



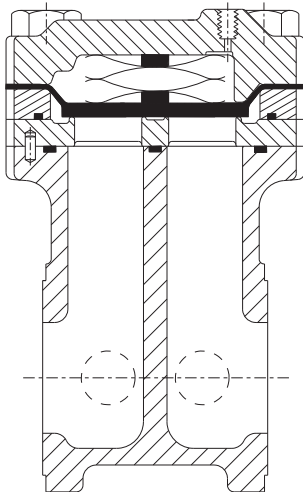
2" Standard Single Port

Flangeless CL 150 – 600



2" Standard 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" Standard Single Port Flangeless Flowgrid® Valve is an economical and easy to maintain pilot operated valve for both gas and liquid applications. This space saving valve has a face to face dimension of only 4.187". this dimension is the same as the obsolete REDQ™ Model 82 and current Model 83 making the Flowgrid® Valve an ideal replacement. The valve can be converted into a 2" Large Single Port for extra capacity simply by changing the Spring Case, Diaphragm, Spacer, and Throttle Plate.

SPECIFICATIONS

| | |
|------------------------------------|--|
| Size | 2" |
| Body Style | Standard 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

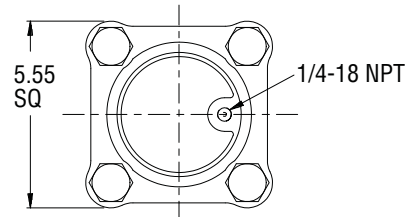
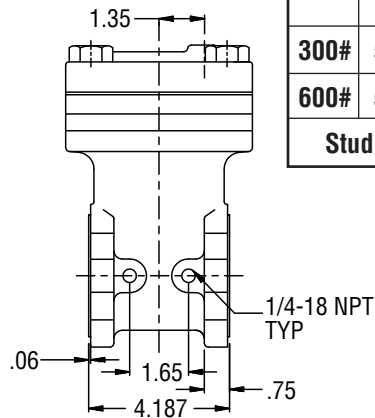
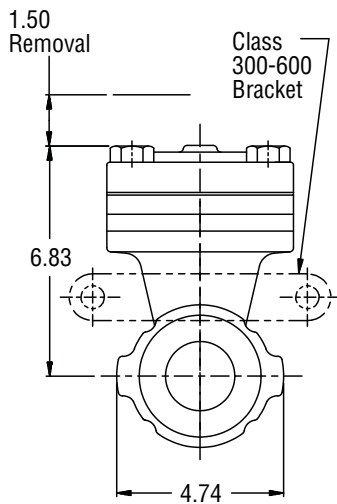
| | |
|-------------------------------|---|
| Body & Spring Case | ASTM A 216 GR WCB Carbon Steel |
| Throttle Plate | 17 - 4PH Stainless Steel or A515 Carbon Steel with ENC Coating |
| Diaphragm | Nitrile/Nylon* |
| O-Ring & Seals | Nitrile, Optional (Viton) |
| Bolting | ASTM A 193 GR B-7 or Equal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

*Refer to diaphragm selection chart on page 2

STOCK NUMBERS

| 2" Std Single Port Flangeless | Stock # | Weight |
|-------------------------------|---------|---------|
| 150# Flangeless | FG-15 | 29 lbs. |
| 300# Flangeless | FG-15 | 29 lbs. |

DIMENSIONS



| Class | Bolt Circle | Bolt Size | Quantity | Stud Length | Bracket Stud Length | Quantity |
|-------|-------------|-----------|----------|-------------|---------------------|--------------|
| 150# | 4.75 | 5/8-11UNC | 4 | 8.50 | Not Required | Not Required |
| 300# | 5.00 | 5/8-11UNC | 6 | 8.50 | 11.0 | 2 |
| 600# | 5.00 | 5/8-11UNC | 6 | 8.50 | 11.0 | 2 |

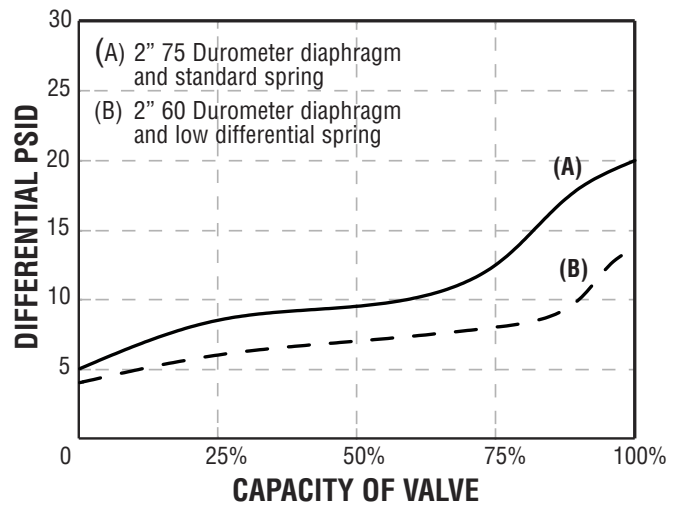
Stud Material: A193 Grade B7 **Nut Material:** A194 Grade 2H

FLOW COEFFICIENTS AND CONSTANTS

| 2" Standard Single Port Flangeless Valve | | | | Swage Factor | |
|--|----|----|------|--------------|------|
| Percent Capacity | Cv | C1 | Cg | 1.5:1 | 2:1 |
| 100% | 32 | 35 | 1120 | 0.98 | 0.97 |
| 75% | 27 | 30 | 827 | 0.99 | 0.98 |
| 50% | 23 | 27 | 620 | 1.00 | 0.98 |
| 35% | 13 | 26 | 338 | 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 |