Cryogenic Bulk Tank and Transportation Brochure

Foreword

This catalog briefly describes the Rego® Industrial Gas and Cryogenic Equipment available from the Cryo-Flow division of RegO 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 Cryo-Flow Products Division may make suggestions for a material to use with a specific media. These suggestions will be based on technical compatibility resources through associations and manufacturers. Rego does not guarantee the material to be compatible with the specific media – this is the responsibility of the user. Users must test under their own operating conditions to determine the suitability of any material in a particular application.

Oxygen Service

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

Notice

Installation, usage and maintenance of all RegO® Products must be in compliance with all RegO® instructions as well as requirements and provisions of NFPA 51, CGA, ASME, DOT, ANSI and all applicable federal, state, provincial and local standards, codes, regulations and laws.

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

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

RegO® Goddard - Angle Pressure Relief Valve
AR Series

Application

The ASME approved 90° relief valves AR Series, provide precise control set points which protect cryogenic vessels and piping systems for overpressurization.

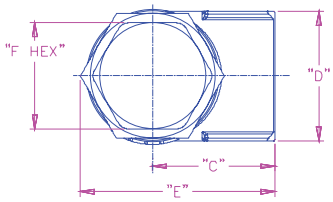
AR Series

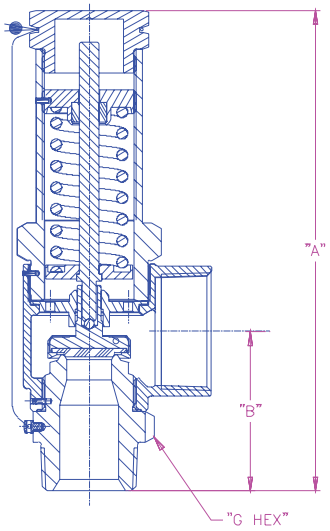
Features

- High flow rates are approved by ASME rigorous testing to Code VIII.
- The ninety degree configuration provides relief of cryogenic gases directly avoiding flow through the spring.
- 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 Liquid Oxygen Service per CGA G-4.1
- 100% Factory Tested.

Materials

Body	Bronze ASTM B61
Upper Body	Stainless Steel ASTM A582
Seat & Stem	Brass ASTM B16
Poppet Guide	Brass ASTM B16
Spring Retainer	Brass ASTM B16
Adjusting Screw	Brass ASTM B16
Cap	Brass ASTM B16
Bushing	Hostaflon TFM1600 (Teflon)
Ball	Stainless Steel
Upper Gasket	PTFE ASTM D4894
Lower Gasket	Copper ASTM B152-17
Spring	Stainless Steel ASTM A313
Screw	Brass ASTM B16
Grooved Pin	Stainless Steel ASTM A581
Cable & Tie Assy	Stainless Steel & Lead





Ordering Information

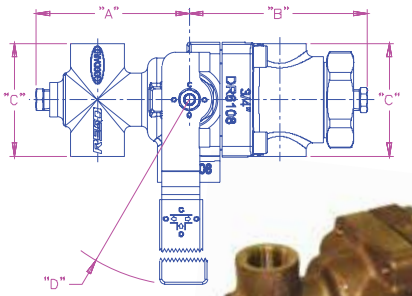
Part Number	Inlet Inches DN (mm)	Outlet Inches DN (mm)	Ends	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)	ASME Flow Capacity SCFM/Air @ 250 PSI *	Weight Lbs (Kg)
AR4106A	¾ ” (20)	1” (25)	Thread NPT	6.03” (153.16)	1.97” (50.04)	1.63” (41.40)	1.63” (41.40)	2.49” (63.25)	450	2.75 (1.25)
AR4108A	1” (25)	1¼” (32)		6.88” (174.75)	2.37” (60.20)	2.00” (50.80)	1.90” (48.26	3.01” (76.45)	1,003	3.75 (1.70)
AR4112A	1½” (38)	2” (50)		9.64” (244.86)	3.20” (81.28)	2.45” (62.23)	2.60” (66.04)	3.89” (98.81)	2,277	8.00 (3.63)

*Different PSI settings are available

RegO® Goddard - Diverter (3-Way) Valve
DR Series

Application

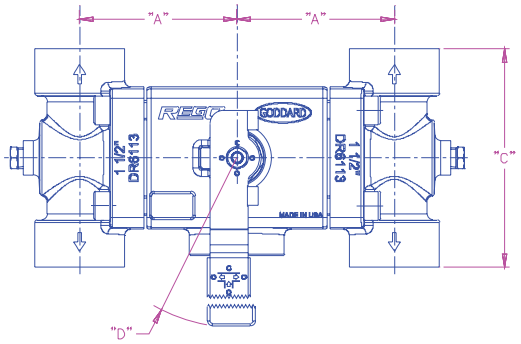
The Diverter Valve DR Series, provide a simple solution for the isolation of pressure relief devices during routine change out of a Relief Valve without evacuating the cryogenic vessel. Ideal for all cryogenic liquids including Liquefied Nitrogen, Oxygen and Argon. Safe and reliably used in LNG Systems. Excellent for protecting bulk cryogenic liquid vessels, transport trailers and industrial pipelines.



DR6108

Features

- High flow rates compliment 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.
- Cleaned for Liquid Oxygen Service per CGA G-4.1
- Pressure Rating: 600 PSI (41.37 Bar) CWP
- Temperature Rating: -320°F (-196°C) to +165°F (+74°C).
- 100% Factory tested



DR6112 & DR6113

Materials

Body	Bronze ASTM B61 UNS C92200
Bushing, End Cap	Brass B16 C36000
Spring Clamp	Brass
Thread Ring	Brass ASTM B16 C36000
Seat Rings	PCTFE ASTM D1430
Gasket	PTFE
Screw	Stainless Steel
Ball	316 Stainless Steel
Pipe Plug	Brass ASTM B16 UNS C360000
Spring Washer	Stainless Steel
Spacer	Brass ASTM B16 UNS C36000
Lever	Cadium Plated Steel
Packing	PTFE
Stem	Stainless Steel ASTM A582 UNS S30300
Packing Nut	Brass ASTM B16 UNS C36000
Lock Washer	Stainless Steel

