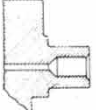

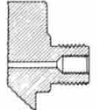
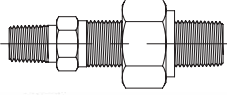
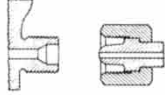

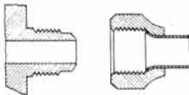
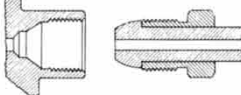
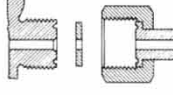
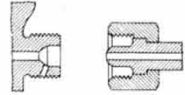
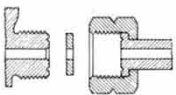
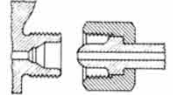
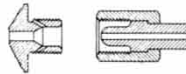
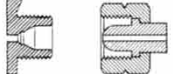
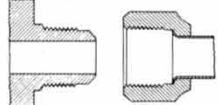
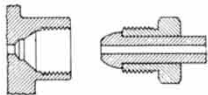
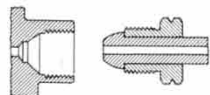
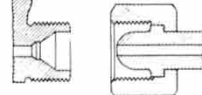

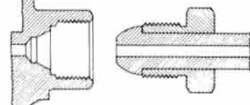
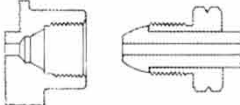
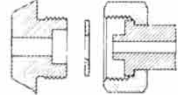
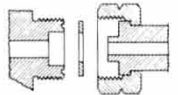
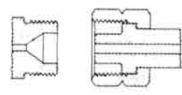
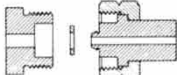
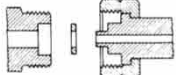
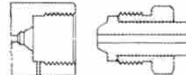
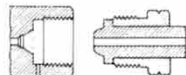
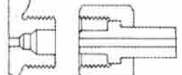
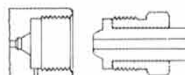

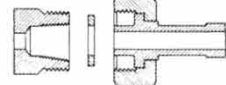
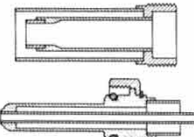
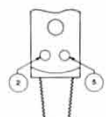
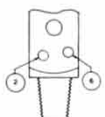
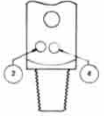
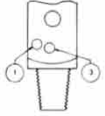
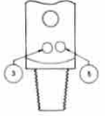
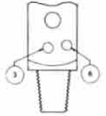
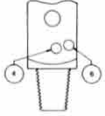
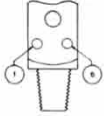
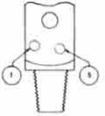
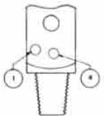
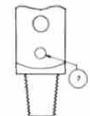
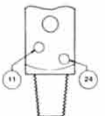


