



# ZMD2/ZMD3

2- and 3-way externally threaded control valve



Externally threaded control valves intended for use in heating and cooling systems together with the RVAZ4... series of electromechanical actuators.

- ✓ Size DN15...DN40
- ✓ Kvs value 0.25...25
- ✓ Media temperature 2...110°C
- ✓ Pressure rating PN16
- ✓ Rangeability >50:1
- ✓ Supplied complete with pipe fittings

## Function

### 2-way valve

The valve is open when the stem is in its lowest position and closed when the stem is in its upmost position.

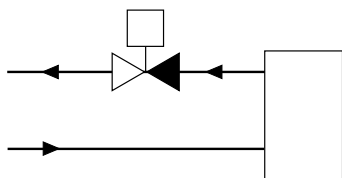


Fig. 1 2-way valve

### 3-way valve

The 3-way valve is closed between port A and port AB (the ports opposite to one another) when the stem is in its highest position. In this position, the valve is also open between the bottom port B and the common supply port AB. When the stem is in its lowest position, the 3-way valve is completely open between port A and port AB and

consequently closed between the bottom port B and the common port AB.

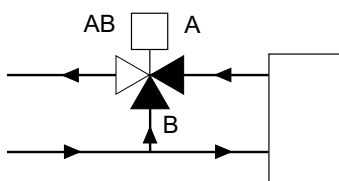


Fig. 2 3-way valve

## Installation

The valves are delivered with screw joints that enables the valve to be quickly and easily installed in any suitable appliance. A hand wheel, which can be used to manually control the valve before an actuator has been mounted, is also part of the delivery.

Inlet ports are designated by letters A and B, while the outlet port is designated by AB.

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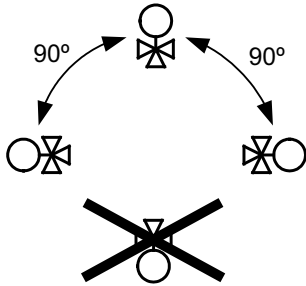
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ZMD2/ZMD3

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- ✓ Before installation of the control valve, ensure that the pipe is clean. Make sure that pipe scale, metal chips, welding slag and other foreign materials are removed.
- ✓ For maximum efficiency and minimum wear, install the valve in a vertical position with the stem pointing upward. If the valve is mounted with the actuator on the side, more wear is caused to the valve stuffing box. The valve should never be mounted at an angle of more than 90°.



- ✓ Install the valve according to the fluid direction arrow shown on the valve.
- ✓ Make sure there is ample space above the valve to facilitate easy removal of the valve actuator.
- ✓ Fit a strainer/filter upstream of the valve to prolong the equipment's life span.
- ✓ A water quality according to VDI 2035 is recommended.

## Technical data

<b>Application</b>	Heating systems, cooling systems, fan-coil units, ventilation systems
<b>Pressure rating</b>	PN16
<b>Connection</b>	BSP externally threaded according to ISO 228/1
<b>Flow characteristics</b>	Linear
<b>Max. leakage</b>	0.0 % of kvs
<b>Media</b>	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
<b>Media temperature</b>	2...110 °C
<b>Rangeability</b>	50:1
<b>Stroke</b>	5.5 mm

## Material

<b>Body</b>	Brass CW614N
<b>Seat</b>	Brass CW614N
<b>Plug</b>	Brass CW614N
<b>Stem</b>	Stainless steel 1.4305
<b>Seat packing</b>	EPDM
<b>O-rings</b>	EPDM

## Material, connections

<b>Nut</b>	Malleable cast iron, galvanized
<b>Nipple</b>	Dezincification resistant brass CW511L(DN15-DN20)
<b>Fitting seal</b>	Tesnit BA-U, Nitrile bonded aramid fibre with graphite
<b>Cover lid</b>	Dezincification resistant brass CW511L

