

# Mooney™ Flowgrid™ Valve

## 12" Dual Port

Flanged CL 150-600

The 12" Dual Port V-6 Flowgrid Valve is an economical and easy to maintain pilot operated valve for both gas and liquid applications. The valve can be used with dual pilots for redundant control (acts as two regulators in parallel), but is primarily a large capacity valve that can be maintained by one person. The ports are mounted at 45 degree angles for easy in line maintenance. The low profile and easy in line maintenance makes it ideal for skid mounted, vault, and enclosure installations.

### Specifications

|                                    |  |
|------------------------------------|--|
| <b>Size</b>                        | 12"  |
| <b>Body Style</b>                  | Dual Port (12")                                    |
| <b>End Connections</b>             | 12" CL 150, 300, 600 Flanged                       |
| <b>Temperature</b>                 | Working -20°F to 150°F<br>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 <sup>1</sup>                             |
| <b>Outlet Pressure Range</b>       | Limited By Pilot                                   |
| <b>Flow Direction</b>              | Bi-Directional <sup>2</sup>                        |
| <b>Body Taps</b>                   | Four 1/4" - 18NPT                                  |

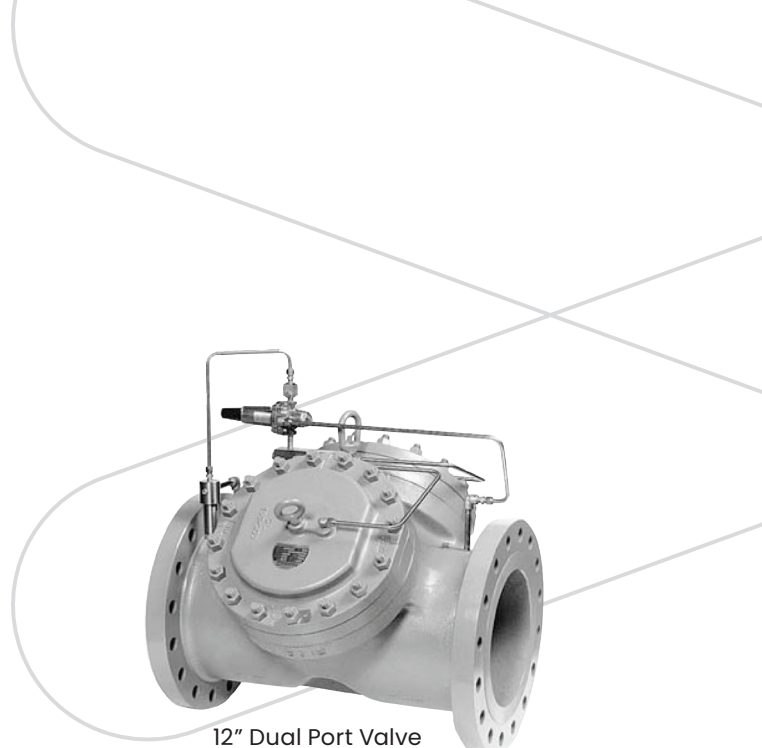
1. Limited by pilot or flange rating

2. Reverse flow by changing pilot connections and reversing spring case

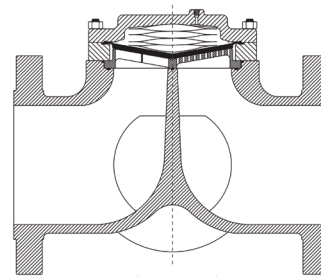
### Materials of Construction

|                             |                                  |
|-----------------------------|----------------------------------|
| <b>Body and Spring Case</b> | ASTM A 216 GR WCB   Carbon Steel |
| <b>Throttle Plate</b>       | 17 - 4PH Stainless Steel         |
| <b>Diaphragm</b>            | Nitrile/Nylon <sup>1</sup>       |
| <b>O-Ring and Seals</b>     | Nitrile                          |
| <b>Bolting</b>              | ASTM A 193 GR B7 or Equal        |
| <b>Spring</b>               | 301 Stainless Steel              |

