



# Centra Linear Valve VDE...C

## 2-Way Small Linear Valve PN25

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 M6410/M7410 as well as with 400 N actuators ML7430/35 and ML6435.

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

### SPECIAL FEATURES

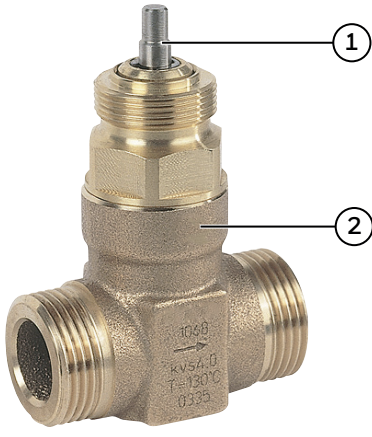
- Pressure-balanced
- Supplied with manual adjustment cap for start-up
- Small size
- Threaded and soldered connection sets
- Low seat leakage rate
- Metal-to-metal seating for long life span
- Easy mounting of actuator via standard M30 x 1,5 screw connection



### TECHNICAL DATA

<b>Media</b>	
Medium:	Water with max. 50 % glycol according to VDI 2035
<b>Operating temperature</b>	
DN15 - DN32:	2...130 °C
<b>Connection/Sizes</b>	
Valve size:	DN15 - DN32
Actuator:	M30 x 1.5 mm
<b>Specifications</b>	
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 $k_{vs}$
Port connection:	Flat sealing

## CONSTRUCTION

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

## METHOD OF OPERATION

VDE...C are available in four sizes, from DN15 through DN32. This description refers to size DN25.

A built-in return spring ① 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.

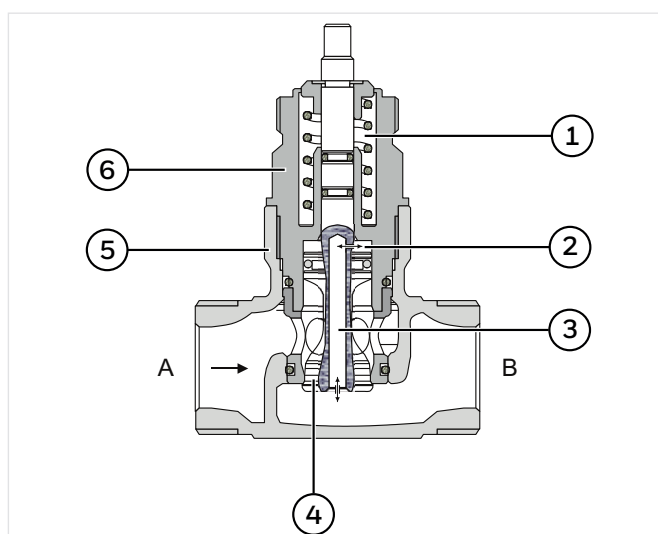
The flow rate is limited by the setting of the valve plug ④, which is positioned either using the manually adjustable valve cap or by an actuator. Maximum stroke means maximum flow rate.

In order to be able to close precisely against high pressure differences, the valve compensates pressure differences by means of a cone stem boring ③ connecting to a compensation chamber ②.

## 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
- The valve should be installed stress-free. External threaded or soldered connection sets are available
- The installation of a strainer is strongly recommended; in district heating systems, it is obligatory
- Make sure that water hammers are avoided
- 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



