

Centra Linear Valve DF..B..NI / DF..C..

2-Way Linear Valve PN16/PN25
Flanged, Pressure Balanced, Nodular Iron

APPLICATION

These single-seated valves are used for modulating control of hot/chilled water or steam in heating, ventilating and air conditioning systems. They are designed especially for use in high differential pressure applications (e.g. district heating)

The valves can be operated by linear actuators series ML64... and ML74...

SPECIAL FEATURES

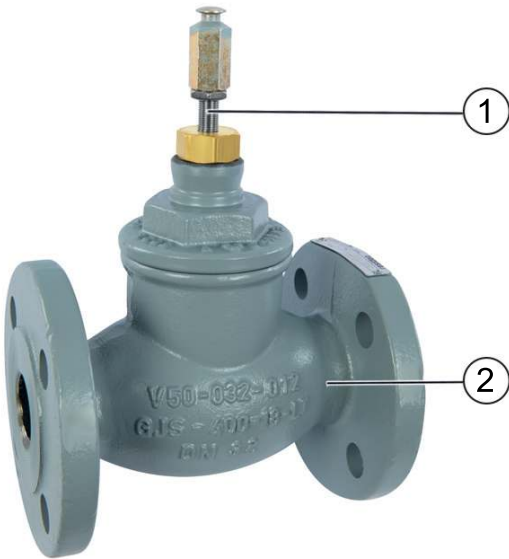
- Pressure-balanced plug
- Nodular iron body with flanged end connections
- Low seat leakage rate
- Metal-to-metal seating for long life span
- Self-adjusting packing
- Accurate positioning to ensure state-of-the-art temperature control
- Direct-coupled electric for easy mounting



TECHNICAL DATA

Media	
Medium:	Water or glycol-water mixture, according to VDI 2035
Operating temperatures and operating pressure	
DN15 to DN150, PN16	2...180 °C: max. 1600 kPa
DN15 to DN125, PN25	2...120 °C: max. 2500 kPa
	120...160 °C: max. 2250 kPa
	160...200 °C: max. 2000 kPa
Maximum temperature differential in alternating hot/cold water use:	60 K
Connection/Sizes	
Connection:	Flanged per ISO 7005-2 Nodular iron (GGG40.3)
Specifications	
Action:	Stem down to close
Nominal pressure rating:	PN 16/ PN 25
Flow characteristic:	Equal percentage
Rangeability:	50:1
Leakage rate:	≤0.05 % of k_{VS} (DN15 - DN80) ≤0.1 % of k_{VS} (DN100 - DN150)
Stroke:	20 mm (DN15 to DN 80) 38 mm (DN100 to DN150)
Packaging:	Spring-loaded PTFE cone rings

CONSTRUCTION

Overview		Components	Materials
	1	Stem	Stainless steel
	2	Valve body	Nodular iron (GGG40.3), Flanged per ISO 7005-2
	Not depicted components:		
		Seat	Stainless steel
		Plug	Stainless steel, skirt-guided

INSTALLATION GUIDELINES

Setup requirements

- Water should meet VDI 2035 requirements
- Do not install valve with stem below the horizontal
- Fluid flow must correspond with the arrow direction on the valve body
- The installation of a strainer is strongly recommended