**CGA CONNECTIONS**

**CGA Connections Chart**

 <b>CGA 110</b> .3125-32UNEF-2B-RH-INT	 <b>CGA 165</b> .4375-20UNF-2A-RH-EXT (1/4 in. SAE Flare)	 <b>CGA 180</b> .625-18UNF-2A-RH-EXT	 <b>CGA 240</b> .375-18NGT-RH-INT	 <b>CGA 280</b> .745-14NGO-RH-EXT
 <b>CGA 290</b> .745-14NGO-LH-EXT	 <b>CGA 295</b> .750-16UNF-2A-RH-EXT (1/2 in. SAE Flare)	 <b>CGA 296</b> .804-14UNS-2B-RH-INT	 <b>CGA 320</b> .825-14NGO-RH-EXT (Flat Nipple)	 <b>CGA 326</b> .825-14NGO-RH-EXT (Small Round Nipple)
 <b>CGA 330</b> .825-14NGO-LH-EXT (Flat Nipple)	 <b>CGA 346</b> .825-14NGO-RH-EXT (Large Round Nipple)	 <b>CGA 347</b> .825-14NGO-RH-EXT (Long Round Nipple)	 <b>CGA 350</b> .825-14NGO-LH-EXT (Round Nipple)	 <b>CGA 440</b> .875-14UNF-2A-RH-EXT (5/8-in. SAE Flare)
 <b>CGA 500</b> .885-14NGO-RH-INT (Bullet Nipple)	 <b>CGA 510</b> .885-14NGO-LH-INT (Bullet Nipple)	 <b>CGA 540</b> .903-14NGO-RH-EXT	 <b>CGA 555</b> .903-14NGO-LH-EX	 <b>CGA 580</b> .965-14NGO-RH-INT
 <b>CGA 590</b> .965-14NGO-LH-INT	 <b>CGA 660</b> 1.030-14NGO-RH-EXT (Face Washer)	 <b>CGA 670</b> 1.030-14NGO-LH-EXT (Face Washer)	 <b>CGA 677</b> 1.030-14NGO-LH-EXT (Round Nipple)	 <b>CGA 678</b> 1.030-14NGO-LH-EXT (Recessed Washer)
 <b>CGA 679</b> 1.030-14NGO-LH-EXT (Tipped Nipple)	 <b>CGA 680</b> 1.045-14NGO-RH-INT	 <b>CGA 695</b> 1.045-14NGO-LH-INT	 <b>CGA 701</b> 1.103-14NGO-RH-EXT	 <b>CGA 702</b> 1.125-14NGO-RH-INT
 <b>CGA 703</b> 1.123-14NGO-LH-INT	 <b>CGA 705</b> 1.125-14UNS-2A-RH-EXT	 <b>CGA 792</b> 1.500-12UNF-2A-RH-EXT	 <b>CGA 870</b> PIN-INDEXED YOKE, PINS 2-5	 <b>CGA 880</b> PIN-INDEXED YOKE, PINS 2-6
 <b>CGA 890</b> PIN-INDEXED YOKE, PINS 2-4	 <b>CGA 900</b> PIN-INDEXED YOKE, PINS 1-3	 <b>CGA 910</b> PIN-INDEXED YOKE, PINS 3-5	 <b>CGA 920</b> PIN-INDEXED YOKE, PINS 3-6	 <b>CGA 930</b> PIN-INDEXED YOKE, PINS 4-6
 <b>CGA 940</b> PIN-INDEXED YOKE, PINS 1-6	 <b>CGA 950</b> PIN-INDEXED YOKE, PINS 1-5	 <b>CGA 960</b> PIN-INDEXED YOKE, PINS 1-4	 <b>CGA 965</b> PIN-INDEXED YOKE, PIN NO. 7	 <b>CGA 973</b> PIN-INDEXED YOKE, PINS 11-24

## Cylinder Connections

### Description

Regulator inlet connections are available for most worldwide standards. Each connection includes nut, gland, and washer (if appropriate) on the inlet side to connect to the cylinder and ¼" MPT connection on the outlet side to connect to the inlet of any PurityPlus regulator. CGA (Compressed Gas Association) connections are manufactured in accordance with CGA standard V-1 (1997). BS (British Standard) connections are manufactured in accordance with BS 341(1990) and DIN (German Industrial Standards Organization) connections are manufactured in accordance with DIN 477 (1991). Please consult the gas supplier or appropriate standard to determine the correct connection for particular gases. Other international standard connections are available upon request.