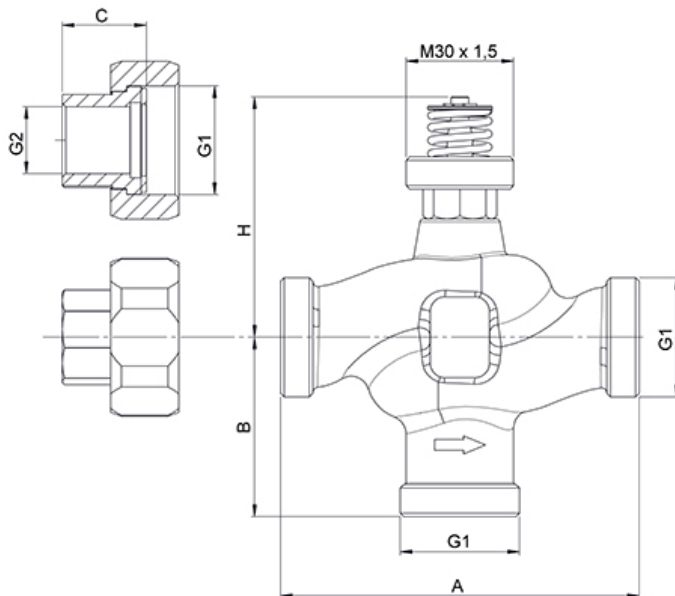
## Models, 2-way valves

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator
ZMD215-0.25	DN15	0.25	400 kPa	RVAZ4
ZMD215-0.4	DN15	0.4	400 kPa	RVAZ4
ZMD215-0.6	DN15	0.6	400 kPa	RVAZ4
ZMD215-1.0	DN15	1.0	400 kPa	RVAZ4
ZMD215-1.6	DN15	1.6	400 kPa	RVAZ4
ZMD215-2.5	DN15	2.5	400 kPa	RVAZ4
ZMD215-4.0	DN15	4.0	400 kPa	RVAZ4
ZMD220-6.3	DN20	6.3	350 kPa	RVAZ4
ZMD225-10	DN25	10	200 kPa	RVAZ4
ZMD232-16	DN32	16	130 kPa	RVAZ4
ZMD240-25	DN40	25	60 kPa	RVAZ4

## Models, 3-way valves

Article	Nominal diameter	Kvs	Max. diff. pressure	Actuator
ZMD315-0.25	DN15	0.25	400 kPa	RVAZ4
ZMD315-0.4	DN15	0.4	400 kPa	RVAZ4
ZMD315-0.6	DN15	0.6	400 kPa	RVAZ4
ZMD315-1.0	DN15	1.0	400 kPa	RVAZ4
ZMD315-1.6	DN15	1.6	400 kPa	RVAZ4
ZMD315-2.5	DN15	2.5	400 kPa	RVAZ4
ZMD315-4.0	DN15	4.0	400 kPa	RVAZ4
ZMD320-6.3	DN20	6.3	350 kPa	RVAZ4
ZMD325-10	DN25	10	200 kPa	RVAZ4
ZMD332-16	DN32	16	130 kPa	RVAZ4
ZMD340-25	DN40	25	60 kPa	RVAZ4

## Dimensions



[mm]

DN	A	B	H	G1	G2	C
15	100	50	67	G 1"	G ½"	23.5
20	100	50	67	G 1¼"	G ¾"	23.5
25	105	52.5	69	G 1½"	G 1"	27
32	105	52.5	72	G 2"	G 1¼"	32
40	130	65	76	G 2¼"	G 1½"	33.5

