

# Pressure Control Valves

## Back Pressure Regulators UV 1.2

Valves for Simple Regulation Tasks



### Technical Data

|                        |                           |
|------------------------|---------------------------|
| Connection DN          | 25 - 200                  |
| Nominal Pressure PN    | 16 - 40                   |
| Inlet Pressure         | 2 - 40 bar                |
| K <sub>vs</sub> -Value | 6 - 125 m <sup>3</sup> /h |
| Temperature            | 300 °C                    |
| Medium                 | liquids and gases         |

### 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 1.2 backpressure regulator is a spring-loaded, seat-controlled proportional control valve balanced by diaphragm, piston or bellows. It is designed for simple control tasks and medium volumes. The valve cone can be fitted with a metallic or soft seal.

The inlet pressure to be controlled is balanced across the valve seat by the force of the valve spring (set pressure). If the inlet pressure rises above the set pressure, the valve opens. With decreasing inlet pressure the valve control orifice reduces, when the pipeline is depressurised, the valve is closed. Rotating the adjusting screw clockwise increases the inlet 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 III or V.

### Options

- » 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 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.



### K<sub>vs</sub>-Values [m<sup>3</sup>/h]

| seat | nominal diameter DN |    |    |    |    |
|------|---------------------|----|----|----|----|
|      | 25                  | 32 | 40 | 50 | 65 |
| I    | 6                   | 12 | 15 | 20 | 35 |
| II   | -                   | 6  | 12 | 15 | 20 |
| III  | -                   | -  | 6  | 12 | 15 |

### K<sub>vs</sub>-Values [m<sup>3</sup>/h]

| seat | nominal diameter DN |     |     |     |     |
|------|---------------------|-----|-----|-----|-----|
|      | 80                  | 100 | 125 | 150 | 200 |
| I    | 40                  | 50  | 80  | 95  | 125 |
| II   | 35                  | 40  | 50  | 80  | 95  |
| III  | 20                  | 35  | 40  | 50  | 80  |

### Setting Ranges [bar] Balanced by Diaphragm

|       |       |        |
|-------|-------|--------|
| 2 - 5 | 4 - 8 | 6 - 12 |
|-------|-------|--------|

### Setting Ranges [bar] Balanced by Piston

|       |       |        |        |         |         |
|-------|-------|--------|--------|---------|---------|
| 2 - 5 | 4 - 8 | 6 - 12 | 8 - 16 | 10 - 25 | 20 - 35 |
|-------|-------|--------|--------|---------|---------|

### Setting Ranges [bar] Balanced by Bellows

|       |       |        |         |
|-------|-------|--------|---------|
| 2 - 5 | 4 - 8 | 6 - 12 | 10 - 25 |
|-------|-------|--------|---------|

# Pressure Control Valves

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| Materials     |                                    |                          |              |
|---------------|------------------------------------|--------------------------|--------------|
| Temperature   | 80 °C                              | 130 °C                   | 300 °C       |
| Body          | cast steel optional CrNiMo-steel   |                          |              |
| Spring Cap    | steel welded optional CrNiMo-steel |                          |              |
| Spring        | spring steel optional CrNiMo-steel |                          |              |
| Metallic Seal | CrNi-steel optional CrNiMo-steel   |                          |              |
| Soft Seal     | NBR                                | EPDM optional FKM        | -            |
| Diaphragm     | CR                                 | EPDM optional FKM        | -            |
| O-Ring        | NBR                                | EPDM optional FKM or FXM | -            |
| Bellow        | CrNiMo-steel                       | CrNiMo-steel             | CrNiMo-steel |

| Dimensions [mm] |                  |                     |     |     |     |     |
|-----------------|------------------|---------------------|-----|-----|-----|-----|
| size            | nominal pressure | nominal diameter DN |     |     |     |     |
|                 |                  | 25                  | 32  | 40  | 50  | 65  |
| A*              | PN 16 - 40       | 160                 | 180 | 200 | 230 | 290 |
| B               | PN 16 - 40       | -                   | 72  | 72  | 72  | 102 |
| C               | PN 16 - 40       | on request          |     |     |     |     |

| Dimensions [mm] |                  |                     |     |     |     |     |
|-----------------|------------------|---------------------|-----|-----|-----|-----|
| size            | nominal pressure | nominal diameter DN |     |     |     |     |
|                 |                  | 80                  | 100 | 125 | 150 | 200 |
| A*              | PN 16 - 40       | 310                 | 350 | 400 | 480 | 600 |
| B               | PN 16 - 40       | 102                 | 102 | 240 | 240 | 270 |
| C               | PN 16 - 40       | on request          |     |     |     |     |

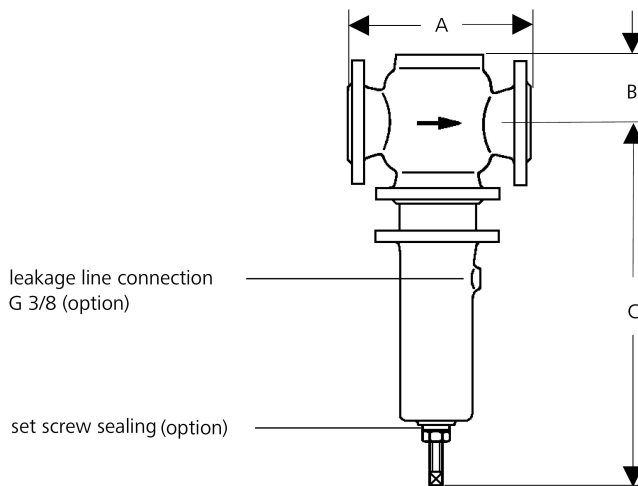
\* Overall length tolerances in acc. with DIN EN 558

| Weights [kg]     |                     |    |    |    |    |    |     |     |     |     |
|------------------|---------------------|----|----|----|----|----|-----|-----|-----|-----|
| nominal pressure | nominal diameter DN |    |    |    |    |    |     |     |     |     |
|                  | 25                  | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 |
| PN 16            | 12                  | 17 | 20 | 22 | 32 | 40 | 60  | 100 | 120 | 220 |
| PN 40            | 14                  | 20 | 24 | 28 | 42 | 50 | 70  | 115 | 140 | 250 |

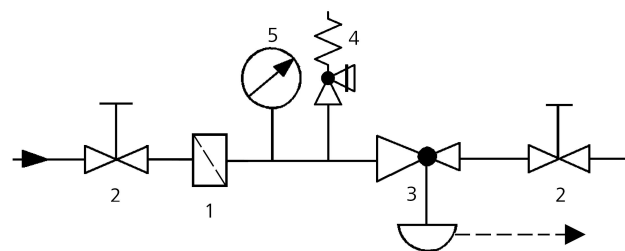
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Special designs on request.  
The pressure has always been indicated as overpressure.  
Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

### Dimensional Drawing



### Recommended Installation



- 1 Strainer\*
  - 2 Shutoff valves
  - 3 Backpressure regulator\*
  - 4 Safety Valve\*
  - 5 Pressure Gauge
  - 6 Leakage Line G 3/8 (option)
- \*Use MANKENBERG-Products

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