass
 Bleed Valve..... Brass
 Tube 304L Stainless Steel or Copper



SFM-4D



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.

Ordering Information

Stainless Body • RF Flange Ends

150# Part Number	300# Part Number	Valve Size		Ends	150# Weight		300# Weight		Estimated Cv
		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 Cv
		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)

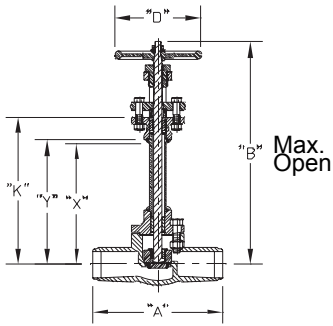


210 Series



Stainless Steel Globe Valve for Cryogenic Service

210 Series



Butt Weld Ends

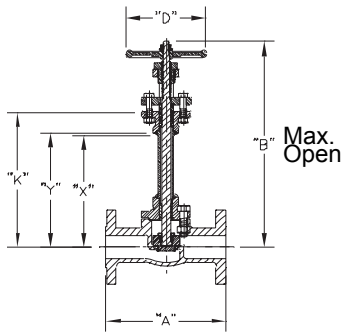
Size	"A"	"B"	"D"	"K"	"X"	"Y"
2"	10½"	22¼"	7"	15"	12¾"	13⅛"
3"	12"	30½"	10"	21½"	19⅛"	19⅝"
4"	13½"	36¾"	12"	24¼"	21⅛"	22"

Δ For SCH. 40 A=12½"

Θ For SCH. 40 A=14"

* Unless otherwise specified, SCH 10 weld ends are supplied

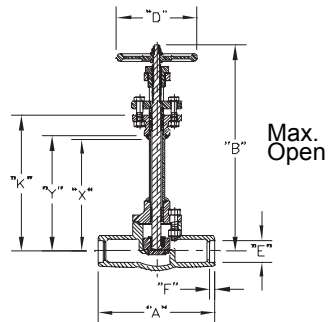
• Special B,K,X and Y dimensions available.



Raised Face Flange Ends*

Size	"A" 150#	"A" 300#	"B"	"D"	"K"	"X"	"Y"
1"	6½"	8"	18⅝"	5"	12¾"	11⅛"	11⅝"
2"	8"	10½"	22¼"	7"	15"	12¾"	13⅛"
3"	9½"	12½"	30½"	10"	21½"	19⅛"	19⅝"
4"	11½"	14"	36¾"	12"	24¼"	21⅛"	22"

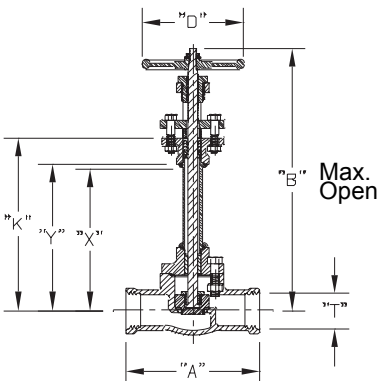
• Special B,K,X and Y dimensions available.



Socket Weld Ends

Size	"A"	"B"	"D"	"E"	"F"	"K"	"X"	"Y"
½"	5"	18⅝"	5"	.855	⅜"	12¾"	11⅛"	11⅝"
¾"				1.065	½"			
1"				1.330	½"			
1½"	10¼"	22¼"	7"	1.915	½"	15"	12¾"	13⅛"

• Special B,K,X and Y dimensions available.



Threaded Ends

Size	"T" - NPT	"A"	"B"	"D"	"K"	"X"	"Y"
½"	½"-14	5"	18⅝"	5"	12¾"	11⅛"	11⅝"
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



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)

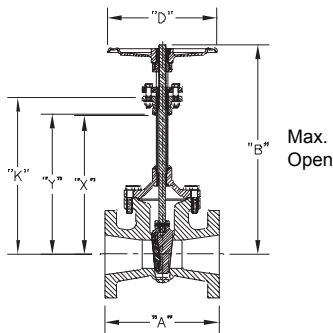
Ordering Information Stainless Body • Butt Weld, Socket Weld, Threaded Ends

150# Part Number	300# Part Number	Valve Size		Ends	Weight		Estimated C _v
		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	10	4.54	23.00
GS-00110W-6S3	GS-00110W-6S3			Socket Weld	15	6.80	23.00
GS-00110W-8WA	-			Butt Weld SCH10	10	4.54	30.00
GS-00110W-8S3	GS-00110W-8S3	1"	25 mm	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			Butt Weld SCH10	35	15.88	100.00
GS-00110W-16W3J	GS-00110W-16W3J	2"	50 mm	Butt Weld SCH40	30	13.61	
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	80	40.82	
GS-00110W-32W3A	GS-00110W-32W3A			Butt Weld SCH10	80	40.82	700.00
GS-00110W-32W3J	GS-00110W-32W3J	4"	100 mm	Butt Weld SCH40	120/150*	54.43/68.04*	
GS-00110W-48WA	GS-00110W-48W3A			Butt Weld SCH10			
GS-00110W-48W3J	GS-00110W-48W3J			Butt Weld SCH40			850.00

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

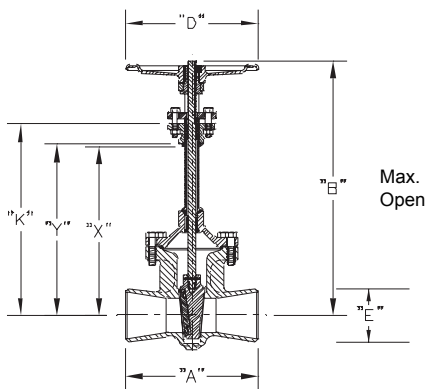


Raised Face Flange Ends*

Size	"A" 150#	"A" 300#	"B"	"D"	"K"	"X"	"Y"
1"	4 $\frac{1}{8}$ "	N/A	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
1 $\frac{1}{2}$ "	4 $\frac{5}{8}$ "	6 $\frac{1}{8}$ "*	21 $\frac{1}{8}$ "	7"	14"	12 $\frac{5}{16}$ "	12 $\frac{5}{8}$ "
2"	7"	7 $\frac{1}{4}$ "*	21 $\frac{1}{8}$ "	7"	14"	12 $\frac{5}{16}$ "	12 $\frac{5}{8}$ "
3"	8"	8 $\frac{3}{4}$ "*	31 $\frac{1}{2}$ "	12"	20"	17 $\frac{3}{4}$ "	18 $\frac{1}{16}$ "
4"	9"	12"	33 $\frac{3}{4}$ "	12"	21 $\frac{1}{2}$ "	19 $\frac{1}{4}$ "	19 $\frac{9}{16}$ "
6"	10 $\frac{1}{2}$ "	15 $\frac{5}{8}$ "	41 $\frac{1}{2}$ "	16"	26"	23 $\frac{9}{16}$ "	23 $\frac{3}{8}$ "

*Face-to-face dimensions (A) are Goddard standard not to ANSI standard.

