

Pressure Control Valves

Back Pressure Regulators UV 1.6, 2.6

Weight Loaded Backpressure Regulators



Technical Data

| | |
|------------------------|-----------------------------|
| Connection DN | 50 - 400 |
| Nominal Pressure PN | 16 - 40 |
| Inlet Pressure | 0,5 - 10 bar |
| K _{vs} -Value | 32 - 1200 m ³ /h |
| Temperature | 280 °C |
| Medium | liquids, gases and steam |

Description

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

The UV 1.6 and UV 2.6 backpressure regulators are medium-controlled weighted-lever valves for medium to large volumes. These valves require no auxiliary energy. Thanks to their integral control characteristics they are very accurate. The time response is set by means of an oil-filled damper.

UV 1.6 is a single seat, UV 2.6 a twin seat valve; both are piston-controlled. The valves can be supplied with soft or hard seals.

When the pipeline is depressurised the valve cone is kept in closed position by the weighted lever. As the inlet pressure rises a control piston is pressurised via a pilot line, lifting the lever and moving the valve cone towards the „open“ position. During normal operation the closing force of the weight and the opening force of the piston balance each other and the backpressure regulator operates continually. The inlet pressure is kept constant irrespective of outlet pressure and flow volume. The control pressure is set by changing the weight on the lever.

The maximum inlet pressure must not exceed 1.5 times the maximum set pressure, unless specified otherwise.

In the case of toxic or hazardous media a leakage line must be installed to the control unit capable of draining leaking medium safely and without pressure if the control element should become defective.

The valves requires a sense line (to 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 II – V:

Leakage class II (metal sealing double seat cone) = 0.5% K_{vs} value

Leakage class III (metal sealing cone) = 0.1 % K_{vs} value

Leakage class IV (PTFE seal cone) = 0.01 % K_{vs} value

Leakage class V (soft seal cone) = $1.8 \times 10^{-5} \times \Delta p \times D^*$ [l/h]

*D=seat diameter

Options

- » Various seal materials suitable for your medium
- » 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]

| type | nominal diameter DN | | | | |
|------|---------------------|----|-----|-----|-----|
| | 50 | 65 | 80 | 100 | 125 |
| 1.6 | 32 | 50 | 75 | 100 | 140 |
| 2.6 | 40 | 65 | 100 | 150 | 180 |

K_{vs}-Values [m³/h]

| type | nominal diameter DN | | | | | |
|------|---------------------|-----|-----|-----|-----|------|
| | 150 | 200 | 250 | 300 | 350 | 400 |
| 1.6 | 200 | 300 | 450 | 550 | 650 | 800 |
| 2.6 | 250 | 400 | 550 | 700 | 750 | 1200 |

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Materials

| | | |
|--------------------|--|-------------|
| Temperature | 80 °C | |
| Nominal Pressure | PN 16 | PN 40 |
| Operating Pressure | max. 16 bar | max. 40 bar |
| Body | spheroidal cast iron or cast steel | cast steel |
| Tubular Section | steel welded | |
| Internals | chromium steel / CrNiMo-steel | |
| Valve Seal | NBR / FKM / EPDM / PTFE chromium steel / CrNiMo-steel | |
| O-Ring | NBR / FKM / EPDM / PTFE | |

Materials

| | | |
|--------------------|-------------------------------|-------------|
| Temperature | 280 °C | |
| Nominal Pressure | PN 16 | PN 40 |
| Operating Pressure | max. 13 bar | max. 28 bar |
| Body | spheroidal cast iron | cast steel |
| Tubular Section | steel welded | |
| Internals | chromium steel / CrNiMo-steel | |
| Valve Seal | chromium steel / CrNiMo-steel | |
| O-Ring | FXM / FFKM | |

Dimensions [mm]

| Size | nominal diameter DN | | | | | |
|------|---------------------|------|------|------|------|------|
| | 50 | 65 | 80 | 100 | 125 | 150 |
| A* | 580 | 630 | 670 | 750 | 850 | 980 |
| B | 120 | 200 | 200 | 200 | 260 | 260 |
| C** | 650 | 850 | 850 | 850 | 900 | 900 |
| D** | 750 | 1150 | 1150 | 1150 | 1500 | 1500 |

Dimensions [mm]

| Size | nominal diameter DN | | | | |
|------|---------------------|------|------|------|------|
| | 200 | 250 | 300 | 350 | 400 |
| A* | 1200 | 1430 | 1650 | 1800 | 2100 |
| B | 260 | 350 | 350 | 350 | 420 |
| C** | 900 | 1100 | 1100 | 1100 | 1100 |
| D** | 1500 | 2000 | 2000 | 2000 | 2000 |

* Overall length tolerances in acc. with DIN EN 558

** Dimensions C and D are reference dimensions. The weighted lever (dim. D) may project beyond the valve inlet flange.

Customs Tariff Number

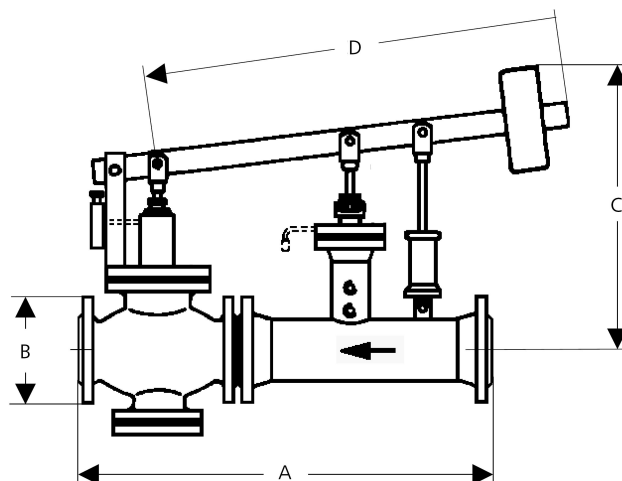
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Special designs on request.

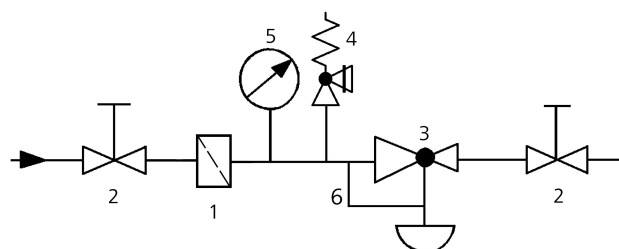
The pressure has always been indicated as overpressure.

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 Backpressure Regulator*
- 4 Safety Valves*
- 5 Pressure Gauge
- 6 Sense Line G 1/2

Sense line connection 5 x DN before the valve.

*Use MANKENBERG-Products