

Technical data

Connection DN	15 - 25
Connection G	1/2
Nominal pressure PN	25
Inlet pressure	0.005 - 20 bar
K _{vs} value	0.2 - 0.9 m ³ /h
Temperature	200 °C
Medium	liquids, gases and steam
*RT = -10 °C TO + 50 °C	

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.

A VV vacuum control valve is a modification of the pressure-reducing or back pressure regulator, built to regulate pressures in vacuo. It only regulates the differential pressure to the atmosphere.

The UV 3.5, UV 3.5S and UV 3.5Z back pressure regulators are spring-loaded diaphragm-controlled proportional control valves for small volumes. They are manufactured from deep-drawn stainless steel featuring excellent corrosion resistance. The valve cone can be fitted with a metallic or 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 range is very easy and without 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.

The UV 3.5S and UV 3.5Z overflow valves require a pilot 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 III or V.

Standard

- » All stainless steel construction
- » Non-rising adjusting screw
- » Quick-release body clamp ring
- » Sense line connection

Options

- » Electro-pneumatic actuation
- » 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

Product



Picture similar

Technical specification

K_{vs} values [m³/h]

Seat I	Seat II	Seat III
0.2	0.5	0.9

Setting ranges [bar] UV 3.5 + UV 3.5S

setting range bar	nominal pressure PN
0.005 - 0.025	1
0.02 - 0.12	
0.1 - 0.5	
0.2 - 1.1	2.5
0.8 - 2.5	6
1 - 5	10
4 - 12	25
10 - 20	

Setting ranges [bar] UV 3.5Z

setting range bar	nominal pressure PN
0.005 - 0.025	1
0.02 - 0.12	
0.1 - 0.5	
0.2 - 1.1	2.5
0.8 - 2.5	6
1 - 5	10
4 - 12	16

Materials

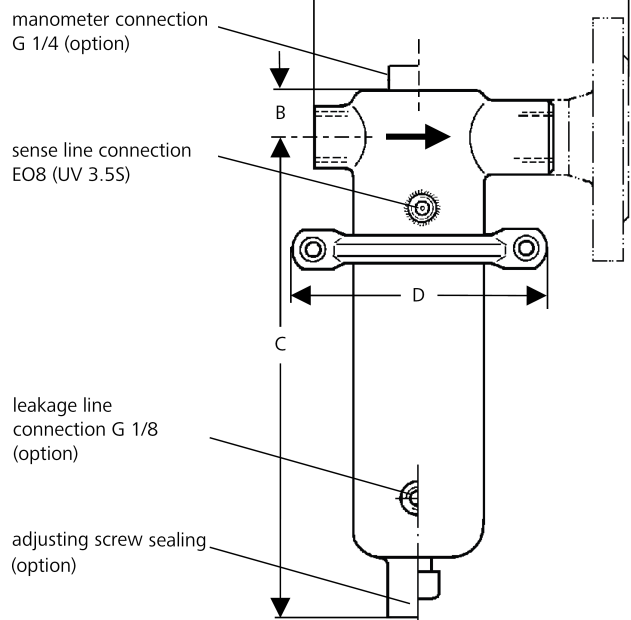
Materials*			
Typ	UV 3.5		UV 3.5Z
Temperature	80 °C	130 °C	200 °C
Body, Bonnet, Internals, Spring	Stainless steel	Stainless steel	Stainless steel
Valve gasket	UV 3.5: Stainless steel UV 3.5S: EU	UV 3.5: Stainless steel UV 3.5S: FKM or EPDM or PTFE	Stainless steel
Membrane	CR	FKM or EPDM	EPDM
Protection film for diaphragm	PTFE (option)	PTFE (option)	PTFE (option)

