

Pressure Control Valves

UV 3.5, 3.5S, 3.5Z

Overflow valves UV 3.5 and 3.5S for liquids and gases up to 130 °C,
UV 3.5Z for steam up to 200 °C



Technical Data

Connection	G 1/2 DN 15 - 25
Nominal Pressure	PN 1 - 25
Inlet Pressure	3.5 + 3.5S : 0.005 - 20 bar in 8 ranges 3.5Z : 0.005 - 12 bar in 7 ranges
K _{vs} -value	0.14 / 0.4 / 0.9 m ³ /h
Tightness	acc. VDI/VDE-guideline 2174 (leakage rate ≤ 0.05 % of K _{vs} -value)

Description

Medium-controlled overflow valves 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 3.5, UV 3.5S and UV 3.5Z overflow valves 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 bonnet, 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 setting spindle).

The inlet pressure to be controlled is balanced across the diaphragm 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.

For steam applications (UV 3.5 Z) the diaphragm control unit must be filled with water via the pilot line connections before the valve is commissioned.

The UV 3.5S and UV 3.5Z overflow valves require a pilot line (to be installed on-site).

STANDARD EQUIPMENT

- All stainless steel construction
- Non increasing adjusting screw
- Quick-release body clamp ring
- Pilot line connection (UV 3.5S and UV 3.5Z)

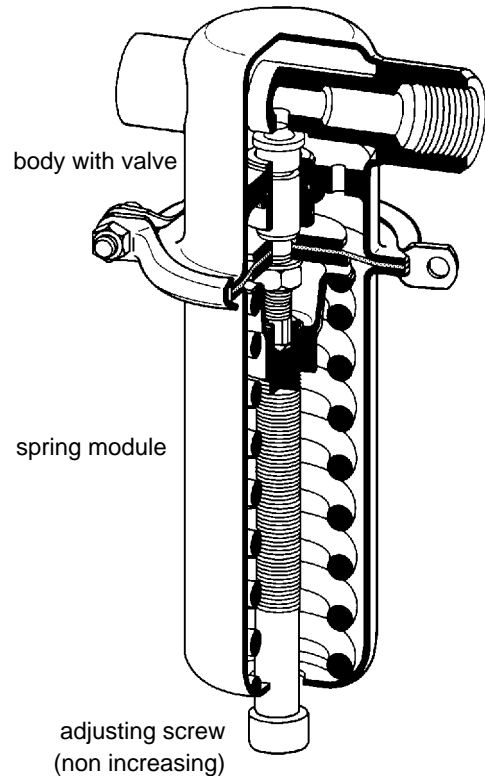
OPTIONS

- For toxic or hazardous media: sealed bonnet 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.

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K _{vs} -values [m ³ /h]		
seat		
I	II	III
0.15	0.4	0.9

Setting Ranges [bar] UV 3.5 + UV 3.5S	
setting range bar	nominal pressure
0.005 - 0.025	PN 1
0.02 - 0.12	
0.1 - 0.5	
0.2 - 1.1	PN 2.5
0.8 - 2.5	PN 6
1 - 5	PN 10
4 - 12	PN 25
10 - 20	

Setting Ranges [bar] UV 3.5Z	
setting range bar	nominal pressure
0.005 - 0.025	PN 1
0.02 - 0.12	
0.1 - 0.5	
0.2 - 1.1	PN 2.5
0.8 - 2.5	PN 6
1 - 5	PN 10
4 - 12	PN 16

Pressure Control Valves

UV 3.5, 3.5Z

Overflow valves UV 3.5 and 3.5S for liquids and gases up to 130 °C,
UV 3.5Z for steam up to 200 °C



Materials			
Type	UV 3.5		UV 3.5Z
Temperature	80 °C	130 °C	200 °C
Body	CrNiMo-steel		
Bonnet	CrNiMo-steel	CrNiMo-steel	CrNiMo-steel
Internals	CrNi-steel		
Spring	CrNi-steel	CrNi-steel	CrNi-steel
Valve Seal	metallic or EU	metallic or FPM or EPDM or PTFE	CrNiMo-steel
Diaphragm	CR	FPM or EPDM	EPDM
Protection Foil for Diaphragm	PTFE (option)	PTFE (option)	PTFE (option)