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

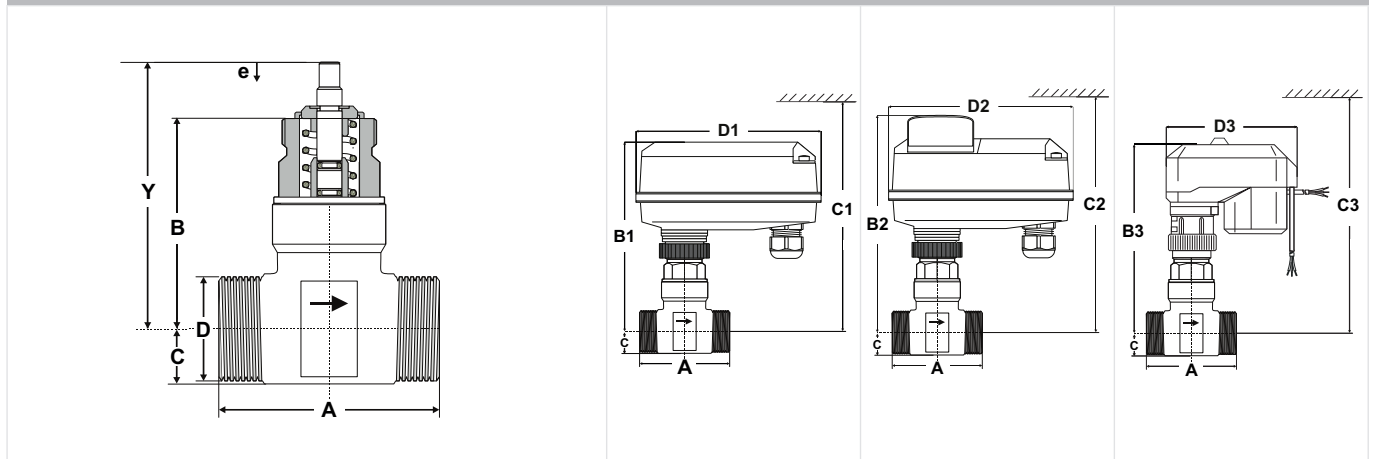
## TECHNICAL CHARACTERISTICS

### Close off pressure ratings in kPa

Actuator		Valve Size				
Model	Force	DN15	DN20	DN25	DN32	DN40
M6410C M6410L M7410C M7410E	300 N	1600 kPa	1600 kPa	1600 kPa	1600 kPa	1600 kPa
ML6435B ML7430E ML7435E	400 N	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa

## DIMENSIONS

### Overview



DN	D	A	B	C	Adjustment dimension (Valve in closed position)	Stroke	ML7435E ML6435B			ML7430E			M6410C M6410L M7410C M7410E		
					Y		e	B1	C1	D1	B2	C2	D2	B3	C3
15	G <sup>3</sup> / <sub>4</sub> "	65	59	18	77	6.5	140	220	126	156	236	126	146	226	109
20	G1"	70	67	18	85		148	228	126	164	244	126	154	234	109
25	G1 <sup>1</sup> / <sub>4</sub> "	75	69	23	87		150	230	126	166	246	126	156	236	109
32	G1 <sup>1</sup> / <sub>2</sub> "	100	89	25	107		170	250	126	186	266	126	176	256	109

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. When ordering, please always state the type, the ordering or the part number.

### Naming key linear valves

<b>VD</b>	<b>E</b>	<b>15</b>	<b>C</b>	<b>0.25</b>	<b>RB</b>
Type of valve	Type of thread	DN	PN	$k_{VS}$ -value	Special (optional)
VD = 2-way small linear valve	E = External	15	C = 25	0.25	RB = Red Bronze/ Pressure balanced
		20		0.4	
		25		0.63	
		32		1.0	
				1.6	
				2.5	
				4.0	
				6.3	
				10	

### 2-way small linear valve

<b>DN</b>	<b>Connection</b>	<b><math>k_{VS}</math>-value</b>	<b>Nominal pressure</b>	<b>Description</b>	<b>OS.-No.</b>
15	External thread	0.25	PN25	2-way small linear valve, external thread, DN15, PN25, $k_{VS}$ 0.25	VDE15C0.25RB
15		0.4	PN25	2-way small linear valve, external thread, DN15, PN25, $k_{VS}$ 0.4	VDE15C0.4RB
15		0.63	PN25	2-way small linear valve, external thread, DN15, PN25, $k_{VS}$ 0.63	VDE15C0.63RB
15		1.0	PN25	2-way small linear valve, external thread, DN15, PN25, $k_{VS}$ 1.0	VDE15C1.0RB
15		1.6	PN25	2-way small linear valve, external thread, DN15, PN25, $k_{VS}$ 1.6	VDE15C1.6RB
20		2.5	PN25	2-way small linear valve, external thread, DN20, PN25, $k_{VS}$ 2.5	VDE20C2.5RB
20		4.0	PN25	2-way small linear valve, external thread, DN20, PN25, $k_{VS}$ 4.0	VDE20C4.0RB
25		6.3	PN25	2-way small linear valve, external thread, DN25, PN25, $k_{VS}$ 6.3	VDE25C6.3RB
32		10	PN25	2-way small linear valve, external thread, DN32, PN25, $k_{VS}$ 10	VDE32C10RB

