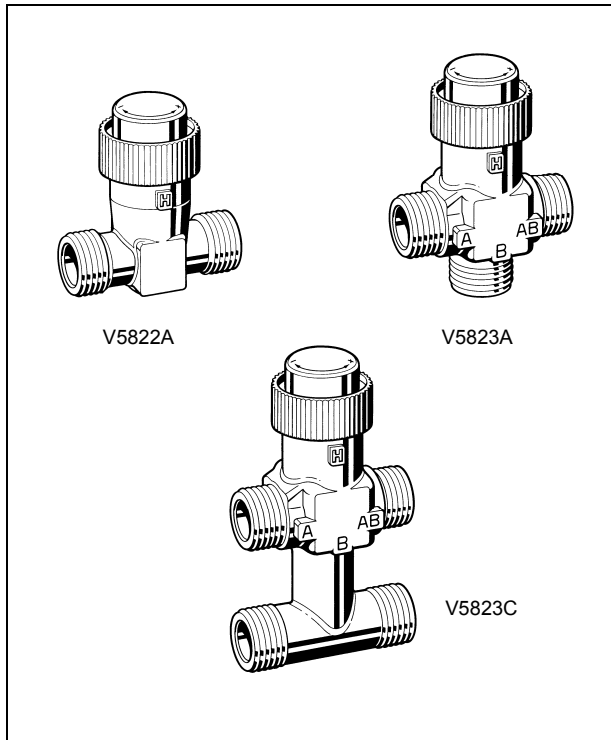


V5822A / 5823A,C

SMALL LINEAR VALVES PN16

FOR MODULATING AND ON/OFF-CONTROL

SPECIFICATION DATA



GENERAL

These small linear valves are used in combination with small electric linear valve actuators and thermoelectric actuators for the control of hot and/or chilled water for fan coil units and small reheaters/recoolers in electric/electronic temperature control systems.

FEATURES

- Small size allows installation where space is limited
- Range of fittings available for different connections (compression, soldered, threaded)
- Long stroke results in a high-quality characteristic
- Soft seat provides low leakage rate and high rangeability
- Reduced k_{VS} values in the bypass to facilitate hydronic balancing
- Adjustment cap for manual operation
- Valve inserts changeable without draining by using insert replacement tool WV 108
- Compatible with two-piece conex compression fittings
- Conical sealing connections
- Flat surfaces on body to fit installation tools
- 40 mm distance between ports A/AB and the bypass (V5823C, only)

SPECIFICATIONS

Models	Two-way V5822A Three-way V5823A Three-way with bypass V5823C
Operation	Two-way stem up to open, port A to B; Three-way stem up to close, port A to AB
Nominal pressure rating	PN16
Capacity index (k_{VS})	see tables on page 2 and 3
Leakage rate	$\leq 0.02\%$ of k_{VS}
Valve body	
Material	Brass
Size	DN15 (1/2"), DN20 (3/4")
Trim	
Stem	Stainless steel
Plug	Brass
Suitable medium	Water, with max. 50% glycol
Controlled water temperature	2...120 °C

Modulating valves	
Rangeability	
Two-way valves	100:1
Three-way valves	100:1 for controlled port
Flow characteristic	Equal percentage port A-AB, $n_{gr}=3.4$, linear for bypass port B-AB
Stroke	6.5 mm
On/Off valves	
Stroke	2.5 mm
Dimensions	see Fig. 4 on page 5

FLOW CAPACITIES AND CLOSE OFF PRESSURE RATINGS TWO-WAY VALVES

Valve			Close-Off Pressure (kPa) with Actuators		
DN	k_{vs}	Order Number	M6410C,L / M7410C,E (180 N)	MT8 (90 N)	MT4 / M7410A (90 N)
15	0.16	V5822A1006	1600	600	-
15	0.25	V5822A1014	1600	600	-
15	0.40	V5822A1022	1600	600	-
15	0.63	V5822A1030	1600	600	-
15	1.00	V5822A1048	1200	180	-
15	1.60	V5822A1055	1200	180	-
20	2.50	V5822A1063	400	50*	-
20	4.00	V5822A1071	400	50*	-
15	1.60	V5822A4000**	1200	180	180
20	2.50	V5822A4018**	400	50*	50*

*Up to 1000kPa system pressure. **In the case of on/off control, the stroke amounts to 2.5 mm.

THREE-WAY VALVES

Valve			Close-Off Pressure (kPa) with Actuators		
DN	k_{vs}	Order Number	M6410C,L / M7410C,E (180 N)	MT8 (90 N)	MT4 / M7410A (90 N)
15	0.25	V5823A2003	800	500	-
15	0.40	V5823A2011	800	500	-
15	0.63	V5823A2029	800	500	-
15	1.00	V5823A2037	250	150	-
15	1.60	V5823A2045	250	150	-
20	2.50	V5823A2151	240	-	-
20	2.50	V5823A2052	100	50	-
20	4.00	V5823A2169	240	-	-
20	4.00	V5823A2060	100	50	-
15	1.60	V5823A4009*	250	150	150
20	2.50	V5823A4017*	100	50	50

*In the case of on/off control, the stroke amounts to 2.5 mm.

