

**D200 SERIES**  
**DOWNSTREAM PRESSURE CONTROL VALVE**  
**- PILOT OPERATED**



**regport** 

# D200 SERIES

## PRESSURE REGULATING VALVE – PILOT OPERATED

### Medium Pressure Control

Pilot Operated Downstream Pressure Regulating Valves are meant for regulating the outlet / downstream pressure at the pre-determined set value required for the processes. With Pilot Operated Regulators precise pressure control can be achieved even at high flow capacities.

Being self actuated it does not require any external energy or utility viz Instrument Air or Electricity for its control or functionality. These are widely used in almost each business segment wherein the various utilities are needed at controlled pressure for various processes.

#### Typical Applications

- *Utility*
- *Fuel Gas Handling*
- *Material Transfer*
- *Industrial gases*
- *Non-Corrosive gases*
- *Speciality gases*

### FEATURES

- **Self Actuated Design** : This series of pressure regulating valves are self actuated or self contained and hence, do not require any external energy like pneumatic air or electricity to operate.
- **Precise Pressure Control** : The precise outlet pressure control is achieved with pilot operated design affecting efficient response capability and accuracy.
- **Balanced Trim Design** : Due to balanced trim design, the variation in outlet pressure due to change in inlet pressure is minimal.
- **Easy Maintenance** : The maintenance and inspection of the pressure regulating valve internals is possible without removing body from pipe line.
- **Material selection** : As a standard we provide trim material as AISI 316. 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.
- **Load absorbing Diaphragm assembly** : Special load absorbing diaphragm assembly prevents diaphragm failure during heavy load.
- **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.
- **Easy Change in Set Pressure** : The change in set pressure can easily be achieved by turning the pilot set screw at site. Also, a wide range can be availed with the pilot spring and in case, if needed, the spring for Pilot Valve can be changed at site for achieving desired set pressure with certain limitation.

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### PRINCIPLE OF OPERATION

Movement occurs as pressure variations register below the diaphragm of main regulator. The registering pressure is the outlet or downstream pressure. The loading pressure exerted by pilot opposes diaphragm movement. As outlet pressure tend to drops due to consumption at process, the loading pressure pushes the diaphragm down, opening the port; as outlet pressure is compensated, the diaphragm pushes up and the port opening closes.

The pilot is a small capacity regulator that exerts controlled loading pressure on top chamber of diaphragm. Restricting needle valve in pilot line which is factory set and that controls the loading pressure response. Movement occurs as pressure variations register below the diaphragm. The registering pressure is the outlet or downstream pressure through impulse tubing. The range spring opposes diaphragm movement. As outlet pressure tend to drops due to consumption, the range spring pushes the diaphragm down, opening the port; as outlet pressure is compensated, the diaphragm pushes up and the port opening closes.

### SPECIFICATIONS

#### Design Specifications

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

Set pressure range – 0.3 to 19 Bar with different standard model configurations. Higher set pressure on request can be provided. Please consult our sales team.

Design Temperature – (-)10 to 80°C with BunaN polymer and (-)20 to 180°C with Fluroelastomer

#### MOC Specifications

Body – 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 – 1", 1½", 2", 3", 4", 6", 8" & 10"

Flow capacities – Refer Capacity Table

End Connection –

Flanged ANSI B16.5 as per 150#, 300# & 600# – 1", 1½", 2", 3", 4", 6", 8" & 10"

*Higher size and Rating can be provided as per demand. Please consult our sales team.*

### VALVE CO-EFFICIENTS Cv VALUES

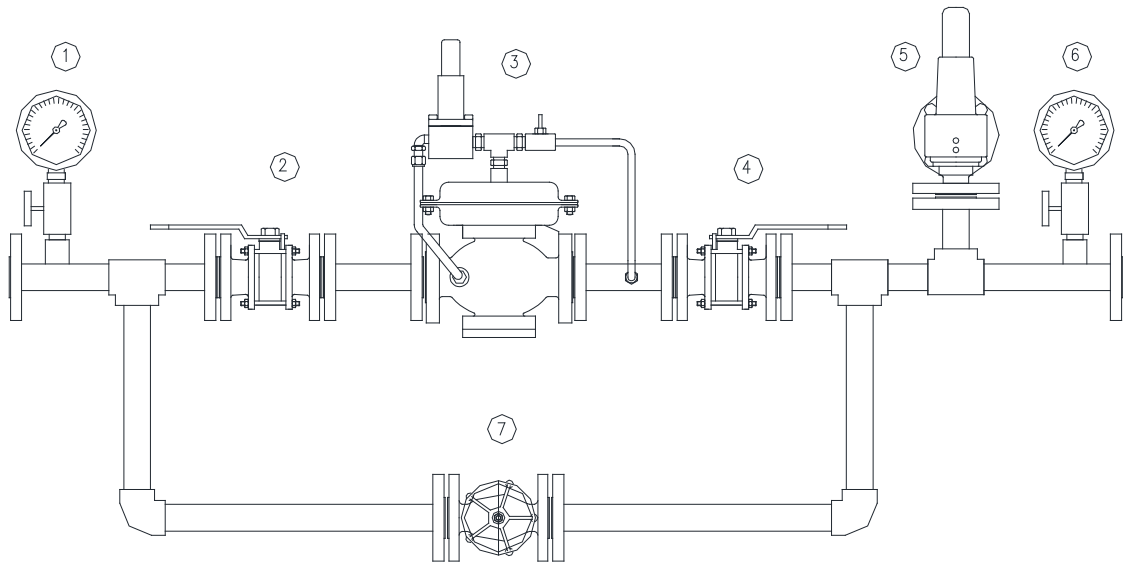
Valve Size	1"	1½"	2"	3"	4"	6"	8"
Cv Value	7.6	15.5	25.6	51	100	224	410

NOTE : Above indicated values are standard values. However, based on specific applications, the lower or higher Cv values can be offered. Please consult our Sales Team for such requirement.

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### TYPICAL INSTALLATION



1	Inlet Pressure Indicator
2	Inlet Isolation Valve
3	Pressure Regulator – D200
4	Outlet Isolation Valve

5	Safety Relief Valve
6	Outlet Pressure Indicator
7	By-Pass Valve

### D200 –Self Actuated - Pilot Operated - Downstream Pressure Control Valve

**Typical Installation** : Typical Installation indicating the recommended set up for mounting the pilot operated Downstream Pressure Control Valve for continuous process.

**NOTE** : A version D210 also is available for Low Set Pressures ie between 0.1 Barg to 0.5 Barg.

### ORDERING SPECIFICATIONS

SERVICE FLUID / MEDIA

INLET PRESSURE

FLOW MIN./ MAX.

SPECIFIC GRAVITY

BODY MOC

OUTLET PRESSURE

SET PRESSURE

TEMP. MIN./MAX.

INTERNAL MOC

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