### Ordering Information

Connection	Brass	Stainless Steel	Chrome-Plated Brass
CGA 170	N/A	550-1004-170	550-1009-170
CGA 180	N/A	550-1004-180	550-1009-180
CGA 240	N/A	N/A	N/A
CGA 280	N/A	N/A	550-1009-280
CGA 290	N/A	550-1004-290	N/A
CGA 296	550-1002-296	550-1004-296	550-1009-296
CGA 300	550-1002-300	550-1004-300	550-1009-300
CGA 320	550-1002-320	550-1004-320	550-1009-320
CGA 326	550-1002-326	550-1004-326	550-1009-326
CGA 330	N/A	N/A	N/A
CGA 346	550-1002-346	550-1004-346	550-1009-346
CGA 347	550-1002-347	550-1004-347	550-1009-347
CGA 350	550-1002-350	550-1004-350	550-1009-350
CGA 500	N/A	N/A	550-1009-500
CGA 510	550-1002-510	550-1004-510	550-1009-510
CGA 540	550-1002-540	550-1004-540	550-1009-540
CGA 555	550-1002-555	550-1004-555	550-1009-555
CGA 577	550-1002-577	550-1004-577	550-1009-577
CGA 580	550-1002-580	550-1004-580	550-1009-580
CGA 590	550-1002-590	550-1004-590	550-1009-590
CGA 660	N/A	N/A	N/A
CGA 670	N/A	550-1004-670	N/A
CGA 677	N/A	N/A	N/A
CGA 679	N/A	N/A	N/A
CGA 680	550-1002-680	550-1004-680	550-1009-680
CGA 695	550-1002-695	550-1004-695	550-1009-695
CGA 702	N/A	N/A	N/A
CGA 703	N/A	N/A	N/A
CGA 705	N/A	N/A	N/A
BS 341 #01	550-1002-B01	N/A	550-1009-B01
BS 341 #02	550-1002-B02	550-1004-B02	550-1009-B02
BS 341 #03	550-1002-B03	550-1004-B03	550-1009-B03
BS 341 #04	550-1002-B04	550-1004-B04	550-1009-B04
BS 341 #08	550-1002-B08	550-1004-B08	550-1009-B08
BS 341 #10	N/A	550-1004-B10	N/A
BS 341 #13	550-1002-B13	550-1004-B13	550-1009-B13
BS 341 #14	550-1002-B14	550-1004-B14	550-1009-B14
BS 341 #15	550-1002-B15	550-1004-B15	550-1009-B15
DIN 477 #01	550-1002-D01	550-1004-D01	550-1009-D01
DIN 477 #03	550-1002-D03	N/A	550-1009-D03
DIN 477 #05	N/A	550-1004-D05	N/A
DIN 477 #06	550-1002-D06	550-1004-D06	550-1009-D06
DIN 477 #07	N/A	550-1004-D07	N/A
DIN 477 #08	N/A	550-1004-D08	N/A
DIN 477 #09	550-1002-D09	N/A	550-1009-D09
DIN 477 #10	550-1002-D10	550-1004-D10	550-1009-D10
DIN 477 #11	550-1002-D11	N/A	550-1009-D11
DIN 477 #12	550-1002-D12	N/A	550-1009-D12
DIN 477 #13	550-1002-D13	N/A	550-1009-D13
DIN 477 #14	550-1002-D14	550-1004-D14	550-1009-D14
DIN 477 #15	550-1002-D15	550-1004-D15	550-1009-D15

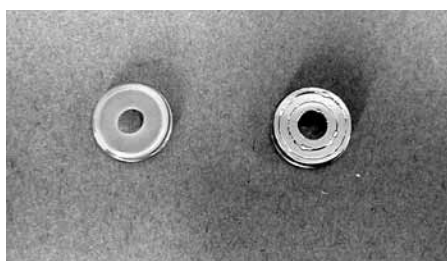
## UHP (DISS) Cylinder Connections

4

Description	Features
This special group of cylinder connections was developed through the cooperation of industry and the Compressed Gas Association for use with ultra purity gases primarily used in conjunction with semiconductor chip manufacturing applications. The sealing surfaces are similar to a face seal connection used with tubing and they require either a nickel gasket or Kel-F gasket to achieve a seal. They are only available in stainless steel.	<ul style="list-style-type: none"> <li>Available with in three mating styles                             <ul style="list-style-type: none"> <li>1/4" face seal male</li> <li>1/4" NPT male</li> <li>1/4" tube stub</li> </ul> </li> <li>Supplied as a set nut, nipple, and nickel gasket</li> </ul>

