



**VST and VMT are a series of 2- and 3-way valves used to control cold or hot water in climate-, heating- and ventilation systems.**

- \* Kvs 0,25 (DN15) up to kvs 6,3 (DN25)
- \* For water, even mixed with glycol ( Max. 50%)
- \* Temperature of media 2...95°C
- \* Pressure rating PN16
- \* Rangeability ratio 50:1
- \* For differential pressure up to 350 kPa

## Function

The control valves have a bronze body and seat, a stainless steel stem and double O-ring packing. The cone is made of a special plastic material which provides very tight sealing when the valve closes. The valves have linear characteristics for the flow from port B to AB and procentually increasing for port A to AB.

### Available in these models

- 2-way - VST, VSBT
- 3-way - VMT, VMBT

The valves have a built-in valve-spring which keeps the stem in the upper position when the actuator is not mounted.

### Function

The two-way valve is closed when the stem is in the upper position and completely open in the lower position.

The three-way valve is closed between port A and AB (those opposite each other) when the stem is in the upper position and at the same time open between the bottom port B and the common outgoing port AB. When the stem is in the lower position the three-way valve is completely open between port A and AB and consequently closed between the bottom port B and the common outgoing port AB.

### Sizes

The two-way and three-way valves are available in kvs-range from 0.25 up to 6.3. See the list of models overleaf.

### Installation

Mount the two-way valve with the arrow on the valve housing pointing in the direction of flow to ensure good tightening.

The three-way valve is of the mixing type and must therefore be mounted in the mixing position. It is also important that the three-way valve is mounted according to the flow direction markings on the valve.

### Typical applications

The valves are used to control hot and cold water in heating, ventilation and climate systems. They can even be used to control water mixed with glycol in liquid-connected exchanger systems.

### Valve actuators

The valves are controlled by actuator type MVT4 (3-point floating) or MVT5 (0 to 10V).

See leaflet MVT, 7-300 for choice of actuator.

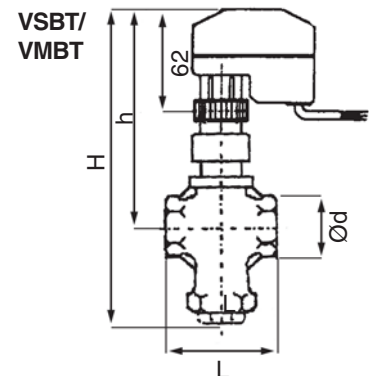
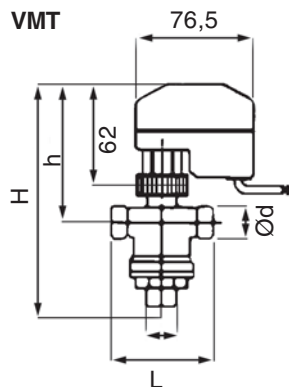
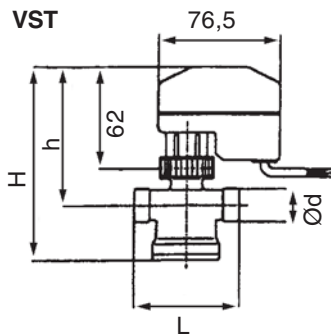
## Models

2-way valves				3-way valves			
Model	DN	kvs	Max diff. pres	Model	DN	kvs	Max diff. pres
VST 09	DN15	0,25	350 kPa	VMT 09	DN15	0,25	350 kPa
VST 10	DN15	0,40	350 kPa	VMT 10	DN15	0,40	350 kPa
VST 11	DN15	0,6	350 kPa	VMT 11	DN15	0,63	350 kPa
VST 12	DN15	1,0	350 kPa	VMT 12	DN15	1,0	350 kPa
VST 13	DN15	1,6	350 kPa	VMT 13	DN15	1,6	350 kPa
VST 1	DN15	2,5	350 kPa	VMT 1	DN15	2,5	350 kPa
VST 2	DN20	4,0	250 kPa	VMT 2	DN20	4,0	250 kPa
VSBT3	DN25	6,3	170 kPa	VMBT3	DN25	6,3	170 kPa

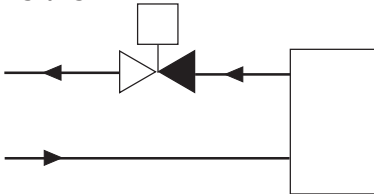
## Technical data

Pressure rating	PN16 (1,6 MPa)	Temperature of media	2...95°C (VSBT/VMBT: 5...95°C)
Connection	Outside thread, see table below	Max diff. pressure	See above models
Flow characteristic	2-way Equal percentage 3-way Linear	Material	Housing Cast iron (VSBT3 and VMBT3) Brass (remaining models)
Rangeability ratio	50:1	Stem	Stainless steel
Stroke	5.5 mm	Plug	RILSAN, covered with IXEF
Leakage	2-way 0.01%, 3-way 0.1%	Seat	Brass
Media	Warm or cold water. Also water mixed with glycol (Max 50%)	Sealing	BUNA N, double sealing rings

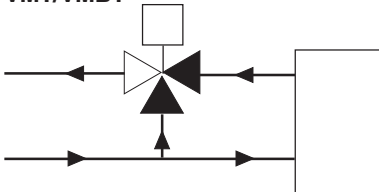
## Application, dimension and valve-size diagram



### Two-way VST/VSBT



### Three-way VMT/VMBT



### Mounting position

The valve is to be mounted with the stem upwards or to the side. It must not be mounted with the stem downwards. In applications with high media temperature the valve should be mounted with the stem in a horizontal position to avoid heating the valve actuator.

Valve	Ød	L	H	h
VMT09,10,11,12,13,1	1/2"	66	142	85
VMT2	3/4"	77	147	88
VMBT3*	3/4"	85	242	163
VST09,10,11,12,13,1	1/2"	66	124	85
VST2	3/4"	87	136	106
VSBT3*	3/4"	65	230	163

\*N.B. Internal thread

Dimensions are in mm unless otherwise stated.

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