

# Pressure control valves



## Back pressure regulators UV 5.1

Universal valve

### Technical Data

Connection DN	15 - 50
Connection G	1/2 - 2
Nominal pressure PN	16
Inlet pressure	0.02 - 12 bar
K <sub>vs</sub> value	3,5 - 22 m <sup>3</sup> /h
Temperature	130 °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 5.1 backpressure regulator is a spring-loaded diaphragm-controlled and balanced proportional control valve for universal application. This bypass valve is manufactured from deep-drawn stainless steel featuring excellent corrosion resistance. The valve cone is fitted with a soft seal.

The spring module comprising spring cap, spring, adjusting screw, diaphragm and internal components, is connected to the valve body only by means of a clamp ring and two bolts. Changing the diaphragm or the complete spring assembly for a different control pressure range is extremely simple and does not call for special tools. The same applies to servicing and maintenance.

Changing the control pressure setting does not affect the height of the valve (non rising adjusting screw).

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 V optional IV.

### Standard

- » All stainless steel construction
- » Quick-release body clamp ring

### Options

- » Pressure gauge connection
- » 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 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. 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	32	40	50
G	1/2	3/4	1	1 1/4	1 1/2	2
K <sub>vs</sub> -value m <sup>3</sup> /h	3.5	3.5	4	22	22	22

### Setting Ranges [bar], Nominal Pressure

setting range	6 - 12	4 - 8	2 - 5	0.8 - 2.5
nominal pressure	PN 16	PN 16	PN 10	PN 6

### Setting Ranges [bar], Nominal Pressure

setting range	0.3 - 1.1	0.1 - 0.5	0.02 - 0.12
nominal pressure	PN 2.5	PN 1	PN 1



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Materials	
Temperature	130 °C
Body	CrNiMo-steel
Spring Cap	CrNiMo-steel
Internals	CrNiMo-steel
Screws	CrNiMo-steel
Adjusting Screw	CrNiMo-steel
Valve Seal	EPDM optional FKM or PTFE
Spring	CrNi-steel
Diaphragm	EPDM optional FKM
Protection Foil for Diaphragm	PTFE (option)

Dimensions[mm]		nominal diameter					
setting range bar	size	G 1/2	G 3/4	G 1	G 1 1/4	G 1 1/2	G 2
		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50
all ranges	A*	90	90	136	130	145	185
	A <sub>1</sub> *	200	200	200	180	200	230
0.02-0.12	B	40	40	40	110	110	110
	C	270	270	270	285	285	285
0.1 - 0.5	D	360	360	360	360	360	360
	C	270	270	270	285	285	285
0.3 - 1.1	D	264	264	264	264	264	264
	C	270	270	270	285	285	285
0.8 - 12	D	200	200	200	200	200	200
	C	205	205	205	218	218	218
	D	138	138	138	138	138	138

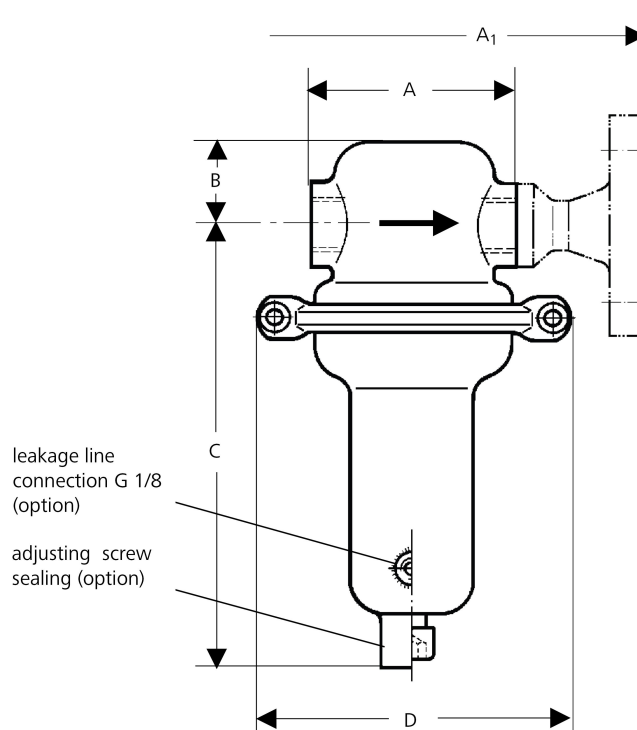
\* Overall length tolerances in acc. with DIN EN 558

setting range bar	nominal diameter			
	G 1/2 - 1	G 1 1/4 - 2	DN 15 - 25	DN 32 - 50
0.02 - 0.12	13	14.4	14	16.4
0.1 - 0.5	6.5	8	7.5	10
0.3 - 1.1	5.5	7	6.5	9
0.8 - 12	2.5	4	3.5	6

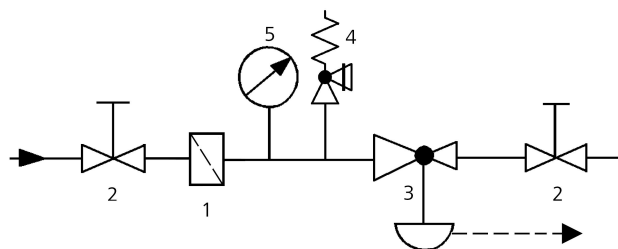
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Special designs on request.  
The pressure has always been indicated as overpressure.  
Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

### Dimensional Drawing



### Recommended Installation



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

