

Pressure Control Valves

Pressure Reducing Valves VRCD (DM 644)

Epoxy-coated Cast Valve

Technical Data

Connection DN	50 - 150
Nominal Pressure PN	16 - 40
Inlet Pressure	up to 40 bar
Outlet Pressure	1.5 - 6 or 5 - 12 bar
K _{vs} -Value	15 - 170 m³/h
Temperature	70 °C
Medium	water

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 VRCD (DM 644) pressure-reducing valve is a piston-controlled, spring-loaded proportional regulator with relief for large throughputs. The housing is made of spheroidal graphite iron with a continuous epoxy coating. The valve cone is soft-sealed.

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.

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.

Standard

- » Designed acc. to EN-1074/4
- » Flanges as per EN 1092/2
- » Pressure stage PN 16
- » Body made of spheroidal cast iron GJS 450-10 with epoxy coating in blue RAL 5005, thickness min. 250 µm
- » Internal parts made of stainless steel 1.4301
- » Closed spring cap
- » Internal control bore
- » Coating as per DVGW W270 and KTW recommendation of the German Ministry for Health
- » Pressure gauge pre-installed

Options

- » Internal parts made of 1.4404
- » Elastomers made of EPDM or Viton
- » Pressure stages PN 25 and PN 40
- » Special designs on request:
 - Nickel-plated version for air and liquids up to 100°C, elastomers made of Viton
 - Diaphragm-controlled version for higher Control accuracy, smaller pressure ranges
 - High pressure version, pressure stage PN 64, for air and water
 - Flanges drilled in acc. with ANSI

Operating instructions, know how and safety instructions must be observed. The pressure has always been indicated as overpressure. We reserve the right to alter technical specifications without notice.



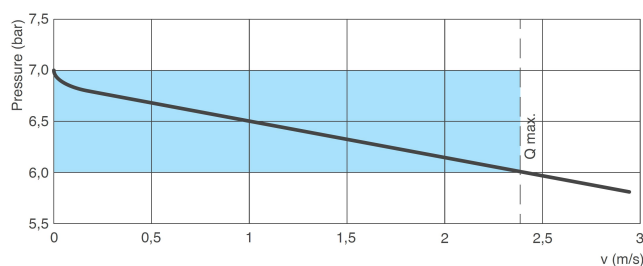
K_{vs}-Values[m³/h] PN 16 - 64

Nennweite DN	PN	50	65	80	100	125	150
16 - 40	20	45	70	115	145	170	
64	15	-	60	95	-	145	

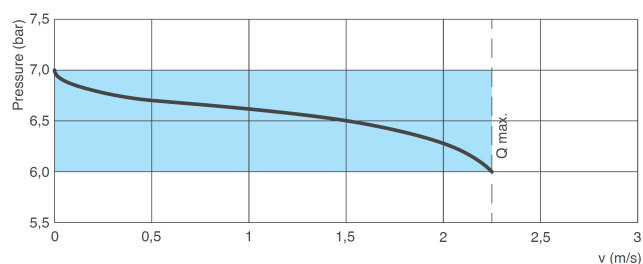
Setting Ranges [bar], Nominal Pressure PN, max. Permissible Reduction Ratio

bar	1.5 - 6	5 - 12
max. Δp	4.5 : 1	

Reduced Pressure Falloff PN 16 - 40



Reduced Pressure Falloff PN 64



The plots are showing the reduced pressure falloff that occurs through the valve when the flow increases. Ensure that the operating conditions fall on the area depicted in blue for the recommended fluid flow velocity through the valve.

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Materials	
Body	spheroidal cast iron GJS 450-10 epoxy coated*
Spring Cap	spheroidal cast iron GJS 450-10 epoxy coated*
Spring	stainless steel 52SiCrNi5
Internals	stainless steel 1.4301 optional 1.4404
Valve Seal	NBR optional EPDM or Viton
O-ring (balance)	NBR optional EPDM or Viton

* in accordance with KTW-recommendation and DVGW W270, thickness min. 250 µm

Dimensions [mm] and Weights [kg] PN 16 - 40						
size	nominal diamter DN					
	50	65	80	100	125	150
A	230	290	310	350	400	450
B	83	93	100	117	135	150
C	280	320	350	420	590	690
kg	12	19	24	34	56	74

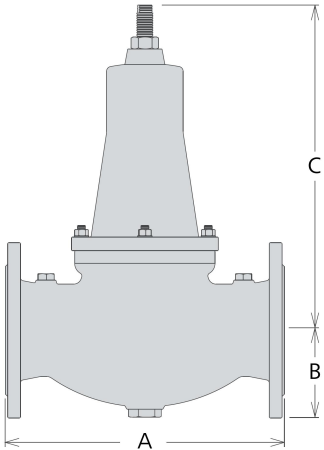
Dimension [mm] and Weights [kg] PN 64				
size	nominal diameter DN			
	50	80	100	150
A	230	310	350	480
B	90	108	126	172
C	240	340	400	500
kg	15	29	40	90

Customs Tariff Number	
84811019	

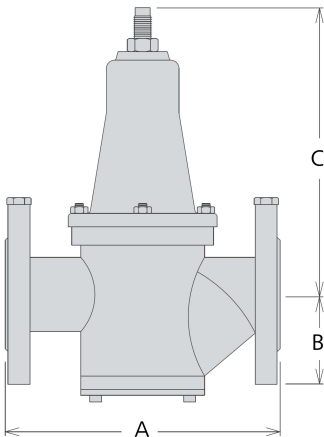
Special designs on request.
 The pressure has always been indicated as overpressure.
 Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

Dimensional Drawing

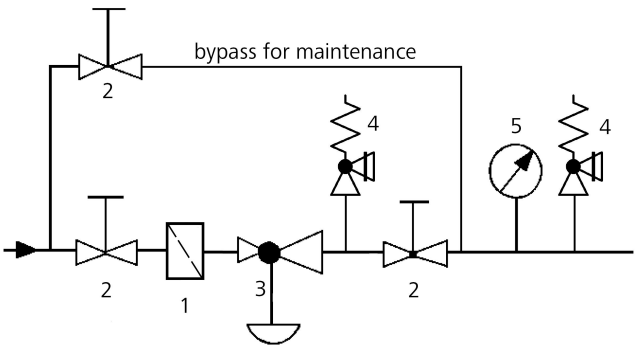
PN 16 - 40



PN 64



Recommended Installation



- 1 Strainer*
 - 2 Shutoff valves
 - 3 Pressure Reducer*
 - 4 Safety Valves*
 - 5 Pressure Gauge
- *Use MANKENBERG-Products