

Pressure Control Valves

Pilot-operated Control Valves RP 840

Pilot-operated Millibar Control Valve



Technical Data

| | |
|------------------------|---------------------------|
| Connection DN | 25 - 150 |
| Nominal Pressure PN | 16 |
| Inlet Pressure | up to 16 bar |
| Outlet Pressure | 0.002 - 0.52 bar |
| K _{vs} -Value | 4 - 160 m ³ /h |
| Temperature | 130 °C |
| Medium | Gases |

Description

Self-acting pressure reducers are simple control valves offering accurate control while being easy to install and maintain. They control the pressure downstream of the valve without requiring pneumatic or electrical control elements.

The pressure reducing valve RP 840 is a pilot-operated control valve consisting of a main valve for high flow rates combined with a millibar valve serving as pilot valve. Both valves are manufactured from deep-drawn stainless steel featuring excellent corrosion resistance and are arranged as a pre-mounted unit in a rack. The valve cone is soft-sealed.

In a pressureless pipeline the main valve is closed by the pre-tensioned spring.

If the outlet pressure falls below the pre-set nominal value, the pilot valve is kept open by its spring. The control medium flows off towards the valve outlet. Throttle D1 brings about a pressure drop, so that the control pressure in the main valve control mechanism nearly corresponds to the outlet pressure. The inlet pressure overcomes the outlet pressure and the closing spring force and opens the main valve.

Once the outlet pressure has reached the pre-set nominal value, the pilot valve starts to throttle. In doing so, the control pressure rises and pushes the main valve control mechanism to a regulating position. The throttles D1 and D2 serve to optimise the regulating behaviour. The bypass brings about rapid closure.

If the outlet pressure exceeds the nominal value, the pilot valve closes. The control pressure is equivalent to the inlet pressure. The main valve closes because the control mechanism diameter is larger than the valve seat. In addition, the spring also has a closing effect.

The valve is piped internally. The pulse lines must be installed on-site.

These valves are no shut-off elements ensuring a tight closing of the valve. In accordance with DIN EN 60534-4 and/or ANSI FCI 70-2 they may feature a leakage rate in closed position in compliance with the leakage classes V.

Standard

- » Completely piped
- » Pre-mounted unit in a rack

Options

- » Pressure gauge connection
- » Various diaphragm and seal materials suitable for your medium
- » Special connections: Aseptic, ANSI or JIS flanges, NPT, welding spigots; other connections on request
- » Special versions on request

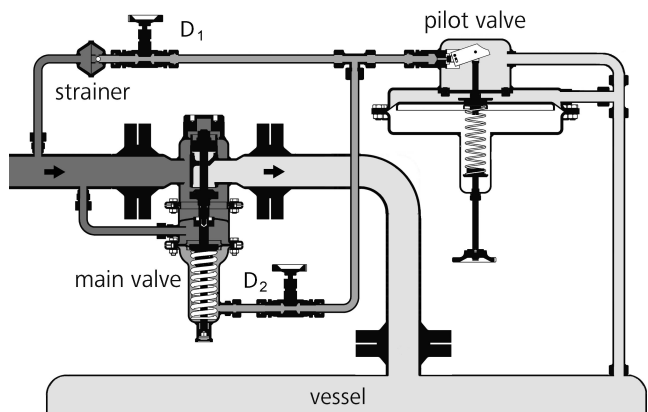
Operating instructions, know how and safety instructions must be observed. The pressure has always been indicated as overpressure. We reserve the right to alter technical specifications without notice.



| Mainvalve | K _{vs} Values [m ³ /h] | | | | | | | |
|-----------|--|----|----|----|----|-----|-----|-----|
| | nominal diameter DN | | | | | | | |
| | 25 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
| DV 5.1 | 4 | 22 | 22 | - | - | - | - | - |
| DV 4.8 | - | - | 32 | 50 | 80 | 100 | - | - |
| DV 4.1 | - | - | 32 | 50 | 80 | 100 | 140 | 160 |

| Setting Ranges [bar] | | diaphragm [mm] |
|----------------------|---------------|----------------|
| 0.002 - 0.004 | 0.003 - 0.015 | ø 500 |
| 0.004 - 0.010 | 0.005 - 0.032 | ø 360 |
| 0.008 - 0.016 | 0.015 - 0.065 | ø 270 |
| 0.025 - 0.125 | 0.1 - 0.52 | ø 220 |

| Reduction Ratio (max. p ₁ /p ₂) | | | |
|--|------|------|------|
| diaphragm diameter[mm] | | | |
| 500 | 360 | 270 | 220 |
| 10000 | 6000 | 3000 | 1800 |



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Materials and Dimensions Main Valve

see main valve UV 4.1, UV 4.8 or UV 5.1

Materials and Dimensions Pilot Valve

see DM 762

Customs Tariff Number

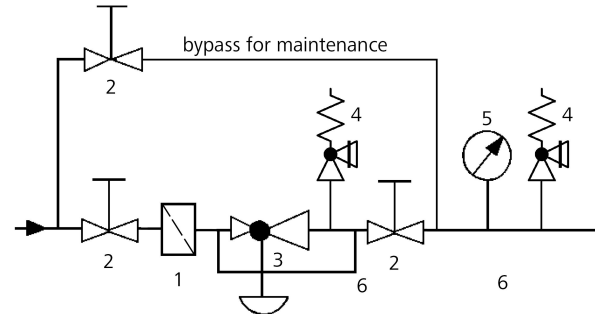
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Special designs on request.

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Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

Recommended Installation



- 1 Strainer*
- 2 Shut-off valve
- 3 Pressure control valve*
- 4 Safety valve*
- 5 Manometer
- 6 Sense line G 1/2

Sense line connection 10 x DN before and behind the valve

*Use MANKENBERG-Products