

# Pressure Control Valves

## Back Pressure Regulators UV 3.8M

Single-seat valve, angled design for medium flow rates

### Technical Data

Connection DN	15 - 50
Connection G	1/2 - 2
Nominal Pressure PN	10 - 16
Inlet Pressure	2 - 16
K <sub>vs</sub> -Value	3.5 - 9 m <sup>3</sup> /h
Surface Roughness	≤ 3.2 µm
Temperature	180 °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 3.8 backpressure regulator is a spring-loaded piston-controlled proportional control valve designed for medium flow rates. The valve cone is fitted with a hard seal.

This valve is manufactured from deep-drawn stainless steel featuring excellent corrosion resistance. It contains virtually no dead pockets and is suitable for use in CIP and SIP systems. The angled design allows complete draining.

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 III (metal sealing cone - 0.1 % K<sub>vs</sub> value).

### Standard

- » all stainless steel construction
- » piston control

### Options

- » polished version for food, pharmaceutical and superclean applications, surface roughness Ra ≤ 0.8 µm
- » 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 DIN flanges, 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	DN	15	20	25	32	40	50	65	80	100
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	3.5	3.5	5.5	5.5	9	9	9

### Setting Ranges [bar], Nominal Pressure

0.8 - 2.5	2 - 5	4 - 10
PN 6	PN 10	PN 16

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Materials	
Temperature	130 °C
Body	CrNiMo-steel
Spring Cap	steel welded optional CrNiMo-steel
Spring	spring steel C optional CrNi-steel
Diaphragm	EPDM optional FPM
Protection Foil for Diaphragm (option)	PTFE

Dimensions [mm]									
size	nominal diameter DN								
	15	20	25	32	40	50	65	80	100
A	90	95	100	105	115	125	145	155	175
B	90	95	100	105	115	125	145	155	175
C	200	200	200	500	500	500	600	640	700
ø D	138	138	138	200	200	200	200	200	240

Weights [kg]									
nominal diameter DN									
	15	20	25	32	40	50	65	80	100
	3.9	4.5	4.8	6.1	6.7	8.1	9.9	11.9	15.1

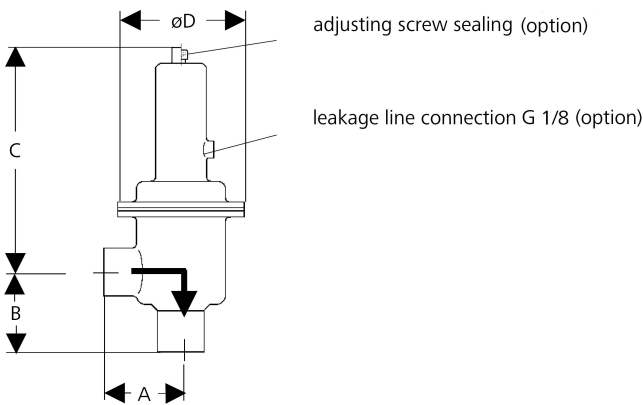
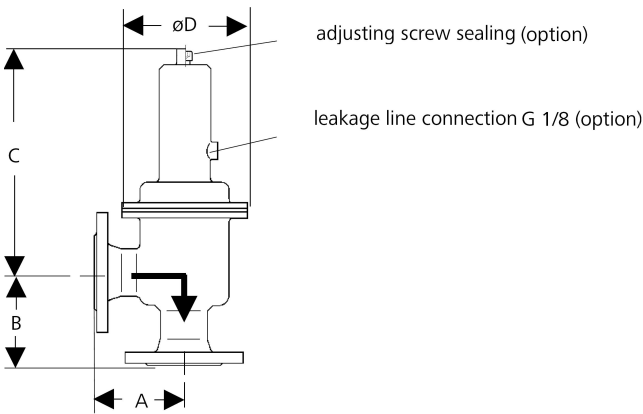
Dimensions [mm]							
size	nominal diameter G						
	1/2	3/4	1	1 1/4	1 1/2	2	
A	80	80	80	80	80	80	
B	80	80	80	80	80	80	
C	200	200	200	200	200	200	
ø D	138	138	138	200	200	200	

Weights [kg]						
nominal diameter G						
	1/2	3/4	1	1 1/4	1 1/2	2
	3.0	3.2	3.5	3.8	4.0	4.4

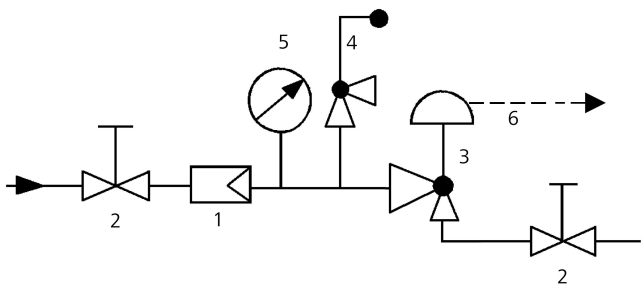
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Special designs on request.  
The pressure has always been indicated as overpressure.  
Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

### Dimensional Drawing



### Recommended Installation



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