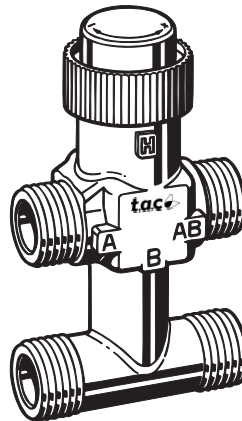
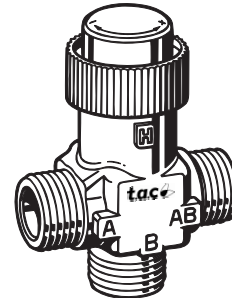


VZ22



VZ42



VZ32

These small linear valves are used for the control of hot and/or chilled water for fan coil units, small reheaters/coolers in electric/electronic temperature control systems.

The valves are used together with actuators MZ18 or MZ10.

TECHNICAL DATA

Valve types

Two-way valve	VZ22
Three-way valve	VZ32
Three-way with bypass	VZ42
Part number	see next page
Capacity index	see next page
Nominal pressure rating	PN16 (232 psi)
Flow characteristics	Equal percentage port A-AB
.....	Linear for bypass B-AB

Rangeability

Two-way valve	50:1
Three-way valve	50:1 for controlled port
Leakage rate	< 0.02% of kv
Connections	External tread

Suitable medium Water according to VDI 2035
max. 50% glycol

Controlled water temperature 2 to 120 °C (36 to 248 °F)

Material

Valve body	DN15 yellow brass
.....	DN20 red brass
Stem	Stainless steel
Plug	Brass

Function

Two-way valve	stem up to open port A to B
Three-way valve	stem up to close port A to AB
Stroke	6.5 mm (0.26 in.)
Dimensions	see page 4

PART NUMBERS

Flow Capacities and Close off Pressure Ratings

Two-way valves, VZ22

DN	in.	Valve		TAC Part no.	Close-Off Pressure with Actuators			
		k_{VS}	c_V		MZ18A,MZ18B,MZ18L; 180 N (40 lbf)		MZ10T; 96 N (22 lbf)	
					kPa	(psi)	kPa	(psi)
15	½"	0.16	0.19	721-0702	1600	(232)	600	(87)
15	½"	0.25	0.29	721-0706	1600	(232)	600	(87)
15	½"	0.40	0.47	721-0710	1600	(232)	600	(87)
15	½"	0.63	0.74	721-0714	1600	(232)	600	(87)
15	½"	1.00	1.17	721-0718	1200	(174)	180	(26)
15	½"	1.6	1.9	721-0722	1200	(174)	180	(26)
20	¾"	2.5	2.9	721-0726	400	(58)	50*	(7.3)
20	¾"	4.0	4.7	721-0730	400	(58)	50*	(7.3)

*Up to 1000 kPa (145 psi) system pressure.

Three-way valves, VZ32

DN	in.	Valve				TAC Part no.	Close-Off Pressure with Actuators			
		A-AB		B-AB			MZ18A,MZ18B,MZ18L; 180 N (40 lbf)		MZ10T; 96 N (22 lbf)	
		k _{VS}	c _V	k _{VS}	c _V		kPa	(psi)	kPa	(psi)
15	½"	0.25	0.29	0.16	0.19	731-0706	800	(116)	500	(73)
15	½"	0.40	0.47	0.25	0.29	731-0710	800	(116)	500	(73)
15	½"	0.63	0.74	0.40	0.47	731-0714	800	(116)	500	(73)
15	½"	1.00	1.17	0.63	0.74	731-0718	250	(36)	150	(22)
15	½"	1.6	1.9	1.00	1.17	731-0722	250	(36)	150	(22)
20	¾"	2.5	2.9	1.6	1.9	731-0726	240	(35)	-	
20	¾"	4.0	4.7	2.5	2.9	731-0730	240	(35)	-	
20	¾"	2.5	2.9	1.6	1.9	731-0727	100	(15)	50	(7.3)
20	¾"	4.0	4.7	2.5	2.9	731-0731	100	(15)	50	(7.3)

Three-way valves with bypass, VZ42

Valve							Close-Off Pressure with Actuators			
DN	in.	A-AB		B-AB		TAC Part no.	MZ18A,MZ18B,MZ18L; 180 N (40 lbf)		MZ10T; 96 N (22 lbf)	
		k _{VS}	c _V	k _{VS}	c _V		kPa	(psi)	kPa	(psi)
15	½"	0.25	0.29	0.16	0.19	741-0706	800	(116)	500	(73)
15	½"	0.40	0.47	0.25	0.29	741-0710	800	(116)	500	(73)
15	½"	0.63	0.74	0.40	0.47	741-0714	800	(116)	500	(73)
15	½"	1.00	1.17	0.63	0.74	741-0718	250	(36)	150	(22)
15	½"	1.6	1.9	1.00	1.17	741-0722	250	(36)	150	(22)
20	¾"	2.5	2.9	1.6	1.9	741-0726	240	(35)	-	
20	¾"	4.0	4.7	2.5	2.9	741-0730	240	(35)	-	

FUNCTION

A built-in return spring in the two-way valve produces an opening force.

