

V32 und V42: Small straight-way valves

The 3-way valves of the type V32 without bypass and V42 with bypass serve for the regulation of heating and cooling systems. They are ideally appropriate for the use with thermo-electric actuators for the energy-efficient single room control in the area of building services and automation.

The valve body made of cast brass, the spindle made of nickel-plated brass, and the cones with soft seal made of EPDM for control passage and mixing passage, in conjunction with compression glands with O-ring sealing, allow a leakproof operation of these high-quality valves. Combined with thermal actuators, the control passage (A-AB) is closed and the mixing passage (B-AB) is opened by pressing in the spindle. Resetting is performed by the force of the spring in the valve. Combined with actuators of the design "normally closed" the control passage of the valve is closed in case of a voltage breakdown.



V32



V42

1.1 Features

- Nominal pressure 16 bar
- Nominal width DN10 to DN20
- Characteristic curve in the control passage: On/Off, almost linear
- Characteristic curve in the mixing passage: On/Off, almost linear
- Standard variant flat sealing
- The valve is closed when the spindle is pressed in
- Application as mixing valve (application as distribution valve inadmissible)
- Valve with exterior thread according to DIN EN ISO 228-1 class B
- Valve body made of cast brass
- Spindle made of nickel-plated brass
- Cone with soft seal of EPDM
- Compression gland with O-ring sealing
- Linear mixing load

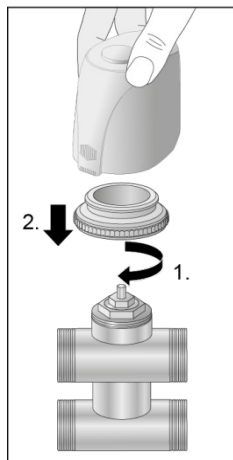
1.2 Variants

The V32 and V42 valves are available in different variants with different connections and K_{vs} values:

V32 valves (3-ways)								
Type	Nominal width DN	K_{vs} value (in m ³ /h)	Travel (in mm)	Connections	Sealing type	Max. differential pressure at 100 N (in bar)	Weight (in g)	Order No.
V32 20101-01N	10	1.0	3	G1/2B	flat sealing	2.5	300	126789
V32 20151-11N	15	2.5	3	G3/4B	flat sealing	1.8	330	126790
V32 20201-01N	20	4.5	3	G1B	flat sealing	1.0	360	126791

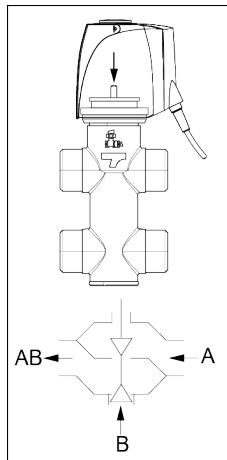
V42 valves (3-ways with bypass)								
Type	Nominal width DN	K_{vs} value (in m ³ /h)	Travel (in mm)	Connections	Sealing type	Max. differential pressure at 100 N (in bar)	Weight (in g)	Order No.
V42 20101-21N	10	0.63	3	G1/2B	flat sealing	2.5	380	126794
V42 20101-11N	10	1.0	3	G1/2B	flat sealing	2.5	380	126793
V42 20101-01N	10	1.6	3	G1/2B	flat sealing	2.5	420	126792
V42 20151-11N	15	2.5	3	G3/4B	flat sealing	1.8	420	126796
V42 20151-01N	15	3.5	3	G3/4B	flat sealing	1.8	420	126795
V42 20201-01N	20	4.5	3	G1B	flat sealing	1.0	500	126797

2 Preparation, installation and function



The installation of the thermal actuator is very comfortable; neither tools nor big forces are necessary for this:

1. The adapter of the actuator is screwed onto the V32 resp. V42 valve.
2. In continuation, the actuator is simply plugged onto the valve; it is now ready to use.



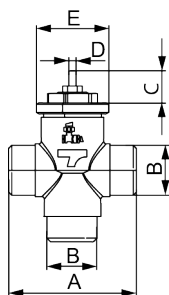
The control passage (A-AB) is closed and the mixing passage (B-AB) is opened by pressing in the spindle. Resetting is performed by the force of the spring in the valve.

Combined with actuators of the design "normally closed" the control passage of the valve is closed and the mixing passage is opened in case of a voltage breakdown.

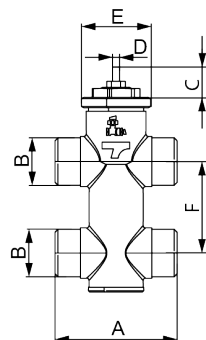
3 Technical data

Thread type	Exterior thread according to DIN EN ISO 228-1 class B	
Nominal pressure	PN 16	
max. operating pressure	16 bar (up to 120°C)	
admissible operating temperature	2 to 120°C	
Characteristic curve	linear	
Valve travel	3 mm / 4 mm (see section 1.2 Ausführungen)	
Leakage rate A-AB	approx. 0.0001% of k_{VS}	
Leakage rate B-AB	approx. 0.1% of k_{VS}	
Material	Valve body	Brass
	Spindle	Nickel-plated brass
	Soft seal	EPDM (ethylene-propylene-diene rubber)

3.1 Dimensions



	V32 20101-01N	V32 20151-11N	V32 20201-01N
A	52 mm	56 mm	65 mm
B	G 1/2 B	G 3/4 B	G 1 B
C	11.5 mm	11.5 mm	11.5 mm
D	3 mm	3 mm	3 mm
E	M30 x 1.5	M30 x 1.5	M30 x 1.5



	V42 20101-21N	V42 20101-11N	V42 20101-01N	V42 20151-11N	V42 20151-01N	V42 20201-01N
A	52 mm	52 mm	52 mm	56 mm	56 mm	65 mm
B	G 1/2 B	G 1/2 B	G 1/2 B	G 3/4 B	G 3/4 B	G 1 B
C	11.5 mm	11.5 mm	11.5 mm	11.5 mm	11.5 mm	11.5 mm
D	3 mm	3 mm	3 mm	3 mm	3 mm	3 mm
E	M30 x 1.5	M30 x 1.5	M30 x 1.5	M30 x 1.5	M30 x 1.5	M30 x 1.5
F	40 mm	40 mm	40 mm	40 mm	40 mm	50 mm

4 Planning and installation notes

The K_{VS} value in the mixing passage is not reduced and corresponds to the K_{VS} value of the through passage. The thermal actuator can be mounted in any position. In order to prevent interfering flow noise in quiet rooms, the pressure difference across the valve must not exceed 0.6 bar.

In order to ensure that impurities in the water (e. g. welding beads or particles of rust, etc.) are retained and the spindle seal is not damaged, it is advisable to install collective filters, e. g. per floor or per section. The water composition requirements apply according to VDI 2035. The compression gland can only be exchanged if the valve is free from pressure. The compression gland is sealed against the medium with a seal. The medium contains cooling agent as e. g. glycol; min. 16% and max. 40%.

If the small valve is insulated, it may only be insulated up to the height of the cap nut or the bayonet ring of the actuator.

Pressure loss table for V32/42 valves

