

Pressure Control Valves

Pressure Reducing Valves DM 586

Millibar Control Valve for High Flow Rates



Technical Data

| | |
|------------------------|-------------------|
| Connection DN | 20 - 50 |
| Connection G | 3/4 - 2 |
| Nominal Pressure PN | 16 |
| Inlet Pressure | up to 16 bar |
| Outlet Pressure | 0,008 - 0,96 bar |
| K _{vs} -Value | 7 - 22 m³/h |
| Temperature | 130 °C |
| Medium | Liquids and 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 DM 586 pressure reducing valve is a diaphragm-controlled, spring-loaded and balanced proportional control valve for high flow rates especially for the control of millibar ranges. This pressure reducer is manufactured from deep-drawn stainless steel featuring excellent corrosion resistance. The valve cone is fitted with a soft seal.

The outlet pressure to be controlled is balanced across the control unit by the force of the valve spring (set pressure). As the outlet pressure rises above the pressure set using the adjusting screw, the valve cone moves towards the seat and the volume of medium is reduced. As the outlet pressure drops, the valve control orifice increases; when the pipeline is depressurised, the valve is open. Rotating the adjusting screw clockwise increases the outlet pressure.

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 (soft seal cone = $1.8 \times 10^{-5} \times \Delta p \times D^*$ [l/h], *D=seat diameter).

Standard

- » all stainless steel construction
- » non rising adjusting screw
- » sense line connection
- » balanced cone for controlling the outlet pressure independently from the inlet pressure

Options

- » pressure gauge connection
- » pneumatic actuation
- » for toxic or hazardous media: sealed spring cap complete with leakage line connection (incl. sealed adjusting screw). Must be installed with a leakage line capable of draining leaking medium safely and without pressure
- » 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. All the pressure has always been indicated as overpressure. We reserve the right to alter technical specifications without notice.



K_{vs} values [m³/h]

| nominal diameter | G | 3/4 | 1 | 1 1/2 | 2 |
|-----------------------|------|-----|----|---------|---------|
| | DN | 20 | 25 | 40 | 50 |
| K _{vs} value | m³/h | 7 | 8 | 22 (8*) | 22 (8*) |

* option

Setting Ranges [bar], Nominal Pressure

| | | | |
|--------------|-------------|------------|------------|
| 0,008 - 0,03 | 0,02 - 0,12 | 0,1 - 0,65 | 0,3 - 0,95 |
| PN 16/1 | PN 16/1 | PN 16/1 | PN 16/2,5 |

Reduction Ratio (max. p₁/p₂)

| setting range [bar] | K _{vs} value [m³/h] | | diaphragm ø [mm] |
|---------------------|------------------------------|-----|------------------|
| | 7 + 8 | 22 | |
| 0,008 - 0,03 | 600 | 375 | 270 |
| 0,02 - 0,12 | 350 | 350 | 270 |
| 0,1 - 0,65 | 300 | 300 | 200 |
| 0,3 - 0,95 | 170 | 170 | 200 |

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Materials

| | |
|-------------------------------------|-------------------|
| Temperature | 130 °C |
| Body, Spring Cap, Internals, Screws | CrNiMo-steel |
| Spring | CrNi-steel |
| Valve Seal | EPDM or FPM |
| Diaphragm | EPDM optional FPM |
| Protection Foil | PTFE (option) |

Dimensions [mm]

| setting ranges bar | size | nominal diameter / K _{vs} value | | | | | |
|--------------------|----------------|--|--------------|------------------|---------|--------------|---------|
| | | G 3/4 DN 20 | G 1 DN 25 | G 1 1/2 DN 40 | | G 2 DN 50 | |
| all ranges | | 7 | 8 | 8 | 22 | 8 | 22 |
| | A | 91 | 85 | 145 | 145 | 185 | 185 |
| | A ₁ | 150 | 160 | 200 | 200 | 230 | 230 |
| | B | 76 | 76 | 76 | 80 | 76 | 80 |
| | C | 305 | 305 | 305 | 305 | 305 | 305 |
| 0.008 - 0.03 | D | 270 | 270 | 270 | 270 | 270 | 270 |
| 0.02 - 0.12 | | 270 | 270 | 270 | 270 | 270 | 270 |
| 0.1 - 0.65 | | 264/210 | 264/210 | 264/210 | 264/210 | 264/210 | 264/210 |
| 0.3 - 0.95 | | 264/210 | 264/210 | 264/210 | 264/210 | 264/210 | 264/210 |

