

THREE-PORT VALVES WITH CERAMIC DISK AND FOUR CONNECTIONS ; PN 10 ; 1...95°C

VDM 4.. Eng.

- Brass body, stainless steel spindle
- Ceramic disks rotor
- Male threaded connections complete with unions
- Viton seals



1. APPLICATION

VDM4 valves are designed to control water flow in heating and cooling systems. They are particularly suitable for zone plants, fan-coil plants and for mounting on modular manifold.

They can be operated by hand or by rotary actuators model CDK and CDR.

Permitted fluids:

- hot water max. 95 °C,
- chilled water min. 1 °C,
- water with max. 50 % glycol.

2. MODELS

Code	Valve connections inches	Pipe connections inches	Kvs ⁽¹⁾ m ³ /h	Suitable actuators CDK ... - CDR ...
VDM 410	male 1/2"	male 3/8"	1.6 1.1	kPa ⁽²⁾ (bar) sec ⁽³⁾
VDM 415	male 3/4"	male 1/2"	1.8 1.2	600 (6) 60
				600 (6) 60

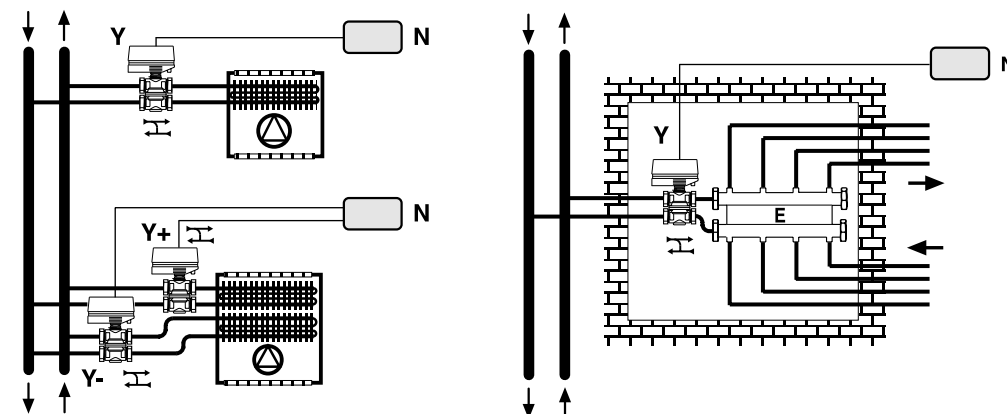
(1) Kvs = flow coefficient : flow in m³/h with valve open and pressure drop of 100 kPa.

(2) kPa = maximum differential pressure Δp max. permitted by actuator.

100 kPa = 10 mWG = 1 bar

(3) sec. = time necessary for actuator to make complete valve run.

3. SCHEMI FUNZIONALI



- N – Ambient controller
- E – Modular manifold
- Y – Motorised ceramic valve
- Y+ – Heating motorised ceramic valve
- Y- – Cooling motorised ceramic valve

4. TECHNICAL DATA

Valve body
Spindle
Internal rotor
Seals

OT58 brass
stainless steel
ceramik disks
viton O-Ring

Connections
Nominal pressure
Fluid temperature
Run

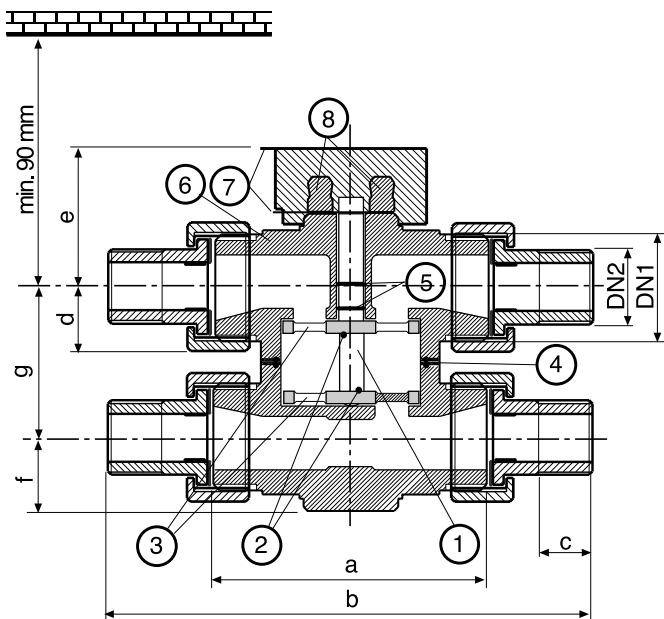
male threaded complete with unions
1000 kPa (10 bar)
1...95 °C
90°

5. CONSTRUCTION

The body of the valve (6.6) is made in OT58 brass, the spindle (6.1) and the actuator attachment lugs (6.8) are in stainless steel. The internal rotors (6.3) are two ceramic disks. O-Rings inserted in the appropriate housings (6.5 and 6.4) ensure the watertight sealing of the spindle and of the juncture of the two parts of the valve.