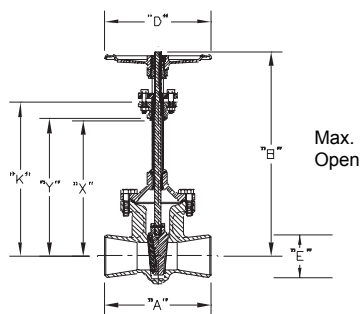
• Special B, K, X and Y Dimensions Available



Socket Weld Ends

Size	"A" 150#	"A" 300#	"B"	"D"	"E"	"F"	"K"	"X"	"Y"
½"	3¾"	3¾"	17¾"	4½"	.855	⅜"	12¾"	11⅛"	11⅝"
¾"					1.065	½"			
1"					1.330				
1½"	4⅝"	5"	21⅞"	7"	1.915	5⅝"	14"	12⅝⅓"	12⅝⅞"
2"	8½"	N/A			2.406				

• Special B, K, X and Y Dimensions Available



Butt Weld Ends

Size	"A" 150#	"A" 300#	"B"	"D"	"K"	"X"	"Y"
1/2"	4 $\frac{1}{4}$ "	N/A	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
3/4"	4 $\frac{5}{8}$ "	N/A	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
1"	5"	N/A	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
1 $\frac{1}{2}$ "	6"	6"	21 $\frac{1}{8}$ "	7"	14"	12 $\frac{5}{16}$ "	12 $\frac{5}{8}$ "
2"	8 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	21 $\frac{1}{8}$ "	7"	14"	12 $\frac{5}{16}$ "	12 $\frac{5}{8}$ "
3"	11 $\frac{1}{8}$ "	11 $\frac{1}{8}$ "	31 $\frac{1}{2}$ "	12"	20"	17 $\frac{3}{4}$ "	18 $\frac{1}{16}$ "
4"	12"	12"	33 $\frac{3}{4}$ "	12"	21 $\frac{1}{2}$ "	19 $\frac{1}{4}$ "	19 $\frac{9}{16}$ "
6"	15 $\frac{5}{8}$ "	15 $\frac{5}{8}$ "	41 $\frac{1}{2}$ "	16"	26"	23 $\frac{9}{16}$ "	23 $\frac{3}{8}$ "

• 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

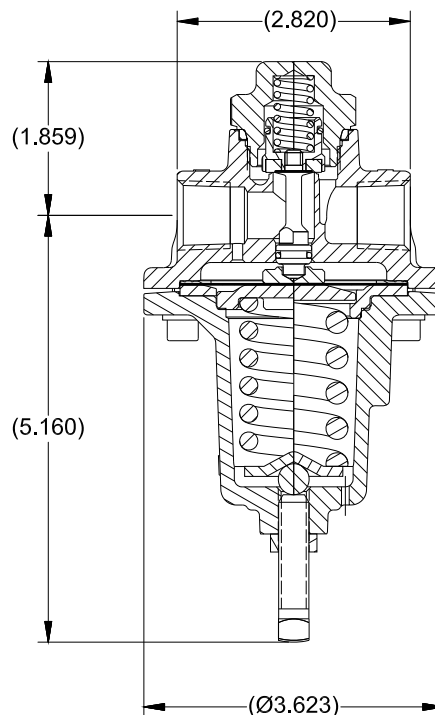
Ordering Information

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).



PB504



Cryogenic ½" Combination Pressure Builder / Economizer

CBE504 Series

Application

CBE504 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 potential leak points. Designed and suitable for use in various cryogenic industrial gases, including Nitrogen, Oxygen, Argon, CO2 and LNG. For optimum performance with carbon dioxide and nitrous oxide, use in gas phase only.

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
- Up to 2 times higher pressure build flow than competition as proven through PB504 design and internal testing
- Lateral economizer port provides 1.7 times larger flow area, allowing for faster response time & reducing the potential for product loss.
- 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 setting range from 25 psig to 550 psig (1.7 barg to 37.9 barg) preset and tested in factory to ensure quality performance
- Monel screens included on pressure builder (PB) inlet and outlet
- Cleaned per CGA G-4.1 for oxygen service
- May be mounted vertically or horizontally (EC port pointed up) based on customer preference; horizontal installation allows for easier pressure setting adjustment

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

Ordering Information

Part Number	Inlet/Outlet Connections in. (DN)	Operating Range psig (barg)	Weight lb (kg)
CBE504-025 to 075	Pressure Build Inlet/Outlet: ½" (15) Economizer Outlet: ¼" (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)	

* Add "A" suffix to Part Number to include ½" NPTF economizer port adapter, e.g. CBE504-120A. Adapter 489-09P also sold separately.

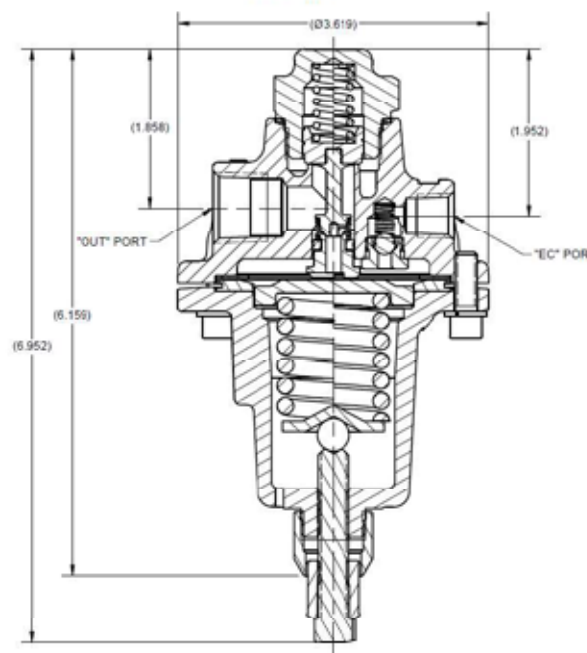
**PED
Certified**



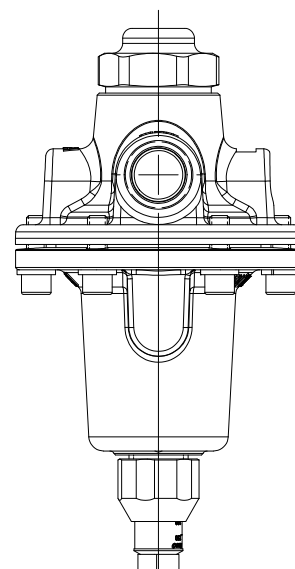
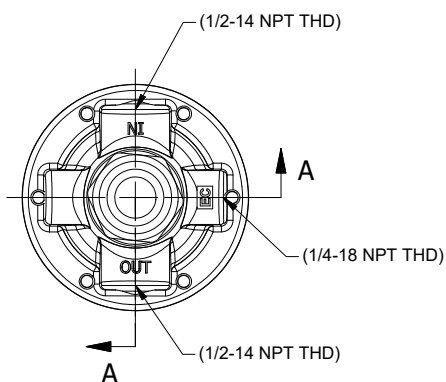
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CBE Series



