

3-PORT THREADED PN 16 (1 ... 120 °C) SEAT VALVES



VMV 3... Eng.

- **Body in bronze RG5**
- **Spindle in stainless steel; plug in brass**
- **Connections by male threaded unions ISO 228/1**
- **Control: throughport; control ratio 30:1**
- **Leakage rate:**
 - throughport = 0.05%
 - by pass = 0.1%Kvs

1. APPLICATION

The VMV 3 valves in bronze are used for controlling the flow of hot or chilled water in heating or air-handling sites. If mounted in the distributing circuit, they can control the temperature of domestic hot water.

They are operated by CLP36.. or CLQ 07.. linear actuators.

They can be used as mixer valves (two entrances and one exit - constant flow and variable temperature) or as by pass valves (one entrance and two exits - variable flow and constant temperature) according to to type of site in question.

Permitted fluids :

- Hot water max. 120 °C
- Chilled water min. 1 °C (max. 50% glycol)

2. OPERATION

The controlling element of the valve is an appropriately-machined plug which, operated by the linear movement of the actuator, diverts the flow between the always-open port and the two controlled ones.

The plug run varies between 2 ÷ 3.3 mm according to the diameter (see table).

Control: throughport.

3. MODELS

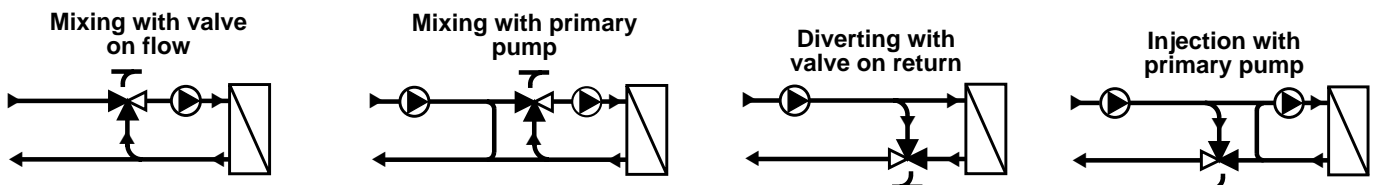
Code	DN body mm	DN valve connect.s	DN pipe connect.s	Kvs ⁽¹⁾ m ³ /h	Run mm	Suitable detector			
						CLP 36.. 90 s./mm		CLQ 07.. 14 s./mm	
						bar ⁽²⁾	sec ⁽³⁾	bar ⁽²⁾	sec ⁽³⁾
VMV 314	15	male 3/4"	male 1/2"	2.5	2	0.6	180	0.6	28
VMV 319	20	1"	3/4"	4.0	2.1	0.5	189	0.5	29
VMV 324	25	1"1/4	1"	6.3	2.6	0.3	234	0.3	36
VMV 330	32	1"1/2	1"1/4	10	3.1	0.2	279	0.2	43
VMV 338	40	2"	1"1/2	12	3.3	0.2	297	0.2	46

(1) : Kvs – Flow coefficient : flow in m³/h with open valve and pressure drop of 100 kPa. 100 kPa = 10 mWG = 1 bar

(2) : bar – Maximum pressure differential Δp max. permitted by actuator.

(3) : sec – Time necessary for actuator to make a complete run of the valve.

