## **Mixing Valves**



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#### Function

3-way valves VM are normally open and can be used in combination with the thermostatic head TT 2351 as mixers for fixed point heating systems. The valve VM 650 is specifically intended for use in radiant panel heating systems. It works similarly to a 2-way thermostatic valve with an open bypass on the return from the radiant panel. The way B-AB is always open. The valve VM 652 can be used as a diverter or mixing valve in heating and air conditioning systems. It is available in normally open version: if the stem is not pressed, the direct passage AB-A is open and the bypass AB-B is closed.

VM valves feature:

- High Kvs values;
- a precise modulation thanks to the stroke and shape of the obturator, which can immediately open both the direct passage and the bypass, thus securing flow modulation all along the stroke;
- very low leakage even when used in systems with high differential pressure.

#### **Technical data**

Max. working pressure:	16 bar
Max. working temperature:	120 °C
Fluid temperature limits:	-20 ÷ +130 °C
Maximum allowed leakage with max $\Delta P$ :	0.05% of the Kvs for the straight passage 0.1% of the Kvs for the bypass
Working fluids:	water in compliance with UNI 8065:2019
Materials	
Valve body:	CW 617 N – DW UNI-EN 12165:2016
Obturator:	CW 614 N – UNI-EN 12164:2016
Stem:	AISI 303 stainless steel
Gaskets:	Peroxide cured EPDM

#### Surface treatment

Nickel-plating

#### **Dimensional Drawings**

#### VM 650

Thermostatic mixing valve with lateral mixing and third bypass way.

### VM 652

Thermostatic mixing valve with lateral mixing.



#### Function



VM650		VM652			
	MIXING VALVE		MIXING VALVE		DIVERTER VALVE
А	Inlet 1	А	Inlet 1	AB	Inlet
В	Inlet 2	В	Inlet 2	А	Outlet 1
AB	Mixed (bypass way B-AB)	AB	Mixed	В	Outlet 2
Flow Rate	1	Į		I	
	Kvs (m³/h)		Kvs (m³/h)		Kvs (m³/h)
	A - AB = 3.5		A - AB = 3.5		AB - A = 3.9
	B - AB = 2.6		B - AB = 2.6		AB - B = 2.8
	ΔP MAX (bar)		ΔP MAX (bar)		ΔP MAX (bar)

A - AB = 0.8	A - AB = 0.8	AB - A = 3.5
B - AB = -	B - AB = 1.8	AB - B = 1

#### VM 650

Thermostatic mixing valve with lateral mixing and third bypass way. Flow rate at 1 bar 4.7 m3/h. G 1" male connection in compliance with ISO 228/1. Equipped for thermostatic controls and axial servomotor with connection thread M30x1.5. Body in nickel-plated CW617N brass. Pin in stainless steel. RAL9016 white ABS protection cap. O-rings and gaskets in peroxide cured EPDM Working fluids: water and glycol solutions; max. percentage of glycol 30%. Max. working temperature 120 °C. Max. working pressure 16 bar.

#### VM 652

Thermostatic mixing valve with lateral mixing. Flow rate at 1 bar 3.5 m3/h. G 1" male connection in compliance with ISO 228/1. Equipped for thermostatic controls and axial servomotor with connection thread M30x1.5. Body in nickel-plated CW617N brass. Pin in stainless steel. RAL9016 white ABS protection cap. O-rings and gaskets in peroxide cured EPDM Working fluids: water and glycol solutions; max. percentage of glycol 30%. Max. working temperature 120 °C. Max. working pressure 16 bar.



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