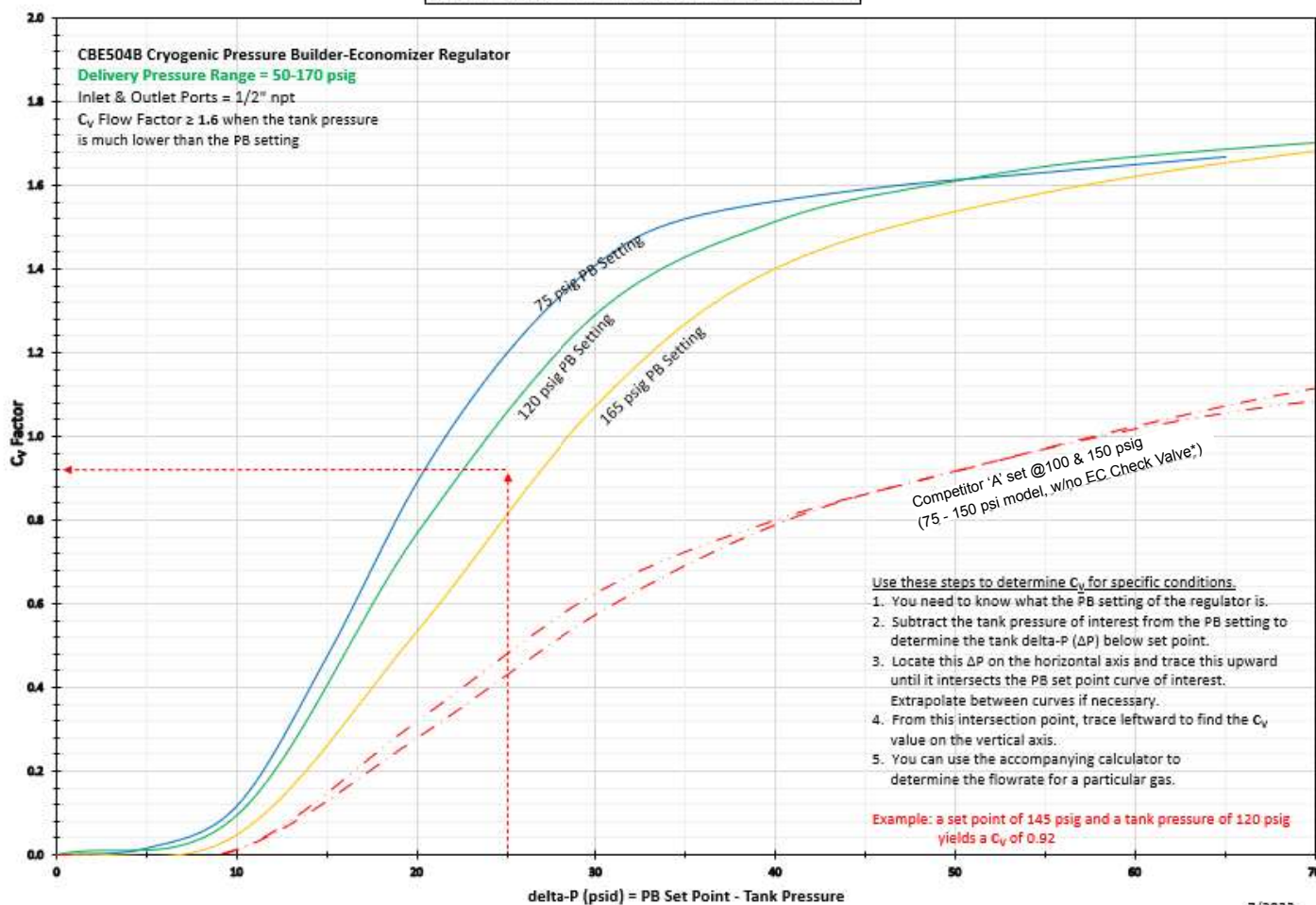
Cryogenic 1/2" Combination Pressure Builder / Economizer CBE504 Series



CBE504B Flow Performance

C_v vs. ΔP at Various Set Points

Flow Factor (C_v) vs. Amount Tank Pressure is Below Regulator Set Point



* NOTE: Pressure build speed performance not impacted by use with or without internal EC Check Valve; only economizer speed impacted.

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.

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.

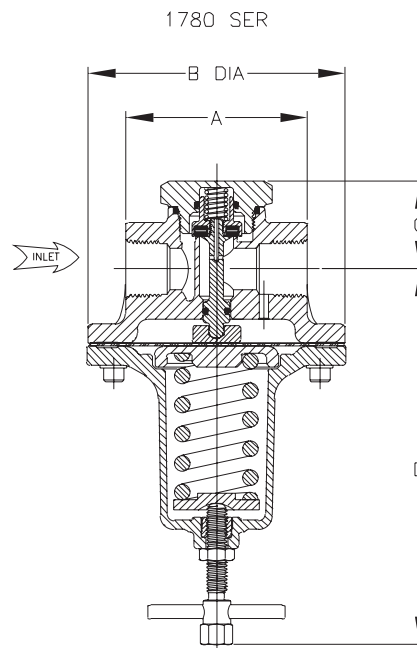
Ordering Information

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"	3.31"	4.69"	1.60"	6.84"	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.



1780 Series



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

Certifications

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

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
			Size
			A,N - psig
			B - barg
			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

Ordering Information

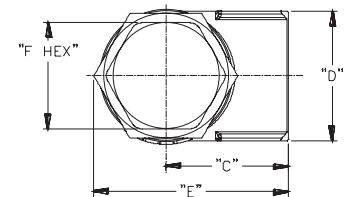
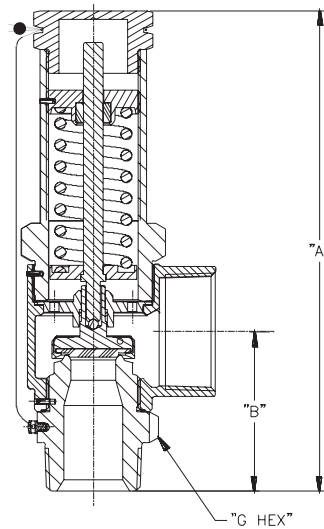
Part Number	Inlet Inches (mm)	Outlet Inches (mm)	Ends	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	Set Pressure	ASME Flow Capacity (Air) at 110% Set Pressure	Weight Lbs (Kg)
AR4104A	½" (15)	1" (25)	Thread NPT	6.03" (153.16)	1.97" (50.04)	1.63" (41.40)	1.63" (41.40)	2.49" (63.25)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



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.

