

V5050A,B FLANGED LINEAR VALVE PN16 AND PN25/40

SPECIFICATION DATA



GENERAL

These three-port mixing valves are used for modulating control of hot/chilled water or steam in heating, ventilation, and air conditioning systems and can be operated by electric linear actuators ML6420/ML6425, ML7420/ML7425, and M6421/M7421 or by pneumatic actuator MP953.

FEATURES

- Cast 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
- Easy mounting of direct-coupled electric and pneumatic actuators
- Constant total flow throughout entire plug travel

SPECIFICATIONS

Action	Stem up to close port A-AB
Nominal pressure rating	PN16, PN25/40
Flow characteristic	linear for ports A-AB and B-AB
Rangeability	50:1
Leakage rate	≤0.1 % of k_{VS} port A-AB ≤0.1 % of k_{VS} port B-AB
Stroke	20 mm DN15...80 38 mm DN100...150
Valve body	
End connections	Flanged per ISO 7005-2
Material	Cast iron (GG25) PN16 Cast steel (GS-C25) PN25/40
Dimensions	See Fig. 1.
Trim	
Seat	Stainless steel, replaceable
Plug	Stainless steel, skirt guided
Stem	Stainless steel
Packing	Spring-loaded PTFE V-rings
Medium temperature and max. pressure	
PN16	2 ... 120 °C; max. 1600 Pa 120 ... 150 °C; max. 1440 Pa 150 ... 200 °C; max. 1280 Pa 200 ... 220 °C; max. 1200 Pa
PN25/40	2 ... 120 °C; max. 4000 Pa 120 ... 150 °C; max. 3920 Pa 150 ... 200 °C; max. 3800 Pa 200 ... 220 °C; max. 3720 Pa
Maximum temperature differential in alternating hot/cold water use	60 K

SIZES AND FLOW CAPACITIES

Order Number	Valve Size		k _{vs}
V5050A1124	PN25/40	DN15	2.5
V5050A1132		DN15	4.0
V5050A1140		DN20	6.3
V5050A1157		DN25	10.0
V5050A1165		DN32	16.0
V5050A1173		DN40	25.0
V5050A1181		DN50	40.0
V5050A1199		DN65	63.0
V5050A1207		DN80	100.0
V5050A1215		DN100	160.0
V5050B1155*		DN100	160.0
V5050A1090	PN16	DN100	160.0
V5050A1108		DN125	250.0
V5050A1116		DN150	360.0
V5050B1064*		DN100	160.0
V5050B1072*		DN125	250.0
V5050B1080*		DN150	360.0

* Reverse acting valve, only available on special request.

INSTALLATION

- 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.

REPAIR PACKING KIT

Part No.: R 43 176 755 - 004 (DN15...80)
R 43 176 755 - 005 (DN100...150)

ACTUATORS

Electric Actuators

	600 N	600 N spring return	1800 N	
valve size	DN15-80		DN 15-80	DN 100-150
model	ML6420A ML7420A	ML6425A,B ML7425A,B	M6421A M6421A	M6421B M6421B

Pneumatic Actuators

valve size	actuator		action		positioner
	model	size	direct	reverse	
DN 15-80	MP953A	5", 8"	x		yes
	MP953B	7"		x	
	MP953C	5", 8"	x		no
	MP953D	7"		x	
DN 100-150	MP953A	13"	x		yes
	MP953C	13"	x		no

CLOSE OFF PRESSURE RATINGS in kPa

Electric Actuators

actuator		valve size										
model	force	DN15	DN20	DN25	DN32	DN40	DN50	DN65	DN80	DN100	DN125	DN150
ML6420A, ML6425A,B ML7420A, ML7425A,B	600 N	1000	1000	1000	600	350	200	120	50	-	-	-
M6421A,B M7421A,B	1800 N	2500	2500	2500	2000	1300	750	500	230	230	90	90

Pneumatic Actuators

actuator			closed valve seat	valve size											
model	actuator spring range	air pressure in actuator		DN 15	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150	
MP953 A,C; (5")	27-76 kPa (4-11 PSI)	0 kPa 115 kPa	upper lower	160 410	160 410	160 410	70 230	-	-	-	-	-	-	-	
MP953 C; (5")	55-83 kPa (8-12 PSI)			550 220	550 220	550 220	310 110	180 50	-	-	-	-	-	-	-
MP953C; (8")	14-48 kPa (2-7 PSI)			370 1600	370 1600	370 1600	200 1600	110 100	40 570	-	-	-	-	-	-
MP953A,C; (8")	27-76 kPa (4-11 PSI)			980 1500	980 1500	980 1500	570 890	340 540	180 290	100 180	40 80	-	-	-	-
MP953C; (8")	55-83 kPa (8-12 PSI)			1600 1100	1600 1100	1600 1100	1300 700	820 420	450 220	280 130	140 60	-	-	-	-
MP953C; (13")	14-48 kPa (2-7 PSI)			-	-	-	-	-	-	-	-	90 620	30 250	30 250	-
MP953A,C; (13")	27-76 kPa (4-11 PSI)			-	-	-	-	-	-	-	-	230 320	90 120	90 120	-
MP953D; (7")	27-76 kPa (4-11 PSI)			880 530	880 530	880 530	510 300	300 170	160 80	90 40	-	-	-	-	-
MP953B,D; (7")	55-90 kPa (8-13 PSI)			680 1300	680 1300	680 1300	390 800	230 440	110 260	60 160	20 70	-	-	-	-