TECHNICAL CHARACTERISTICS

Close off pressure ratings in kPa

DF..B..NI

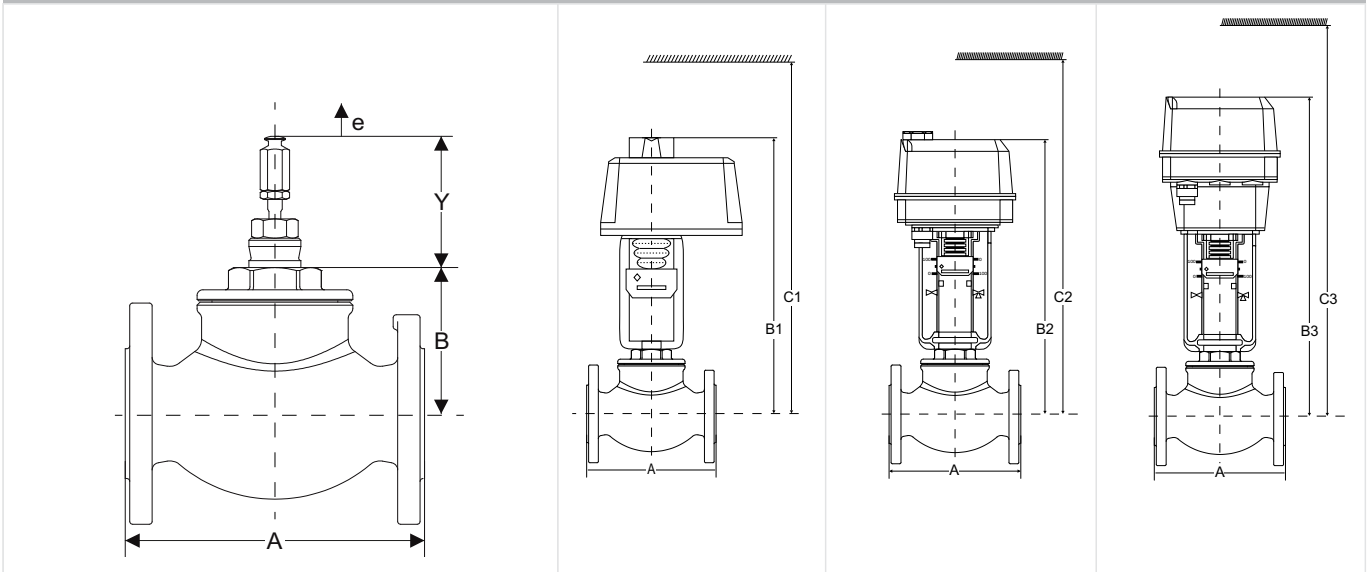
Actuator		Valve Size										
Model	Force	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150
ML6420A ML6425A/B ML7420A ML7425A/B	600 N	1600 kPa	1600 kPa	1600 kPa	1600 kPa	1600 kPa	1600 kPa	1600 kPa	1600 kPa	-	-	-
ML6421A ML7421A	1800 N	1600 kPa	1600 kPa	1600 kPa	1600 kPa	1600 kPa	1600 kPa	1600 kPa	1600 kPa	-	-	-
ML6421B ML7421B	1800 N	-	-	-	-	-	-	-	-	1600 kPa	1600 kPa	1600 kPa

DF..C..

Actuator		Valve Size									
Model	Force	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125
ML6420A ML6425A/B ML7420A ML7425A/B	600 N	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	-	-
ML6421A ML7421A	1800 N	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	2500 kPa	-	-
ML6421B ML7421B	1800 N	-	-	-	-	-	-	-	-	2500 kPa	2500 kPa

DIMENSIONS

Overview



DN	A	B	Adjustment dimension (Valve in closed position)	Stroke	ML6421A ML7421A		ML6420 ML7420		ML6425 ML7425	
					Y	e	B1	C1	B2	C2
15	130	95	89	20	360	455	340	420	380	460
20	150				360	455	340	420	380	460
25	160				360	455	340	420	380	460
32	180	99			365	460	345	425	385	465
40	200				365	460	345	425	385	465
50	230				101	365	465	345	425	385
65	290	106			370	470	350	430	390	470
80	310	150			415	510	395	475	435	515
					ML6421B ML7421B					
100	350	150	133	38	480	580	-	-	-	-
125	400	156			485	590	-	-	-	-
150	480	157			485	590	-	-	-	-

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

D	F	15	B	0.25	NI
Type of valve	Type of thread	DN	PN	k _{VS} -value	Special
D = 2-way valve	F = Flanged	15	B = 16	0.4	NI = Nodular iron
		20	C = 25	0.63	
		25		1.0	
		32		1.6	
		40		2.5	
		50		4.0	
		65		6.3	
		80		10	
		100		16	
		125		25	
		150		40	
				63	
				100	
				160	
				250	
				360	

