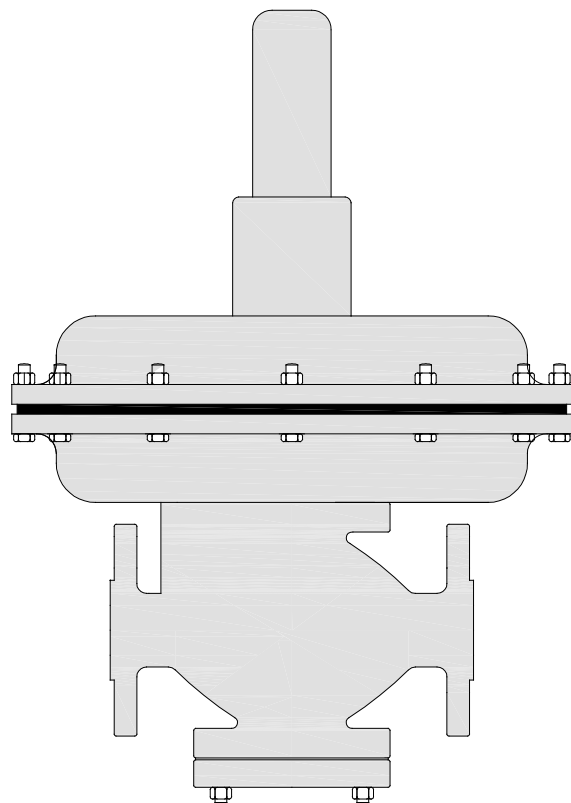


# U100 SERIES

## BACK PRESSURE REGULATING VALVE



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## BACK PRESSURE REGULATING VALVE

### Medium Pressure Control

Typically called as Upstream Pressure Control Valves are meant for controlling the pressure at inlet and maintain or hold the pressure in the equipment at preset value. The U100 Series are Direct Acting Self Actuated Globe Type Medium Pressure Back Pressure Regulating Valves meant to regulate the inlet pressure at the pre-determined set value required for the processes / equipment protection.

Being self actuated it does not require any external controller for its functionality. These are widely used in almost each business segment wherein the various utilities are needed at controlled pressure for various processes.

#### Typical Applications

- *Pump By-pass*
- *Compressor Discharge*
- *Pressure Holding*
- *Industrial gases*
- *Non-Corrosive gases & Liquids*
- *Speciality gases & Liquids*

### FEATURES

- **Back Pressure Regulation / Control** : These are designed to respond to the smallest rise in pressure at inlet and allow the excess pressure at outlet affecting protection of equipments and helping the efficiency of equipments like pumps and compressors. These are also used as Pressure Holding Valves as they hold the pressure at upstream.
- **Self Actuated Design** : This series of back pressure regulating valves are self actuated or self contained and hence, do not require any external energy like pneumatic air or electricity to operate.
- **Internal impulse Sensing** : The impulse sensing is internal ie through the valve body itself avoiding the impulse tubing for sensing.
- **Accurate Pressure Control** : The inlet pressure directly acts on the diaphragm to counter balance the spring force affecting efficient response capability and accuracy.
- **Easy Maintenance** : The maintenance and inspection of the back pressure regulating valve internals is possible without removing body from pipe line.
- **Material selection** : As a standard we provide trim material as AISI 304. Wide range of material is available to suit various services for different process fluids including corrosive fluids. NACE compliance can be provided for sour services.
- **Tamper - Resistant Adjustment** : Cap and adjusting screw discourage on-field tampering of the pressure setting.
- **Leakage Proof** : Combination of metallic and soft seat enables the leakage class VI as per ANSI FCI 70.2.
- **Minimum Maintenance Cost** : The general replacement parts are polymer parts like Diaphragm, Soft Seat & O Rings only and thus the maintenance cost is very low.

# U100 SERIES

## BACK PRESSURE REGULATING VALVE

### SPECIFICATIONS

#### Design Specifications

Design Pressure – As per ANSI 150#, 300#, 600#, 900# & 1500#

Set pressure range – 0.3 to 24 Bar with different model configurations

Design Temperature – (-)10 to 80°C with BunaN polymer and (-)20 to 150°C with Fluroelastomer

#### MOC Specifications

Body – Cast carbon steel, Stainless Steel 304, 316 and other on request

Internals – AISI304 (Standard), AISI316, 316L,

Monel, Hastalloy B/C and other on request

Soft Seat & Polymer – Buna N (Nitrile), Neoprene, Fluroelastomer, PTFE and other on request

Diaphragm – Reinforced Polymers like Buna N (Nitrile), Neoprene, Fluroelastomer and PTFE

Spring Housing – Fabricated Steel (Standard) and other on request

- Other special material available on request. Please consult with our Sales team.