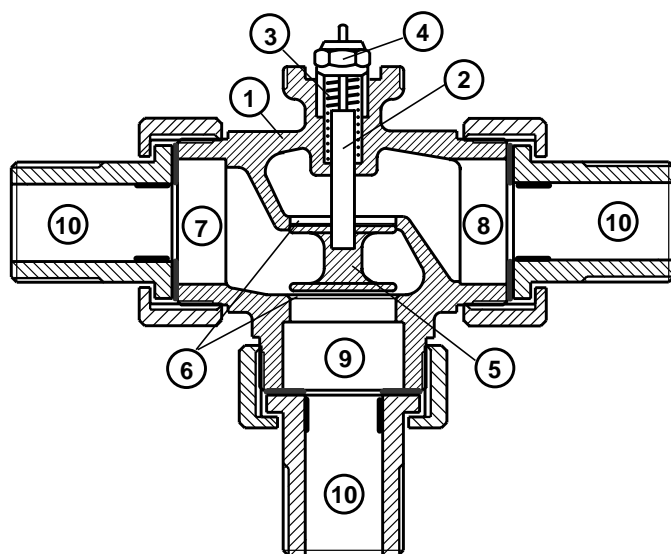
4. FUNCTIONAL DIAGRAMS



5. CONSTRUCTION

The body of the valve is in RG5 bronze, the spindle is in stainless steel whereas the plug is in brass. The spindle is rendered watertight by two O-Rings held between two cleaning rings in teflon. The whole thing is enclosed in a block which is easily replaceable.

At the top of the valve there is the thread that allows the mounting and fixing of the actuator (CLP/CLQ). The valves come with threaded male unions and seals.



- 1 – Valve body
- 2 – Spindle
- 3 – Spring return
- 4 – Sealing block
- 5 – Plug
- 6 – Seat
- 7 – Throughport
- 8 – Closure port
- 9 – By pass
- 10 – Unions

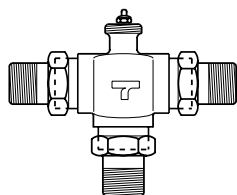
6. MOUNTING

Before mounting the valve ensure that in the pipework there is no extraneous matter such as residues from welding or threading. The pipework must not be subject to vibrations and must be perfectly aligned with the valve connections to avoid dangerous strains which could damage the valve.

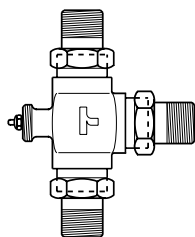
During installation pay special attention to the direction of the flow, embossed on the valve body, in relation to the hydraulic circuit controlled. The valve can be installed in any position but with the spindle pointed downwards.

When installing make sure you leave enough space for the mounting of the actuator on the spindle side.

YES



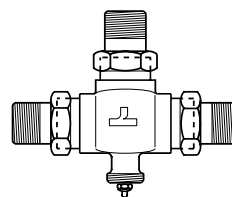
YES



YES



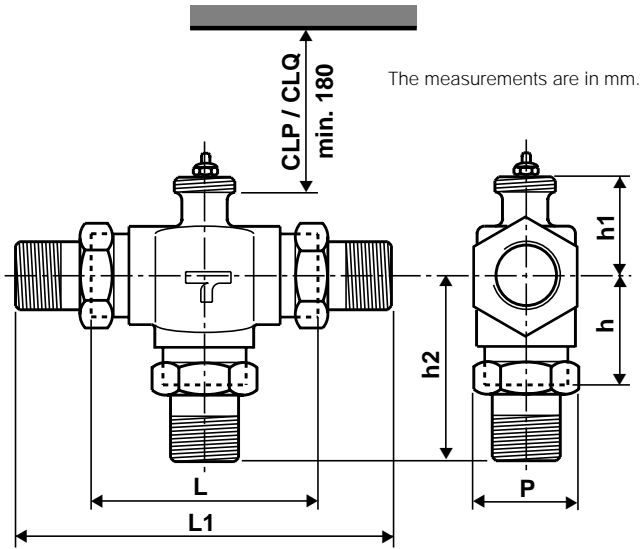
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7. TECHNICAL DATA