DIMENSIONS

Valve

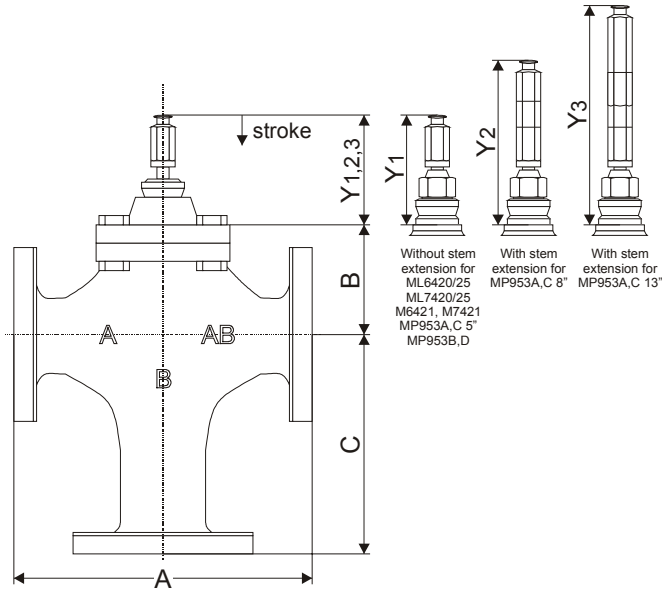


Fig. 1. V5050A,B (dimensions in mm)

valve size	A	B	C	Y ₁ *	Y ₂ *	Y ₃ *
DN15	130	126	120	107	151	-
DN20	150		120			
DN25	160		120			
DN32	180	155	135			
DN40	200		140			
DN50	230		150			
DN65	290	165	220			
DN80	310	181	220	170.5	-	227
DN100	350	184	245			
DN125	400	219	270			
DN150	480		270			

* = Adjustment dimension. Port A-AB closed.