THREE-WAY VALVES WITH BYPASS

Valve				Close-Off Pressure (kPa) with Actuators		
DN	k _{VS} A-AB	k _{VS} B-AB	Order Number	M6410C,L / M7410C,E (180 N)	MT8 (90 N)	MT4 / M7410A (90 N)
15	0.25	0.16	V5823C2009	800	500	-
15	0.40	0.25	V5823C2017	800	500	-
15	0.63	0.40	V5823C2025	800	500	-
15	1.00	0.63	V5823C2033	250	150	-
15	1.60	1.00	V5823C2041	250	150	-
20	2.50	1.60	V5823C2058	100	50	-
20	2.50	1.60	V5823C2157	240	-	-
20	4.00	2.50	V5823C2066	100	50	-
20	4.00	2.50	V5823C2165	240	-	-
15	1.60	1.60	V5823C4005*	250	150	150
20	2.50	2.50	V5823C4013*	100	50	50

*In the case of on/off control, the stroke amounts to 2.5 mm.

OPERATION

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. This allows the stem to be set up for filling or initial heating/cooling during the building construction phase without the use of a controller or actuator.

The small electric valve actuators as well as the thermoelectric actuators provide automatic control over the opening and closing movement of the valve stem.

TYPICAL OPERATION

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

Two-Way Valves

Direction of flow always from port A to port B
Port B: Outlet

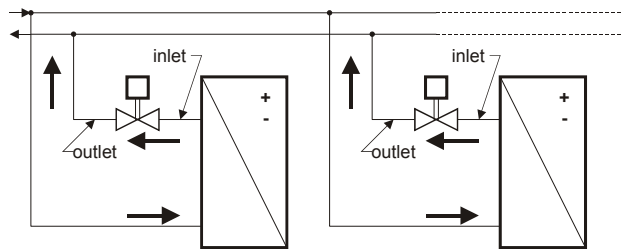


Fig. 1. Two-way valve operation

Three-Way Valves

These valves are preferably used as mixing valves, this means:

- Port AB: Total flow outlet
- Port A: Controlled flow inlet
- Port B: Bypass inlet

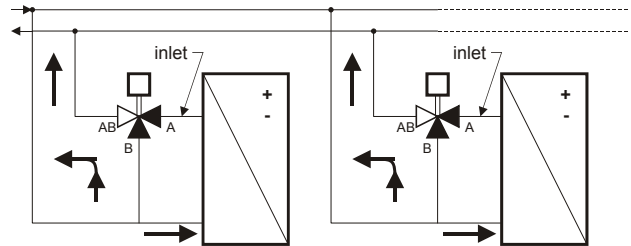


Fig. 2. Three-way valve operation

Three-Way Valves with Bypass

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

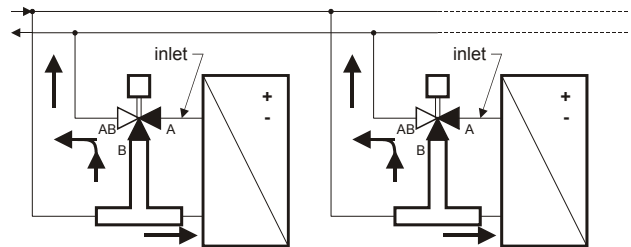


Fig. 3. Three-way valve with bypass

MOUNTING

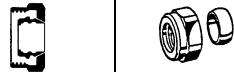



When installing the valve, care must be taken that the flow direction is correct (see section "**Typical Operation**"). The valve must not be mounted with the stem pointing downward.

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.

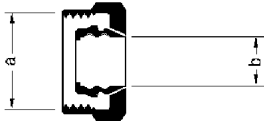
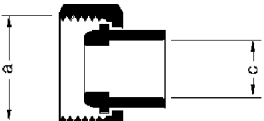
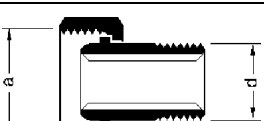
The valve is supplied complete with mounting instructions. The water quality must meet VDI 2035 requirements.

ACCESSORIES

For valves V5822A, two connection sets are necessary; for valves V5823A, three connection sets are necessary; for valves V5823C, four connection sets are necessary.

