

# Pressure Control Valves

## Pressure Reducing Valves DM 664

Valve for Large Flow Rates



### Technical Data

Connection DN	50 - 100
Nominal Pressure PN	16
Inlet Pressure	up to 16 bar
Outlet Pressure	0.02 - 8 bar
K <sub>vs</sub> -Value	32 - 100 m <sup>3</sup> /h
Temperature	130 °C
Medium	liquids and gases

### 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 664 pressure reducing valve is a diaphragm-controlled spring-loaded and balanced proportional control valve for large volumes of non-hazardous media. This pressure reducer is manufactured from deep-drawn stainless steel featuring excellent corrosion resistance. The valve cone is fitted with a soft seal (up to 130 °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 pressure range is extremely simple and does not call for special tools. The same applies to servicing and maintenance.

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.

The valves requires a sense line (to be installed on-site).

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:

Leakage class IV (PTFE seal cone) = 0.01 % K<sub>vs</sub> value

Leakage class V (soft seal cone) =  $1.8 \times 10^{-5} \times \Delta p \times D^*$  [l/h]

\*D=seat diameter

### Standard

- » all stainless steel construction
- » quick-release body clamp ring
- » sense line connection
- » balanced cone for controlling the outlet pressure independently from the initial pressure

### Options

- » pressure gauge connection
- » for toxic or hazardous media: additional leakage line connection. 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 JIS 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

50	65	80	100
32	50	80	100

### Setting Ranges [bar], Nominal Pressure PN

0.02 - 0.15	0.02 - 0.25	0.1 - 0.6	0.2 - 1.2
16/1	16/1	16/1	16/2.5

### Setting Ranges [bar], Nominal Pressure PN

0.8 - 2.5	2 - 5	4 - 8
16/6	16/10	16/16

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Materials	
Temperature	130 °C
Body, Diaphragm	CrNiMo-steel
Housing, Internals	
Spring	CrNi-steel
Valve Seal	EPDM optional FPM or PTFE
Diaphragm	EPDM optional FPM
O-Ring	EPDM optional FPM

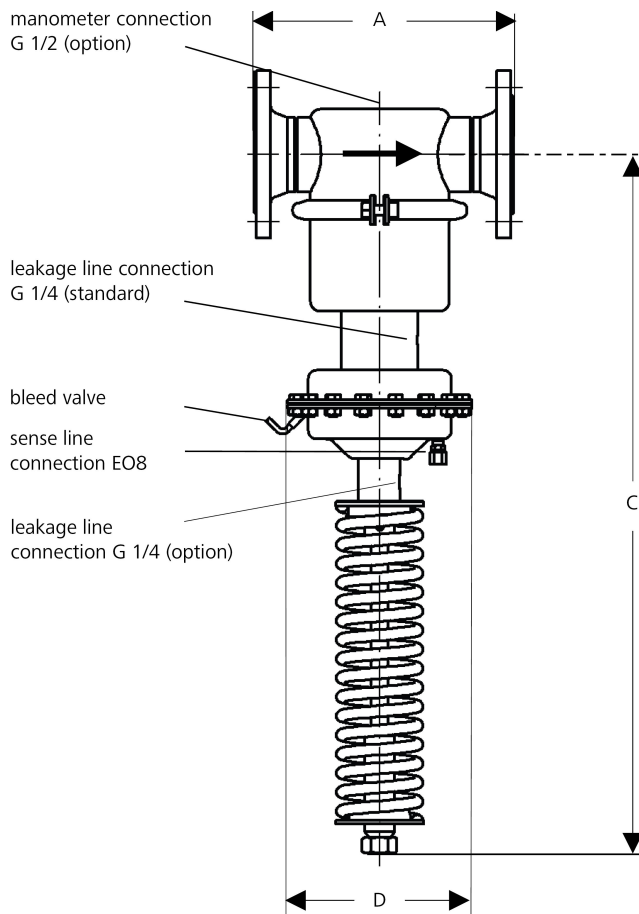
Dimensions [mm]					
setting range bar	size	nominal diameter DN			
		50	65	80	100
all ranges	A	230	290	310	350
	C	650	700	700	700
0.02 - 0.15	D	500	500	500	500
	C	650	700	700	700
0.02 - 0.25	D	360	360	360	360
	C	740	790	790	790
0.1 - 0.6	D	360	360	360	360
	C	740	790	790	790
0.2 - 1.2	D	270	270	270	270
	C	740	790	790	790
0.8 - 2.5	D	220	220	220	220
	C	740	790	790	790
2 - 5 4 - 8	D	220	220	220	220

Weights [kg]				
setting range bar	nominal diameter DN			
	50	65	80	100
0.02 - 0.15	40	41	43	45
0.02 - 0.25	40	41	43	45
0.1 - 0.6	37	38	40	42
0.2 - 5 / 4 - 8	34	35	37	39

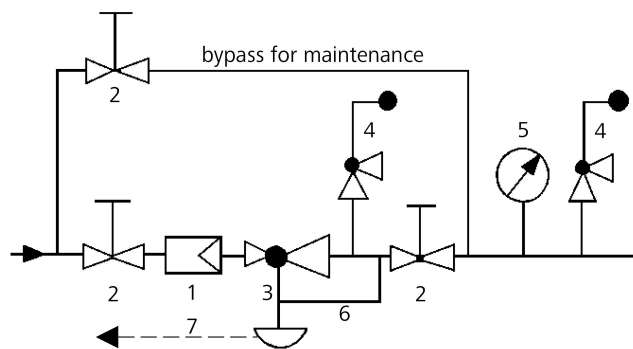
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84811019

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
  - 7 Leakage Line G 1/4 (option)
- sense line connection 10 - 20 x DN behind the valve  
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