



## VFBF2/VFBF3

Internally threaded 2- and 3-way control valves

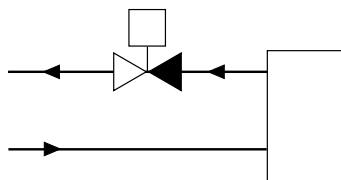
Valves designed for control of hot, cold or glycol-mixed water in heating and ventilation systems. The valves are intended for use together with Industrietechnik's SE5.../SE10... actuators.

- Size DN15...DN50
- Kvs value 0,63...40
- Media temperature -5...+140°C
- Pressure rating PN16
- Rangeability 100:1

### Function

#### 2-WAY VALVE

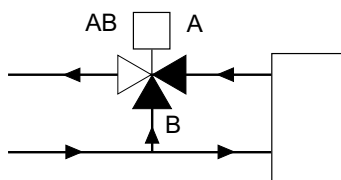
Stem in the lower position, the valve is open between the ports A - AB. Stem in the upper position, the valve is closed between the ports A - AB.



2-WAY VALVE

#### 3-WAY VALVE

Stem in the lower position, the valve is open between the A - AB and closed between the ports B - AB. Stem in the upper position, the valve is closed between the ports A - AB and open between B - AB.



3-WAY VALVE

### Installation

The 2-way valve should be mounted with port A on the inlet and port AB on the return (flow direction A in, AB out) to ensure that the plug closes tightly and to prevent any noise when closing. The 3-way valve is of a mixing type and must therefore be mounted in the mixing point.

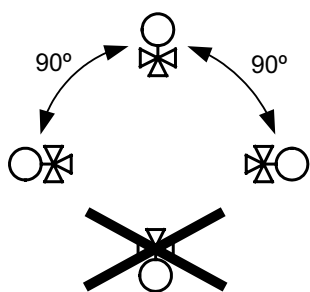
- Before installation of the control valve, ensure that the pipe is clean. Make sure that pipe scale, metal chips, welding slag and other foreign materials are removed.
- For maximum efficiency and minimum wear, install the valve in a vertical position with the stem pointing upward. If the valve is mounted 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°.

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- 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, ventilation systems
<b>Pressure rating</b>	PN16
<b>Connection</b>	BSP internally threaded according to ISO 228/1
<b>Flow characteristics</b>	A - AB = equal percentage, B - AB = linear
<b>Max. leakage</b>	0.1 % of kvs
<b>Media</b>	Hot water, cold water, glycol-mixed water (max. 50 % glycol)
<b>Media temperature</b>	-5...140 °C
<b>Rangeability</b>	100:1
<b>Stroke</b>	20 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>Packing box</b>	Brass CW614N
<b>O-rings</b>	EPDM

## 2-way valves

Article	Nominal diameter	Kvs
VFBF215-0.63	DN15	0.63 m <sup>3</sup> /h
VFBF215-1.0	DN15	1.0 m <sup>3</sup> /h
VFBF215-1.6	DN15	1.6 m <sup>3</sup> /h
VFBF215-2.1	DN15	2.1 m <sup>3</sup> /h
VFBF215-2.7	DN15	2.7 m <sup>3</sup> /h
VFBF220-4.2	DN20	4.2 m <sup>3</sup> /h
VFBF220-5.6	DN20	5.6 m <sup>3</sup> /h
VFBF225-10	DN25	10 m <sup>3</sup> /h
VFBF232-16	DN32	16 m <sup>3</sup> /h
VFBF240-25	DN40	25 m <sup>3</sup> /h
VFBF250-40	DN50	40 m <sup>3</sup> /h

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## 3-way valves

Article	Nominal diameter	Kvs
VFBF315-0.63	DN15	0.63 m <sup>3</sup> /h
VFBF315-1.0	DN15	1.0 m <sup>3</sup> /h
VFBF315-1.6	DN15	1.6 m <sup>3</sup> /h
VFBF315-2.1	DN15	2.1 m <sup>3</sup> /h
VFBF315-2.7	DN15	2.7 m <sup>3</sup> /h
VFBF320-4.2	DN20	4.2 m <sup>3</sup> /h
VFBF320-5.6	DN20	5.6 m <sup>3</sup> /h
VFBF325-10	DN25	10 m <sup>3</sup> /h
VFBF332-16	DN32	16 m <sup>3</sup> /h
VFBF340-25	DN40	25 m <sup>3</sup> /h
VFBF350-40	DN50	40 m <sup>3</sup> /h

