

## 2" Large Single Port

Type A Flangeless  
CL 150 – 600



### 2" Large Single Port Type A Flangeless Flowgrid® Valve with Series 20 Pilot

#### 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.

The 2" Single Port Type A Flangeless Flowgrid® Valve is an economical and easy to maintain top entry pilot operated valve for both gas and liquid operations. This space saving valve has a face to face dimension of only 3.03" for the 150/300 CL valve and 3.41" for the 600 CL valve. These dimensions are the same as the American Axial Flow™ regulator, making the top-entry Flowgrid® Valve an ideal replacement.

#### SPECIFICATIONS

<b>Size</b>	2"
<b>Body Style</b>	Large Single Port (2")
<b>End Connections</b>	2" CL150, 300, 600 Flangeless
<b>Temperature</b>	Working -20°F to 150°F Emergency -40°F to 175°F
<b>Max. Operating Differential</b>	800 psi
<b>Max. Emergency Differential</b>	1000 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>	1480 psig*
<b>Outlet Pressure Range</b>	Limited By Pilot
<b>Flow Direction</b>	Bi-Directional**
<b>Body Taps</b>	Two 1/4" - 18NPT

\* Limited by pilot or flange rating

\*\* Reverse flow by changing pilot connections and reversing spring case

#### MATERIALS OF CONSTRUCTION

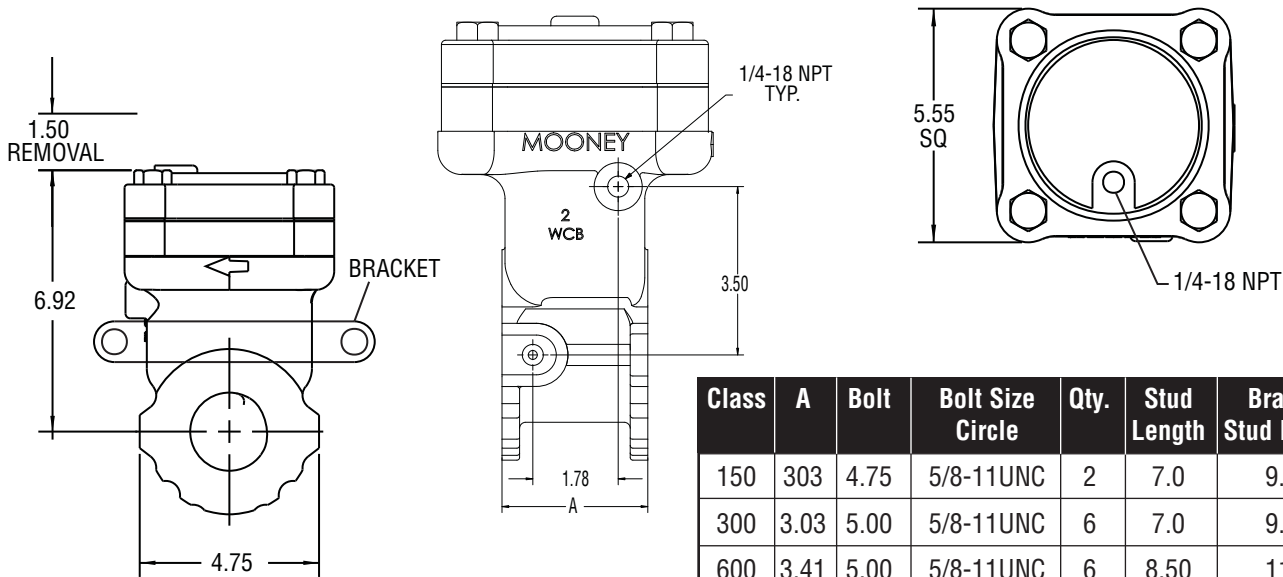
<b>Body &amp; Spring Case</b>	ASTM A 216 GR WCB Carbon Steel
<b>Throttle Plate</b>	17 - 4PH Stainless Steel or A515 Carbon Steel with ENC Coating
<b>Diaphragm</b>	Nitrile/Nylon* or Viton/Nylon
<b>O-Ring &amp; Seals</b>	Nitrile, Optional (Viton)
<b>Bolting</b>	ASTM A 193 GR B-7 or Equal
<b>Spring</b>	301 Stainless Steel

\*Refer to diaphragm selection chart on page 2.

#### STOCK NUMBERS

2" Large Single Port Type A Flangeless Valve	Stock #	Weight
150# Flangeless	FG-100	28 lbs.
300# Flangeless	FG-101	28 lbs.
600# Flangeless	FG-102	28 lbs.

## DIMENSIONS



Class	A	Bolt	Bolt Size Circle	Qty.	Stud Length	Bracket Stud Length	Qty.
150	303	4.75	5/8-11UNC	2	7.0	9.50	2
300	3.03	5.00	5/8-11UNC	6	7.0	9.50	2
600	3.41	5.00	5/8-11UNC	6	8.50	11.0	2

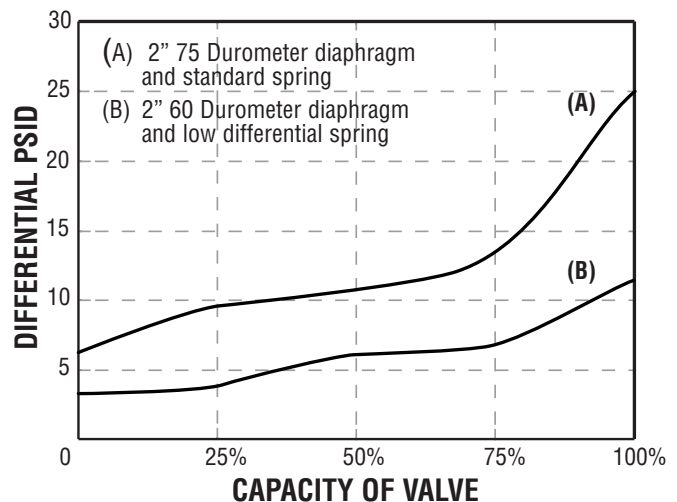
**Stud Material:** A193 Grade B7 **Nut Material:** A194 Grade 2H

## FLOW COEFFICIENTS AND CONSTANTS

2" Large Single Port Type A Flangeless Valve				Swage Factor	
Percent Capacity	Cv	C1	Cg	1.5:1	2:1
100%	40	35	1400	0.98	0.96
75%	33	33	1083	0.98	0.97
50%	27	30	824	0.99	0.98
35%	20	30	590	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
75 Duro	-20 to 150	1000 psid	Best All Around Material	60 psid to Max. Differential
60 Duro	-25 to 150	300 psid	Best Shutoff at Low Differential Pressure	Low Differential (100 psid or less) or Low Temperature
80 Duro High ACN	-5 to 175	1000 psid	Higher Abrasion and Swelling Resistance	High Differential (400 psid or higher) or Abrasive Conditions with Distillates
80 Duro Low ACN	-20 to 150	1000 psid	Higher Abrasion Resistance and Low Temperature Flexibility	High Differential (400 psid or higher) or Abrasive Conditions at Low Temperatures

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