

# Pressure Control Valves

## Back Pressure Regulators UV 4.1

Standard Cast Valve



### Technical Data

Connection DN	15 - 150
Nominal Pressure PN	16 - 40
Inlet Pressure	0.02 - 10 bar
K <sub>vs</sub> -Value	4 - 160 m <sup>3</sup> /h
Temperature	200 °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 4.1 backpressure regulator is a spring-loaded diaphragm-controlled proportional control valve designed for universal application and large volumes. The valve cone is fitted with a 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.

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 V.

### Standard

- » Open spring
- » Sense line connection

### Options

- » Spring cap
- » Electro-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 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]

nom. diam. DN	15	20	25	40	50
K <sub>vs</sub> -value m <sup>3</sup> /h	4	5	6	20	32

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

nom. diam. DN	65	80	100	125	150
K <sub>vs</sub> -value m <sup>3</sup> /h	50	80	100	140	160

### Setting Ranges and max. Inlet Pressure [bar]

setting range	0.02 - 0.25	0.1 - 0.6	0.2 - 1.2	0.8 - 2.5	2 - 5	4.5 - 10*
max. inlet press.	0.5	0.9	1.8	3.75	7.5	15

\* not for DN 125 and DN 150

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Materials			
Temperature	80 °C	130 °C	200 °C
Body	cast steel		
Diaphragm Housing	steel welded optional CrNiMo-steel		
Spring Cap	steel welded optional CrNiMo-steel		
Spring	spring steel C optional CrNi-steel		
Valve Seal	NBR	EPDM optional FKM	FEPM
Diaphragm	CR	EPDM optional FKM	EPDM with PTFE protection foil
O-Ring	NBR	EPDM optional FKM	FEPM

Dimensions[mm]											
setting range bar	size	nominal diameter DN									
		15	20	25	40	50	65	80	100	125	150
all ranges	A*	130	150	160	200	230	290	310	350	400	480
	B	55	55	60	75	85	105	105	110	220	220
0.02-0.25 (0.05-0.25 > DN 125)	C	510	510	510	520	520	570	570	570	810	810
	C <sub>1</sub>	640	640	640	680	680	730	730	730	970	970
	D	360	360	360	360	360	360	360	360	500	500
0.1 - 0.6	C	510	510	510	630	630	680	680	680	810	810
	C <sub>1</sub>	640	640	640	790	790	840	840	840	970	970
	D	270	270	270	360	360	360	360	360	360	360
0.2 - 1.2	C	510	510	510	630	630	680	680	680	810	810
	C <sub>1</sub>	640	640	640	790	790	840	840	840	970	970
	D	220	220	220	270	270	270	270	270	270	270
0.8 - 2.5 2 - 5 4.5 - 10	C	490	490	490	650	650	680	680	680	810	810
	C <sub>1</sub>	620	620	620	810	810	840	840	840	970	970
	D	175	175	175	220	220	220	220	220	220	220

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

Weights PN 16 [kg]											
setting range bar	nominal diameter DN										
		15	20	25	40	50	65	80	100	125	150
0.02 - 0.25		24	24	25	37	40	65	68	72	112	132
0.1 - 0.6		26	26	27	39	42	67	70	74	114	134
0.2 - 1.2		22	22	23	35	38	63	66	70	110	130
0.8 - 10		20	20	21	33	36	61	64	68	108	128

Weights PN 40 [kg]											
setting range bar	nominal diameter DN										
		15	20	25	40	50	65	80	100	125	150
0.02 - 0.25		25	25	26	40	42	68	72	75	120	145
0.1 - 0.6		27	27	28	42	44	70	74	77	122	147
0.2 - 1.2		23	23	24	38	40	66	70	73	118	143
0.8 - 10		21	21	22	36	38	64	68	71	116	141

Customs Tariff Number	
84814010	

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.

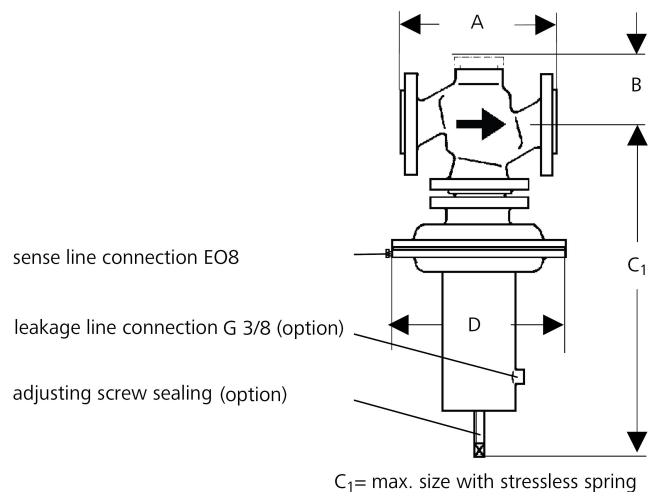
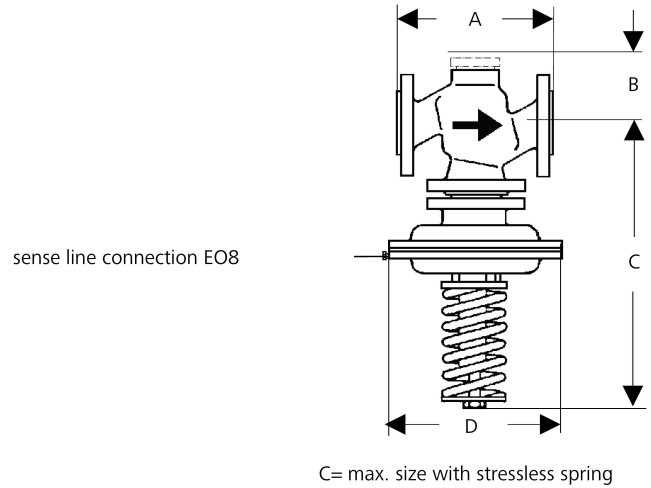
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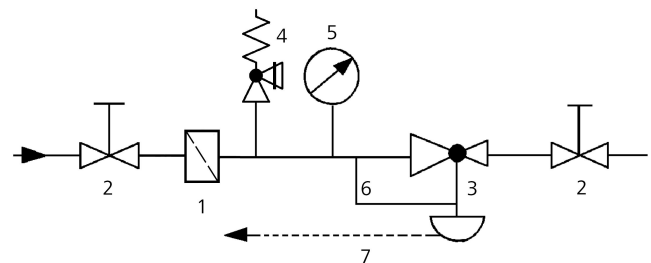
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### Dimensional Drawing



### Recommended Installation



- 1 Strainer\*
- 2 Shut-off Valves
- 3 Backpressure Regulator\*
- 4 Safety Valves\*
- 5 Pressure Gauge
- 6 Sense Line EO8
- 7 Leakage Line G 3/8 (option)

Sense line connection 10 - 20 x DN before the valve

\*Use MANKENBERG-Products