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— 4 —

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# Pressure drop diagram

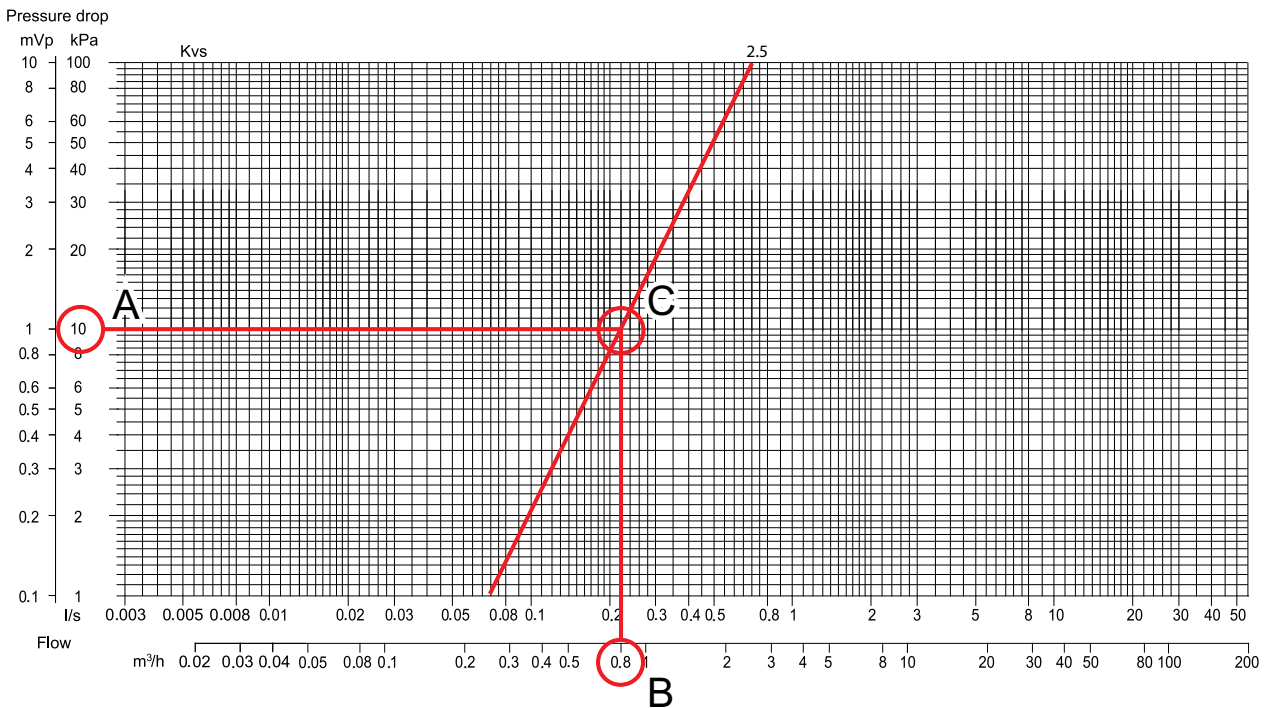
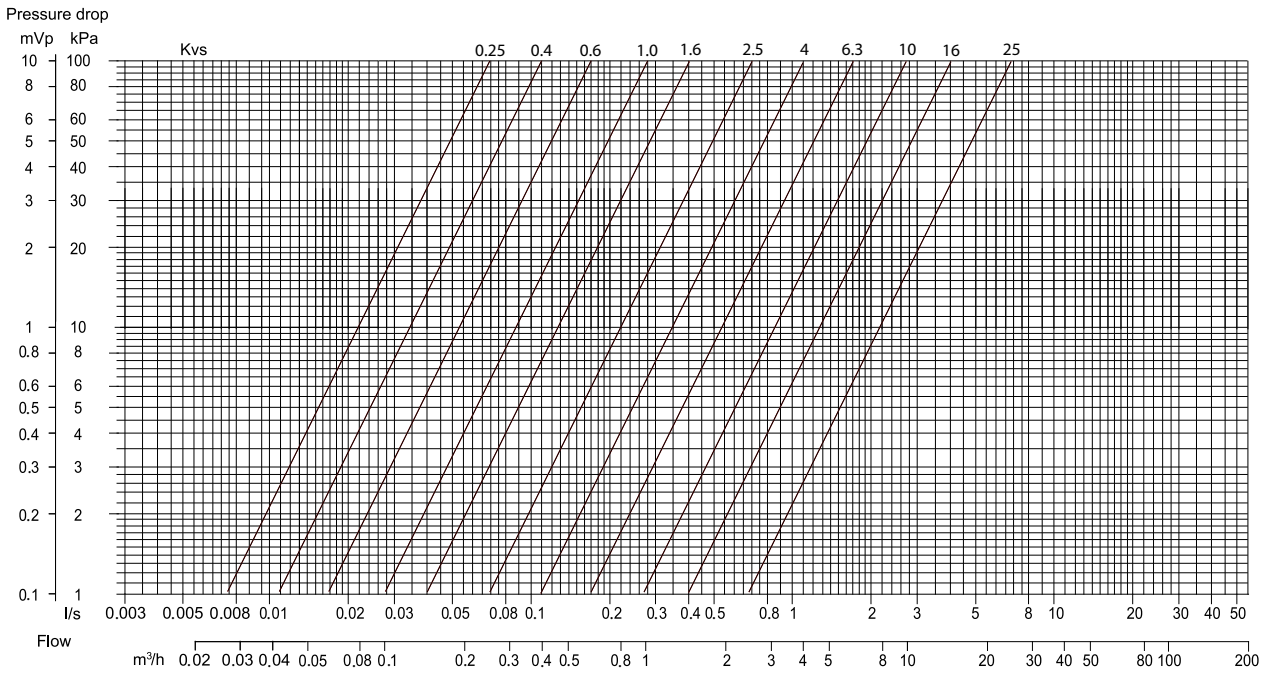


Fig. 3 Example of calculation of kv value: If the pressure is 10kPa (A) and the flow is 0.8 m³/h, the kv value is 2.5 (C). See the markings in the picture above.

## Documentation

All documentation can be downloaded from [www.regincontrols.com](http://www.regincontrols.com).