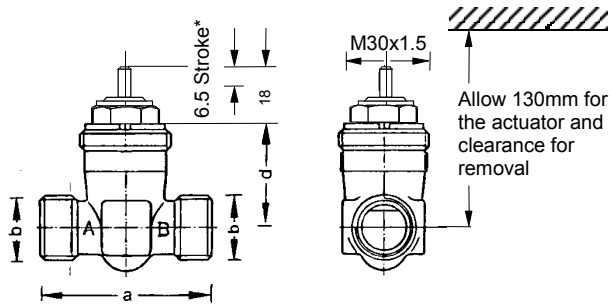
Connection	Pipe Size	DN	Order Number	Connection Set		Description
Compression	15 mm 22 mm	15 20	ACN-15C ACN-20C			Consisting of 1 union nut and 1 ferrule
Soldering	12 mm 15 mm	15 20	ACN-15S ACN-20S			Consisting of 1 union nut and 1 solder bush
External Thread	R3/8" R1/2"	15 20	ACN-15T ACN-20T			Consisting of 1 union nut and 1 tailpiece
Compression (Conex)	15 mm 22 mm	15 20	63* 65*			Capnut and compression ring

*Cannot be purchased from Honeywell

Dimensions of Connection Sets					Order Number
	a	b	c	d	
	G1/2" 11/8" x 14 BS 84	15 mm 22 mm			ACN-15C ACN-20C
	G1/2" 11/8" x 14 BS 84		12mm 15mm		ACN-15S ACN-20S
	G1/2" 11/8" x 14 BS 84			R3/8" R1/2"	ACN-15T ACN-20T

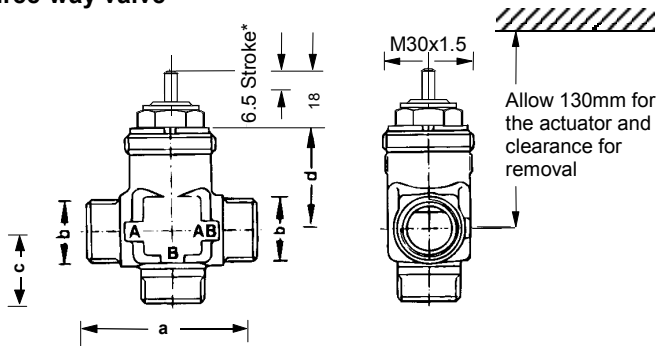
DIMENSIONS

Two-way valve



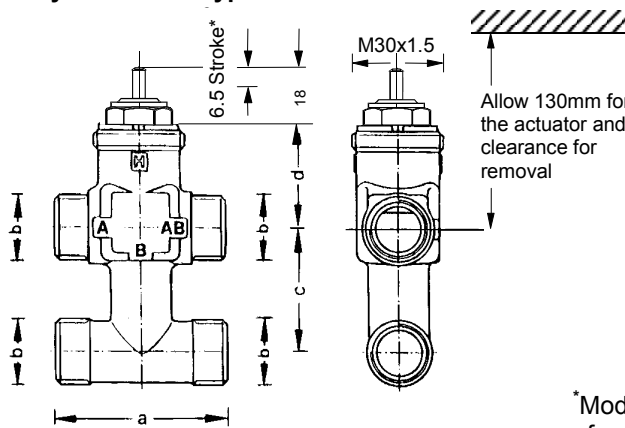
	a	b	d
DN15	56	G1/2A	34
DN20	66	1 1/8"x14BS 84	33

Three-way valve



	a	b	c	d
DN15	56	G1/2A	26	34
DN20	66	1 1/8"x14BS 84	33	33

Three-way valve with bypass



	a	b	c	d
DN15	56	G1/2A	40	34
DN20	66	1 1/8"x14BS 84	40	33

*Modulating valves, only (in the case of on/off valves, the stroke amounts to 2.5 mm and the closure distance to 14 mm).

Fig. 4. Dimensions V5822A / V5823A,C in mm

SPARE PARTS

Valve inserts are provided as spare parts for the V5822A and V5823A,C small linear valves. When the tool WV 108 is used, the valve inserts can be changed without draining the system.

Order Number	DN	k _{VS}	Order Number Valve Insert
V5822A1006	15	0.16	0902812
V5822A1014	15	0.25	0902811
V5822A1022	15	0.40	0902810
V5822A1030	15	0.63	0902809
V5822A1048	15	1.00	0902808
V5822A1055	15	1.60	0902807
V5822A1063	20	2.50	0902814
V5822A1071	20	4.00	0902815
V5822A4000*	15	1.60	0902813
V5822A4018*	20	2.50	0902816

* For on/off control

Order Number	DN	k _{VS}	Order Number Valve Insert
V5823A2003 / V5823C2009	15	0.25	0902821
V5823A2014 / V5823C2017	15	0.40	0902822
V5823A2029 / V5823C2025	15	0.63	0902823
V5823A2037 / V5823C2033	15	1.00	0902824
V5823A2045 / V5823C2041	15	1.60	0902825
V5823A2151 / V5823C2058	20	2.50	0902826
V5823A2052 / V5823C2157	20	2.50	0902818
V5823A2169 / V5823C2066	20	4.00	0902827
V5823A2060 / V5823C2165	20	4.00	0902819
V5823A4009* / V5823C4005*	15	1.60	0902817
V5823A4017* / V5823C4013*	20	2.50	0902820

* For on/off control

The following valve inserts are interchangeable

- Two-way valves: k_{VS} 0.16, 0.25, 0.40, and 0.63
k_{VS} 1.0 and 1.6
k_{VS} 2.5 and 4.0
- Three-way valves: k_{VS} 0.25, 0.40, 0.63, and 1.0
k_{VS} 2.5 and 4.0

Honeywell

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