#### Constructional Specifications

Body size – ½", ¾", 1", 1½", 2" & 3"

End Connection –

Screwed – ½", ¾" & 1" (Std); Available 1½" & 2"

Cast Flanged ANSI B16.5 as per 150#, 300# & 600#– ½", ¾", 1", 1½", 2" & 3"

(Higher size and Rating available on demand)

Flow capacities – Refer Cv Table

Weight – Refer Table for Flanged end

#### Screwed end

|            |   |              |
|------------|---|--------------|
| ½", ¾", 1" | : | 15 Kg (max.) |
| 1½"        | : | 22 Kg (max.) |
| 2"         | : | 28 Kg (max.) |

Dimensions : Refer Table

#### SET PRESSURE RANGES

| Spring Code | Set Range            |
|-------------|----------------------|
| 209S        | 0.3 to 0.9 Bar       |
| 210S        | 0.8 to 2.5 Bar       |
| 220S        | 2.1 to 4.0 Bar       |
| 230S        | 3.8 to 5.5 Bar       |
| 240S        | 5.0 to 6.5 Bar       |
| 250S        | 5.5 Bar to 10.0 Bar  |
| 260S        | 9.0 Bar to 17.0 Bar  |
| 270S        | 15.8 Bar to 23.9 Bar |

\*\* For Lower Set Pressures than 300 mBarg, Low Pressure version of this Model U100-L is offered.

#### VALVE CO-EFFICIENTS Cv VALUES

| Valve Size | ½"  | ¾"  | 1"  | 1½" | 2"   |
|------------|-----|-----|-----|-----|------|
| Cv Value   | 1.2 | 2.1 | 4.0 | 7.5 | 10.0 |

NOTE: These Cv values are with standard trim size. Smaller Cv values can be provided with lesser port/ trim size in same SAPCV.

# U100 SERIES

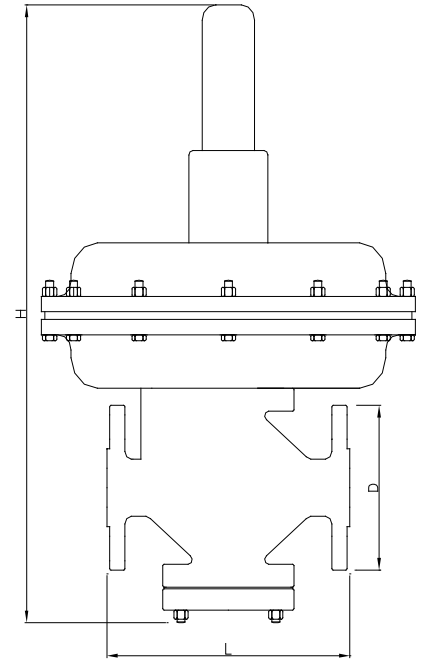
## BACK PRESSURE REGULATING VALVE

### EXTERNAL DIMENSIONS

All dimensions are in mm AND Other dimensions of flange shall be as per ASME standard.

| ASME B16.5 FLANGED 150# |     |       |         | ASME B16.5 FLANGED 300# |     |       |         |
|-------------------------|-----|-------|---------|-------------------------|-----|-------|---------|
| SIZE                    | L   | D     | H (MAX) | SIZE                    | L   | D     | H (MAX) |
| ½"                      | 184 | 89    | 500     | ½"                      | 190 | 95    | 520     |
| ¾"                      | 184 | 98.3  | 500     | ¾"                      | 194 | 117   | 520     |
| 1"                      | 184 | 108   | 500     | 1"                      | 197 | 123.6 | 520     |
| 1½"                     | 222 | 127   | 550     | 1½"                     | 235 | 155.4 | 570     |
| 2"                      | 254 | 152.2 | 550     | 2"                      | 267 | 165   | 570     |

| ASME B16.5 FLANGED 600# |     |       |         | ASME B16.5 FLANGED 1500# |     |       |         |
|-------------------------|-----|-------|---------|--------------------------|-----|-------|---------|
| SIZE                    | L   | D     | H (MAX) | SIZE                     | L   | D     | H (MAX) |
| ½"                      | 203 | 95.3  | 550     | ½"                       | 273 | 120.7 | 550     |
| ¾"                      | 206 | 117.3 | 550     | ¾"                       | 273 | 130   | 550     |
| 1"                      | 210 | 124   | 550     | 1"                       | 273 | 149.4 | 550     |
| 1½"                     | 251 | 155.4 | 600     | 1½"                      | 311 | 177.8 | 600     |
| 2"                      | 286 | 165.1 | 600     | 2"                       | 340 | 215.9 | 600     |



Other dimensions of flange shall be as per ASME/ANSI standard.

### ORDERING SPECIFICATIONS

SERVICE FLUID / MEDIA

INLET PRESSURE

FLOW MIN./ MAX.

SPECIFIC GRAVITY

BODY MOC

OUTLET PRESSURE

TEMP. MIN./MAX.

SET PRESSURE

INTERNALS MOC



Golden Park - Phase II

MEGH - A/815

Kalyan West - 421 301

Maharashtra, India.

Email : [sales@planetvalves.com](mailto:sales@planetvalves.com)

Website : [www.planetvalves.com](http://www.planetvalves.com)

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