

# Pressure Control Valves

## Back Pressure Regulators UV 8.2

Valve for High Pressures for Medium Flow Rates

### Technical Data

Connection DN	15 - 50
Connection G	3/8 - 2
Nominal Pressure PN	100
Inlet Pressure	2 - 100 bar
K <sub>vs</sub> -Value	0.2 - 5.5 m <sup>3</sup> /h
Temperature	400 °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 8.2 backpressure regulator is a diaphragm, piston or bellows-controlled spring-loaded proportional control valve for high pressures and small volumes. It can be supplied with three types of connections: sockets, flanges and welding spigots. Each size of valve may be fitted with three different seats. The valve cone may be fitted with a soft or metallic 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, optional IV:

Leakage class III (metal sealing cone) = 0.1 % K<sub>vs</sub> value

Leakage class IV (PTFE seal cone) = 0.01 % K<sub>vs</sub> value

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

\*D=seat diameter

### Standard

- » metallic valve seal

### Options

- » pressure gauge connection
- » soft seal
- » hard-faced valve cone and seat
- » 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 materials such as Duplex, Superduplex, Hastelloy® or titanium, others on request
- » special connections: 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<sub>vs</sub>-Values [m<sup>3</sup>/h]

nominal diameter	G	3/8	1/2	3/4	1
	DN		15	20	25
seat	I	0.2	0.2	0.25	0.25
	II	0.9	0.9	0.9	0.9
	III	1.7	1.8	2	2.2

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

nominal diameter	G	1 1/4	1 1/2	2
	DN	32	40	50
seat	I	0.4	0.4	1
	II	2.5	2.5	3.5
	III	3.9	3.9	5.5

### Setting Range [bar], Nominal Diameter\*

2 - 4	4 - 7	7 - 10	5 - 16	10 - 20
PN 6	PN 16	PN 16	PN 25	PN 25

### Setting Ranges [bar], Nominal Pressure\*

10 - 25	20 - 35	35 - 50	45 - 63	60 - 100
PN 40	PN 63	PN 100	PN 100	PN 100

\* inlet and outlet pressure

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### Materials

Temperature	130 °C	400 °C
Body	G 3/8 - 1, DN 15 - 25 = C-steel G 1 1/4 - 2, DN 32 - 50 = steel welded optional CrNiMo-steel for all diameters	
Spring Cap	steel welded optional CrNiMo-steel	
Internals	CrMo-steel or CrNiMo-steel	CrNiMo-steel
Spring	CrNi-steel	CrNi-steel
Metallic Seal	CrNiMo-steel	CrNiMo-steel
Diaphragm	FPM optional EPDM	-
Protection Foil	PTFE (option)	-
O-Ring for Piston	FPM optional EPDM or PTFE	-
Bellow	-	CrNiMo-steel

### Dimensions [mm] Globe Design

size	nominal diameter			
	G 3/8	G 1/2	G 3/4	G 1
	-	DN 15	DN 20	DN 25
A	110	110	110	110
A <sub>1</sub>	220	220	220	220
B	30	30	30	30
C	420	420	420	420

size C with bellow + 130 mm

### Dimensions [mm] Elbow Design

size	nominal diameter			
	G 3/8-1 DN 15 - 25	G 1 1/4 DN 32	G 1 1/2 DN 40	G 2 DN 50
A	55	100	100	100
A <sub>1</sub>	110	*	*	*
B	65	108	108	108
B <sub>1</sub>	120	*	*	*
C	420	650	650	650

size C with bellow + 130 mm

\* on request

### Weights [kg] BSP female connection

nominal diameter						
G 3/8	G 1/2	G 3/4	G 1	G 1 1/4	G 1 1/2	G 2
13	13	13	13	21	21	21

with bellow + 4 kg

### Weights [kg] flange connection

nominal pressure PN	nominal diameter					
	DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
16 - 40	16	16.2	16.6	25.8	26.8	27.8
63	16.4	17.6	19.4	27	30.6	31.4
100	16.4	17.6	19.4	27.4	30.6	36.4

with bellow + 4 kg

### Customs Tariff Number

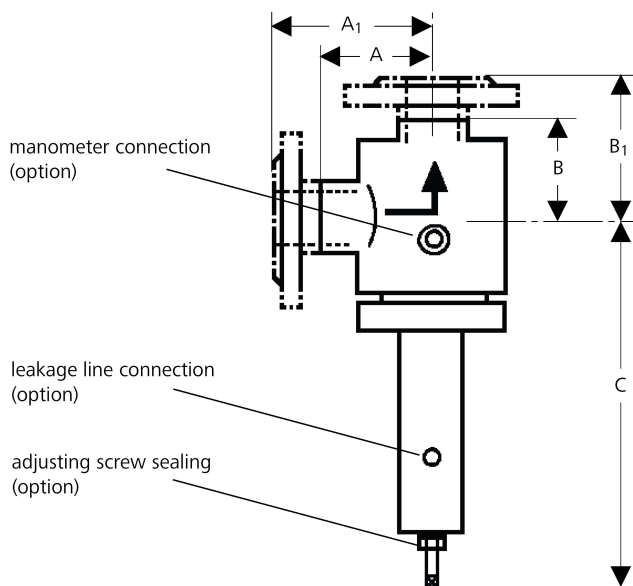
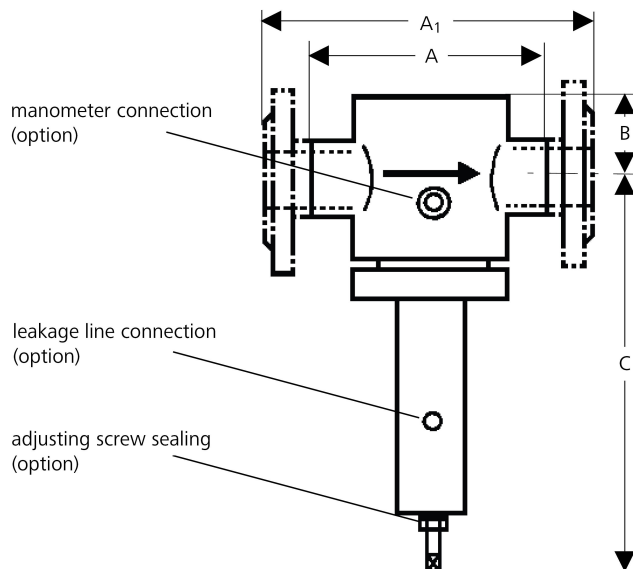
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Special designs on request.

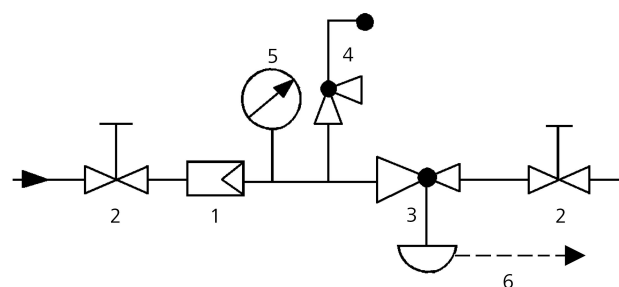
The pressure has always been indicated as overpressure.

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 Shutoff valves
  - 3 Backpressure Regulator
  - 4 Safety Valve
  - 5 Pressure Gauge
  - 6 Leakage Line (option)
- use MANKENBERG-Products