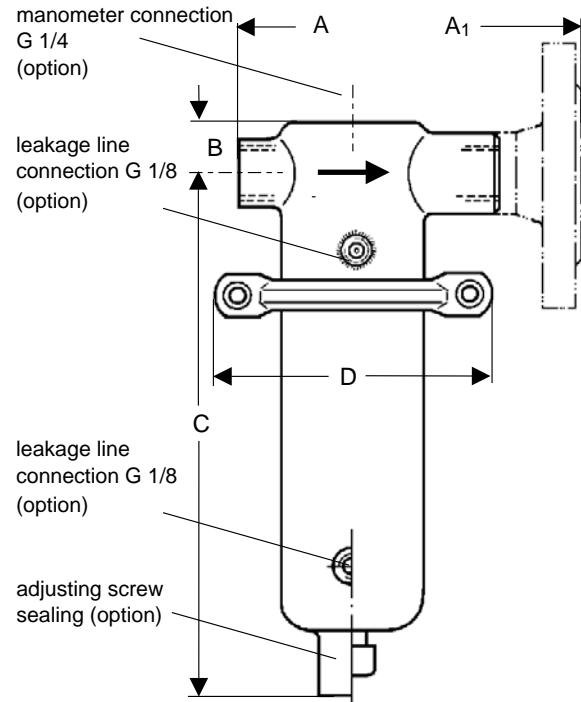
Dimensions [mm]							
pressure range [bar]	Size	DM	nominal diameter				
			G 1/2	DN 15	DN 20	DN 25	
all ranges	B	3.5 + 3.5Z	25	25	25	25	
0.005 - 0.025 0.02 - 0.12	A/A ₁	3.5 + 3.5Z	100	130	150	160	
	C	3.5	275	275	275	285	
	C	3.5Z	405	405	405	415	
	D	3.5 + 3.5Z	360	360	360	360	
0.1 - 0.5	A/A ₁	3.5 + 3.5Z	100	130	150	160	
	C	3.5	275	275	275	285	
	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	275	
	C	3.5 + 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	335	335	335	335	
	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	335	335	335	335	
	D	3.5 + 3.5Z	114	114	114	114	

Weights [kg]					
pressure range [bar]	DM	nominal diameter			
		G 1/2	DN 15	DN 20	DN 25
0.005 - 0.025	3.5	6	7.5	7.5	8
0.02 - 0.12	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

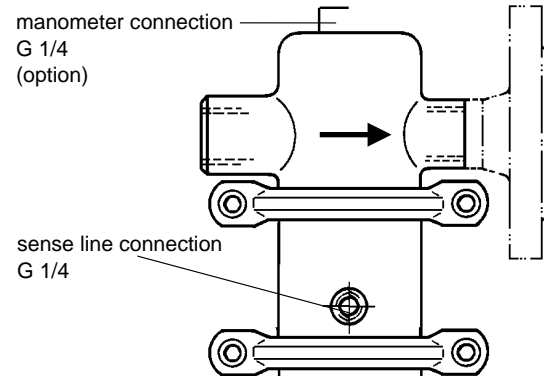
Special designs on request.
The pressure has always been indicated as overpressure.
Mankenberg reserves the right, to alter or improve the designs or specifications of the products described herein without notice.

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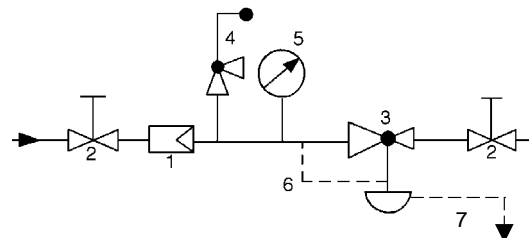
UV 3.5 UV 3.5S



UV 3.5Z dimensions see UV 3.5



Recommended Installation



- 1 Strainer
- 2 Shutoff Valves
- 3 Overflow Valve
- 4 Safety Valve
- 5 Pressure Gauge
- 6 Sense Line EO8, G 1/4 (option)
- 7 Leakage Line G 1/8 (option)

Sense line connection 10 - 20 x DN before the valve

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