PRESSURE CONTROL

Pressure reducing valve DM 505Z

Valve for steam applications and small flow rates

Technical data

Connection DN	15 - 25
Connection G	1/2
Nominal pressure PN	40 - 250
Inlet pressure	up to 250 bar
Outlet pressure	0.005 - 12 bar
K_{vs}value	0.2 - 0.9 m³/h
Temperature	200 °C
Medium	steam

*RT = -10 °C up to + 50 °C

Description

Self-acting pressure reducers are simple control valves offering accurate control while being easy to install and maintain. They control the pressure downstream of the valve without requiring pneumatic or electrical control elements.
The DM 505Z pressure reducing valve is a diaphragm-controlled spring-loaded proportional control valve for small volumes. This pressure reducer is manufactured from deep-drawn stainless steel featuring excellent corrosion resistance. The tubular inlet spigot of the valve body accommodates the seat aperture. The valve cone is guided in the seat assembly and connected with the control diaphragm by means of a stirrup which surrounds the seat assembly.
Considering the intermediate piece incl. water trap between body and diaphragm and the metallic cone seal the valve is suitable for temperatures up to 200°C.
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 outlet pressure to be controlled is balanced across the control unit by the force of the valve spring (set pressure). As the outlet pressure rises above the pressure set using the adjusting screw, the valve cone moves towards the seat and the volume of medium is reduced. As the outlet pressure drops, the valve control orifice increases; when the pipeline is depressurised, the valve is open. Rotating the adjusting screw clockwise increases the outlet 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
- Non-rising adjusting screw
- Quick-release body clamp ring
- Sense line connection

Options

- Pressure gauge connection
- Electro-pneumatic actuation
- For toxic or hazardous media: sealed bonnet complete with leakage lineconnection (incl. sealed adjusting screw). Must be installed with a leakageline capable of draining leaking medium safely and without pressure
- different materials for diaphragm and seals, suitable for your medium
- Special connections: Aseptic, ANSI or DIN flanges, NPT, welding spigots; other connections on request
- Special versions on request

Product



Picture similar

Technical specification

K_{vs}values [m³/h]					
for all body sizes	0.05	0.2	0.5	0.9	1.4

Setting range [bar]						
0.005 - 0.025	0.02 - 0.12	0.1 - 0.5	0.2 - 1.1	0.8 - 2.5	1 - 5	4 - 12

Permissible Reduction Ratio (max. p_1/p_2)					
setting range bar	K_{vs} value m³/h				
	0.05	0.2	0.5	0.9	1.4
0.005 - 0.12	2415	1485	1000	750	530
0.1 - 0.5	665	405	280	210	145
0.2 - 1.1	303	185	125	100	66
0.8 - 2.5	175	105	70	50	38
1 - 20	64	39	27	20	14

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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.

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Materials

Materials*	
Body	stainless steel 1.4404 / 316L
Bonnet	stainless steel 1.4404 / 316L
Spring	stainless steel 1.4310 / 301
Internal parts	stainless steel 1.4404 / 316L
Adjusting screw	stainless steel 1.4404 / 316L
Valve seal	stainless steel 1.4404 / 316L
Diaphragm	EPDM
Protection foil	PTFE (option)

*All materials equal or of higher quality

Dimensions and weights

Dimensions [mm]

setting ranges bar	Size	G 1/2	flanges according to DIN EN 1092-1		
			DN 15	DN 20	DN 25
all ranges	A/A_1*	100	130	150	160
	B	39	39	39	39
0.005 - 0.025	C	387	387	387	297
0.02 - 0.12	D	360	360	360	360
0.1 - 0.5	C	387	387	387	297
	D	264	264	264	264
0.2 - 1.1	C	387	387	387	387
	D	200	200	200	200
0.8 - 2.5	C	325	325	325	325
	D	138	138	138	138
1 - 5	C	325	325	325	325
4 - 12	D	114	114	114	114

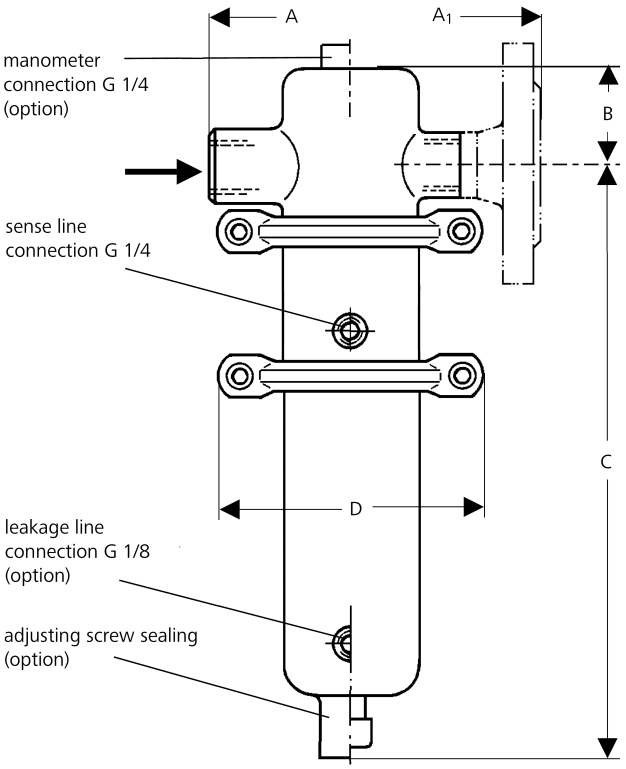
*overall length tolerances in acc. with DIN EN 558

Weights [kg]

setting ranges bar	G 1/2	flanges according to DIN EN 1092-1		
		DN 15	DN 20	DN 25
0.005 - 0.12	6.5	8	8	8.5
0.1 - 0.5	6	7.5	7.5	8
0.2 - 1.1	5	6.5	6.5	7
0.8 - 2.5	2.5	4	4	4.5
1 - 12	2	3.5	3.5	4

Customs tariff number

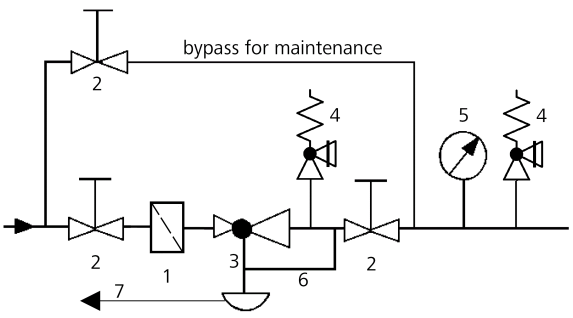
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Recommended installation

1 Strainer
2 Shut-off valves
3 Pressure reducing valve
4 Safety valve
5 Pressure gauge
6 Sense line
7 Leakage line

Sense line connection 10 - 20 x DN behind the valve



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