*All materials equal or of higher quality

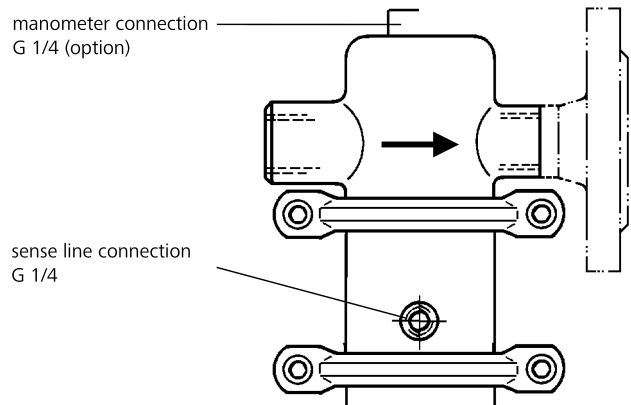
Dimensions and weights

Dimensions [mm]						
setting range bar	size	type	nominal diameter			
			G 1/2	DN 15	DN 20	DN 25
all ranges	B	3.5 + 3.5Z	39	39	39	39
0.005 - 0.025 0.02 - 0.12	A/A ₁ *	3.5 + 3.5Z	100	130	150	160
	C	3.5	275	275	275	272
	C	3.5Z	405	405	405	415
	D	3.5 + 3.5Z	360	360	360	360
0.1 - 0.5	A/A ₁ *	3.5 + 3.5Z	100	130	150	160
	C	3.5	275	275	275	272
	C	3.5Z	405	405	405	415
	D	3.5 + 3.5Z	264	264	264	264
0.2 - 1.1	A/A ₁ *	3.5 + 3.5Z	100	130	150	160
	C	3.5	275	275	275	272
	C	3.5Z	405	405	405	405
	D	3.5 + 3.5Z	200	200	200	200
0.8 - 2.5	A/A ₁ *	3.5 + 3.5Z	100	180	180	180
	C	3.5	205	205	205	205
	C	3.5Z	338	338	338	338
	D	3.5 + 3.5Z	138	138	138	138
1 - 5 4 - 12 10 - 20	A/A ₁ *	3.5 + 3.5Z	100	130	150	160
	C	3.5	205	205	205	205
	C	3.5Z	338	338	338	338
	D	3.5 + 3.5Z	114	114	114	114

UV 3.5, UV 3.5S



UV 3.5Z (dimensions see UV 3.5)



*overall length tolerances in acc. with DIN EN 558

Weights [kg]					
set pressure bar	type	nominal diameter			
		G 1/2	DN 15	DN 20	DN 25
0.005 - 0.025 0.02 - 0.12	3.5	6	7.5	7.5	8
	3.5Z	6.5	8	8	8.5
0.1 - 0.5	3.5	5.5	7	7	7.5
	3.5Z	6	7.5	7.5	8
0.2 - 1.1	3.5	4.5	6	6	6.5
	3.5Z	5	6.5	6.5	7
0.8 - 2.5	3.5	2	3.5	3.5	4
	3.5Z	2.5	4	4	4.5
1 - 20	3.5	1.5	3	3	3.5
	3.5Z	2	3.5	3.5	4

Please send us your enquiry and allow us to advise you. Special designs on request.
The pressure has always been indicated as overpressure. Mankenberg reserves the right to alter technical specifications without notice.

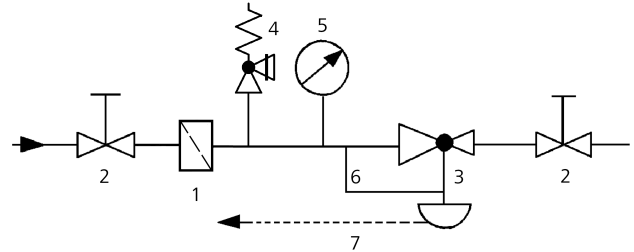
Customs tariff number

84814010

Recommended installation

- | | |
|---------------------------|----------------------------------|
| 1 Strainer | 5 Pressure gauge |
| 2 Shut-off valves | 6 Sense line EO8, G 1/4 (option) |
| 3 Back pressure regulator | 7 Leakage line G 1/8 (option) |
| 4 Safety valve | |

Sense line connection 10 - 20 x DN before the valve



Authorised Distributor:



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Please send us your enquiry and allow us to advise you. Special designs on request.
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