

## PRESSURE CONTROL

# Pressure reducing valve DM 512

High pressure valve for small to medium flow rates

# MANKENBERG

### Technical data

Connection DN	15 - 50
Connection G	3/8 - 2
Nominal pressure PN	100
Inlet pressure	up to 100 bar
Outlet pressure	0.005 - 2 bar
K <sub>v50</sub> value	0.2 - 5.5 m <sup>3</sup> /h
Temperature	130 °C
Medium	liquids and gases
*RT	= -10 °C 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 512 pressure reducing valves are diaphragm-controlled spring-loaded proportional control valves for high inlet and low outlet pressures. They can be supplied with three types of connections: sockets, flanges and 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 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 valve 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 III or V, optional IV.

The design data refer to the maximum inlet pressure, the outlet pressure is limited by the setting range.

### Options

- » Pressure gauge connection
- » Hard-faced valve cone and seat
- » 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 materials such as Duplex, Superduplex, Hastelloy® or titanium, others on request
- » Special connections: ANSI or JIS flanges, NPT, welding spigots; other connections on request
- » Special versions on request

### Product



Picture similar

### Technical specification

For more information see the attachment.

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## Materials

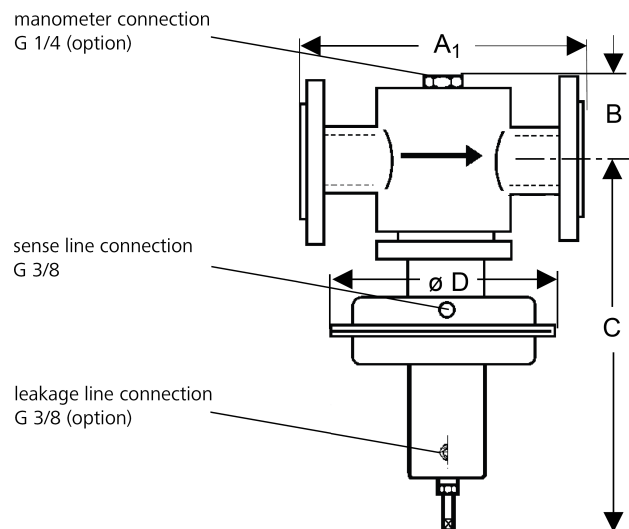
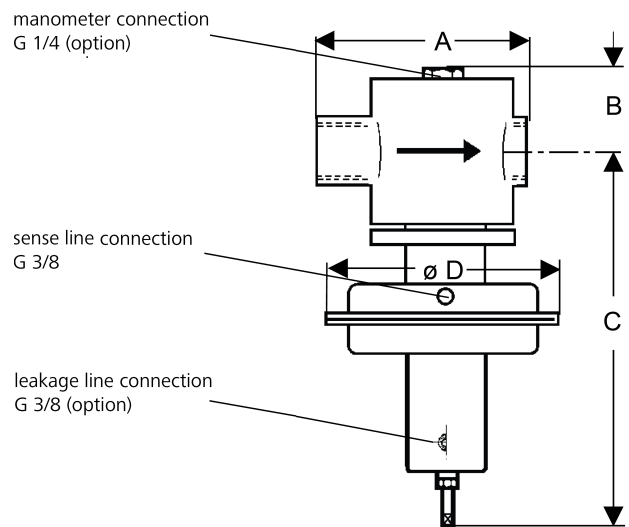
Materials*		
Temperature	80 °C	130 °C
Body	G 3/8 - 1, DN 15 - 25 = C-steel G 1 1/4 - 2, DN 32 - 50 = steel welded Optional stainless steel for all body sizes	
Bonnet	Steel welded optional stainless steel	
Internals	Stainless steel	
Spring	Stainless steel	Stainless steel
Valve seal	EU	EPDM optional FKM, PTFE
Metallic seal	Stainless steel	Stainless steel
Diaphragm	EPDM	EPDM
Protection foil	PTFE (option)	PTFE (option)

\*All materials equal or of higher quality

## Dimensions and weights

Dimensions [mm]	
	on request
Weights [kg]	
	on request
Customs tariff number	
	84811019

Since the valve is individually designed to your operating data and can vary considerably in design, we cannot provide exact information on dimensions and weights here. Please let us have your enquiry!



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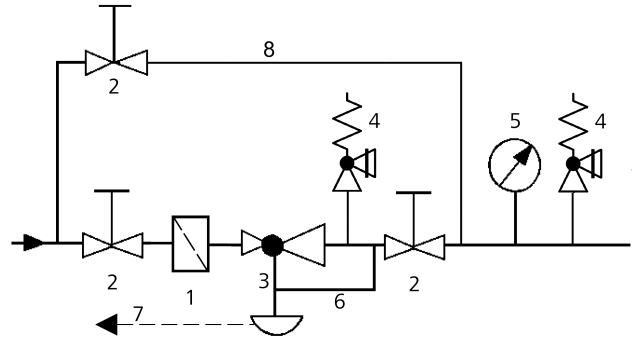
Please send us your enquiry and allow us to advise you. Special designs on request.  
The pressure has always been indicated as overpressure. Mankenberg reserves the right to alter technical specifications without notice.

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## Recommended installation

- |   |                  |   |                |
|---|------------------|---|----------------|
| 1 | Strainer         | 5 | Pressure gauge |
| 2 | Shut-off valves  | 6 | Sense line     |
| 3 | Pressure reducer | 7 | Leakage line   |
| 4 | Safety valve     | 8 | Bypass         |



Sense line connection 10 - 20 x DN behind the valve

## Kvs values, setting ranges and permissible reduction ratio

Max. reduction ratio ( $p_1/p_2$ )				
setting range [bar]	seat	nominal diameter		
		G 3/8 - 1 DN 15 - 25	G 1/4 - 1 1/2 DN 32 - 40	G 2 DN 50
0.005 - 0.07	I	4,000	6,570	4,865
	II	1,500	2,390	1,490
	III	600	1,200	1,010
0.02 - 0.1	I	2,000	1,950	1,445
	II	800	710	440
	III	300	355	300
0.05 - 0.4	I	1,000	1,020	755
	II	400	370	230
	III	150	185	155
0.1 - 0.4	I	700	510	375
	II	200	185	115
	III	90	90	75
0.4 - 0.8	I	700	510	375
	II	200	185	115
	III	90	90	75
0.3 - 1	I	300	280	205
	II	100	100	60
	III	40	50	40
1 - 2	I	300	280	205
	II	100	100	60
	III	40	50	40

Kvs values [m³/h]								
nominal diameter								
G		3/8	1/2	3/4	1	1 1/4	1 1/2	2
DN		-	15	20	25	32	40	50
seat	I	0.2	0.2	0.25	0.25	0.4	0.4	1
	II	0.9	0.9	0.9	0.9	2.5	2.5	3.5
	III	1.7	1.8	2	2.2	3.9	3.9	5.5

Setting ranges [bar]							
0.005 - 0.07	0.02 - 0.1	0.05 - 0.4	0.1 - 0.4	0.4 - 0.8	0.3 - 1	1 - 2	

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