Electric Actuators

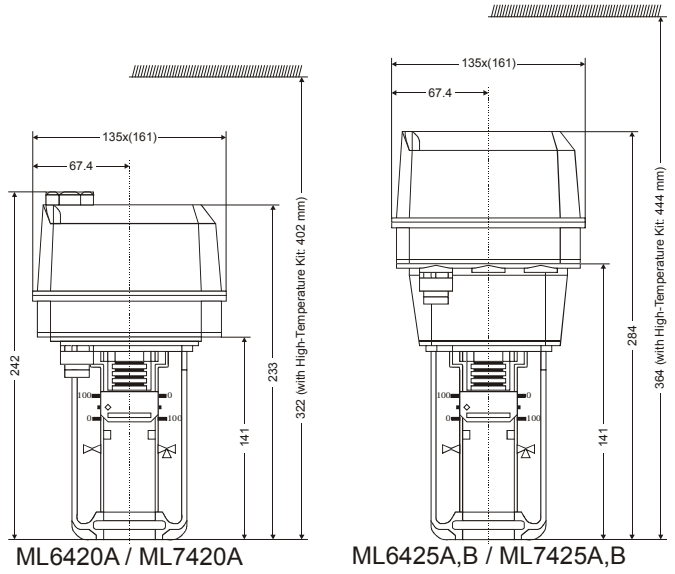


Fig. 2. ML6420A / ML7420A, ML6425A,B / ML7425A,B

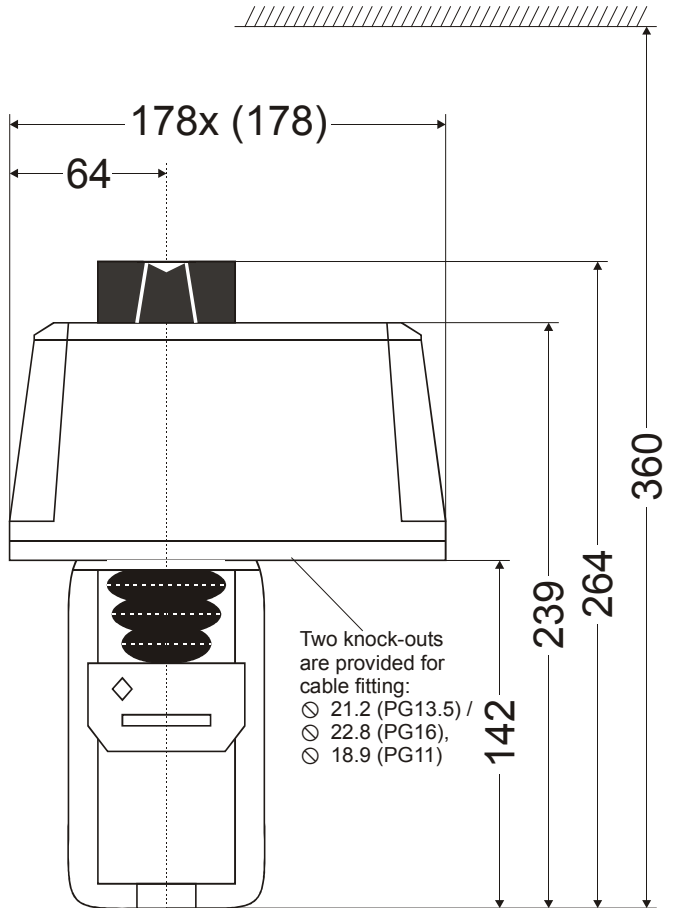


Fig. 3. M6421A/M7421A (dimensions in mm)

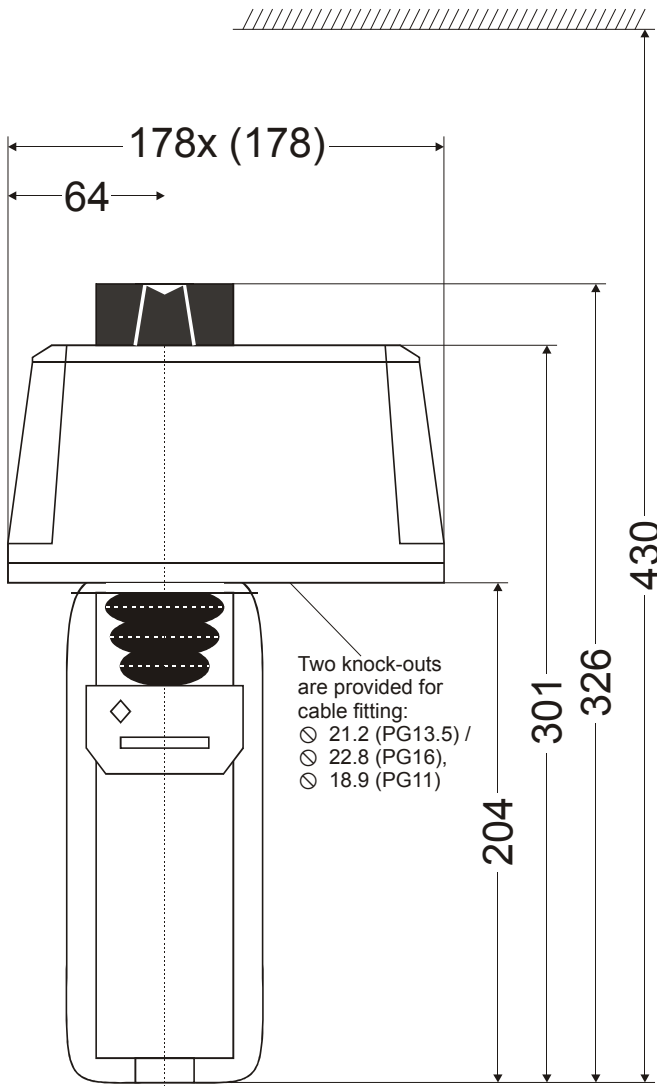


Fig. 4. M6421B/M7421B (dimensions in mm)

Pneumatic Actuators

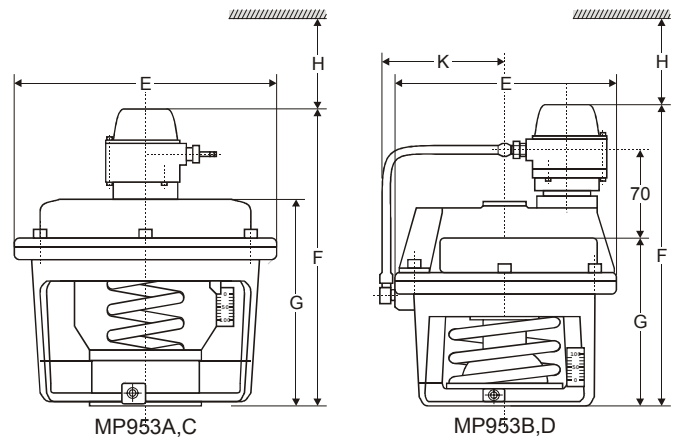


Fig. 5. MP953A,C/MP953B,D (dimensions in mm)

NOTE: V5050A,B valves in combination with the following actuators are approved according to DIN 32730:

actuator O.S. no.	DIN registration no.
ML6425A3006 ML6425A3014 ML7425A3005	1F13995
MP953B5003 MP953D5009	1F12392

model	ØE	F	G	H	K
MP953A, 5"	130	192	-	120	-
MP953C, 5"		-	120		-
MP953A, 8"	210	237	-	140	-
MP953C, 8"		-	165		-
MP953A, 13"	343	327	-	200	-
MP953A, 13"		-	255		-
MP953B	180	242	-	120	107
MP953D		-	137		-

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