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 Requirements and Pressure Unit	Cert	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
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

Ordering Information

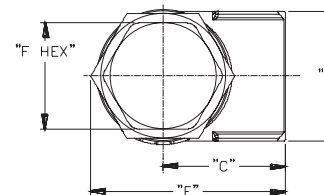
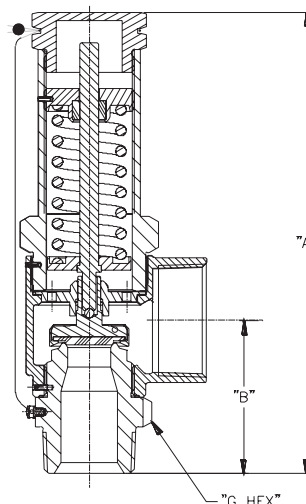
Part Number	Inlet Inches (mm)	Outlet Inches (mm)	Ends	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	Set Pressure	ASME Flow Capacity (Air) at 110% Set Pressure	Weight Lbs (Kg)
AR5104A	½"	1" (25)	Thread BSP	6.03" (153.16)	1.97" (50.04)	1.63" (41.40)	1.63" (41.40)	2.49" (63.25)	250 psig*	406 SCFM	2.75 (1.25)
AR5104B	(15)								17.23 barg*	690 m³/hr	
AR5106A	¾"								250 psig*	451 SCFM	
AR5106B	(20)								17.23 barg*	766 m³/hr	
AR5108A	1"	1¼"		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	(25)	(32)							17.23 barg*	1704 m³/hr	
AR5112A	1½"	2"		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	(40)	(50)							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.



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.

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

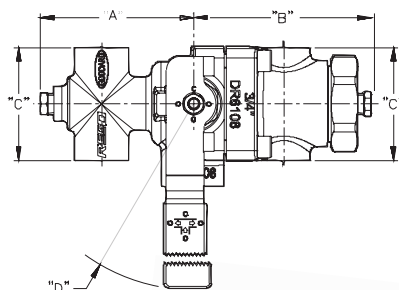
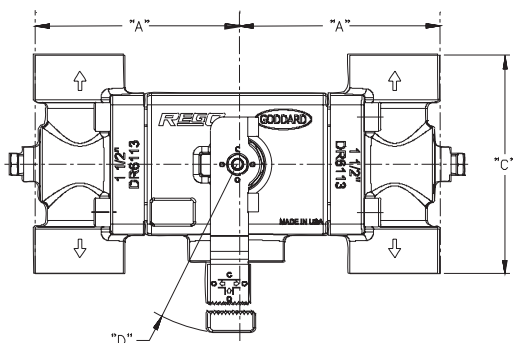
The DR Diverter Valve Series provides a simple solution for the isolation of pressure relief devices during routine change out of a relief valve and burst discs without evacuating the vessel. Excellent for protecting bulk liquid vessels, transport trailers, industrial pipelines, and LNG systems.

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

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



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)	3/4" (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	
DR6112	1 1/2" (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	
DR6113	1 1/2" (38.1)	1 1/2" (38.1)			-	5.70 (145.0)	R 7.36" (187.1)	5.770" (146.6)	30# (13.60)	Right	22.6
										Left	
										Both	

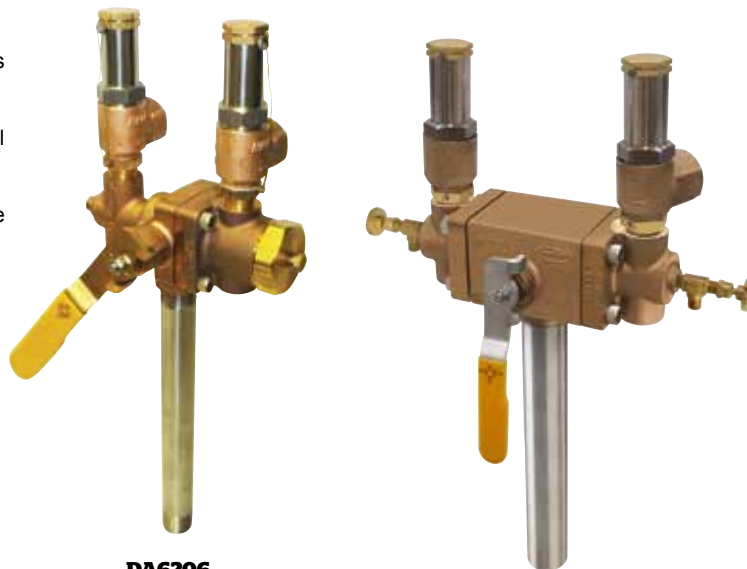
RegO® - Bulk Vessel Safety Assembly - Relief Valve and Diverter DA6200 Series

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.

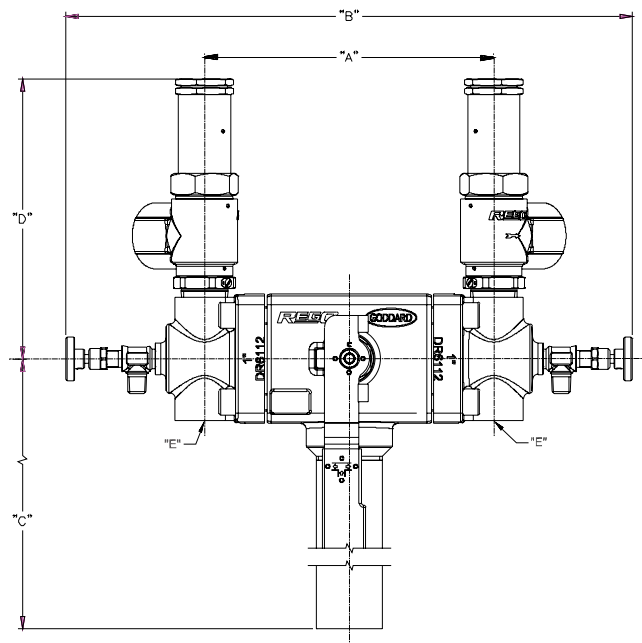
Features

- 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	Set Pressure
		Requirements and Pressure Unit	

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

Set Pressure	Size
A/N - psig	04=1/2"
B - barg	06=3/4"
	08=1"
	12=1 1/2"

Set-point tolerance is $\pm 3\%$ 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	3/4"	Thread NPT	4.76" (120.9)	13.25" (336.55)	9.75" (247.7)	7.00" (177.8)	3/4" NPT (19.0)
DA6208	1"		8.33" (211.6)	16.30" (414)	16.47" (418.34)	8.06" (204.7)	1" NPT (25.0)

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.