Ordering Information

Part Number	Inlet Inches DN (mm)	Outlet Inches DN (mm)	Connection Type	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	Height Inches (mm)	Weight Lbs (Kg)
DR6108	1"	¾"	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)
DR6112	1½"	1"		5.94" (150.9)	-	5.70 (145.0)	R 7.36" (187.1)	5.770" (146.6)	28" (12.70)
DR6113	1½"	1½"		5.94" (150.9)	-	5.70 (145.0)	R 7.36" (187.1)	5.770" (146.6)	30" (13.60)

RegO® Goddard - Safety Assembly – Relief Valve, Diverter & Burst Disk - DA Series

Application

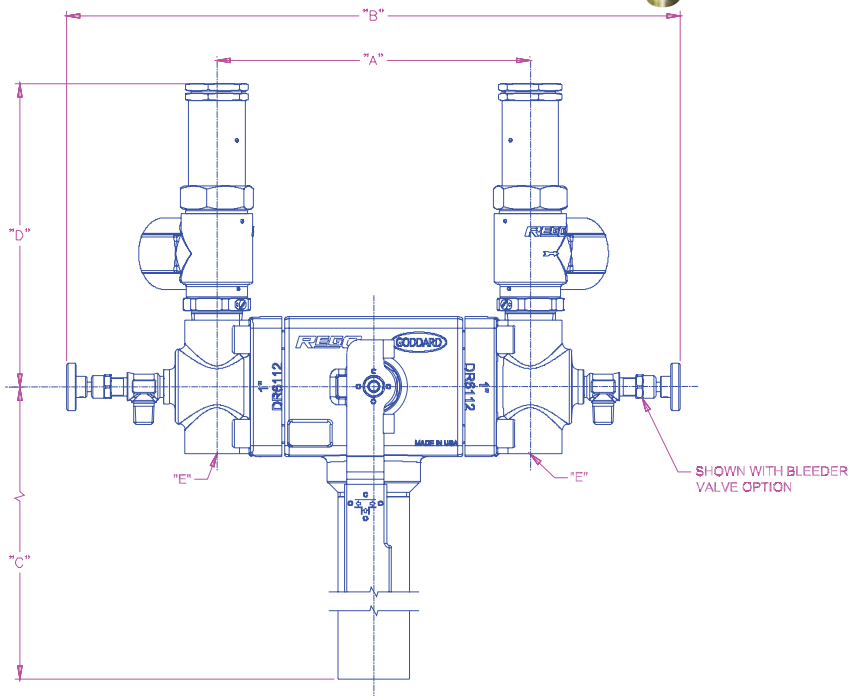
RegO® provides a complete unitized solution for pressure relief devices assembled in a factory setting, pressure and oxygen cleaned ready for attachment to cryogenic bulk tanks. Ideal for OEM applications where pre-fabricated assemblies are favored to streamline constructions. Ideal for all cryogenic liquids including Liquefied Nitrogen, Oxygen and Argon. Safe and reliably used in LNG Systems. Excellent for protecting bulk cryogenic liquid vessels, transport trailers and industrial pipelines.

Features

- High flow rates compliment 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.
- Cleaned for Liquid Oxygen Service per CGA G-4.1
- Pressure Rating: 725 PSI (50 bar).
- Temperature Rating: -325°F (-198°C) to +165°F (+74°C).

DA6208

DA6206



Ordering Information

Part Number	Inlet Inches DN (mm)	Connection Type	A Inches (mm)	B Inches (mm)	C Inches (mm)	D Inches (mm)	E Inches (mm)
DA6206	1"	Thread NPT	4.76" (120.9)	13.08" (332.2)	9.75" (247.7)	7.00" (177.8)	¾" NPT
DA6208	1½"		8.33" (211.6)	16.30" (414)	15.75" (400.1)	8.06" (204.7)	1" NPT

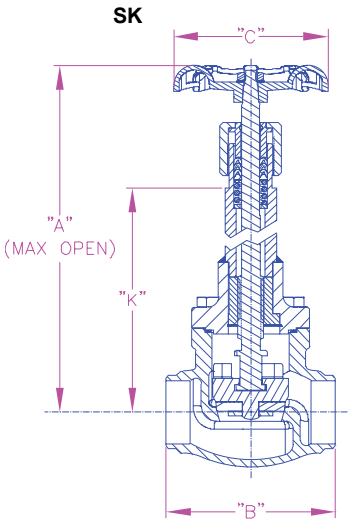
RegO - Goddard Stainless Steel Globe Valve for Cryogenic Service SK Series

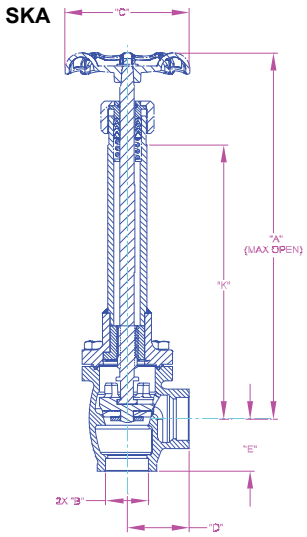
Application

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

Features

- Superior Flow: Provides high Cv for rapid and reliable loading and unloading.
- V-Ring spring loaded packing: provides extended service life without constant packing adjustment.
- Conical PCTFE Seat: provides exceptional flow; bubble tight seal; less chance of debris trapped in the seat, longer service life.
- Ideal for loading & unloading cryogenic bulk tanks and trucks. The 1½" & 2" valves are designed to be operator friendly, they open and close completely with only four 360° turns.
- Connections: Socket Weld and Buttweld.
- Sizes: ¼" to 2".
- Bonnet Type: Bolted.
- Pressure Rating: 725 PSI (50 bar) Class 300.
- Temperature Rating: -325°F (-198°C) to +150°F (+65°C).
- Service: Liquefied & Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, Iso-Containers and Piping Configurations.
- Cleaned for Liquid Oxygen Service per CGA G-4.1





