

Centra VDE-C

2-Way Small Linear Valve PN 25 - Pressure Balanced

Application

Single-seated 2-way valves for modulating control of hot/chilled water in heating, ventilating and air conditioning systems.

These valves are designed especially for flow control in hydraulic systems with high temperatures and pressures, such as district heating systems. It can also be used in combination with 300 N actuators (MSHF/MSLF/MSLM), 400 N actuators (ML6435 and ML7430/35) and 500 N actuator (MMLYC050).

Because of the pressure-balanced plug, the close-off pressure is equal to the system pressure.

In combination with dedicated actuators the VDE-C-SV safety linear valves are approved according DIN EN 14597 and marked with CE0035 e.g. for district heating application.

Special Features

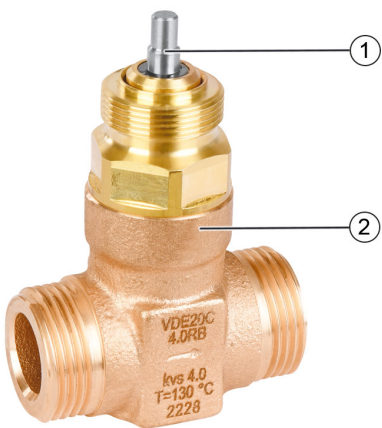
- Pressure-balanced
- Supplied with manual adjustment cap for start-up
- Small size
- Threaded and welded connection sets
- Low seat leakage rate
- Metal-to-metal seating for long life span
- Easy mounting of actuator via standard M30 x 1,5 screw connection
- Special versions are approved according to DIN EN 14597 in combination with dedicated actuators



Technical Data

Medium		
Medium:	Water with max. 50 % glycol according to VDI 2035	
Operating temperature		
DN 15 - DN 32:	2...130 °C	max. 2500 kPa
Connection/Sizes		
Valve size:	DN 15 - DN 32	
Actuator:	M30 x 1.5 mm	
Specifications		
Model:	2-Way Valve	
Action:	Stem up to close	
Stroke:	6.5 mm	
Rangeability:	50:1	
Nominal pressure rating:	PN 25	
Leakage rate:	≤0.05 % of kvs	
Port connection:	Flat sealing	

Construction

Overview		Components	Materials
	1	Stem	Stainless steel
	2	Valve body	Red bronze
			External thread per ISO 228-1
		Not depicted components:	
		Seat	Stainless steel
		Plug	Stainless steel EPDM seals

Method of Operation

VDE-C are available in four sizes, from DN 15 through DN 32. This description refers to size DN 25.

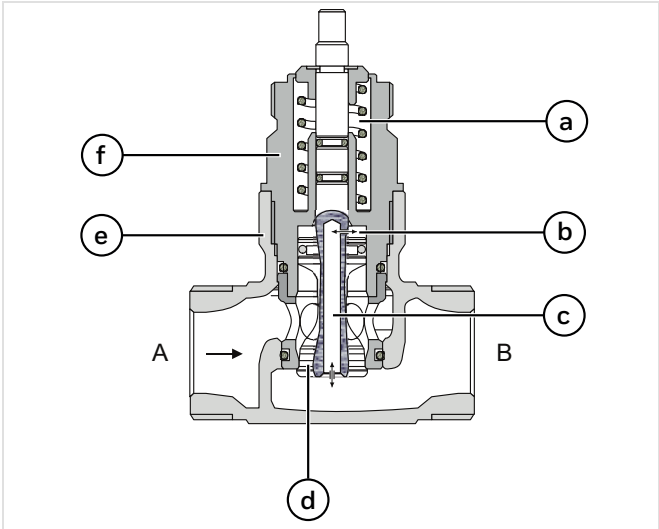
A built-in return spring ^a produces the closing force on the port A to port B. The valve is supplied with a screwed-on valve cap for manual operation and for protection of the system.

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

The medium flows through the valve from port A to port B, in the direction of the arrow mark on the valve body.

The flow rate is limited by the setting of the valve plug ^d, which is positioned either using the manually adjustable valve cap or by an actuator. Maximum stroke means maximum flow rate.

In order to be able to close precisely against high pressure differences, the valve compensates pressure differences by means of a cone stem boring ^c connecting to a compensation chamber ^b.