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 

Materials

Body 316 Stainless Steel ASTM A351-CF-8M (DIN 1.4408)
Ball.....316L Stainless Steel ASTM A276 (DIN 1.4006)
SeatDyneon 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
Stem316L 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)

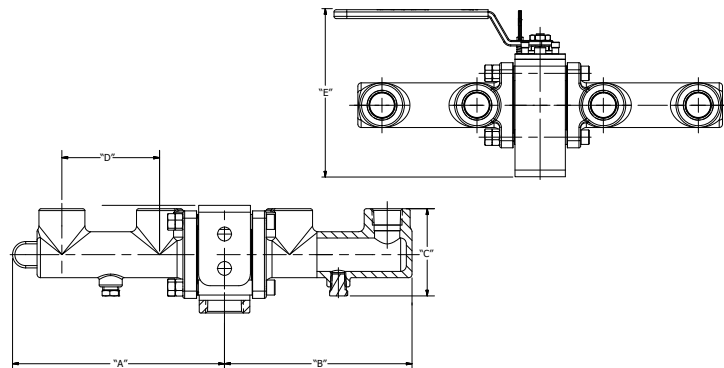
Ordering Information

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)		
DV4108SU06		¾ (DN20)									Both Sides	21.7 (18.8)		
DV4108SU08		1 (DN25)									One Side	13.3 (11.5)		
DV4108SM04		½ (DN15)									Both Sides	22.5 (19.5)		
DV4108SM06		¾ (DN20)		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	16.0 (13.8)		
DV4108SM08		1 (DN25)									Both Sides	25.3 (21.9)		
											One Side	11.0 (9.5)		
											Both Sides	20.0 (17.3)		
										One Side	13.3 (11.5)			
											Both Sides	21.6 (18.7)		
											One Side	14.1 (12.2)		
											Both Sides	23.2 (20.1)		

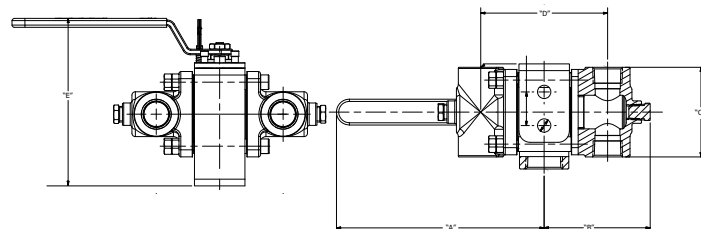
Other outlet port orientation options available; please contact your Sales representative with inquiries.



DV4108SU Series



DV4108SM Series



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.



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

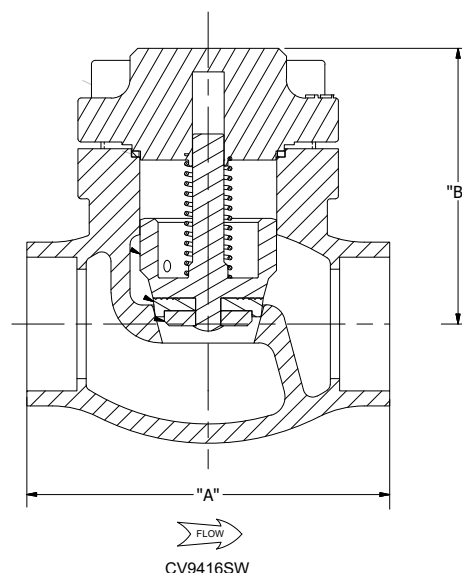


CV9416SW

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)

PED Certified



CV9416SW

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.



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) (-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)	4.50 (3.89)	3	1.36
S-886GF-8S	1"	25 mm				18.00 (15.57)	11	4.98
S-886GF-12S	1½"	40 mm				61.00 (52.76)	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)	4.50 (3.89)	3	1.36
S-886-8S	1"	25 mm				18.00 (15.57)	11	4.98
S-886-12S	1½"	40 mm				61.00 (52.76)	17	7.71

Stainless Steel Swing Check Valve for Cryogenic Service

886 Series

PTFE Gasket - Butt Weld

Part Number	Valve Size		End Connection	Seat	Butt Weld Schedule	Pressure Rating	Estimated C _v	Weight Lbs.
	Inches	mm						
S-000886-4WA	1/2"	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	1 1/2"	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			40	275 (19 barg)	255.00	47 Lbs.
S-000886-24WJ	3"	80 mm					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

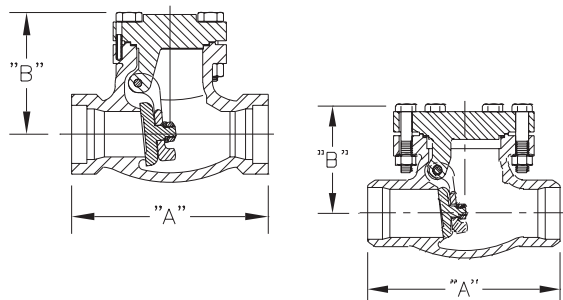
Part Number	Valve Size		End Connection	Seat	Pressure Rating	Estimated C _v	Weight Lbs.
	Inches	mm					
S-00886M-4S3	1/2"	15 mm	Socket Weld	Metal	720 (50 barg)	4.50	3 Lbs.
S-00886M-8S3	1"	25 mm				18.00	11 Lbs.
S-00886M-12S3	1 1/2"	40 mm				61.00	17 Lbs.

Butt Weld Ends

Part Number	Valve Size		End Connection	Seat	Butt Weld Schedule	Pressure Rating	Estimated Cv	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			10	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"
1/2"	4 1/4"	2 1/2"
3/4"	5"	3 1/4"
1"		
1 1/2"	6 1/2"	4"
2"	8"	4 1/2"

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
1 1/2"	6 1/2"	4"	10
2"	8"	4 1/2"	
3"	9 1/2"	5 3/4"	10 and 40
4"	11 1/2"	8 3/8"	10
4"	14"	8 3/8"	40

Size	"A"	"B"	End	End Dimension
1/2"	2 7/16"	4 1/4"	Socket Weld	SCH 10
				1/2" Pipe Socket

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 (-40°C to +74°C)
- Maximum operating pressure: 2000 psig air (137.9 barg)
- Cleaned for oxygen service per CGA G-4.1
- Female ports available - consult factory