At the head of the valve there is a knob which allows the manual movement.

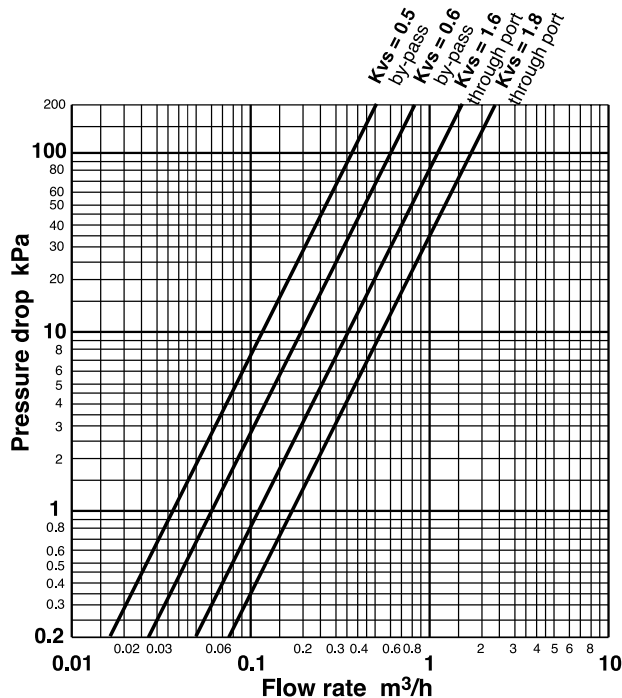
6. OVERALL DIMENSIONS



- 1 – Spindle
- 2 – Disk blocking pins
- 3 – Disk rotors
- 4 – O-Ring valve seal
- 5 – O-Rings spindle seal
- 6 – Valve body
- 7 – Pointer
- 8 – Actuator attachment lugs

Model	DN 1 inches	DN 2 inches	a mm	b mm	c mm	d mm	e mm	f mm	g mm
VDM 410	1/2"	3/8"	43	121	9	14	31.5	18	40
VDM 415	3/4"	1/2"	43	121	10	16.5	31.5	18	40

7. PRESSURE DROP



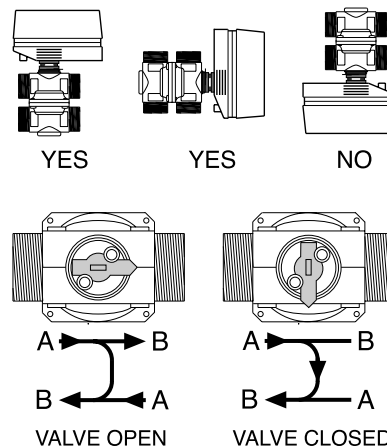
8. MOUNTING

8.1 Mounting of the valve

Before mounting the valve make sure that there is 'nt any extraneous matter in the pipework (remains of welding or threading). The pipework must no be subject to vibrations and must be perfectly aligned with the valve unions in order to avoid dangerous strains.

Important: to ensure the absence of let-by when closed, it is essential for the valve to be installed according to the flow direction of the fluid. Installation must be carried out so that the letters A and B, embossed on the valve body, appear as shown in the adjoining diagram.

The valve can be mounted in any position except with the spindle facing downwards. Leave enough space on the spindle side for the mounting of actuator (see section 6).



8.2 Installing the actuator on the valve

CDK actuator: by hand, set the valve in the closed position. Pull out the hand grip and then insert and push down the CDK actuator (factory setting: "Closed").

CDR actuator: by hand, set the valve in closed position. Pull out the hand grip and then, using a suitable tool, set the valve in the open position. Then insert and push down the CDR actuator (factory setting: "Open").

9. OPERATION

The valve operates with a 90° rotary movement.

The valve rotor comprises two appropriately-shaped ceramic disk which, when the valve is closed (and provided the valve has been correctly installed in respect of the flow direction A → B), ensures nil let-by.

The valve can be operated by hand, using the hand grip, or by the CDK and CDR actuators.

A mark on the valve spindle, also visible when the actuator is installed, indicates the position of the valve.

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