- 1 Return spring
- 2 Compensation chamber
- 3 Cone stem boring
- 4 Valve plug
- 5 Valve body
- 6 Valve insert

Installation Guidelines

Setup requirements

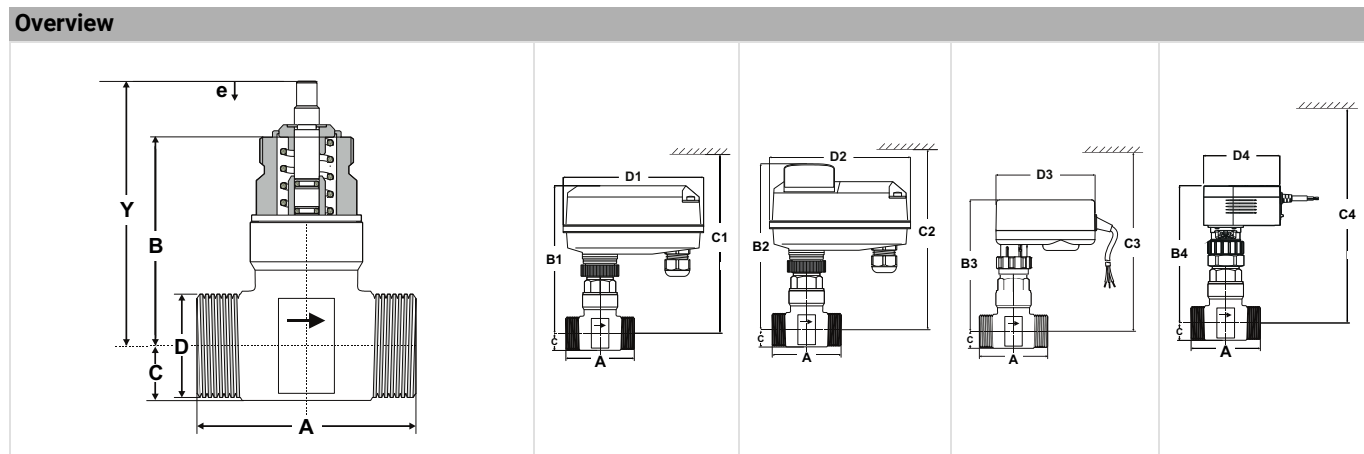
- When installing the valve, ensure that the flow direction corresponds with the arrow direction on the valve body
- The valve must not be mounted with the stem pointing below the horizontal
- Welded flat connection sets or flat connection sets with external thread are available
- The installation of a strainer is strongly recommended; in district heating systems, it is obligatory
- Water hammer have to be avoided
- The valve has to be installed stress-free
- For pressure test, the valve (with actuator) must be open
- The adjustment cap must be removed from the valve only when an actuator is fitted
- The water must not contain more than 50 % glycol according to VDI 2035 requirements

Technical Characteristics

Close off pressure ratings in kPa

Actuator		Valve Size			
Model	Force	DN 15	DN 20	DN 25	DN 32
MSHF-B030 MSLF-B030 MSLM-B030	300 N	1600 kPa	1600 kPa	1600 kPa	1600 kPa
ML6435B ML7430E ML7435E	400 N	2500 kPa	2500 kPa	2500 kPa	2500 kPa
MMLYC050	500 N	2500 kPa	2500 kPa	2500 kPa	2500 kPa

Dimensions



DN	D	A	B	C	Adjustment dimension (Valve in closed position)	Stroke e	ML7435E ML6435B			ML7430E			MSHF-B030 MSLF-B030 MSLM-B030			MMLYC050		
					Y		B1	C1	D1	B2	C2	D2	B3	C3	D3	B4	C4	D4
DN 15	G ³ / ₄ "	65	59	18	77	6.5	140	220	126	156	236	126	122	222	100	173	323	122
DN 20	G1"	70	67	18	85		148	228	126	164	244	126	130	230	100	181	331	122
DN 25	G1 ¹ / ₄ "	75	69	23	87		150	230	126	166	246	126	132	232	100	183	333	122
DN 32	G1 ¹ / ₂ "	100	89	25	107		170	250	126	186	266	126	152	252	100	203	353	122

Note: All dimensions in mm unless stated otherwise.

Ordering Information

The following tables contain all the information you need to make an order of an item of your choice.

Naming key linear valves

VD	E	15	C	0.25	RB	- SV
Type of valve	Type of thread	DN	PN	k _{VS} -value	Special (optional)	Special (optional)
VD= 2-Way Small Linear Valve	E = External	15 20 25 32	C = 25	0.25 0.4 0.63 1.0 1.6 2.5 4.0 6.3 10	RB= Red Bronze/ Pressure balanced	SV = Safety valve

Options

2-Way Small Linear Valves

DN	k _{VS} -value	Connection	Nominal pressure	Description	Item No.
DN 15	0.25	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 0.25	VDE15C0.25RB
DN 15	0.4	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 0.4	VDE15C0.4RB
DN 15	0.63	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 0.63	VDE15C0.63RB
DN 15	1.0	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 1.0	VDE15C1.0RB
DN 15	1.6	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 1.6	VDE15C1.6RB
DN 20	2.5	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 20, PN 25, k _{VS} 2.5	VDE20C2.5RB
DN 20	4.0	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 20, PN 25, k _{VS} 4.0	VDE20C4.0RB
DN 25	6.3	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 25, PN 25, k _{VS} 6.3	VDE25C6.3RB
DN 32	10	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 32, PN 25, k _{VS} 10	VDE32C10RB