2-Way Linear Valve - Flanged**DF..B..NI**

DN	k _{VS} -value	Connection	Nominal pressure	Description	OS.-No.
15	0.4	flanged	PN16	2-way valve, flanged, DN15, PN16, k _{VS} 0.4, nodular iron	DF15B0.4NI
15	0.63	flanged	PN16	2-way valve, flanged, DN15, PN16, k _{VS} 0.63, nodular iron	DF15B0.63NI
15	1.0	flanged	PN16	2-way valve, flanged, DN15, PN16, k _{VS} 1.0, nodular iron	DF15B1.0NI
15	1.6	flanged	PN16	2-way valve, flanged, DN15, PN16, k _{VS} 1.6, nodular iron	DF15B1.6NI
15	2.5	flanged	PN16	2-way valve, flanged, DN15, PN16, k _{VS} 2.5, nodular iron	DF15B2.5NI
15	4.0	flanged	PN16	2-way valve, flanged, DN15, PN16, k _{VS} 4.0, nodular iron	DF15B4.0NI
20	6.3	flanged	PN16	2-way valve, flanged, DN20, PN16, k _{VS} 6.3, nodular iron	DF20B6.3NI
25	10	flanged	PN16	2-way valve, flanged, DN25, PN16, k _{VS} 10, nodular iron	DF25B10NI
32	16	flanged	PN16	2-way valve, flanged, DN32, PN16, k _{VS} 16, nodular iron	DF32B16NI
40	25	flanged	PN16	2-way valve, flanged, DN40, PN16, k _{VS} 25, nodular iron	DF40B25NI
50	40	flanged	PN16	2-way valve, flanged, DN50, PN16, k _{VS} 40, nodular iron	DF50B40NI
65	63	flanged	PN16	2-way valve, flanged, DN65, PN16, k _{VS} 63, nodular iron	DF65B63NI
80	100	flanged	PN16	2-way valve, flanged, DN80, PN16, k _{VS} 100, nodular iron	DF80B100NI
100	160	flanged	PN16	2-way valve, flanged, DN100, PN16, k _{VS} 160, nodular iron	DF100B160NI
125	250	flanged	PN16	2-way valve, flanged, DN125, PN16, k _{VS} 250, nodular iron	DF125B250NI
150	360	flanged	PN16	2-way valve, flanged, DN150, PN16, k _{VS} 360, nodular iron	DF150B360NI

DF..C..

DN	k _{VS} -value	Connection	Nominal pressure	Description	OS.-No.
15	0.4	flanged	PN25	2-way valve, flanged, DN15, PN25, k _{VS} 0.4, nodular iron	DF15C0.4
15	0.63	flanged	PN25	2-way valve, flanged, DN15, PN25, k _{VS} 0.63, nodular iron	DF15C0.63
15	1.0	flanged	PN25	2-way valve, flanged, DN15, PN25, k _{VS} 1.0, nodular iron	DF15C1.0
15	1.6	flanged	PN25	2-way valve, flanged, DN15, PN25, k _{VS} 1.6, nodular iron	DF15C1.6
15	2.5	flanged	PN25	2-way valve, flanged, DN15, PN25, k _{VS} 2.5, nodular iron	DF15C2.5
15	4.0	flanged	PN25	2-way valve, flanged, DN15, PN25, k _{VS} 4.0, nodular iron	DF15C4.0
20	6.3	flanged	PN25	2-way valve, flanged, DN20, PN25, k _{VS} 6.3, nodular iron	DF20C6.3
25	10	flanged	PN25	2-way valve, flanged, DN25, PN25, k _{VS} 10, nodular iron	DF25C10
32	16	flanged	PN25	2-way valve, flanged, DN32, PN25, k _{VS} 16, nodular iron	DF32C16
40	25	flanged	PN25	2-way valve, flanged, DN40, PN25, k _{VS} 25, nodular iron	DF40C25
50	40	flanged	PN25	2-way valve, flanged, DN50, PN25, k _{VS} 40, nodular iron	DF50C40
65	63	flanged	PN25	2-way valve, flanged, DN65, PN25, k _{VS} 63, nodular iron	DF65C63
80	100	flanged	PN25	2-way valve, flanged, DN80, PN25, k _{VS} 100, nodular iron	DF80C100
100	160	flanged	PN25	2-way valve, flanged, DN100, PN25, k _{VS} 160, nodular iron	DF100C160
125	250	flanged	PN25	2-way valve, flanged, DN125, PN25, k _{VS} 250, nodular iron	DF125C250