Ordering Information			
Model	Description	Model	Description
DISS632-P4M DISS632-V4M DISS632-T4S	632 x 1/4" NPT male 632 x 1/4" male face seal 632 x 1/4" tube stub	DISS714-P4M DISS714-V4M DISS714-T4S	714 x 1/4" NPT male 714 x 1/4" male face seal 714 x 1/4" tube stub
DISS634-P4M DISS634-V4M DISS634T4S	634 x 1/4" NPT male 634 x 1/4" male face seal 634 x 1/4" tube stub	DISS716-P4M DISS716-V4M DISS716-T4S	716 x 1/4" NPT male 716 x 1/4" male face seal 716 x 1/4" tube stub
DISS636-P4M DISS636-V4M DISS636-T4S	636 x 1/4" NPT male 636 x 1/4" male face seal 636 x 1/4" tube stub	DISS718-P4M DISS718-V4M DISS718-T4S	718 x 1/4" NPT male 718 x 1/4" male face seal 718 x 1/4" tube stub
DISS638-P4M DISS638-V4M DISS638-T4S	638 x 1/4" NPT male 638 x 1/4" male face seal 638 x 1/4" tube stub	DISS720-P4M DISS720-V4M DISS720-T4S	720 x 1/4" NPT male 720 x 1/4" male face seal 720 x 1/4" tube stub
DISS640-P4M DISS640-V4M DISS640-T4S	640 x 1/4" NPT male 640 x 1/4" male face seal 640 x 1/4" tube stub	DISS722-P4M DISS722-V4M DISS722-T4S	722 x 1/4" NPT male 722 x 1/4" male face seal 722 x 1/4" tube stub
DISS642-P4M DISS642-V4M DISS642T4S	642 x 1/4" NPT male 642 x 1/4" male face seal 642 x 1/4" tube stub	DISS724-P4M DISS724-V4M DISS724-T4S	724 x 1/4" NPT male 724 x 1/4" male face seal 724 x 1/4" tube stub
DISS712-P4M DISS712-V4M DISS712-T4S	712 x 1/4" NPT male 712 x 1/4" male face seal 712 x 1/4" tube stub	DISS726-P4M DISS726-V4M DISS726-T4S	726 x 1/4" NPT male 726 x 1/4" male face seal 726 x 1/4" tube stub

## DISS Gaskets



Description
All DISS connections require a gasket to achieve a leak-free connection. Gaskets should be changed each time the connection is attached to the cylinder valve.

Ordering Information	
Model	Length
DISS-NI	Nickel gasket for CGA 632 thru 726
DISS-K	Kel-F gasket for CGA 632 thru 726

miniature forged needle valves

Series 8100

4

Description				
These valves are used in a wide variety of industrial and laboratory applications. They offer excellent flow control and both the brass and stainless steel models have Teflon® packing				
Specifications				
<i>Max. Operating Pressure</i> 3000 psig				
<i>Operating Temperature range</i> -65° to 165°F				
<i>Flow coefficient (C<sub>v</sub>)</i> 0.35				
Ordering Information				
Brass	Model 316 SS	Monel	Pattern	Connections
8111	8121	—	Straight	1/8" NPT male
8112	8122	8152	Straight	1/4" NPT male
8112A	—	8122A	Angle	1/4" NPT female
8113	8123	—	Straight	1/4" compression



check valves

Series 8400

Description	
Check valves prevent the return flow of gas, thus keeping foreign substances out of lines, regulators and cylinders located upstream of the valve.	
These valves are a spring loaded design with the spring on the high pressure side to protect it from foreign substances. The positive stop prevents over-stressing of the spring by sudden surges of gas pressure. An o-ring at the valve seat provides quick, efficient sealing.	
The valves have a one piece body with 1/4" NPT female connections inlet and outlet. It is rated for 3000 psig with a cracking pressure of approximately 1 psig.	



Ordering Information				
Model	Material of Construction	Cracking Pressure PSIG	End Connections	Operating Pressure PSIG
8410V	Brass body, Viton® o-ring, stainless steel spring	~ 1	1/4" NPT female	3000
8410V-5-P4MM	Brass body, Viton® o-ring, st. st. spring	~ 5	1/4" NPT male	3000
8420E	316 stainless steel, EPR o-ring, stainless steel spring	~ 1	1/4" NPT female	3000
8420V	316 stainless steel, Viton® o-ring, stainless steel spring	~ 1	1/4" NPT female	3000
8420V-5-P4MM	316 st. st., Viton® o-ring, st. st. spring	~ 5	1/4" NPT male	6000
8450V	Monel®, Viton® o-ring, stainless steel spring	~ 1	1/4" NPT female	3000

Note: Check valves with other o-ring materials are available.