## Combination options (valves and actuators) and differential pressure

Type	$\Delta P_s$ (SE5...)	$\Delta P_{max}$ (SE5...)	$\Delta P_s$ (SE10...)	$\Delta P_{max}$ (SE10...)
VFBF215-0.63	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF215-1.0	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF215-1.6	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF215-2.1	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF215-2.7	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF220-4.2	1000 kPa	600 kPa	1600 kPa	600 kPa
VFBF220-5.6	1000 kPa	600 kPa	1600 kPa	600 kPa
VFBF225-10	600 kPa	500 kPa	1400 kPa	500 kPa
VFBF232-16	400 kPa	400 kPa	800 kPa	450 kPa
VFBF240-25	300 kPa	300 kPa	600 kPa	400 kPa
VFBF250-40	200 kPa	200 kPa	400 kPa	300 kPa
VFBF315-0.63	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF315-1.0	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF315-1.6	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF315-2.1	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF315-2.7	1600 kPa	700 kPa	1600 kPa	700 kPa
VFBF320-4.2	1000 kPa	600 kPa	1600 kPa	600 kPa
VFBF320-5.6	1000 kPa	600 kPa	1600 kPa	600 kPa
VFBF325-10	600 kPa	500 kPa	1400 kPa	500 kPa
VFBF332-16	400 kPa	400 kPa	800 kPa	450 kPa
VFBF340-25	300 kPa	300 kPa	600 kPa	400 kPa
VFBF350-40	200 kPa	200 kPa	400 kPa	300 kPa

$\Delta P_s$  constitutes the max. permitted differential pressure at which the valve actuator can safely close against the pressure.

$\Delta P_{max}$  constitutes the max. permitted differential pressure over the flow path of the valve for the entire actuating range of the actuator (i.e. open valve)

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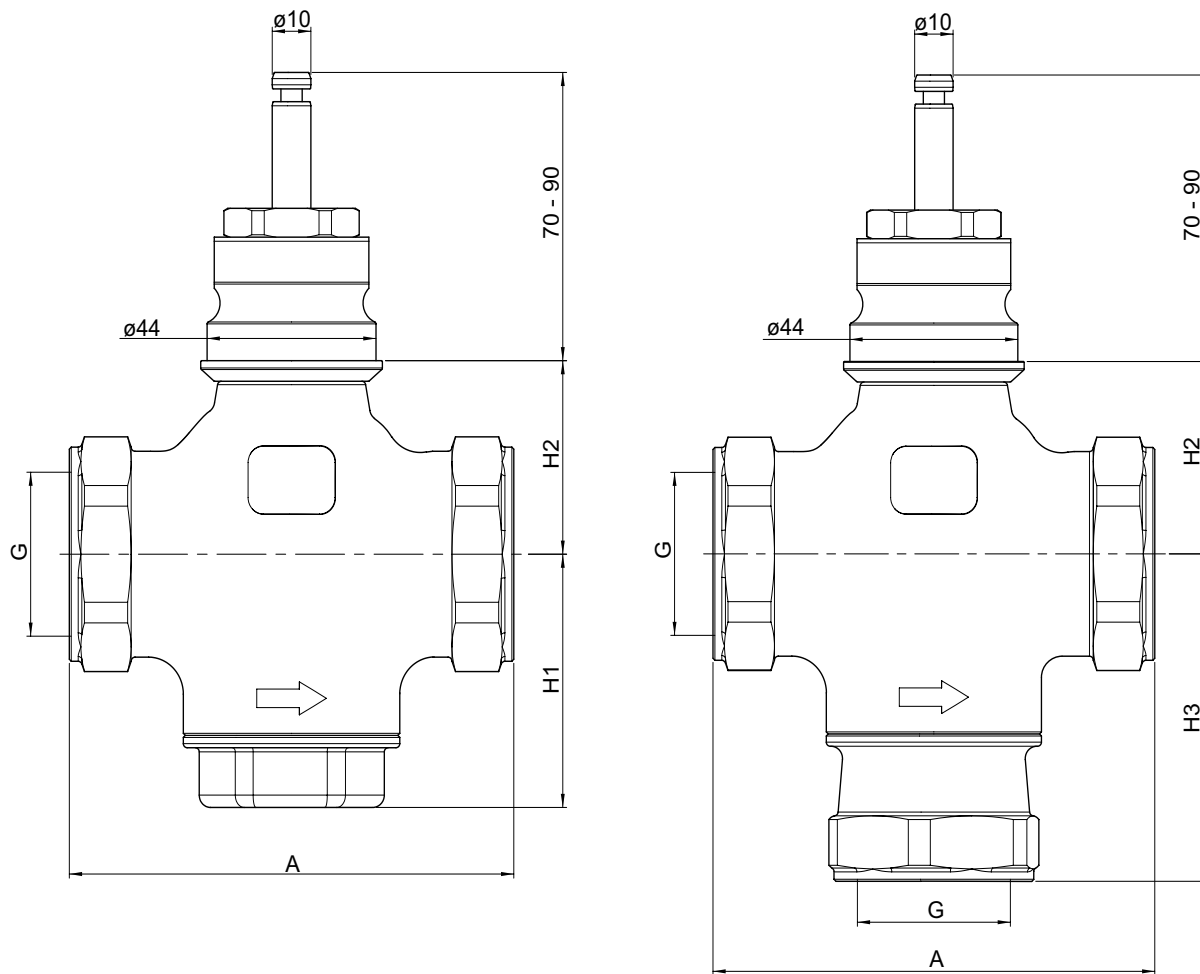
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# Dimensions



Nominal diameter	A	H1	H2	H3	G	Stroke
DN15	70	55	39	70	G 1/2"	20
DN20	80	55	39	70	G 3/4"	20
DN25	90	55	45	70	G 1"	20
DN32	115	62	47	80	G 1 1/4"	20
DN40	130	65	55	80	G 1 1/2"	20
DN50	160	67	61	95	G 2"	20

Measurements in mm unless otherwise specified.