2-Way Small Linear Valves - Safety Valves according to DIN EN 14597

DN	k _{VS} -value	Connection	Nominal pressure	Description	Item No.
DN 15	0.25	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 0.25, SV	VDE15C0.25RB-SV
DN 15	0.4	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 0.4, SV	VDE15C0.4RB-SV
DN 15	0.63	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 0.63, SV	VDE15C0.63RB-SV
DN 15	1.0	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 1.0, SV	VDE15C1.0RB-SV
DN 15	1.6	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 15, PN 25, k _{VS} 1.6, SV	VDE15C1.6RB-SV
DN 20	2.5	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 20, PN 25, k _{VS} 2.5, SV	VDE20C2.5RB-SV
DN 20	4.0	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 20, PN 25, k _{VS} 4.0, SV	VDE20C4.0RB-SV
DN 25	6.3	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 25, PN 25, k _{VS} 6.3, SV	VDE25C6.3RB-SV
DN 32	10	external thread	PN 25	2-Way Small Linear Valve, external thread, DN 32, PN 25, k _{VS} 10, SV	VDE32C10RB-SV

Note: Safety valves according to DIN EN 14597 only to be used in combination with the linear actuators ML6435B1008, ML6435B1016 and ML7435E1004.

Accessories

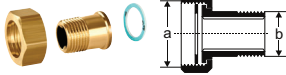
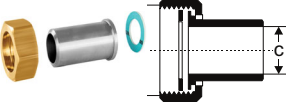
Overview associated actuators

Valve stroke	Actuator	Power supply	Control signal
6.5 mm	MSLF-B030	24 V AC/DC power supply	3-point
	MSHF-B030	100 - 253 V AC power supply	
	ML6435B	230 V AC or 24 V AC power supply	
	MSLM-B030	24 V AC/DC power supply	0(2) - 10 V
	ML7430E	24 V AC power supply	
	ML7435E		
	MMLYC050	24 V AC/DC power supply	

	Description		Power Supply	Item No.
	MSLF-B030	Actuator: 6.5 mm stroke, 300 N, 3-point, floating		
			24 V AC/DC	MSLF-B030-150
		Manual override		MSLF-B030-151
	MSHF-B030	Actuator: 6.5 mm stroke, 300 N, 3-point, floating		
		Manual override	230 V AC	MSHF-B030-151
	MSLM-B030	Actuator: 6.5 mm stroke, 300 N, 0/2 - 10 V, modulating		
			24 V AC/DC	MSLM-B030-150
		Manual override		MSLM-B030-151
	ML6435B	Spring-return actuator: 6.5 mm stroke, 400 N, 3-point, floating		
		Spring return retract	24 V AC 230 V AC	ML6435B1008 ML6435B1016
	ML7430E	Spring-return actuator: 6.5 mm stroke, 400 N, 0/2 - 10 V, modulating		
		Manual override	24 V AC	ML7430E1005
	ML7435E	Spring-return actuator: 6.5 mm stroke, 400 N, 0/2 - 10 V, modulating		
		Spring return retract	24 V AC	ML7435E1004
	MMLYC050	Actuator: 0-8 mm stroke, 500 N, 0-10 V (modulating), 3-point (floating), 2-point		
			24 V AC/DC	MMLYC050-12

Naming key linear valves accessories

ASV	-CS	-20	-O	-F2
Accessories	Range	DN	Fitting type	Sealing type
ASV = Accessories and spares for valves	CS = Connection set	15 20 25 32	O = Outer thread W = Welded	F = Flat sealing, Type 2

	Description	Dimension	Item No.
	ASV-CS-xx-O-F2 Flat connection set (external thread) Consisting of one union nut, one tailpiece with external thread and one gasket		
	a = G ³ / ₄ " b = R ¹ / ₂ "	DN 15	ASV-CS-15-O-F2
	a = G1" b = R ³ / ₄ "	DN 20	ASV-CS-20-O-F2
	a = G1 ¹ / ₄ " b = R1"	DN 25	ASV-CS-25-O-F2
	a = G1 ¹ / ₂ " b = R1 ¹ / ₄ "	DN 32	ASV-CS-32-O-F2
	ASV-CS-xx-W-F2 Flat connection set (welded) Consisting of one union nut, one welded tailpiece and one gasket		
	a = G ³ / ₄ " c = Ø 16	DN 15	ASV-CS-15-W-F2
	a = G ³ / ₄ " c = Ø 20	DN 20	ASV-CS-20-W-F2
	a = G1 ¹ / ₄ " c = Ø 27	DN 25	ASV-CS-25-W-F2
	a = G1 ¹ / ₂ " c = Ø 32	DN 32	ASV-CS-32-W-F2