Materials

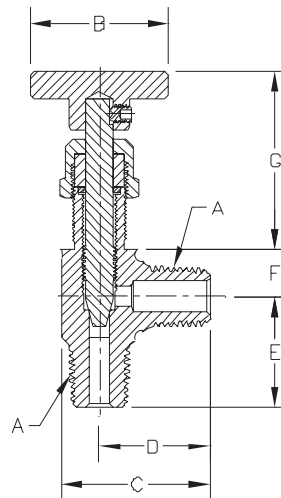
Body	ASTM B283 Brass
Stem	Brass
Knob	Brass
Bonnet Nut.....	Brass
Panel Mount Nut (Optional).....	Brass
Set Screw	Steel
Stem Packing	PTFE with Brass Gland



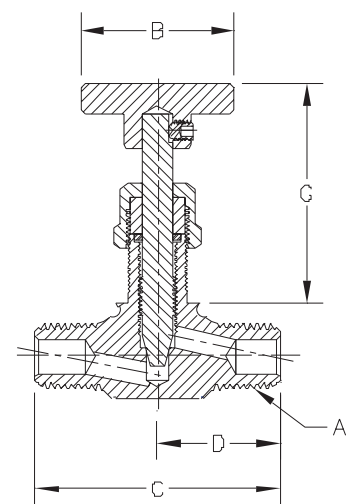
CMM250A



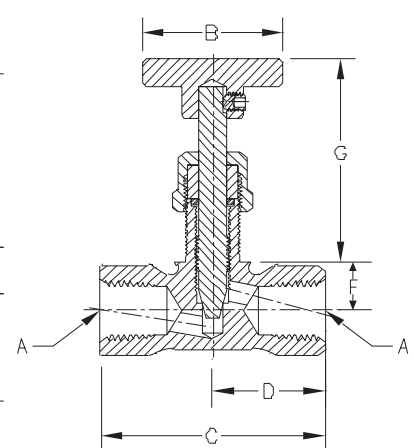
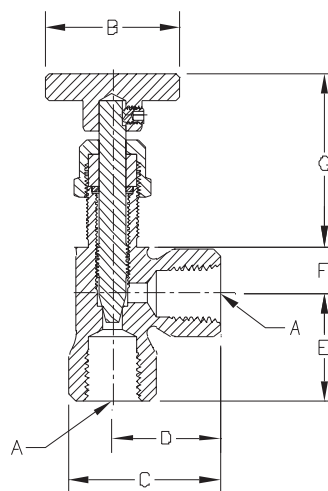
CMM250G



CFF250A



CFF250G



Ordering Information

Part Number	A (NPT)		B		C		D		E		F		G Open		G Closed		C _V (Kv)
	Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm	
CMM250A	1/4	8	1 1/4	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 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

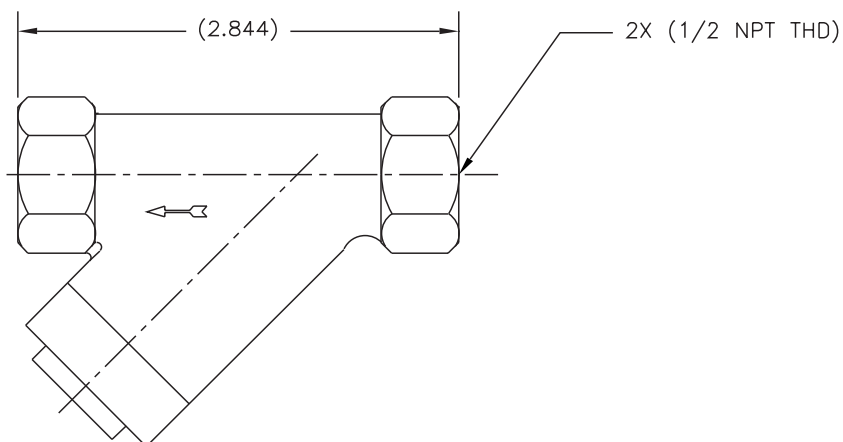
- Temperature range: -320°F to 165°F. (-196°C to 74°C)
- Maximum working pressure: 600 psig (41,37 barg)
- Connections: FNPT
- Sizes: ½"
- Service: Liquefied and Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, ISO-Containers and Piping Configurations.
- Cleaned for Oxygen service per CGA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



STR000002

Materials

BodyBrass
CapBrass
Filter Material..... 100 Mesh Monel



Ordering Information

Part Number	Inlet Inches	Outlet Inches	A Inches
STR000002	½"	½"	2 ¼"

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	

*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
BAK8400R	BAK8412SE	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	

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

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	GS-110WHZ-12 and GS-110WHZ-16	Upper Assembly Repair Kit ½", ¾" & 1"
S-110WHZ-16-81		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	GS-110WHZ-24	Seat Replacement 1½" & 2"
S-110WHZ16-853		Upper Assembly Repair Kit 1½" & 2"
S-110WHZ-24-81		Upper Packing 3"
S-110WHZ-24-82		Seat/Stem Assy 3"
S-110WHZ-24-83	GS-110WHZ-32	Bonnet Gasket 3"
S-110WHZ-24-84		Seat Replacement 3"
S-110WHZ24-853		Upper Assembly Repair Kit 3"
S-110WHZ-32-81		Upper Packing 4"
S-110WHZ-32-82	GS-110WHZ-48	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"

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.
PB504-80RA**		(1) Poppet O-Ring, (1) Poppet/Seat (PTFE), (1) Stem, (1) Backcap Gasket
PB504-81R		(1) Diaphragm, (1) gasket

*Good for valves stamped with date code 11C20 or earlier

**Good for valves stamped with date code 11D20 or later

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"

Repair Kits

Ordering Information

Repair Kit Number	Part Number	Kit Contents
S-886-04-82	S-886-4 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886-04-83	S-886-4 Series	(1) Gasket
S-886M-04-82	S-886M-4 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886GF-04-82	S-886GF-4 Series	(1) Disc/arm assembly, (1) pin, (1) grafoil gasket
S-886GF-04-83	S-886GF-4 Series	(1) Grafoil gasket
S-886-08-82	S-886-8 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886M-08-82	S-886M-8 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886M-8-83	S-886M-8 Series	(1) Gasket
S-886GF-08-82	S-886GF-8 Series	(1) Disc/arm assembly, (1) pin, (1) grafoil gasket
S-886GF-08-83	S-886GF-8 Series	(1) Grafoil gasket
S-886-12-82	S-886-12 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886M-12-83	S-886M-12 Series	(1) Gasket
S-886M-12-82	S-886M-12 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886GF-12-82	S-886GF-12 Series	(1) Disc/arm assembly, (1) pin, (1) grafoil gasket
S-886GF-12-83	S-886GF-12 Series	(1) Grafoil gasket
S-886-16-82	S-886-16 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886M-16-82	S-886M-16 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886M-16-83	S-886M-16 Series	(1) Gasket
S-886-24-82	S-886-24 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886M-24-82	S-886M-24 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886M-24-83	S-886M-24 Series	(1) Gasket
S-886-32-82	S-886-32 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886M-32-82	S-886M-32 Series	(1) Disc/arm assembly, (1) pin, (1) gasket
S-886M-32-83	S-886M-32 Series	(1) Gasket