Materials

Body & Bonnet..... Stainless Steel ASTM A351
Stem ..... Stainless Steel ASTM A351
External Tube ..... Stainless Steel
Spring ..... Stainless Steel ASTM A313
Packing..... PTFE
Gasket ..... PTFE 25% Glass Fill
Seat Disk ..... PCTFE ASTM D1430
Seat Retainer..... Brass ASTM B16
Bonnet Screws ..... Stainless Steel A320
Handwheel..... Chromated Coated Ductile Iron ASTM A395

Ordering Information

Part Number	Size Inches	Size mm	Connection	A	B	C	K	Cv	Weight
SK9402BW	¼"	8	Buttweld	14.40	2.68	3.00	10.65	-	8.50
SK9404BW	½"	15							
SK9406BW	¾"	20			3.62	4.00	10.49		
SK9408BW	1"	25						14	8.30
SK9412BW	1½"	40		14.60	4.75	4.75	10.42	28.3	12.90
SK9416BW	2"	50		16.21	5.75	5.25	11.11	53	21.60
SK9402SW	¼"	8	Socket Weld	14.40	2.68	3.00	10.65	-	8.5
SK9404SW	½"	15							
SK9406SW	¾"	20			3.62	4.00	10.49		
SK9408SW	1"	25						14	8.30
SK9412SW	1½"	40		14.60		4.75	10.42	28.3	12.90
SK9416SE	2"	50		16.21		5.25	11.11	42	21.60
SKA9412SE	1½" 90°	40		14.60	-	4.75	10.42	53	11.50

Stainless Steel Globe Valve for Cryogenic Service
Goddard 210 Series

Application

The 210 Series globe valves are designed for handling of cryogenic liquids through large size bulk vessels, trucks, trailers, iso-containers and piping configurations.

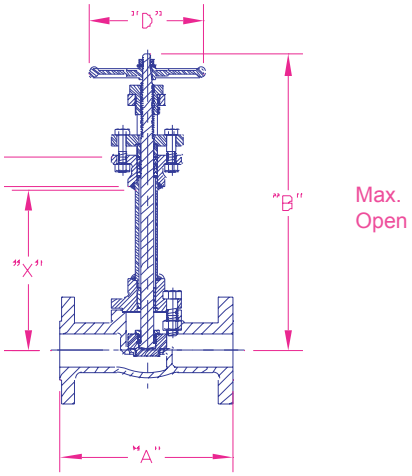
Goddard 210 Series

Features

- Our investment cast stainless steel is specified by leading industrial gas companies for transportation, storage tank, pipelines & plants.
- Special bonnet extensions can be supplied for cold box applications.
- High Cv for rapid and reliable loading and unloading.
- Connections: Flange, Threaded, Socket Weld and Buttweld.
- Sizes: ½" to 4".
- Bonnet: Bolted.
- Pressure Rating: 725 PSI (50 bar) Class 300 .
- Temperature Rating: Cold, Non-Shock -325°F (-198°C) to +150°F (+65°C).
- 100% Factory Tested.
- Service: Liquefied & Vaporized Atmospheric Gases and LNG for Trailers, Bulk Tanks, Iso-Containers and Piping Configurations. Valves for Hydrogen Service can be supplied.

Materials

Body & Bonnet..... Stainless Steel ASTM A351 J92600
Stem ..... Stainless Steel ASTM A479 S30400
External Tube ..... Stainless Steel ASTM A511/A249 S30403
Packing..... PTFE
Gasket ..... PTFE 25% Glass Fill
Seat Disc ..... PCTFE ASTM D1430
Seat Retainer..... Brass ASTM A479 S30400
Bonnet Screws ..... Stainless Steel ASTM F880 S30400
Handwheel..... Ductile Iron ASTM A395 F32800



Ordering Information

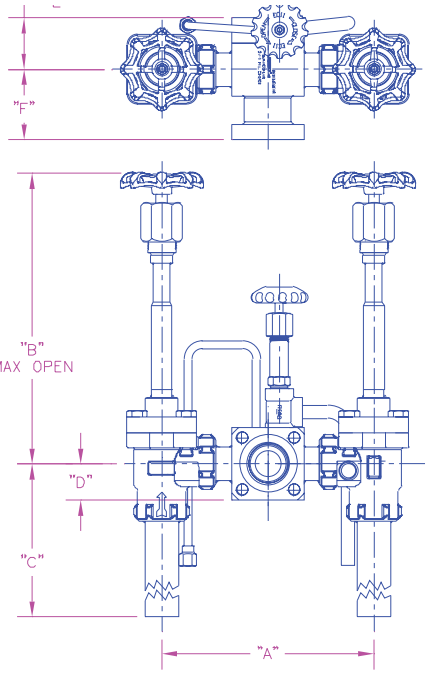
Part Number	Size Inches	Size mm	Connection	Inches A	Inches B	Inches C	Inches K	Cv	Weight Lbs (kg)
GS-00210W-24F	3	80	RF Flange	9.5"	30.5"	10"	19.06"	60	70 (31.75
GS-00210W-32F	4	100		11.5"	36.75"	12"	21.68"	175	95 (43.09)
GS-00210W-24W3A	3	80	Buttweld SCH10	12"	30.5"	10"	19.06"	60	55 (24.95)
GS-00210W-32W3A	4	100		13.5"	36.75"	12"	21.68"	175	80 (26.29)
GS-00210W-24W3J	3	80	Buttweld SCH40	12.5"	30.5"	10"	19.06"	60	55 (24.95)
GS-00210W-32W3J	4	100		14"	36.75"	12"	21.68"	175	80 (26.29)

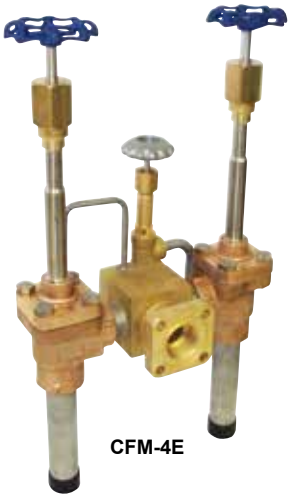
RegO® Goddard - Cryogenic Fill Manifold
CFM, AFM, PFM & SFM Series