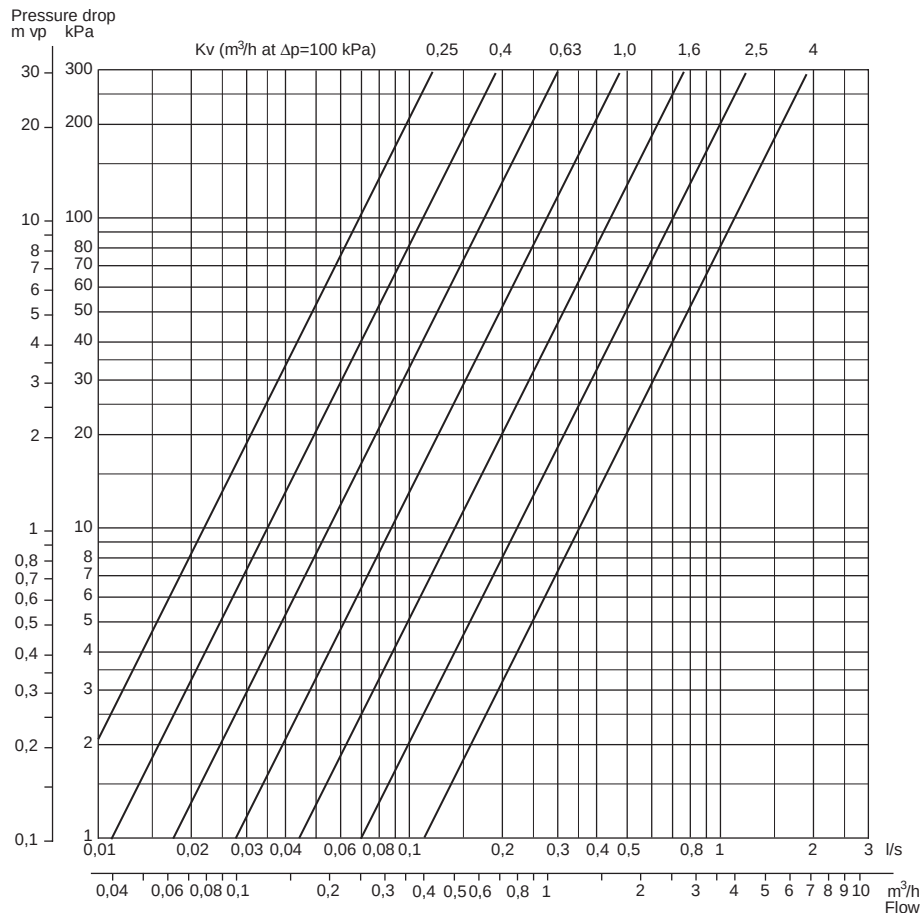
In the three-way valve and the three-way valve with bypass, the spring produces a closing force on the A to AB ports.

The valves are supplied with a screwed-on adjustment cap for manual operation and for protection of the stem.

Soft seat provides low leakage rate and high rangeability

Valve inserts changeable without draining by using special tools.

PRESSURE DROP DIAGRAM



MOUNTING

When installing the valve care must be taken that the flow direction is correct (see Typical Operation). The valve must not be mounted with the stem pointing downward.

Two-way valves

Direction of flow always from port A to port B.

The adjustment cap must be removed from the valve only when the actuator is fitted. The valve should be installed as stress-free as possible with a tightening torque of 25 to 30 Nm (18 to 22 lbf-ft).

All types of valves should preferably be mounted in the return flow. If the Δp -values exceed 60 kPa (8.7 psi), attention should be paid to the development of noise.

