

## 4" Single Port

Type A Flangeless  
CL 150 – 300



**4" Single Port Type A Flangeless Flowgrid® Valve with Series 20 Pilot**

The 4" Single Port Type A Flangeless Flowgrid® Valve is an economical and easy to maintain top entry pilot operated valve for both gas and liquid applications. This space saving valve has a face to face dimension of only 4.50" for the 150/300 CL valve. The face to face dimension is the same as the American Axial Flow™ regulator, making the top entry Flowgrid® valve an ideal replacement.

### SPECIFICATIONS

<b>Size</b>	4"
<b>Body Style</b>	Single Port (4")
<b>End Connections</b>	4" CL150, 300 Flangeless
<b>Temperature</b>	Working -20°F to 150°F Emergency -40°F to 175°F
<b>Max. Operating Differential</b>	740 psi
<b>Max. Emergency Differential</b>	740 psi
<b>Min. Differential</b>	Refer to graph on page 2
<b>Cracking Differential</b>	Refer to graph on page 2
<b>Max. Inlet Pressure</b>	740 psig*
<b>Outlet Pressure Range</b>	Limited By Pilot
<b>Body Taps</b>	One 1/4" - 18NPT

\*Limited by pilot or flange rating

### OVERPRESSURE PROTECTION

The Flowgrid® Valve is bi-directional and has a full ANSI rating on both the inlet and outlet. Overpressure protection is required only if the pressure can exceed the flange or body rating.

The pilots, like most regulators, may have an outlet pressure rating lower than the inlet pressure rating. If this is the case then some external form of overpressure protection must be provided for the pilot.

Anytime the Flowgrid® valve or pilot system is exposed to pressure in excess of its rating it should be inspected for damage.

### MATERIALS OF CONSTRUCTION

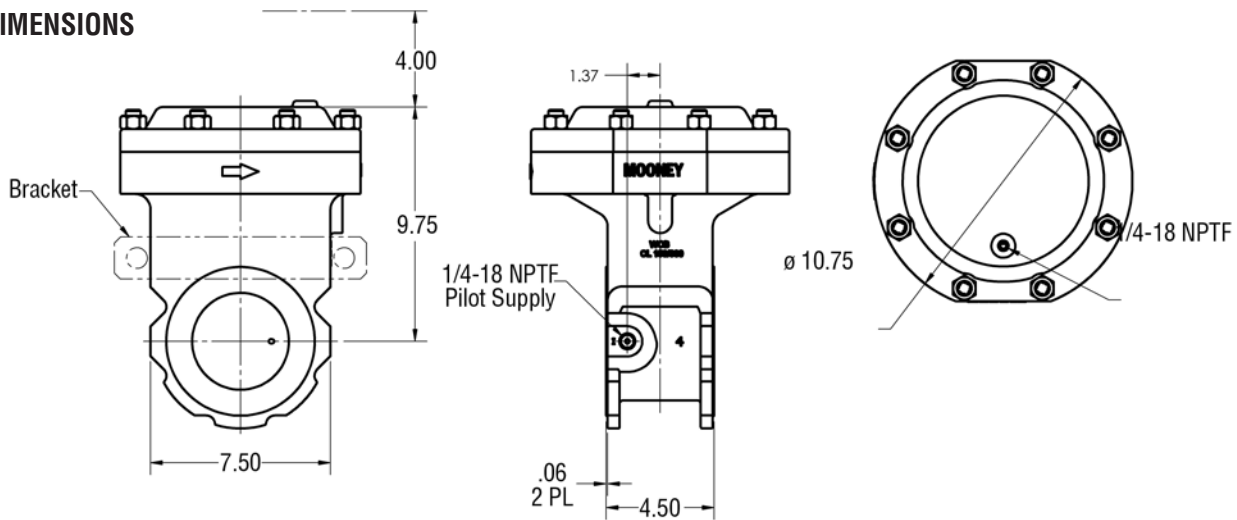
<b>Body &amp; Spring Case</b>	ASTM A 216 GR WCB Carbon Steel
<b>Throttle Plate</b>	17 - 4PH Stainless Steel
<b>Diaphragm</b>	Nitrile/Nylon*
<b>O-Ring &amp; Seals</b>	Nitrile
<b>Bolting</b>	ASTM A 193 GR B-7 or Equal
<b>Spring</b>	301 Stainless Steel

\*Refer to diaphragm selection chart on page 2

### STOCK NUMBERS

4" Single Port Type A Flangeless Valve	Stock #	Weight
150# Flangeless	FG-106	85 lbs.
300# Flangeless	FG-107	85 lbs.

## DIMENSIONS



Class	Bolt Circle	Stud Size	Qty.	Stud Length	Bracket Stud Length	Qty.
150	7.50	5/8-11UNC	6	8.50	11.50	2
300	7.88	3/4-10UNC	6	10.25	13.00	2

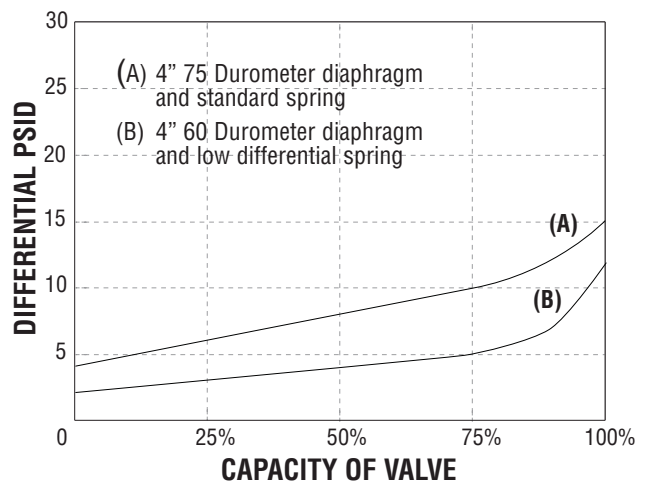
**Stud Material: A193 Grade B7 Nut Material: A194 Grade 2H**

## FLOW COEFFICIENTS AND CONSTANTS

4" Single Port Type A Flangeless Valve				Swage Factor	
Percent Capacity	Cv	C1	Cg	1.5:1	2:1
100%	168	35	5800	0.98	0.96
75%	135	37	5000	0.98	0.97
50%	100	35	3550	0.99	0.98
35%	76	35	2700	1.00	1.00

**NOTE:** Allow a 5% factor of safety when calculating relief capacity

## MINIMUM PRESSURE DIFFERENTIAL VS CAPACITY



## DIAPHRAGM SELECTION

Compound	Temp. Range (Degrees F)	Maximum Differential	Characteristics	Recommended Applications
<b>75 Duro</b>	-20 to 150	1000 psid	Best All Around Material	60 psid to Max. Differential
<b>60 Duro</b>	-25 to 150	300 psid	Best Shutoff at Low Differential Pressure	Low Differential (100 psid or less) or Low Temperature
<b>80 Duro High ACN</b>	-5 to 175	1000 psid	Higher Abrasion and Swelling Resistance	High Differential (400 psid or higher) or Abrasive Conditions with Distillates
<b>80 Duro Low ACN</b>	-20 to 150	1000 psid	Higher Abrasion Resistance and Low Temperature Flexibility	High Differential (400 psid or higher) or Abrasive Conditions at Low Temperatures

### Mooney

### Dresser, Inc.

2822 S. 1030 W.

Salt Lake City, Utah 84119

Phone: 801.487.2225 Fax: 801.487.2587

www.mooneycontrols.com



www.dresser.com

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Flangeless Valve  
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