Application

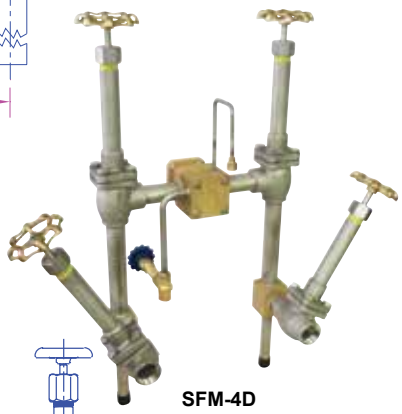
RegO® high quality brazed and welded assemblies are ideally suited for the original equipment manufacturer of bulk cryogenic vessels. A wide variety of valve types including union or bolted bonnet, bronze or stainless steel bodies & top works and piping of stainless steel or copper construction are available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





CFM-4E



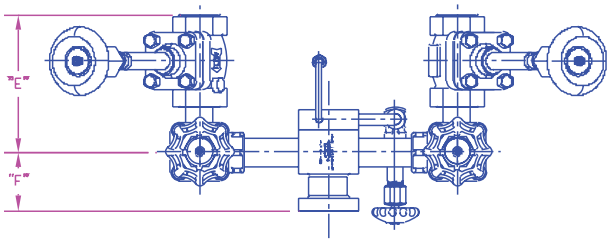
SFM-4D

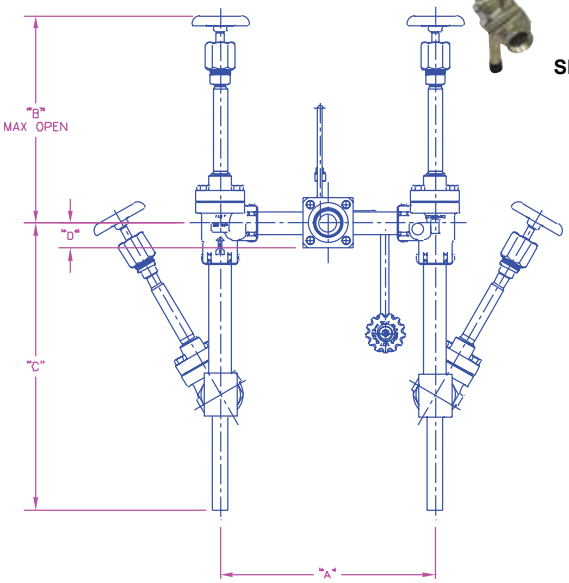
Features

- 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 include redundant isolation valves or 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 Liquid Oxygen Service per CGA G-4.1.
- Pressure Rating: SFM Series 725 PSI (50 bar) – CFM Series 600 PSI (41 Bar).
- Temperature Rating: -320°F (-196°C) to +165°F (+74°C).
- 100% Factory tested.

Materials

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





Ordering Information

Part Number	Size Inches	Size mm	Bonnet Type	Pipe Material	A Inches	B Inches	C Inches	D Inches	E Inches	F Inches
CFM00002D	1"	25	Union	Stainless Steel	10.25	14.64	7.5	1.75	2.5	3.4
CFM00004D	1½"	40	Union	Stainless Steel	10.25	15.00	9.5	1.75	2.5	3.4
CFM00004E	1½"	40	Union	Stainless Steel	10.25	13	9.5	1.75	2.5	3.4
AFM00004D	1½"	40	Bolted	Stainless Steel	15.00	14.63	20	1.75	8	3.4
PFM00004D	1½"	40	Bolted	Copper	15.00	14.63	20	1.75	8	3.4
SFM00004D	1½"	40	Bolted	Stainless Steel	15.00	14.63	20	1.75	2.54	3.4

RegO® - Cryogenic Swing Check Valve
840 & 886 Series

Application

Goddard stainless steel and bronze check valves provide an excellent positive shut off for delivery vehicles and pipe lines. Our swing check are available in a variety of sizes, diameters, end connections and pressure ratings. Ideal for all cryogenic liquids including Liquefied Nitrogen, Oxygen and Argon. Safe and reliably used in LNG Systems

840 Series

886 Series

Features

- High Cycle life and superior sealing
- These valves can be permanently installed in the line and services from the top.
- Designed to prevent back flow in cryogenic systems.
- Sizes: 840 Bronze Series ½" to 2" – 886 Stainless Steel ½" to 4"
- Ends: 840 Bronze Series: Threaded (F.NPT), Silver Brazed Tube (SBT) and SCH 10, SCH 40 & SCH 80 threaded back brazed pipe nipples.
- Cleaned for Liquid Oxygen Service per CGA G-4.1.
- Pressure Rating: (Cold, Non-shock) SFM Series 725 PSI (50 bar) – CFM Series 600 PSI (41 Bar).
- Temperature Rating: -325°F (-198°C) to +165°F (+74°C).
- 100% Factory tested.

Materials

840 Series – Bronze - Soft Seated

Body ..... Bronze ASTM B61 UNS C92200
Seat Disc ..... PCTFE ASTM D1430
Disc Holder Copper Alloys ASTM B98 C65500 and ASTM B21 C46400
Disc Nut ..... Copper Alloys ASTM B98 C65500
Arm ..... Sil Bronze C87300
Cap ..... Bronze B61 C9200
Gasket ..... TFE 25% Glass Fill

886 Series – Stainless Steel - Soft Seated

Body ..... Stainless Steel ASTM A351 CF3M J92800
Seat ..... PCTFE ASTM D1930
Arm ..... Stainless Steel ASTM A351 CF3M J92800
Cap ..... Stainless Steel ASTM A351 CF3M J92800
Gasket ..... TFE 25% Glass Fill
Bolts..... Stainless Steel ASTM A320 S30400

886GF Series – Stainless Steel - Soft Seated – Grafoil®

Body ..... Stainless Steel ASTM A351 CF8M SA351 CF3M
Seat ..... PCTFE ASTM D1930
Arm ..... Stainless Steel ASTM A351 CF3M
Cap ..... Stainless Steel ASTM A351 CF3M
Gasket ..... GTB Grafoil®
Bolts..... Stainless Steel ASTM A320 S30400

Materials

846M Series – Bronze - Metal Seated

Body ..... Bronze ASTM B61 UNS C92200
Seat ..... Copper Alloys ASTM B98 C65500
Arm ..... Silicon Copper ASTM B584 C87300
Cap ..... Bronze B61 C9200
Gasket ..... TFE 25% Glass Fill

