

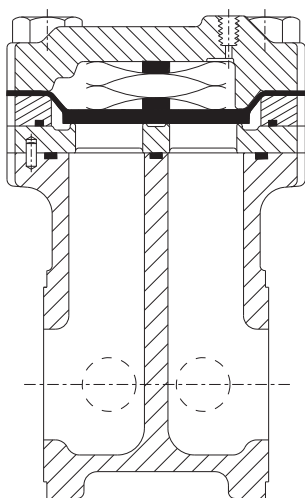
2" Large Single Port

Flangeless
CL 150 – 600



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

SECTIONAL VIEW



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" Large Single Port Flangeless Flowgrid® valve is simply a higher capacity version of the original 2" Single Port Valve. The space saving face-to-face dimension (4.187") is the same as the obsolete Model 82 and current Model 83 making the Flowgrid® valve an ideal replacement which offers in-line maintenance, Large Single Port and the Standard Port valves share the same Body, O-ring, Body Seal, and Main Spring. The Spring Case, diaphragm, Spacer and Throttle Plate are unique to this construction.

SPECIFICATIONS

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

* Limited by pilot or flange rating

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

MATERIALS OF CONSTRUCTION

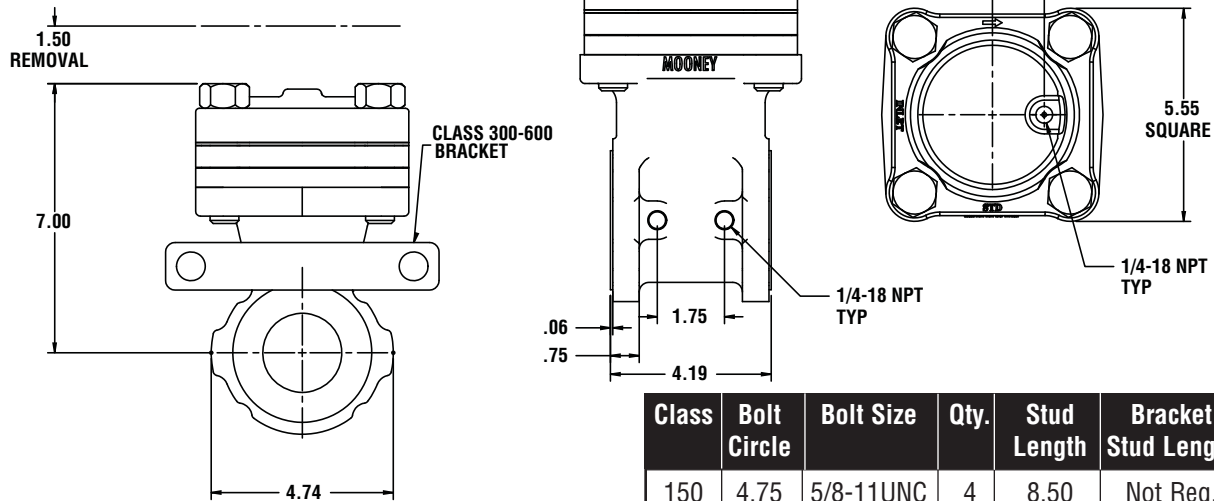
Body & Spring Case	ASTM A 216 GR WCB Carbon Steel
Throttle Plate	17 - 4PH Stainless Steel or A515 Carbon Steel with ENC Coating
Diaphragm	Nitrile/Nylon*
O-Ring & Seals	Nitrile, Optional (Viton)
Bolting	ASTM A 193 GR B-7 or Equal
Spring	301 Stainless Steel

*Refer to diaphragm selection chart on page 2.

STOCK NUMBERS

2" Large Single Port Flangeless Valve	Stock #	Weight
150# Flangeless	FG-35	28 lbs.
300# Flangeless	FG-35	28 lbs.
600# Flangeless	FG-35	28 lbs.

DIMENSIONS



Class	Bolt Circle	Bolt Size	Qty.	Stud Length	Bracket Stud Length	Qty.
150	4.75	5/8-11UNC	4	8.50	Not Req.	Not Req.
300	5.00	5/8-11UNC	6	8.50	11.0	2
600	5.00	5/8-11UNC	6	8.50	11.0	2

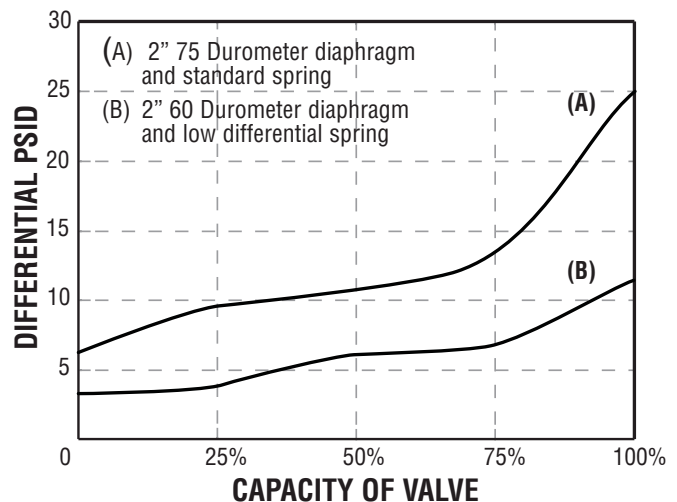
Stud Material: A193 Grade B7 Nut Material: A194 Grade 2H

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%	37	35	1300	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	800 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	800 psid	Higher Abrasion and Swelling Resistance	High Differential (400 psid or higher) or Abrasive Conditions with Distillates
80 Duro Low ACN	-20 to 150	800 psid	Higher Abrasion Resistance and Low Temperature Flexibility	High Differential (400 psid or higher) or Abrasive Conditions at Low Temperatures

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