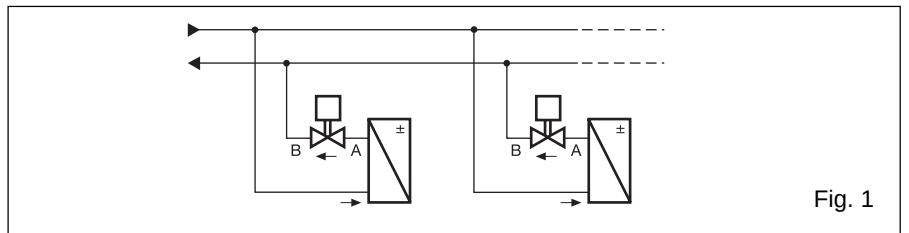


Fig. 1

Three-way valves

The valves are preferably to be used as mixing valves, this means:

Port AB: Total flow outlet

Port A: Controlled flow inlet

Port B: Bypass inlet

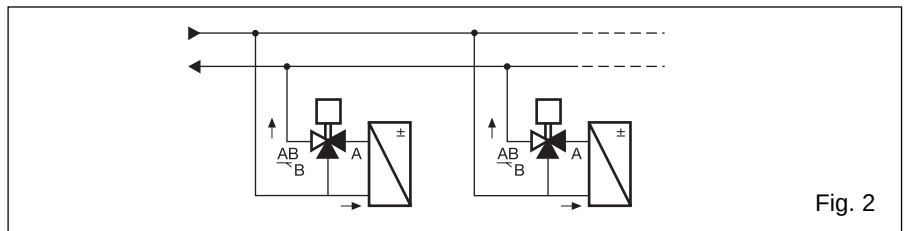


Fig. 2

Three-way valves with integral bypass

These valves simplify the installation, depending on the layout of the pipework, as the bypass pipe is an integral part of the valve. The information given above for normal three-way valves is also valid for this type of three-way valve.

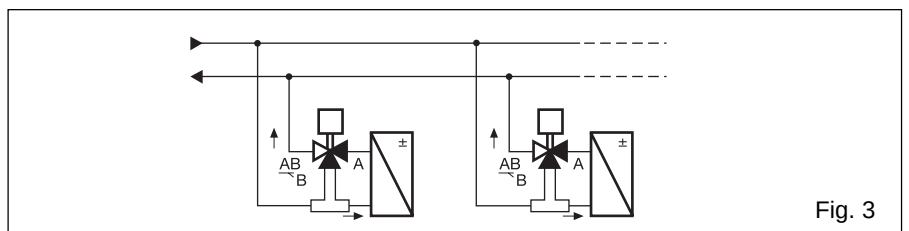
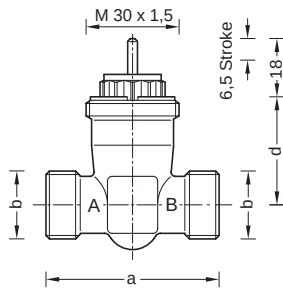


Fig. 3

DIMENSIONS

Two-way valve VZ22

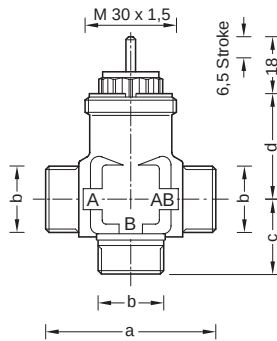


Allow 130 mm (5.2 in.) for the actuator and clearance for removal.

Dimensions in mm.

	a	b	d
DN15	56	G ½"	34
DN20	66	G ¾"	33

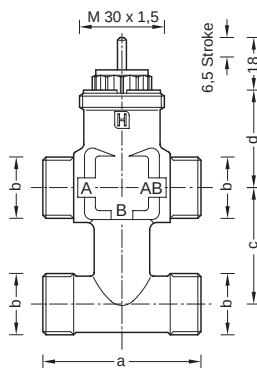
Three-way valve VZ32



Allow 130 mm (5.2 in.) for the actuator and clearance for removal.

	a	b	c	d
DN15	56	G ½"	24.5	34
DN20	66	G ¾"	33	33

Three-way valve with integral bypass VZ42



Allow 130 mm (5.2 in.) for the actuator and clearance for removal.

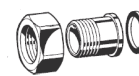
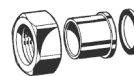
	a	b	c	d
DN15	56	G ½"	40	34
DN20	66	G ¾"	40	33

Fig. 4

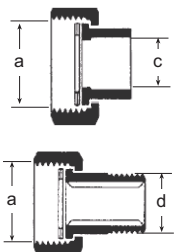
ACCESSORIES

For valves VZ22 **two** connection sets are necessary, for valves VZ32 **three** and for valves VZ42 **four** connection sets. Each set consists of 1 union nut, 1 solder bush (soldering) or tailpiece (external thread), and 1 gasket.

Soldering
conn. set



Ext thread
conn. set



Connection type	Pipe size	DN	a	c mm (in.)	d	Part number
Soldering	15 mm (0.59 in.)	15 (½")	G ½"	12 (0.47)	-	911-2076
Soldering	22 mm (0.87 in.)	20 (¾")	G ¾"	15 (0.59)	-	911-2077
External – Thread	R 3/8"	15 (½")	G ½"	-	R 3/8"	911-2078
	R ½"	20 (¾")	G ¾"	-	R ½"	911-2079