886M Series – Stainless Steel - Metal Seated

Body ..... Stainless Steel ASTM A351 CF8M SA351 CF3M
Seat ..... Stainless Steel ASTM A351 CF3M ASTM A479 S31603
Arm ..... Stainless Steel ASTM A351 CF3M
Cap ..... Stainless Steel ASTM A351 CF3M
Gasket ..... TFE 25% Glass Fill
Bolts..... Stainless Steel ASTM A320 S30400

886MGF Series – Stainless Steel - Metal Seated – Grafoil®

Body ..... Stainless Steel ASTM A351 CF8M SA351 CF3M
Seat ..... Stainless Steel ASTM A351 CF3M ASTM A479 S31603
Arm ..... Stainless Steel ASTM A351 CF3M
Cap ..... Stainless Steel ASTM A351 CF3M
Gasket ..... GTB Grafoil®
Bolts..... Stainless Steel ASTM A320 S30400

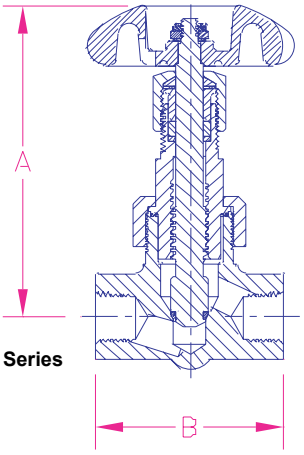
Ordering Information

Part Number	Material	Size Range	Bonnet Type	Ends	Seat	Gasket Material	Pressure Range PSI
B-000840-xxT	Bronze	½" to 2"	Union	NPT	Soft	PCTFE	400
B-000840-xxS				Silver Brazed			
B-00846M-xxT6				NPT	Metal		600
B-00846M-xxS6				Silver Brazed			
S-0886GF-xxS	Stainless Steel	½" to 1½"	Bolted	Socket Weld	Soft	Grafoil®	400
S-000886-xxS						PCTFE	
S-000886M-xxS					Metal		725 (50 Bar)
S-000886M-xxWx		½" to 4"		Buttweld			
S-886MGF-XXW3A		2" to 3"		Socket Weld		Grafoil®	

RegO® - Bleeder Valve (Trycock, Vent or Drain Valve) ES8450, BK9450 & BK9470 Series

Application

These valves are designed for use as a trycock valve or hose drain valve on cryogenic tanks. Another application is as a use, liquid fill or vent valve on mini-bulk cryogenic tanks. These valves can be used likewise for other cold gas applications requiring extended stem valve as LNG fueling.



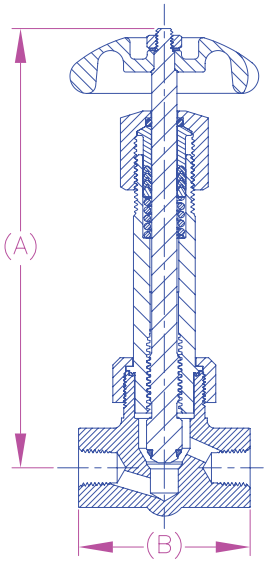
ES 8450 Series

Features

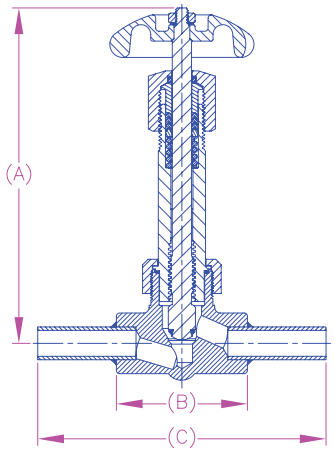
- Union Bonnet.
- One piece stainless steel stem.
- Conical Seat Design.
- Maximum working pressure is 600 PSIG.
- Temperature Range: -320°F (-196°C) to +165°F (+74°C).
- Cleaned for Oxygen Service per CGA G-4.1.
- 100% Factory Tested

Materials

Body ..... Brass UNS C37700
Bonnet ..... Brass
Stem ..... Stainless Steel UNS S30300
Seat Disc ..... PCTFE ASTM D1430 (Kel-F® - Neoflon®)
Handwheel ..... Aluminum UNSA03800
Packing ..... PTFE (Teflon®)
Bonnet Gasket ..... PTFE (Teflon®)



BK 9450 Series



886 Series

Ordering Information

Part Number	Inlet / Outlet Inches - DN(mm)	Connection	A Height	B Body Width	C Width with Tube	C_V
ES8452	¼ (6)	Thread F.NPT	4”	2.5”	-	0.70
ES8453	⅜” (10)					1.10
ES8454	½” (15)					
BK9452	¼” (6)		6.5”			0.70
BK9453	⅜” (10)					1.10
BK9454	½” (15)					
BK9453FA	⅝” OD Tubing x ⅜” F.NPT	Thread F.NPT & SS Tube			4.0”	
BK9475A	⅝” OD Tubing both ends	Stainless Steel Tube			5.5”	

RegO ASME & Non ASME Relief Valves

Application

These relief valves are specifically designed for thermal safety relief applications and cryogenic liquid containers.

Features

- Packaged and cleaned for oxygen service per CGA G-4.1
- Bubble tight at 95% of set pressure
- 100% factory tested
- Repeatable performance
- Temperature range -320° to +165° F
- Easy to read color coded psig / bar labels.
- Adapters provide standard pipe thread connections for venting gas to the outdoors.