## Series 8300

high purity diaphragm packless valves



4

Description	Advanced Features	Typical Applications
<p>The multiple metal diaphragm design and Kel-F® seat are the key elements to the high purity success of these valves. They are available in a variety of styles and fitting configurations to meet virtually any application.</p> <p>The 90° lever operated option provides the inherent benefits of a diaphragm packless valve with the quick open/close action and easily identifiable operational status of a lever actuated valve.</p>	<ul style="list-style-type: none"> <li>• Metal diaphragm packless construction for diffusion resistant operation</li> <li>• Capable of passing a helium leak-rate test to 10<sup>-10</sup> cc/sec</li> <li>• Available in multiple turn and 90° lever operated designs.</li> </ul>	<p>The Series 8300 valves are recommended whenever the diffusion of atmospheric gases and moisture into a gas system is undesirable. They are a must in all ultrahigh purity gas transfer systems, particularly those used for gas chromatography carrier gases, samples and calibration standards.</p>

Materials				Specifications
<b>Series 8310</b>		<b>Series 8320</b>		<i>Operating pressure</i> brass - 3000 psig stainless steel - 3000 psig  <i>Operating temperature range</i> 40° to 140°F  <i>Flow coefficient (Cv)</i> 0.13
<i>Body</i>	<i>Diaphragm</i>	<i>Body</i>	<i>Diaphragm</i>	
Brass	Stainless Steel	316 Stainless steel	Stainless steel	
<i>Seat</i>		<i>Seat</i>		
Kel-F®		Kel-F®		

### Ordering Information

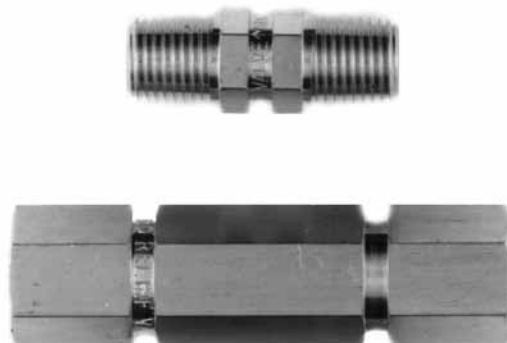
Model*	Actuation	Inlet	Outlet
8310-P4FF	Multi-turn	1/4" NPT female	1/4" NPT female
8310L-P4MF	Multi-turn	1/4" NPT male long	1/4" NPT female
8310-P4MM	Multi-turn	1/4" NPT male	1/4" NPT male
8310-T4FF	Multi-turn	1/4" compression	1/4" compression
8311-P4FF	90° lever	1/4" NPT female	1/4" NPT female
8311L-P4MF	90° lever	1/4" NPT male long	1/4" NPT female
8311-P4MM	90° lever	1/4" NPT male	1/4" NPT male
8311-T4FF	90° lever	1/4" compression	1/4" compression
8320-P4FF	Multi-turn	1/4" NPT female	1/4" NPT female
8320L-P4MF	Multi-turn	1/4" NPT male long	1/4" NPT female
8320-P4MM	Multi-turn	1/4" NPT male	1/4" NPT male
8320-T4FF	Multi-turn	1/4" compression	1/4" compression
8321-P4FF	90° lever	1/4" NPT female	1/4" NPT female
8321L-P4MF	90° lever	1/4" NPT male long	1/4" NPT female
8321-P4MM	90° lever	1/4" NPT male	1/4" NPT male

\* Other end connection configurations available upon request.

pressure relief valves

Series 8600

4



Description	Features	Specifications
These easily field adjustable relief valves provide for the protection of equipment components installed in systems where they may be exposed to over pressurization due to the failure of another component or an operator error.	<ul style="list-style-type: none"> <li>Working pressure to 3000 psig</li> <li>Wide range of pressure adjustment</li> <li>100% tested for crack and reseal performance</li> <li>Available in brass and stainless steel</li> </ul>	<p><i>Maximum Working Pressure @ 70°F</i> 3000 psig</p> <p><i>Flow Coefficient (Cv)</i> 0.35</p> <p><i>Temperature Rating</i> with Buna-N o-ring -10 to 250°F with Viton® o-ring -10 to 375°F</p> <p><i>O-ring Material</i> brass Buna-N stainless steel Viton®</p>

