Pressure Control Valves

Pressure Reducing Valves DM 620 - 628

High Pressure Valve, Medium and High Flow Rates

Technical Data

Connection DN	15 - 50
Connection G	1/2 - 2
Nominal Pressure PN	16 - 315
Inlet Pressure	up to 315 bar
Outlet Pressure	2 - 160 bar
K_{vs}-Value	0.4 - 10 m³/h
Temperature	200 °C
Medium	liquids and gases

Description

Medium-controlled 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 620 - 628 pressure reducing valves are diaphragm-controlled spring-loaded and balanced proportional control valves for high inlet and outlet pressures. They can be supplied with three types of connections: sockets, flanges or welding spigots. Each size of valve may be fitted with three different seats. The valve cone may be fitted with a soft or metallic seal.

The outlet pressure to be controlled is balanced across the diaphragm 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 the VDI/VDE guideline 2174 a leakage rate of 0.05 percent of the constant volume flow is permitted for the valve in closed position.

Standard

» relieved cone for controlling the outlet pressure indipendently from the initial pressure

Options

» pressure gauge connection
» valve cone and seat armoured
» 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 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.

Nominal Pressure, K_{vs}-Values, Setting Ranges and Permissible Reduction Ratio see page 3

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Materials			
Temperature	80 °C	130 °C	200 °C
Body	G 1/2 - 1, DN 15 - 25 = C 22.8 G 1 1/4 - 2, DN 32 - 50 = steel welded optional CrNiMo-steel for all diameters		
Bonnet	steel welded optional CrNiMo-steel for all diameters		
Internals	CrMo-steel or CrNiMo-steel		CrNiMo-steel
Spring	spring steel C optional CrNi-steel		
Soft Seal	EU	FPM optional EPDM or PTFE	
Metallic Seal	CrNiMo-steel	CrNiMo-steel	CrNiMo-steel
Diaphragm	CR	FPM optional EPDM	-
Protection foil	PTFE (option)	PTFE (option)	-
O-ring for Piston	EPDM	FPM optional PTFE	FEPM optional PTFE
Bellow	CrNiMo-steel	CrNiMo-steel	CrNiMo-steel

Dimensions [mm] for DM 620, DM 621 and DM 626					
type	size	nominal diameter			
		1/2	G 3/4 - 1	G 1 1/4-1 1/2	G 2
		DN 15	DN 20 - 25	DN 32 - 40	DN 50
620	A	140	170	250	250
621	A_1	220	220	280*	300*
626	A/A_1	220	220	acc. to DIN 3202 - S14	
alle	B	80	80	110	110
alle	C	< 520	< 520	< 800	< 800

* on request if the downstream pressure is ≥ PN 63

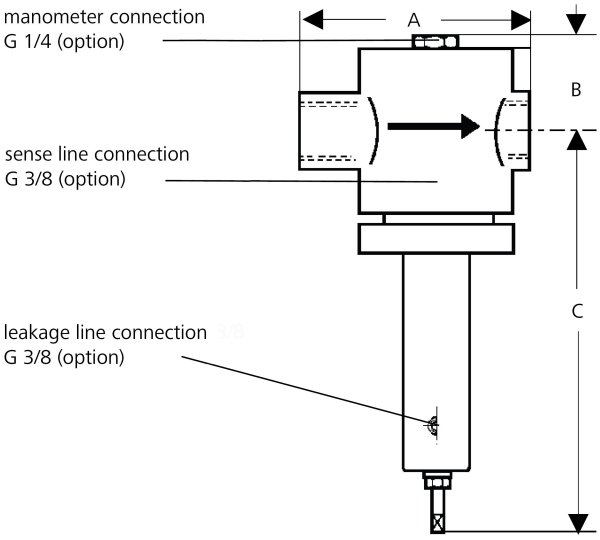
Dimensions [mm] for DM 624, DM 625 and DM 628	
size	all diameters
A / A_1	220
B	90
C	< 530

Weights [kg] for DM 620, all others on request					
nominal diameter					
1/2	3/4	1	1 1/4	1 1/2	2
13	14	15	21	21	21