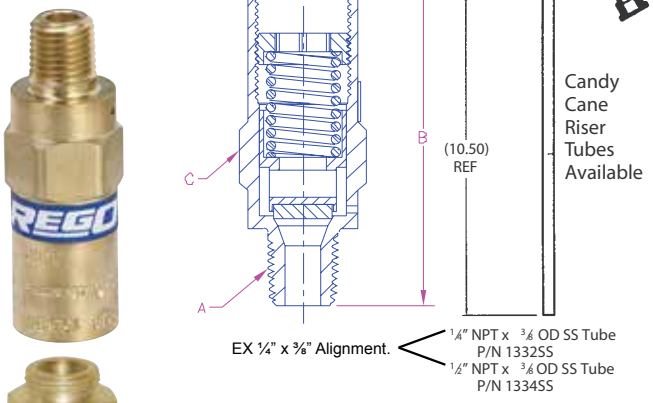
Materials SS Style

Body ..... Stainless Steel
Spring ..... Stainless Steel
Seat Retainer ..... Stainless Steel
Adjusting Screw ..... Stainless Steel
Pipe-Away Adapter ..... Stainless Steel

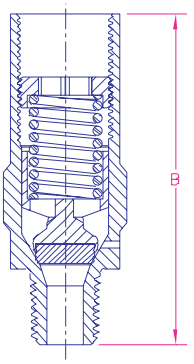
Materials PRV and B-Style

Body ..... Brass
Spring ..... Stainless Steel
Seat Retainer ..... Brass
Adjusting Screw ..... Brass
Pipe-Away Adapter ..... Brass

9400 Series



NR Series



WARNING: Inspection and maintenance of pressure relief valves is very important. Failure to properly inspect and maintain pressure relief valves could result in personal injuries or property damage. The useful safe service life of a pressure relief valve may be significantly affected by the service environment.

Noise Reduction Ordering Information

Part Number	Seat Material	Inlet Connections (F.NPT)	"B"	"C"	Orifice Size In	Factory Pressure Setting (PSIG)	Pipe-Away Adapter
NR009432F022	Fluorosilicone	¼"	2.60"	⅞"	.062	22	B-9412-2
NR009432F050						50	
NR009432F100						100	
NR009432T230	PTFE					230	
NR009432T250						250	
NR009432T300						300	
NR009432T350						350	
NR009432T360						360	

Non ASME Ordering Information

Style	Size	Inlet M.NPT 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 F.N.P.T.
PRV	9432	¼"	Brass	17-600	2.6"	⅞"	.062	B-9412-2	⅜"
SS	9432	¼"	Stainless Steel	17-600	2.6"	⅞"	.062	SS-9412-4	½"
PRV	9433	⅜"	Brass	17-600	2.6"	⅞"	.062	B-9412-2	⅜"
SS	9433	⅜"	Stainless Steel	17-600	2.6"	⅞"	.062	SS-9412-4	½"
PRV	9434	½"	Brass	17-600	2.8"	⅞"	.062	B-9412-4	½"
SS	9434	½"	Stainless Steel	17-600	2.8"	⅞"	.062	SS-9412-4	½"

ASME Ordering Information

Style	Size	Inlet M.NPT 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 F.N.P.T.
B-	9425	¾"	Brass	50-300	3.4"	1¾"	.43	B-3131-10	1"
B-	9426	1"	Brass	100-300	5.5"	2⅜"	.62	B-3132-10	1¼"

ASME Ordering Information

Part Number	Inlet A	Height B	Wrenching Hex C	Orifice Size
PRV 19432	¼"	2.6	⅞"	.062 sq. inch
PRV29432				
PRV 19433	⅜"	2.6	⅞"	.062 sq. inch
PRV29433				
PRV 19434	½"	2.8	⅞"	.062 sq. inch
PRV29434				

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 likewise equal to the BR-1780 Series.

1780 Series

Features

- Maintains a steady downstream pressure across a range of inlet pressure 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 1/4" 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 435 psig.
- Available in four delivery pressure ranges.
- Temperature range: -40° F to +165 F.
- Cleaned per CGA G-4.1 for oxygen service.
- 100% Factory Tested