## Accessories

### Overview associated actuators

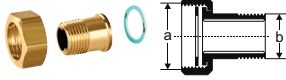
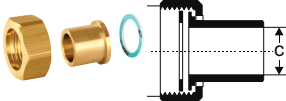
Valve stroke	Control signal	
	3-point (230 V AC or 24 V AC power supply)	0...10 V (24 V AC power supply)
6.5 mm	M6410C M6410L M7410C ML6435B	M7410E ML7430E ML7435E

	Description	Power Supply	Part No.
	<b>M7410C Actuator: 3-point / floating</b>		
	6.5 mm stroke, 300 N	24 V AC	M7410C1015
	<b>M6410 Actuator: 3-point / floating</b>		
	6.5 mm stroke, 300 N, manual override	24 V AC	M6410C2031
	6.5 mm stroke, 300 N, manual override, 2 auxiliary switches		M6410C4037
	6.5 mm stroke, 300 N, manual override	230 V AC	M6410L2031
	6.5 mm stroke, 300 N, manual override, 2 auxiliary switches		M6410L4037
	<b>M7410E Actuator: modulating 0/2 - 10 V</b>		
	6.5 mm stroke, 300 N	24 V AC	M7410E1028
	6.5 mm stroke, 300 N, manual override		M7410E2034
	6.5 mm stroke, 300 N, manual override, 2 auxiliary switches		M7410E4030
	<b>ML6435B Actuator: 3-point / floating (spring return)</b>		
	6.5 mm stroke, 400 N, spring return retract	24 V AC 230 V AC	ML6435B1008 ML6435B1016
	<b>ML7430E Actuator: modulating 0/2 - 10 V</b>		
	6.5 mm stroke, 400 N, manual override	24 V AC	ML7430E1005
	<b>ML7435E Actuator: modulating 0/2 - 10 V (spring return)</b>		
	6.5 mm stroke, 400 N, spring return retract	24 V AC	ML7435E1004

**Naming key linear valves accessories**

ASV	-CS	-20	-O	-F
Accessories for V&A	Range	DN	Fitting type	Sealing type
ASV = Accessories for V&A	CS = Connection set	15 20 25 32	O = Outer thread W = Soldered	F = Flat

	<b>ASV-CS-xx-O-F2 Flat connection set</b>	Consisting of one union nut, one tailpiece with external thread and one gasket		
		a = G <sup>3</sup> / <sub>4</sub> " b = R <sup>1</sup> / <sub>2</sub> "	DN15	ASV-CS-15-O-F2
		a = G1" b = R <sup>3</sup> / <sub>4</sub> "	DN20	ASV-CS-20-O-F2
		a = G1 <sup>1</sup> / <sub>4</sub> " b = R1"	DN25	ASV-CS-25-O-F2
		a = G1 <sup>1</sup> / <sub>2</sub> " b = R1 <sup>1</sup> / <sub>4</sub> "	DN32	ASV-CS-32-O-F2
	<b>ASV-CS-xx-W-F2 Flat connection set</b>	Consisting of one union nut, one soldered tailpiece and one gasket		
		a = G <sup>3</sup> / <sub>4</sub> " c = Ø 16	DN15	ASV-CS-15-W-F2
		a = G <sup>3</sup> / <sub>4</sub> " c = Ø 20	DN20	ASV-CS-20-W-F2
		a = G1 <sup>1</sup> / <sub>4</sub> " c = Ø 27	DN25	ASV-CS-25-W-F2
		a = G1 <sup>1</sup> / <sub>2</sub> " c = Ø 32	DN32	ASV-CS-32-W-F2



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