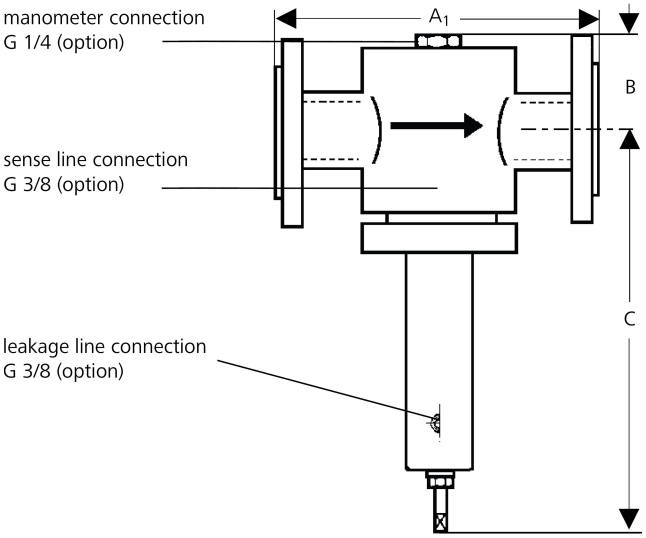
Special designs on request.
The pressure has always been indicated as overpressure.
Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

Dimensional Drawing

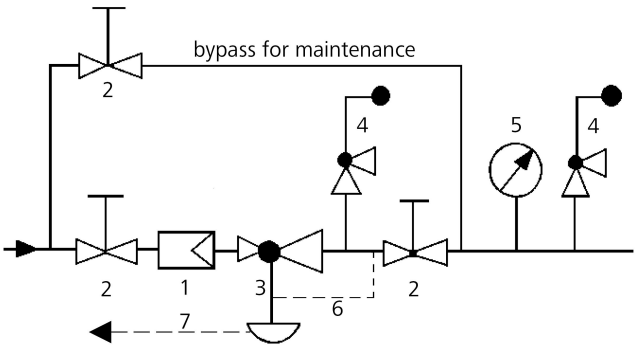
DM 620, DM 624, DM 626, DM 628



DM 621, DM 625



Recommended Installation



1 Strainer
2 Shut-off Valves
3 Pressure 'Reducer
4 Safety Valves
5 Pressure Gauge
6 Sense Line G 3/8 (option)
7 Leakage Line G 3/8 (option)

sense line connection 10 - 20 x DN behind the valve
use MANKENBERG-Products

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K_{vs} values[m^3/h]							
nominal diameter							
G		1/2	3/4	1	1 1/4	1 1/2	2
DN		15	20	25	32	40	50
seat	I	0.4	1.2	1.8	2.2	4.5	4.5
	II	1.2	1.8	2.2	4.5	7	7
	III	1.8	2.2	4.5	7	10	10

Setting Ranges [bar], Nominal Pressure DM 620, 621, 626				
2 - 4	4 - 7	7 - 10	5 - 16	10 - 20
PN 315/6	PN 315/16	PN 315/16	PN 315/25	PN 315/25
10 - 25	20 - 35	35 - 50	45 - 63	60 - 100
PN 315/40	PN 315/40	PN 315/63	PN 315/100	PN 315/100

Setting Ranges [bar], Nominal Pressure DM 624, 625, 628	
40 - 100	80 - 160
PN 315/100	PN 315/160

Special designs on request.
The pressure has always been indicated as overpressure.
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Permissible Reduction Ratio (p_1/p_2) DM 620, 621, 626							
setting range bar	seat	nominal diameter					
		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
2 - 4	I	160	80	60	120	58	58
	II	80	60	50	58	36	36
	III	60	50	30	36	24	24
4 - 7	I	160	80	60	78	38	38
	II	80	60	50	38	24	24
	III	60	50	30	24	16	16
7 - 10	I	64	50	42	56	28	28
	II	50	42	34	28	16	16
	III	42	34	18	16	12	12
5 - 16	I	64	50	42	66	32	32
	II	50	42	34	32	20	20
	III	42	34	18	20	14	14
10 - 20	I	53	42	35	56	28	28
	II	42	35	28	28	16	16
	III	35	28	15	16	12	12
10 - 25	I	40	36	34	36	18	18
	II	36	34	27	18	12	12
	III	34	27	14	12	8	8
20 - 35	I	32	28	26	30	14	14
	II	28	26	20	14	9	9
	III	26	20	8	9	6	6
35 - 50	I	24	20	18	22	11	11
	II	20	18	15	11	6	6
	III	18	15	7	6	5	5
45 - 63	I	19	16	14	16	8	8
	II	16	14	11	8	5	5
	III	14	11	6	5	3	3
60 - 100	I	16	14	12	16	8	8
	II	14	12	10	8	5	5
	III	12	10	5	5	3	3

Permissible Reduction Ratio (max. p_1/p_2) DM 624, 625, 628				
aetting range bar	seat	G 1/2 DN 15	G 3/4 DN 20	G1 DN 25
all ranges	I	8		
	II			
	III			