Ordering Information			
Model	Material	Adjustable Range	Connections inlet x outlet
8614-3-P4MM	brass	3-20 psig	1/4" NPT male x 1/4" NPT male
8614-20-P4MM	brass	20-65 psig	1/4" NPT male x 1/4" NPT male
8614-65-P4MM	brass	65-175 psig	1/4" NPT male x 1/4" NPT male
8614-175-P4MM	brass	175-350 psig	1/4" NPT male x 1/4" NPT male
8614-350-P4MM	brass	350-600 psig	1/4" NPT male x 1/4" NPT male
8614-3-P4MM	brass	3-20 psig	1/4" NPT male x 1/4" NPT male
8614-20-P4MM	brass	20-65 psig	1/4" NPT male x 1/4" NPT male
8614-65-P4MM	brass	65-175 psig	1/4" NPT male x 1/4" NPT male
8614-175-P4MM	brass	175-350 psig	1/4" NPT male x 1/4" NPT male
8614-350-P4MM	brass	350-600 psig	1/4" NPT male x 1/4" NPT male
8614-3-P4FF	brass	3-20 psig	1/4" NPT female x 1/4" NPT female
8614-20-P4FF	brass	20-65 psig	1/4" NPT female x 1/4" NPT female
8614-65-P4FF	brass	65-175 psig	1/4" NPT female x 1/4" NPT female
8614-175-P4FF	brass	175-350 psig	1/4" NPT female x 1/4" NPT female
8614-350-P4FF	brass	350-600 psig	1/4" NPT female x 1/4" NPT female
8624-3-P4MM	stainless	3-20 psig	1/4" NPT male x 1/4" NPT male
8624-20-P4MM	stainless	20-65 psig	1/4" NPT male x 1/4" NPT male
8624-65-P4MM	stainless	65-175 psig	1/4" NPT male x 1/4" NPT male
8624-175-P4MM	stainless	175-350 psig	1/4" NPT male x 1/4" NPT male
8624-350-P4MM	stainless	350-600 psig	1/4" NPT male x 1/4" NPT male
8624-3-P4FF	stainless	3-20 psig	1/4" NPT female x 1/4" NPT female
8624-20-P4FF	stainless	20-65 psig	1/4" NPT female x 1/4" NPT female
8624-65-P4FF	stainless	65-175 psig	1/4" NPT female x 1/4" NPT female
8624-175-P4FF	stainless	175-350 psig	1/4" NPT female x 1/4" NPT female
8624-350-P4FF	stainless	350-600 psig	1/4" NPT female x 1/4" NPT female

## Series 8500

manual control valves

### Description

Manual controls are designed for direct connection to a compressed gas cylinder valve outlet. They provide a simple means of transferring the contents of a cylinder to another system or vessel. They **DO NOT** control pressure and should never be used without an operator in attendance at all times.

Four models are presented here with the following basic design features:

- Maximum inlet pressure - 3000 psig
- Teflon® packing for smooth leak-free operation
- Finger-tip control of flow from only a few cc per minute to very rapid withdrawal



### Ordering Information

Series 8520 - 303 Stainless steel		Series 8523 - 303 Stainless Steel with 0-3000 psig Cylinder pressure Gauge		Series 8550 - Monel®	
Model	Outlet Connection	Model	Outlet Connection	Model	Outlet Connection
8520H*	1/4" hose barb	8523H*	1/4" hose barb	8550H*	1/4" hose barb
8520T*	1/4" compression fitting	8523T*	1/4" compression fitting	8550T*	1/4" compression fitting
8520PF*	1/4" NPT female	8523PF*	1/4" NPT female	8550PF*	1/4" NPT female

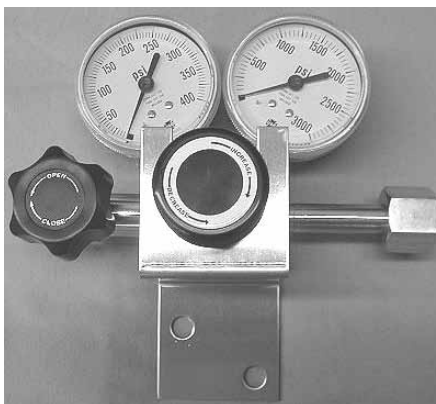
\*Specify CGA connection number when ordering

## Series EZ3000

Easy-Mount regulator bracket

### Description

This bracket allows either single stage or two stage regulators to be mounted or removed without removing the adjusting knob or resetting the delivery pressure provided the regulator is supplied by the factory with the panel mount nut installed.



### Ordering Information

Model	Description
EZ3100	For single stage regulators
EZ3200	For two stage regulators