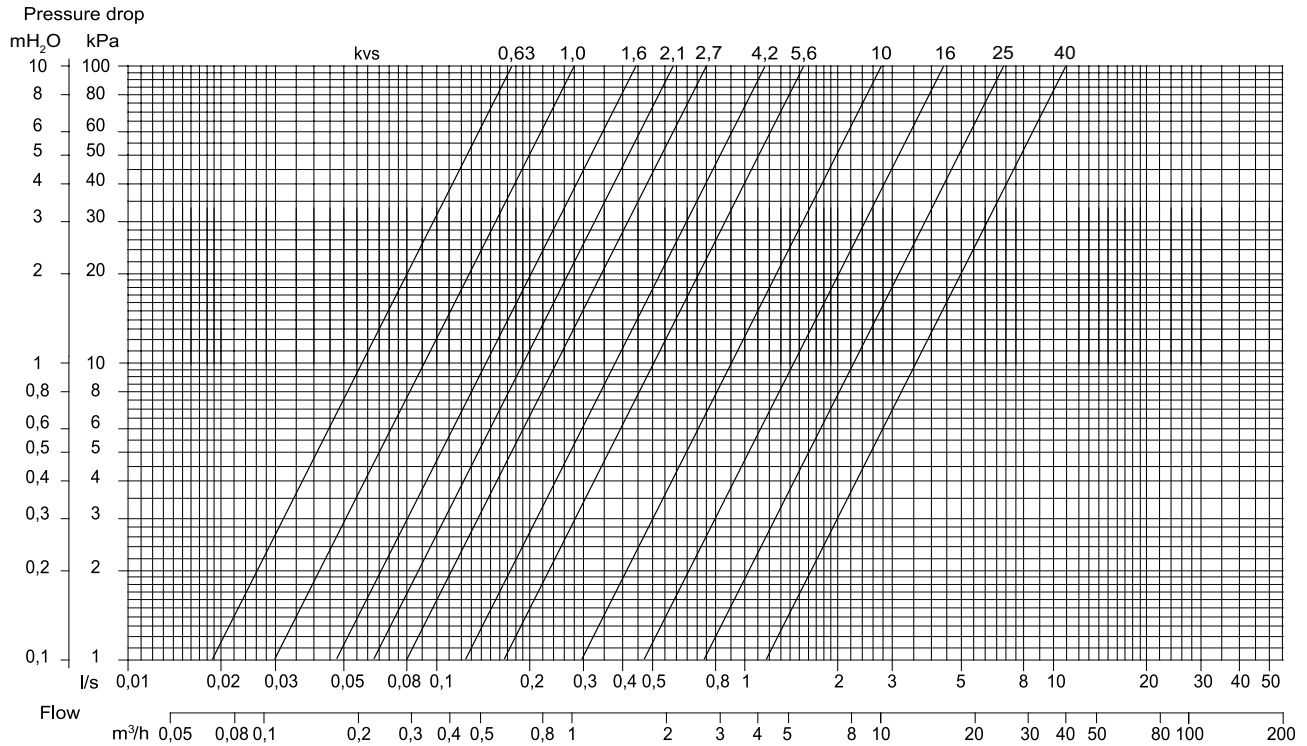
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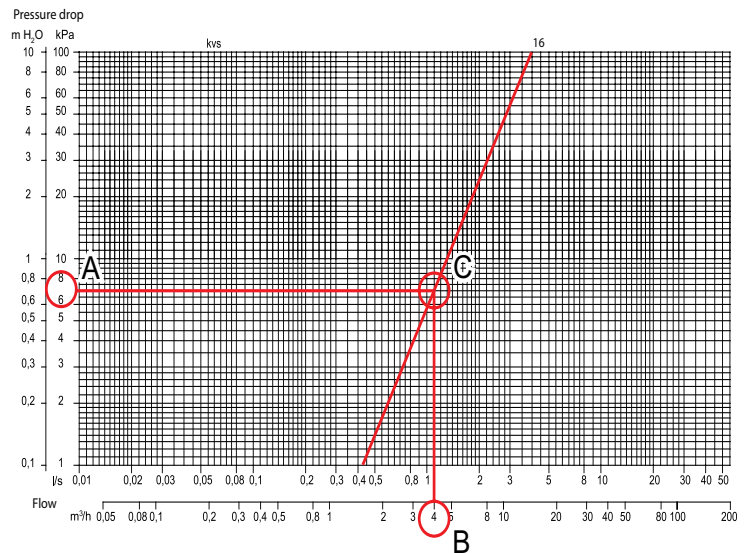
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## Pressure drop curves



### EXAMPLE: CALCULATION OF KV VALUE

If the pressure drop is 7 kPa (A) and the flow is 4 m<sup>3</sup>/h (B), a valve with the kvs value 16 (C) is preferably selected. See the markings in the picture to the right.



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