Accessories**Overview associated actuators**

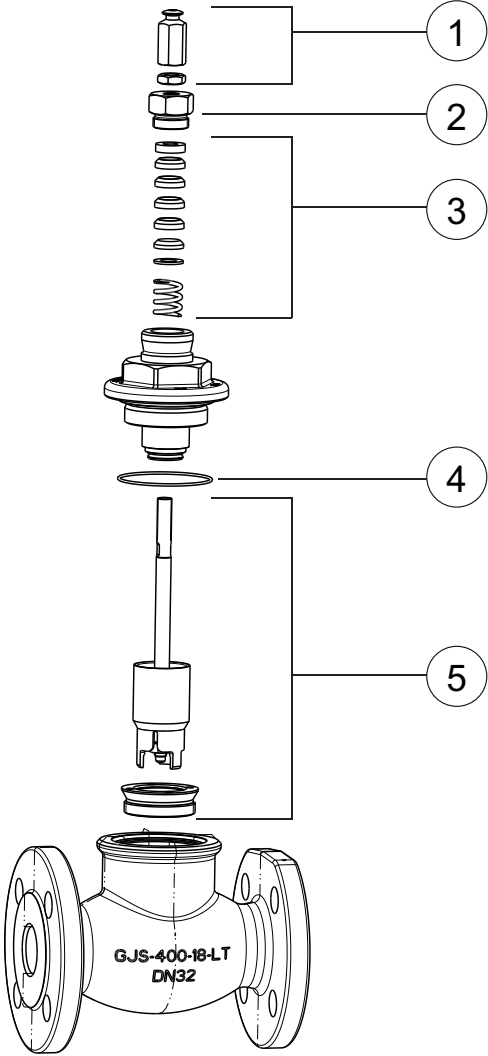
Valve stroke	Control signal	
	3-point (230 V AC or 24 V AC power supply)	0...10 V (24 V AC power supply)
20 mm	ML6420A ML6421A ML6425A/B	ML7420A ML7421A ML7425A/B
38 mm	ML6421B	ML7421B

	Description	Voltage	Runtime	Part No.
	ML6420A Actuator: 3-point / floating			
	20 mm effective stroke, 600N	230 V AC	60 s	ML6420A3015
			30 s	ML6420A3031
		24 V AC	60 s	ML6420A3007
			30 s	ML6420A3023
	ML7420A Actuator: modulating 0/2 ... 10 V			
	20 mm effective stroke, 600N	24 V AC	60 s	ML7420A6009
			30 s	ML7420A6017
	ML6421 Actuator: 3-point / floating			
	20 mm effective stroke, 1800N	230 V AC	114 s	ML6421A3013
		24 V AC		ML6421A3005
	38 mm effective stroke, 1800N	230 V AC	210 s	ML6421B3012
		24 V AC		ML6421B3004
	ML7421 Actuator: modulating 0/2 ... 10 V			
	20 mm effective stroke, 1800N	24 V AC	114 s	ML7421A3004
	38 mm effective stroke, 1800N		210 s	ML7421B3003
	ML6425 Actuator: 3-point / floating (spring return)			
	20 mm effective stroke, 600N, spring return extends	230 V AC	108 s	ML6425A3014
		24 V AC		ML6425A3006
	20 mm effective stroke, 600N, spring return retract	230 V AC		ML6425B3021
		24 V AC		ML6425B3005
	ML7425 Actuator: modulating 0/2 ... 10 V (spring return)			
	20 mm effective stroke, 600N, spring return extends	24 V AC	108 s	ML7425A6008
	20 mm effective stroke, 600N, spring return retract			ML7425B6007

Spare Parts

Naming key spare parts

ASV	-PA	-4	-25
Accessories and spares for valves	Range	Type	k _{VS} -value
ASV = Accessories and spares for valves	PAC = Packing, complete	1	25
	PN = Packing, nut	2	40
	SBA = Stem button assy	3	63
	PA = Plug assembly	4	100
	OR = O-ring for linear valves	6	160
			250
			360

Overview	Description	Dimension	Part No.
	1 Stem button assy		
		DN15 - DN150	ASV-SBA-2
	2 Packing nut		
		DN15 - DN80	ASV-PN-5
		DN100 - DN150	ASV-PN-6
	3 Packing		
		DN15 - DN80	ASV-PAC-5
		DN100 - DN150	ASV-PAC-6
	4 O-rings		
	10 pcs.	DN40	ASV-OR-1
	10 pcs.	DN50	ASV-OR-2
	5 pcs.	DN65	ASV-OR-3
	5 pcs.	DN80 - DN100	ASV-OR-4
	5 pcs.	DN125 - DN150	ASV-OR-5
	5 Plug assembly		
		DN25, k _{VS} 25	ASV-PA-4-25
		DN40, k _{VS} 40	ASV-PA-4-40
		DN65, k _{VS} 63	ASV-PA-4-63
		DN80, k _{VS} 100	ASV-PA-4-100
		DN100, k _{VS} 160	ASV-PA-4-160
		DN125, k _{VS} 250	ASV-PA-4-250
		DN150, k _{VS} 360	ASV-PA-4-360