Repair Kits

Ordering Information

Repair Kit Number	Part Number	Description	Kit Contents
CV009404-80	CV9404SW	Seat Repair	1 seat assy, 1 gasket and 1 instruction sheet
CV009404-80	CV9404BW		
CV009404-80	CV9404T		
CV009408-80	CV9406SW		
CV009408-80	CV9406BW		
CV009408-80	CV9406T		
CV009408-80	CV9408SW		
CV009408-80	CV9408BW		
CV009408-80	CV9408T		
CV009412-80	CV9412SW		
CV009412-80	CV9412BW		
CV009412-80	CV9412T		
CV009416-80	CV9416SW		
CV009416-80	CV9416BW		
CV009416-80	CV9416T		

Ordering Information

Repair Kit Number	Part Number	Description	Kit Contents
CV009404-83	CV9404SW	Gasket Repair	1 gasket and instruction sheet
CV009404-83	CV9404BW		
CV009404-83	CV9404T		
CV009408-83	CV9406SW		
CV009408-83	CV9406BW		
CV009408-83	CV9406T		
CV009408-83	CV9408SW		
CV009408-83	CV9408BW		
CV009408-83	CV9408T		
CV009412-83	CV9412SW		
CV009412-83	CV9412BW		
CV009412-83	CV9412T		
CV009416-83	CV9416SW		
CV009416-83	CV9416BW		
CV009416-83	CV9416T		

Table of Contents

ECL502-22.....	1	NG9002T022.....	14	NG304SSCP.....	19	SKL9404BW.....	26
ECL502-100.....	1	NG9002T058.....	14	CryoMac3-50M.....	20	SKL9406BW.....	26
ECL502-123.....	1	NG9002T230.....	14	CryoMac3-50M-S.....	20	SKL9408BW.....	26
ECL502-140.....	1	NG9002T250.....	14	CryoMac4-50M.....	21	SKL9412BW.....	26
ECL502-175.....	1	NG9002T275.....	14	FQD100604N.....	22	SKL9416BW.....	26
ECL502-325.....	1	NG9002T350.....	14	FQD100602N.....	22	SKM9402SW.....	27
RG022A.....	2	NG9002T415.....	14	FQD100603N.....	22	SKM9404SW.....	27
RG125A.....	2	NG9003T230.....	14	CHB-4-440-440-048.....	23	SKM9406SW.....	27
RG125C3.....	2	NG9003T250.....	14	CHB-4-440-440-060.....	23	SKM9408SW.....	27
RG175C3.....	2	NG9003T350.....	14	CHB-4-440-440-72.....	23	SKM9412SW.....	27
RG300A.....	2	NG9003T415.....	14	CHB-4-440-440-96.....	23	SKM9416SW.....	27
RG000090AG.....	2	NG9008M230.....	14	CHB-4-440-440-120.....	23	SKM9402BW.....	27
1784NG45.....	3	NG9008M250.....	14	CHB-4-440-440-144.....	23	SKM9404BW.....	27
1784NG86.....	3	NG9008M280.....	14	CHB-4-440-440-156.....	23	SKM9406BW.....	27
1784NG145.....	3	NG9008M350.....	14	CHB-4-440-440-180.....	23	SKM9408BW.....	27
1784NGB.....	3	NG9008M415.....	14	CHB-4-440-440-196.....	23	SKM9412BW.....	27
1784NGC.....	3	MFR5008.....	15	CHS-4-440-440-024.....	24	SKM9416BW.....	27
1784NGB93.....	3	MFR5010.....	15	CHS-4-440-440-036.....	24	SKS9402SW.....	28
CBH502-025.....	4	MFR5011.....	15	CHS-4-440-440-048.....	24	SKS9404SW.....	28
CBH502-125.....	4	MFR5013.....	15	CHS-4-440-440-060.....	24	SKS9406SW.....	28
CBH502-300.....	4	MQD100401N.....	16	CHS-4-440-440-072.....	24	SKS9408SW.....	28
CBH502-315.....	4	MQD100701P.....	16	CHS-4-440-440-096.....	24	SKS9412SW.....	28
CBH502-325.....	4	MQD100101P.....	16	CHS-4-440-440-120.....	24	SKS9402BW.....	28
CBH502-350.....	4	MQD100201P.....	16	CHS-4-440-440-144.....	24	SKS9404BW.....	28
CBC502-025.....	4	MQD100201N.....	16	CHS-4-440-440-197.....	24	SKS9406BW.....	28
CBC502-125.....	4	MQD100201F.....	16	CHS-4-440-440-240.....	24	SKS9408BW.....	28
CBC502-300.....	4	MQD100701P.....	16	CHS-8-514-514-072.....	24	SKS9412BW.....	28
CBC502-325.....	4	MQD100701N.....	16	CHS-8-514-514-120.....	24	SKL9404T.....	29
CBC502-350.....	4	MQD100501F.....	16	CHS-8-514-514-144.....	24	SKL9408T.....	29
T9452.....	5	NG303B.....	17	CHS-8-514-514-156.....	24	SKL9412T.....	29
T9453.....	5	NG303B1A.....	17	CHS-8-514-514-180.....	24	SKL9416T.....	29
T9454.....	5	NG303B1B.....	17	CHS-8-514-514-197.....	24	SKM9404T.....	30
T9464CA.....	5	NG303B3.....	17	CHS-8-514-514-240X.....	24	SKM9408T.....	30
T9464DA.....	5	NG303B3A.....	17	CHS-8-514-514-072X.....	24	SKM9412T.....	30
T9464ADA.....	5	NG303B3B.....	17	CHS-8-514-514-120X.....	24	SKM9416T.....	30
ES8450R.....	5	NG303B3M270.....	17	CHS-8-514-514-144X.....	24	SKS9404T.....	31
BK9450R.....	5	NG303B3M27A.....	17	CHS-8-514-514-180X.....	24	SKS9408T.....	31
T9464CCAG.....	6	NG303B3M27B.....	17	CHS-8-514-514-197X.....	24	SKS9412T.....	31
T9464LAS.....	7	NG303BN030.....	17	CHS-8-514-514-240X.....	24	SKL9404ST.....	32
T9464LCB.....	7	NG303BN03A.....	17	CHS-8-514-514-072XS.....	24	SKL9408ST.....	32
T9464LDR.....	8	NG303BN03B.....	17	CHS-8-514-514-120XS.....	24	SKL9412ST.....	32
T9464LES.....	8	NG303S.....	17	VFL-500101NA-6.....	25	SKL9416ST.....	32
T9464LJS.....	8	NG303S1A.....	17	VFL-500202AN-7.....	25	SKM9404ST.....	33
ES8452.....	9	NG303S1B.....	17	VFL-500203AN-7.....	25	SKM9408ST.....	33
TES8452.....	9	NG303S3.....	17	VFL-500202AA-7.....	25	SKM9412ST.....	33
ES8453.....	9	NG303S3A.....	17	VFL-500203AA-7.....	25	SKM9416ST.....	33
TES8453.....	9	NG303S3B.....	17	VFL-500202AN-10.....	25	SKS9404ST.....	34
ES8454.....	9	NG303SM270.....	17	VFL-500203AN-10.....	25	SKS9408ST.....	34
TES8454.....	9	NG303SM27A.....	17	VFL-500202AA-10.....	25	SKS9412ST.....	34
BK9452.....	9	NG303SM27B.....	17	VFL-500203AA-10S.....	25	SKA9408LSW.....	35
BK9453.....	9	NG303SN30.....	17	VFL-500202AN-10.....	25	SKA9412LSW.....	35
BK9454.....	9	NG303SN3A.....	17	VFL-500202NN-10.....	25	SKA9408MSW.....	35
BK9453FA.....	9	NG303SN3B.....	17	VFL-500202NA-10.....	25	SKA9412MSW.....	35
BK9475A.....	9	NG301.....	18	SKL9402SW.....	26	SFM00004D.....	36
PRV19432.....	12	NG304.....	19	SKL9404SW.....	26	SFM00004E.....	36
PRV29432.....	12	NG304SSA.....	19	SKL9406SW.....	26	GS-00210W-8F.....	37
PRV19433.....	12	NG304SSB.....	19	SKL9408SW.....	26	GS-00210W-8F3.....	37
PRV29433.....	12	NG304SSC.....	19	SKL9412SW.....	26	GS-00210W-16F.....	37
PRV19434.....	12	NG304SSAP.....	19	SKL9416SW.....	26	GS-00210W-16F3.....	37
PRV29434.....	12	NG304SSBP.....	19	SKL9402BW.....	26	GS-00210W-24F.....	37