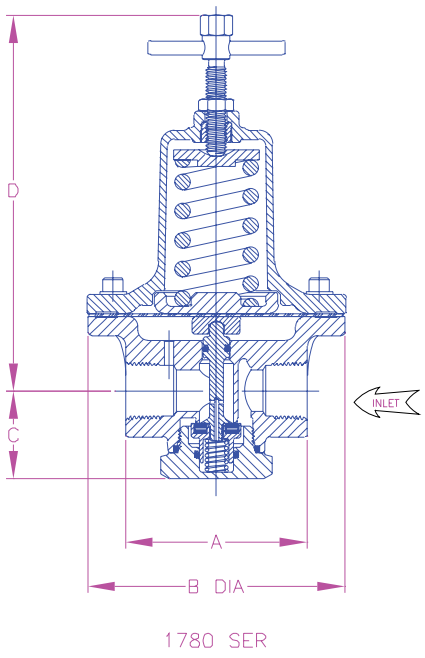
Materials

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

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

Dimensions

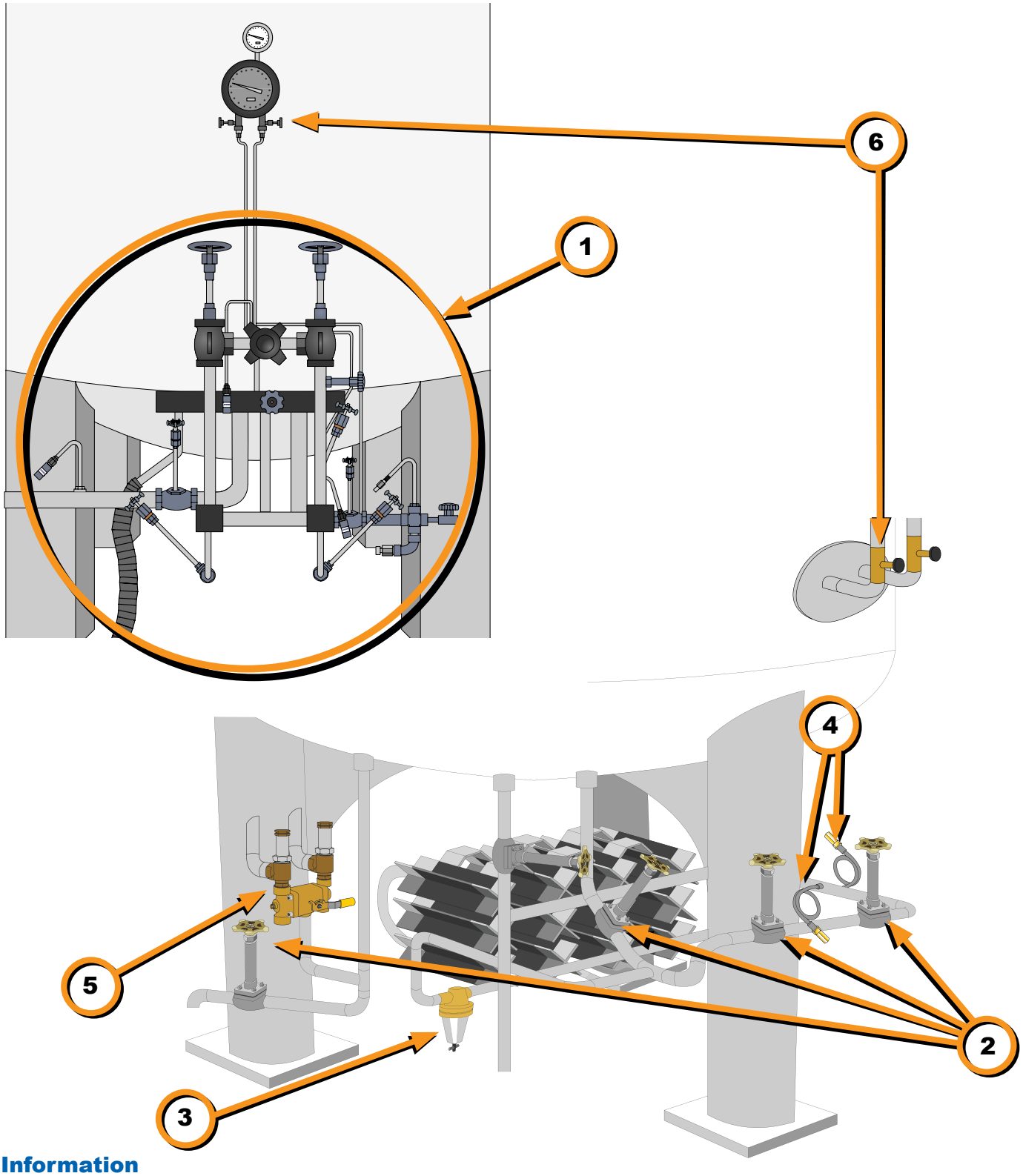
The 1780 Series Regulators have inlet and outlet connection dimensions similar to the popular 1680 Series aluminum regulators. This means that you can replace the respective size 1680 Series regulator with the new 1780 Series regulator and have the improved balanced seat performance.



Ordering Information

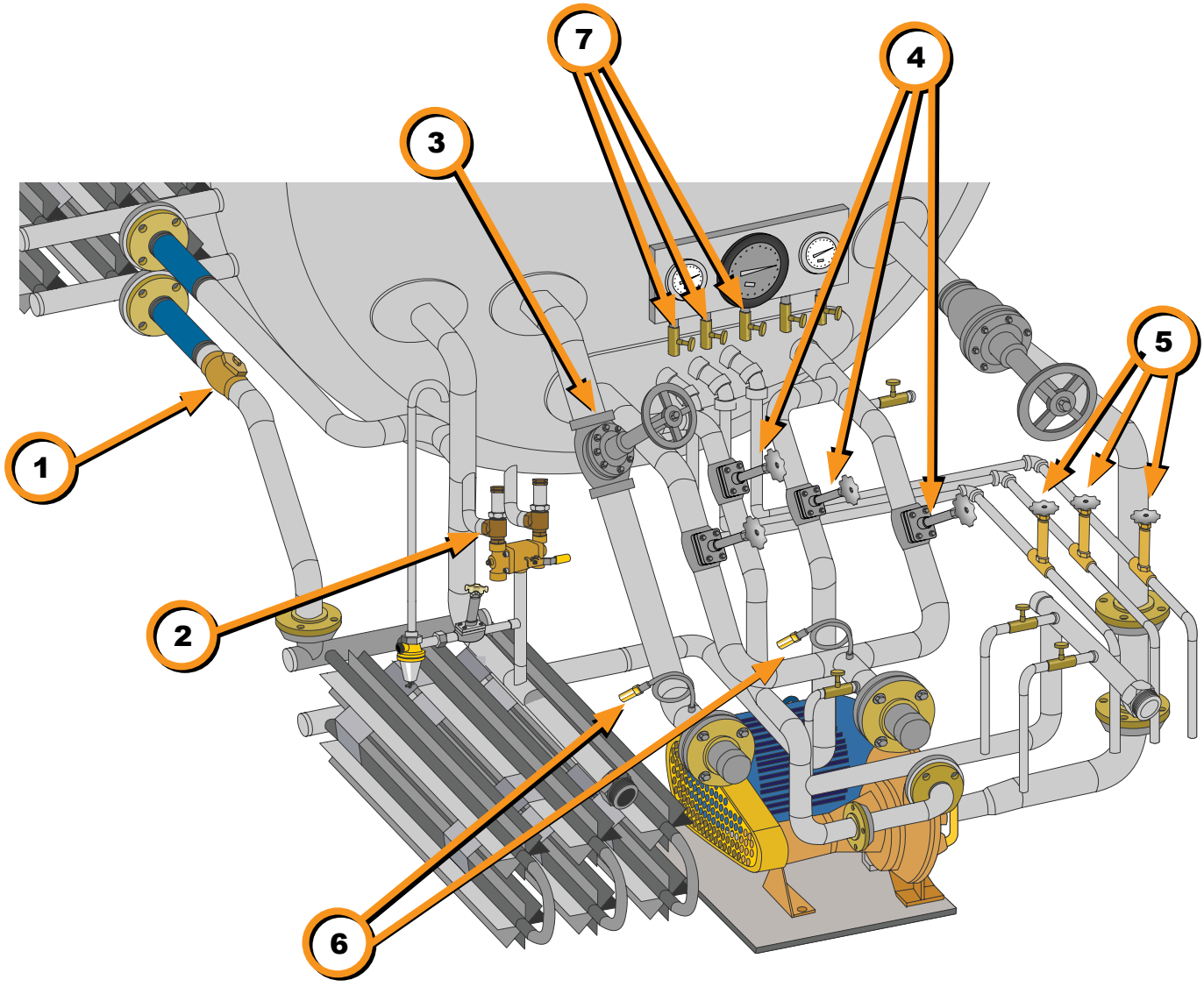
Part Number	Delivery Pressure Range	Pressure Gauge*		Inlet & Outlet (F.N.P.T.)	Dimensions				C_v
		Range (PSI)	P/N		"A"	"B"	"C"	"D"	
1784A	5-55 psig	1-100	1286	½"	2.82"	3.62"	1.38"	5.47"	3.1
1784B	40-110 psig	1-200	S1679						
1784C	100-200 psig	1-400	15578						
1784D	175-300 psig								
1786A	5-55 psig	1-100	1286	¾"	3.31"	4.69"	1.60"	6.84"	4.8
1786B	40-110 psig	1-200	S1679						
1786C	100-200 psig	1-400	15578						
1786D	175-275 psig								
1788A	5-55 psig	1-100	1286	1"					5.5
1788B	40-110 psig	1-200	S1679						
1788C	100-200 psig	1-400	15578						
1788D	175-275 psig								