Weights [kg]

| setting ranges bar | nominal diameter G | | | |
|--------------------|--------------------|---|-------|---|
| | 3/4 | 1 | 1 1/2 | 2 |
| 0.008 - 0.03 | | | | |
| 0.02 - 0.12 | | | | |
| 0.1 - 0.65 | 8.5 | | | |
| 0.3 - 0.95 | 8.5 | | | |

Weights[kg]

| setting ranges bar | nominal diameter DN | | | |
|--------------------|---------------------|----|------|----|
| | 20 | 25 | 40 | 50 |
| 0.008 - 0.03 | | | | 16 |
| 0.02 - 0.12 | | | | 16 |
| 0.1 - 0.65 | 10.5 | 11 | 13.5 | 15 |
| 0.3 - 0.95 | 10.5 | 11 | 13.5 | 15 |

Customs Tariff Number

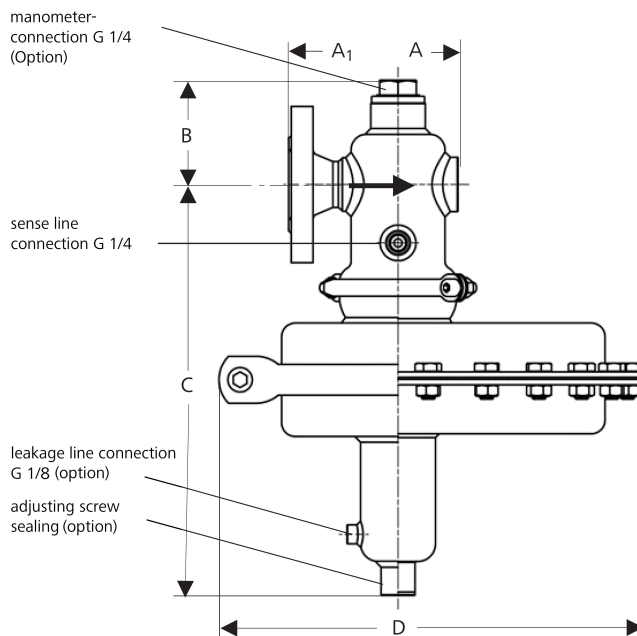
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Special designs on request.

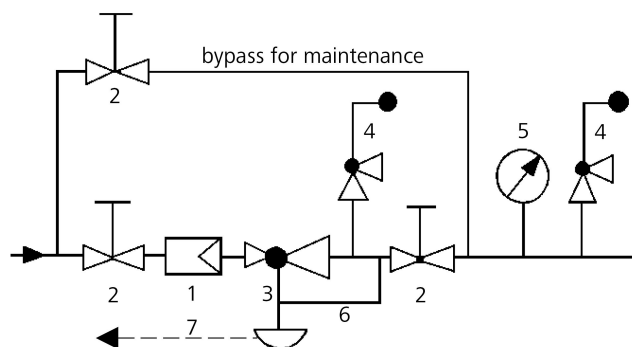
The pressure has always been indicated as overpressure.

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

Dimensional Drawing



Recommended Installation



- 1 Strainer
- 2 Shut-off Valves
- 3 Pressure Reducer
- 4 Safety Valves
- 5 Pressure Gauge
- 6 Sense Line G 1/4
- 7 Leakage Line G 1/8 (option)

sense line connection 10 - 20 x DN behind the valve
use MANKENBERG-Products