Table of Contents

GS-00210W-24F3	37	GS-00110W-4S3	39	1786A	44	CV9408BW	51
GS-00210W-32F	37	GS-00110W-4T	39	1786B	44	CV9412BW	51
GS-00210W-32F3	37	GS-00110W-6WA	39	1786C	44	CV9416BW	51
GS-00210W-4S3	37	GS-00110W-6S3	39	1786D	44	S-886GF-4S	52
GS-00210W-4S3	37	GS-00110W-6S3	39	1788A	44	S-886GF-8S	52
GS-00210W-4T3	37	GS-00110W-8WA	39	1788B	44	S-886GF-12S	52
GS-00210W-4T3	37	GS-00110W-8S3	39	1788C	44	S-886-4S	52
GS-00210W-6S3	37	GS-00110W-8S3	39	1788D	44	S-886-8S	52
GS-00210W-6S3	37	GS-110W-8T	39	AR4104A	45	S-886-12S	52
GS-00210W-6T3	37	GS-00110W-12WA	39	AR4104B	45	S-000886-4WA	53
GS-00210W-6T3	37	GS-00110W-12S3	39	AR4106A	45	S-000886-8WA	53
GS-00210W-8S3	37	GS-00110W-12S3	39	AR4106B	45	S-000886-12WA	53
GS-00210W-8S3	37	GS-00110W-16W3A	39	AR4108A	45	S-000886-16W3A	53
GS-00210W-8T3	37	GS-00110W-16W3A	39	AR4108B	45	S-000886-24WA	53
GS-00210W-8T3	37	GS-00110W-16W3J	39	AR4112A	45	S-000886-24WJ	53
GS-00210W-12S3	37	GS-00110W-16W3J	39	AR4112B	45	S-000886-32W3J	53
GS-00210W-12S3	37	GS-00110W-16S	39	AR5104A	46	S-000886-32WA	53
GS-00210W-16W3A	37	GS-00110W-24W3A	39	AR5104B	46	S-00886M-4S3	53
GS-00210W-16W3A	37	GS-00110W-24W3A	39	AR5106A	46	S-00886M-8S3	53
GS-00210W-16W3J	37	GS-00110W-24W3J	39	AR5106B	46	S-00886M-12S3	53
GS-00210W-16W3J	37	GS-00110W-24W3J	39	AR5108A	46	S-0886M-16W3A	53
GS-00210W-24W3A	37	GS-00110W-32W3A	39	AR5108B	46	S-00886M-24W3J	53
GS-00210W-24W3A	37	GS-00110W-32W3A	39	AR5112A	46	S-00886M-24W3A	53
GS-00210W-24W3J	37	GS-00110W-32W3J	39	AR5112B	46	S-00886M-32WA	53
GS-00210W-24W3J	37	GS-00110W-32W3J	39	DR6108	48	S-00886M-32W3J	53
GS-00210W-32W3A	37	GS-00110W-48WA	39	DR6112	48	S-886MGF-16W3A	53
GS-00210W-32W3A	37	GS-00110W-48W3A	39	DR6113	48	S-886MGF-24W3A	53
GS-00210W-32W3J	37	GS-00110W-48W3J	39	DA6206	49	CMM250A	54
GS-00210W-32W3J	37	GS-00110W-48W3J	39	DA6208	49	CMM250G	54
GS-00110W-8F	39	PB504-020 to 070	41	DV4108SU04	50	CFF250A	54
GS-00110W-12F	39	PB504-071 to 175	41	DV4108SU06	50	CFF250G	54
GS-00110W-12F3	39	PB504-176 to 300	41	DV4108SU08	50	STR000002	55
GS-00110W-16F	39	PB504-301 to 550	41	DV4108SM04	50		
GS-00110W-16F3	39	CBE504-025 to 075	42	DV4108SM06	50		
GS-00110W-24F	39	CBE504-076 to 155	42	DV4108SM08	50		
GS-00110W-24F3	39	CBE504-156 to 260	42	CV9404SW	51		
GS-00110W-32F	39	CBE504-261 to 450	42	CV9406SW	51		
GS-00110W-32F3	39	CBE504-451 to 550	42	CV9408SW	51		
GS-00110W-48F	39	1784A	44	CV9412SW	51		
GS-00110W-48F3	39	1784B	44	CV9416SW	51		
GS-00110W-4WA	39	1784C	44	CV9404BW	51		
GS-00110W-4S3	39	1784D	44	CV9406BW	51		



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