*Regulator sold without gauge. Order gauge separately.



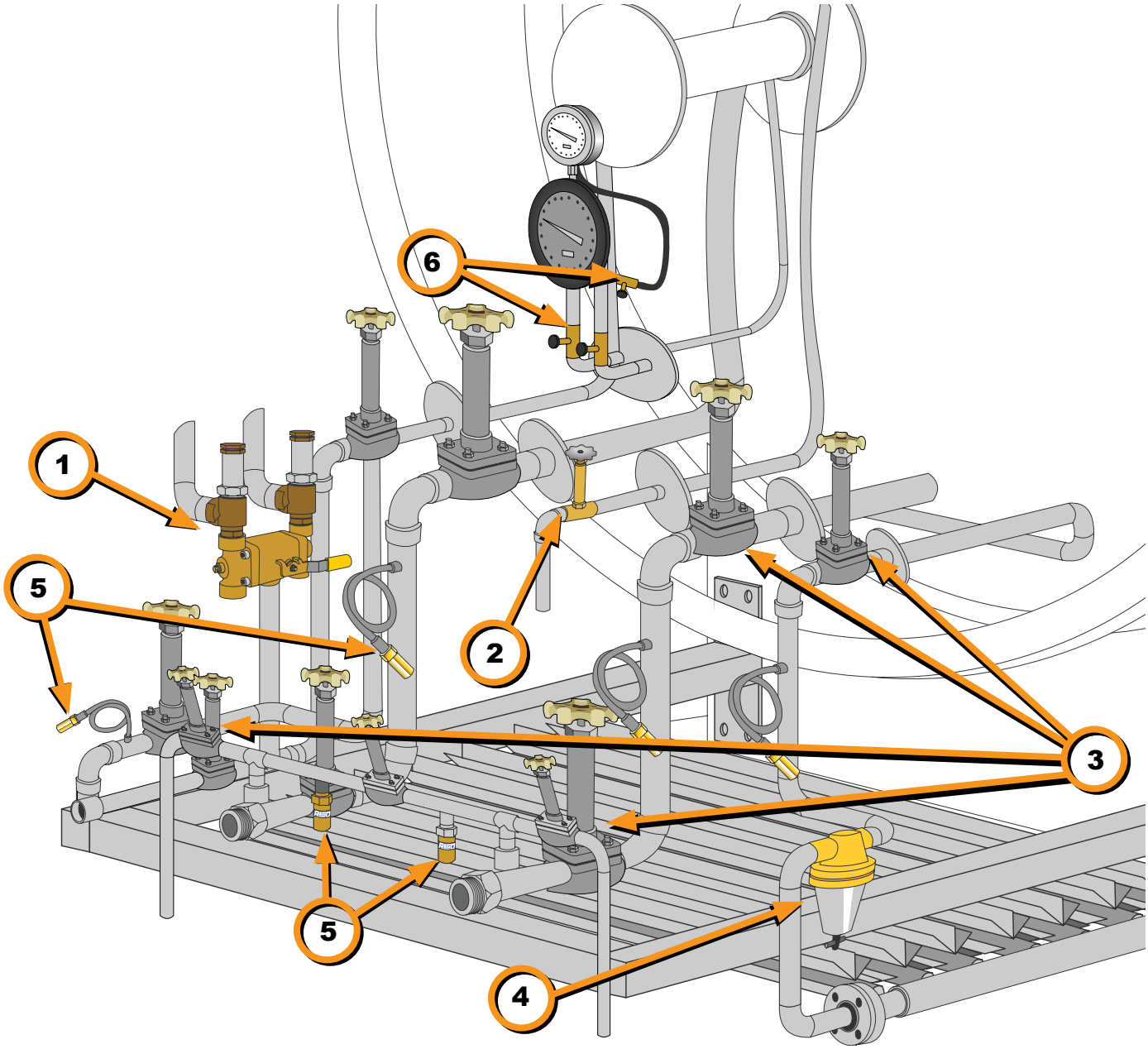
Information

Number	Number Series	Description	Page
1	CFM, AFM, PFM & SFM	Fill Manifold Assembly	7
2	SK	Stainless Steel Globe Valves	5
3	1780	Warm Gas Pressure Regulator	11
4	PRV	Relief Valve	10
5	DA6200	Relief Assembly	4
6	CMM	Needle Valve	See CG-500 Catalog



Information

Number	Number Series	Description	Page
1	840 & 886	Brass or Stainless Steel CheckValve	7
2	DA6200	Safety Assembly	4
3	210	Stainless Steel Globe Valve	6
4	SK9400	Stainless Steel Globe Valve	5
5	BK9450	Vent Trycock Valve	9
6	PRV	Relief Valve	10
7	CMM	Needle Valve	See CG-500 Catalog



Information

Number	Number Series	Description	Page
1	DA6200	Safety Assembly	4
2	BK9450	Bleed Valve	9
3	SK9400	Stainless Steel Globe Valve	5
4	1780	Warm Gas Pressure Regulator	11
5	PRV	Relief Valve	10
6	CMM	Needle Valve	See CG-500 Catalog