

# Pressure Control Valves DM 613

## Pressure Reducing Valves

Standard Cast Valve



### Technical Data

Connection DN	15 - 150
Nominal Pressure PN	16 - 40
Inlet Pressure	up to 40 bar
Outlet Pressure	0.02 - 10 bar
K <sub>vs</sub> -Value	4 - 160 m <sup>3</sup> /h
Temperature	130 °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 613 pressure reducing valve is a diaphragm-controlled spring-loaded and balanced proportional control valve for large volumes. The valve body is made of cast iron, the control mechanism is a welded assembly. The valve cone is fitted with a soft seal (up to 80/130 °C).

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.

The valves requires 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 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

- » open spring
- » pilot line connection

### Options

- » sealed bonnet
- » 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. All the pressure has always been indicated as overpressure. We reserve the right to alter technical specifications without notice.



ill. similar

### K<sub>vs</sub>-Values [m<sup>3</sup>/h]

DN	15	20	25	40	50	65	80	100	125	150
m <sup>3</sup> /h	4	5	6	20	32	50	80	100	140	160

### Setting Range [bar]

DN 15-50	0.02 - 0.25	0.1 - 0.6	0.2 - 1.2	0.8 - 2.5	2 - 5	4.5 - 10
DN 65-100	0.02 - 0.25	0.1 - 0.6	0.2 - 1.2	0.8 - 2.5	2 - 5	4 - 8
DN 125+150	0.05 - 0.25	0.1 - 0.6	0.2 - 1.2	0.8 - 2.5	2 - 3.5	2 - 5
PN	40/1	40/1	40/2.5	40/6	40/10	40/16

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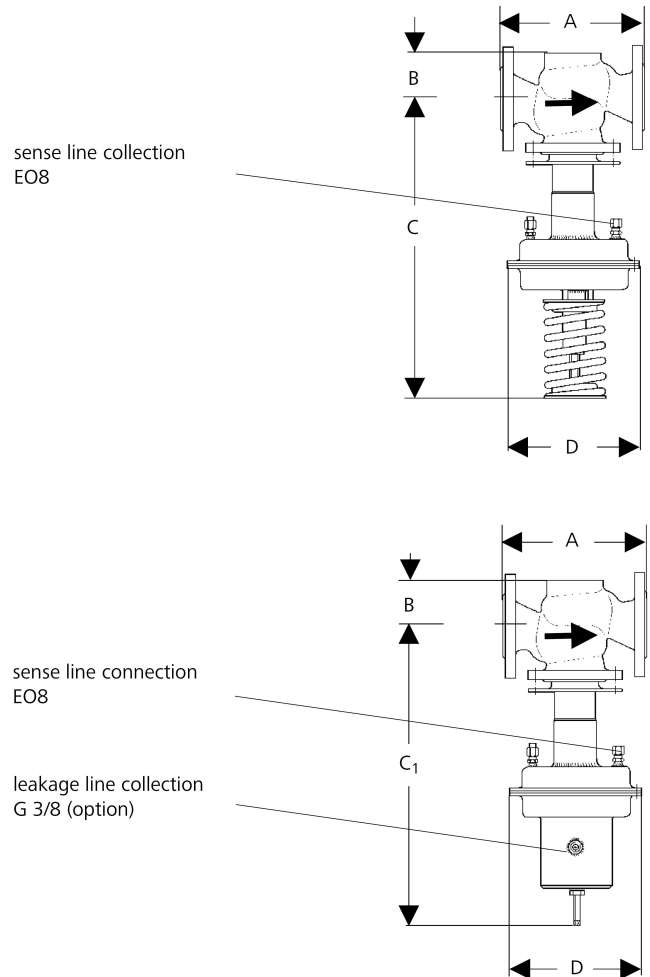
Materials			
Temperature		80 °C	130 °C
Body	PN 16	up to DN 25 grey cast iron	up to DN 25 grey cast iron
		from DN 40 spheroidal cast iron	from DN 40 spheroidal cast iron
	PN 25 /40	cast steel	cast steel
	PN 16 - 40	CrNiMo-steel	CrNiMo-steel
Diaphragm Housing		steel welded optional CrNiMo-steel	
Bonnet		steel welded optional CrNiMo-steel	
Spring		spring steel C optional CrNi-steel	
Valve Seal		NBR	EPDM optional FPM
Diaphragm		CR	EPDM optional FPM
O-Ring (balance)		NBR	EPDM optional FPM

Dimensions [mm]											
size	setting range bar	nominal diameter DN									
		15	20	25	40	50	65	80	100	125	150
A	0.02-5/8/10	130	150	160	200	230	290	310	350	400	480
B		55	55	55	75	75	105	105	105	220	220
C	4.5 - 8/10	520	520	520	680	680	760	760	760	940	940
C <sub>1</sub>	2 - 3.5/5	650	650	650	840	840	920	920	920	1100	1100
D	0.8 - 2.5	175	175	175	220	220	220	220	220	220	220
C	0.2 - 1.2	540	540	540	680	680	760	760	760	840	840
C <sub>1</sub>		670	670	670	840	840	920	920	920	1000	1000
D		220	220	220	270	270	270	270	270	270	270
C	0.1 - 0.6	540	540	540	680	680	760	760	760	840	840
C <sub>1</sub>		670	670	670	840	840	920	920	920	1000	1000
D		270	270	270	360	360	360	360	360	360	360
C	0.02 / 0.05 - 0.25	540	540	540	560	560	640	640	640	840	840
C <sub>1</sub>		670	670	670	720	720	800	800	800	1000	1000
D		360	360	360	360	360	360	360	360	500	500

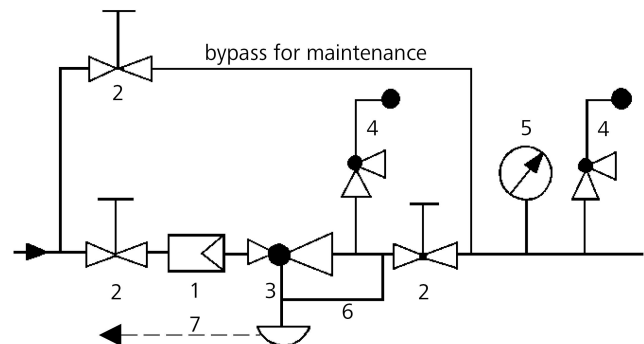
Weights [kg]											
nom. pressure	setting range	nominal diameter DN									
		15	20	32	40	50	65	80	100	125	150
PN 16	0.8 - 5/8/10	17	17	18	30	33	55	58	62	100	120
	0.2 - 1.2	19	19	20	32	35	57	60	64	102	122
	0.1 - 0.6	23	23	24	36	39	61	64	68	106	126
	0.02/0.05-0.25	23	23	24	34	37	59	62	66	112	132
PN 25/40	0.8 - 5/8/10	18	18	19	33	35	58	62	65	108	133
	0.2 - 1.2	20	20	21	35	37	60	64	67	110	135
	0.1 - 0.6	24	24	25	39	41	64	68	71	114	139
	0.02/0.05-0.25	24	24	25	37	39	62	66	69	120	145

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 Shut-off Valves
- 3 Pressure Reducer
- 4 Safety Valves
- 5 Pressure Gauge
- 6 Sense Line EO8 (option)
- 7 Leakage Line G 3/8 (option)

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