1. Refer to diaphragm selection chart on page 2



12" Dual Port Valve  
with Series 20 Pilot



Sectional View

### Overpressure Protection

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

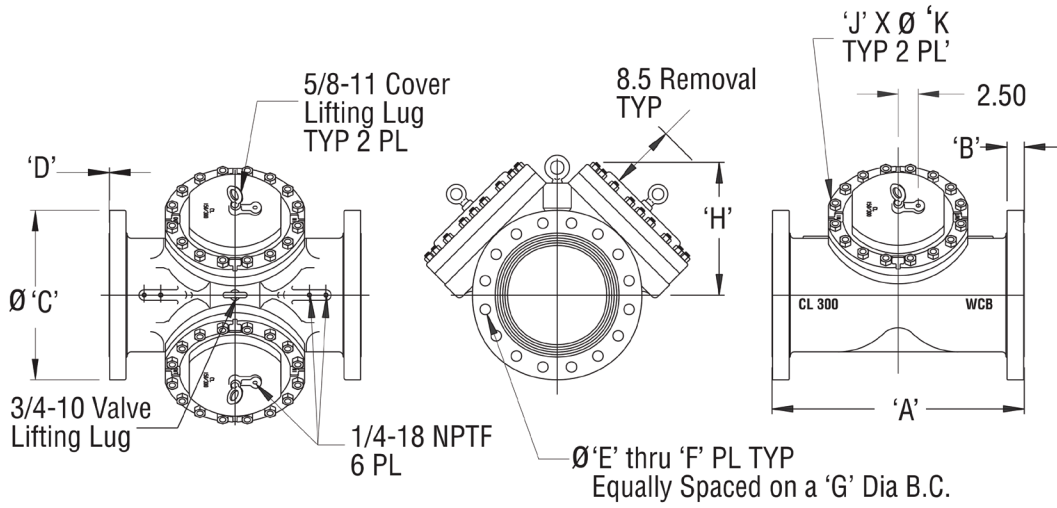
The pilots, like most regulators, may have an outlet pressure rating lower than the inlet pressure rating. If this is the case then some external form of over- pressure protection must be provided for the pilot.

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

### Stock Numbers

| 12" Dual Port Valve | Stock Number | Weight    |
|---------------------|--------------|-----------|
| 150# Flange         | FG-74        | 1100 lbs. |
| 300# Flange         | FG-75        | 1200 lbs. |
| 600# Flange         | FG-81        | 1400 lbs. |

## Dimensions



## Dimensions

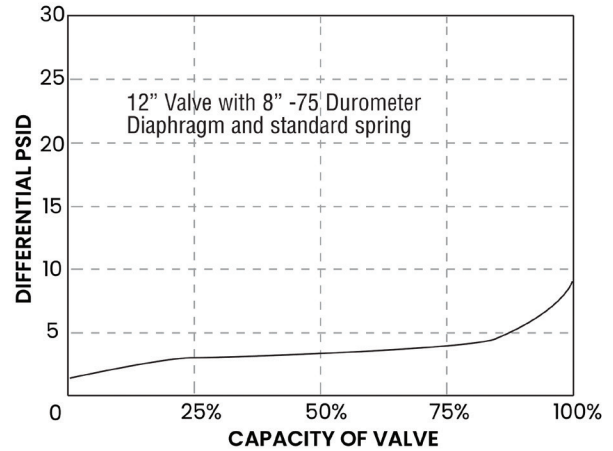
| End Connection | A     | B    | C     | D     | E    | F  | G     | H     | J  | K               |
|----------------|-------|------|-------|-------|------|----|-------|-------|----|-----------------|
| 150# Flange    | 29.00 | 1.25 | 19.00 | 0.062 | 1.00 | 12 | 17.00 | 16.50 | 16 | .75 - 10-UNC-2B |
| 300# Flange    | 30.50 | 2.00 | 20.50 | 0.062 | 1.25 | 16 | 17.75 | 16.50 | 16 | .75 - 10-UNC-2B |
| 600# Flange    | 32.25 | 2.88 | 22.00 | 0.250 | 1.38 | 20 | 19.25 | 17.00 | 24 | .875 - 9-UNC-2B |

## Flow Coefficients and Constants

| 12" Dual Port Valve |                |                |                | Swage Factor |      |
|---------------------|----------------|----------------|----------------|--------------|------|
| % Capacity          | C <sub>v</sub> | C <sub>1</sub> | C <sub>g</sub> | 1.5:1        | 2:1  |
| 100%                | 1060           | 38             | 40400          | 0.97         | 0.95 |
| 75%                 | 1030           | 30             | 30400          | 0.98         | 0.96 |
| 50%                 | 700            | 29             | 20000          | 0.99         | 0.98 |
| 35%                 | 500            | 28             | 14200          | 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 (°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 |

**Baker Hughes** 