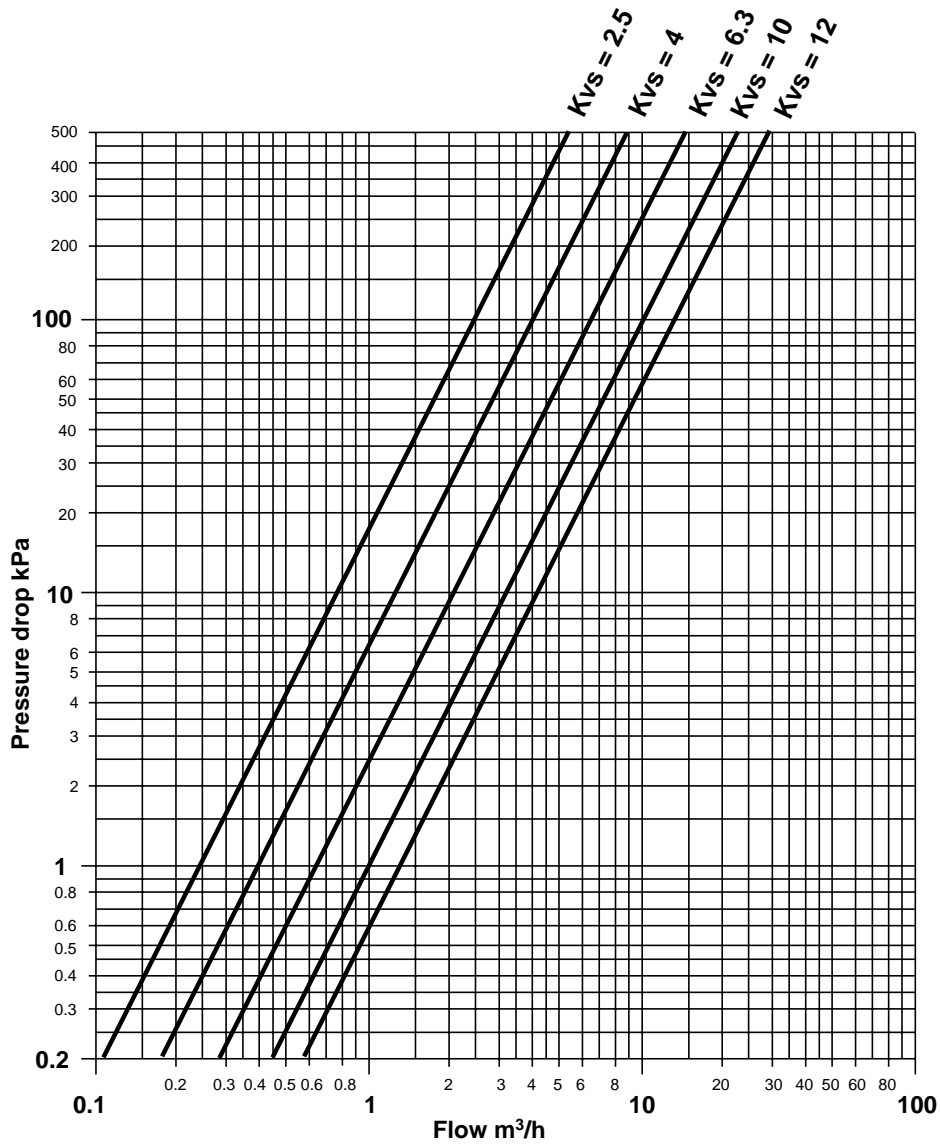
Valve body	RG5 bronze	Control feature	linear
Spindle	Stainless steel	Control ratio	30:1
Plug	brass	Leakage rate:	
Spindle seals	O-Ring	- throughport	0.05 % Kvs
Nominal pressure	16 bar (1600 kPa)	- by pass	0.1 % Kvs
Fluid temperature	1...120 °C	Connections	threaded male unions (ISO 228/1)
Run	2 ... 3.3 mm		

8. OVERALL DIMENSIONS



Model	L	L1	h	h1	h2	P
VMV 314	71	137	36	40	68.5	30
VMV 319	86	158	43	40	79.0	36
VMV 324	93	177	47	45	88.5	46
VMV 330	106	202	53	50	101	55
VMV 338	120	158	60	55	129	65

9. PRESSURE DROP



Kvs = Flow coefficient : Flow in m³/h with open valve and pressure drop of 100 kPa.
 100 kPa = 10 mWG = 1 bar



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