

# Pressure Control Valves

## Pressure Reducing Valves DM 401

Valve for High Pressures + High Temperature

### Technical Data

Connection DN	25 - 250
Nominal Pressure PN	16 - 100
Inlet Pressure	up to 100 bar
Outlet Pressure	1.5 - 32 bar
K <sub>vs</sub> -Value	6 - 360 m <sup>3</sup> /h
Temperature	500 °C
Medium	steam

### 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 401 pressure reducing valve is a diaphragm or piston-controlled spring-loaded proportional control valve with pressure relief for large flow rates at low pressure drops. The valve cone is fitted with a metallic seal.

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 II (metal sealing double seat cone - 0.5% K<sub>vs</sub> value).

### Standard

- » balanced cone for controlling the outlet pressure independently from the initial pressure.
- » open spring
- » sense line connection

### Options

- » mid section for higher temperatures (400 - 500 °C)
- » hydraulic damping
- » enlarged outlet
- » 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.



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

DN	25	32	40	50	65	80
m <sup>3</sup> /h	6	11	16	25	42	65

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

DN	100	125	150	200	250
m <sup>3</sup> /h	80	120	170	230	360

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Materials DM 401 PN 16	
Body	cast iron
Bottom Part	cast iron
Spring	spring steel C
Internals	on request
Diaphragm	CR

Materials DM 401 PN 25 - 40			
Temperature	300°C	350°C	400°C
Body	cast iron	cast iron	GS 17 CrMo 55
Bottom Part	cast iron	cast iron	cast iron
Mid Section	-	-	GS 17 CrMo 55
Spring	spring steel C	spring steel C	spring steel C
Internals	on request		
Diaphragm	CR	Cr	Cr
O-ring	NBR	NBR	NBR

Materials DM 401 PN 63 - 100			
Temperature	350°C	400°C	500°C
Body	cast iron	GS 17 CrMo 55	GS 17 CrMo 55
Bottom Part	cast iron	cast iron	cast iron
Mid Section	-	GS 17 CrMo 55	GS 17 CrMo 55 or 10 CrMo 9-10
Spring	spring steel C	spring steel C	spring steel C
Internals	on request		
Diaphragm	CR	Cr	Cr
O-ring	NBR or EPDM	NBR or EPDM	NBR or EPDM

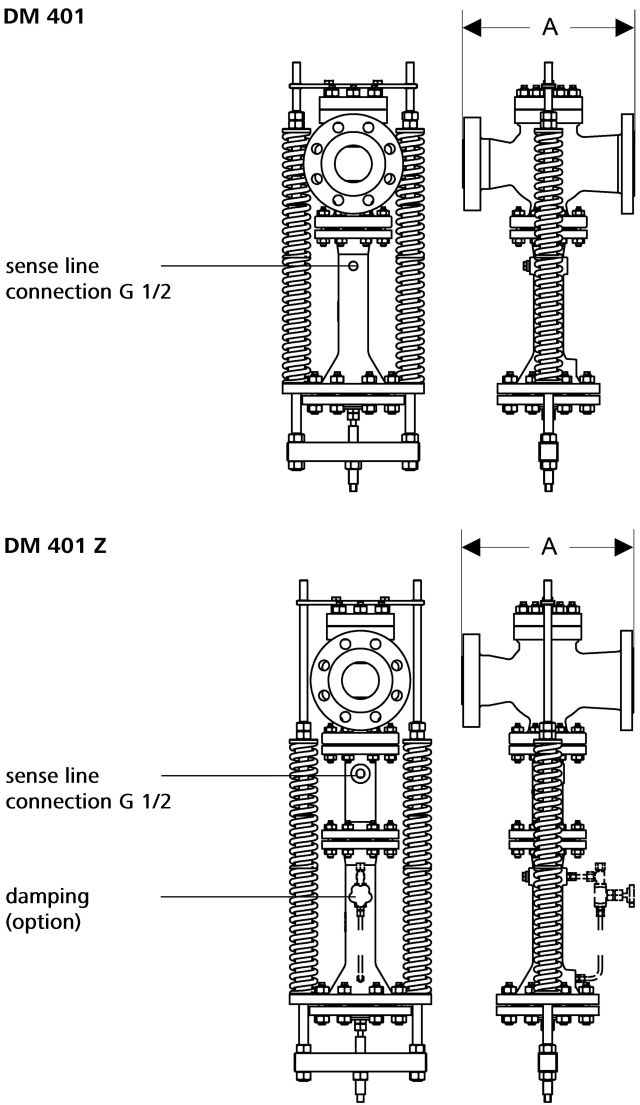
Dimensions [mm]											
size	nominal pressure	nominal diameter DN									
		25	32	40	50	65	80	100	125	150	200
A	PN 16 - 40	-	180	200	230	290	310	350	400	480	600
	PN 63 - 100	230	-	260	300	330	380	430	500	-	-

As the DM 401 pressure reducing valve is designed specifically for your operating data and may vary considerably in terms of construction, we are unable at this stage to give any dimensions or weights. Please contact us if you have specific queries.

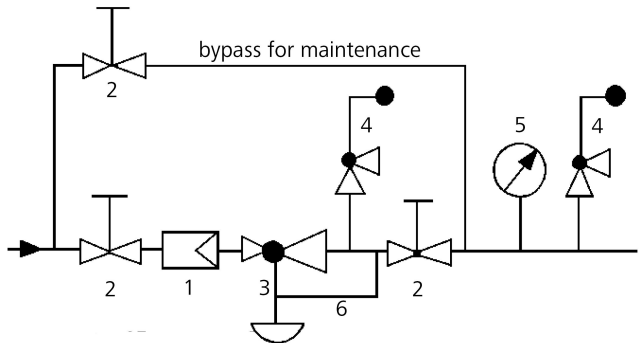
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Special designs on request.  
The pressure has always been indicated as overpressure.  
Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

### Dimensional Drawing



### Recommended Installation



- 1 Strainer
  - 2 Shut-off Valves
  - 3 Pressure Reducer
  - 4 Safety Valve
  - 5 Pressure Gauge
  - 6 Sense Line G 1/2
- sense line connection 10 - 20 x DN behind the valve  
use MANKENBERG-Products