

V5050A,B FLANGED LINEAR VALVE PN16 AND PN25/40

PRODUCT 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 ML6421/ML7421 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 kPa 120 ... 150 °C; max. 1440 kPa 150 ... 200 °C; max. 1280 kPa 200 ... 220 °C; max. 1200 kPa |
| PN25/40 | 2 ... 120 °C; max. 4000 kPa 120 ... 150 °C; max. 3920 kPa 150 ... 200 °C; max. 3800 kPa 200 ... 220 °C; max. 3720 kPa |
| 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.: R43176755004 (DN15...80)
R43176755005 (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 | ML6421A ML6421A | ML6421B ML6421B |

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 | - | - | - |
| ML6421A,B ML7421A,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 | 110 570 | 40 100 | - | - | - | - | - | - |
| 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

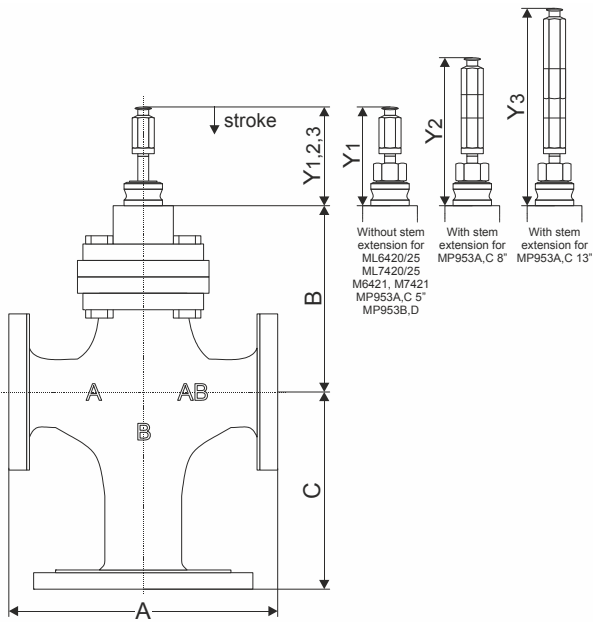


Fig. 1. V5050A,B (dimensions in mm)

| 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 | 135 | 135 | | | |
| DN40 | 200 | | 140 | | | |
| DN50 | 230 | | 150 | | | |
| DN65 | 290 | 155 | 165 | | | |
| DN80 | 310 | 181 | 220 | | | |
| DN100 | 350 | 184 | 245 | 170.5 | - | 227 |
| DN125 | 400 | 219 | 245 | | | |
| DN150 | 480 | | 270 | | | |

* = Adjustment dimension. Port A-AB closed.

Electric Actuators

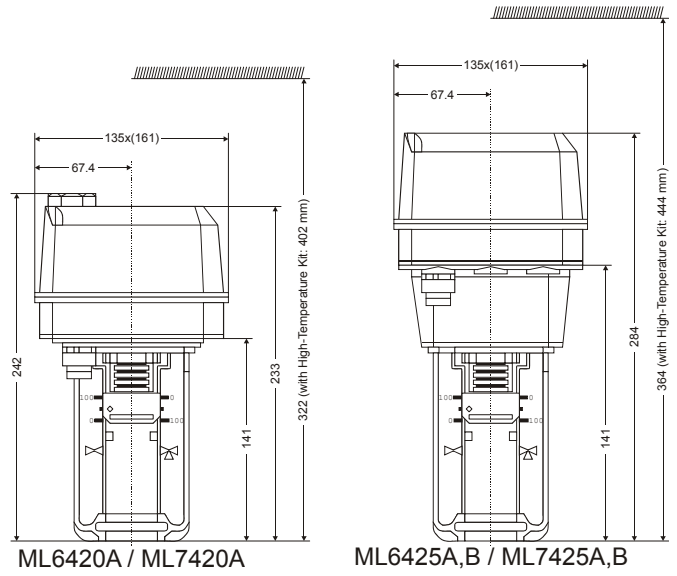


Fig. 2. ML6420A / ML7420A, ML6425A,B / ML7425A,B

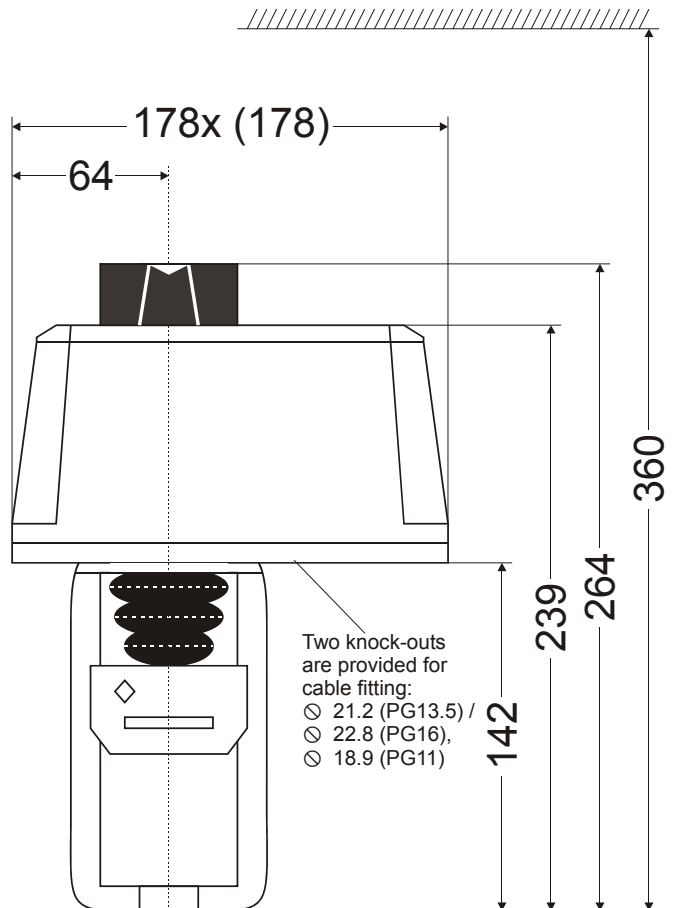


Fig. 3. ML6421A/ML7421A (dimensions in mm)

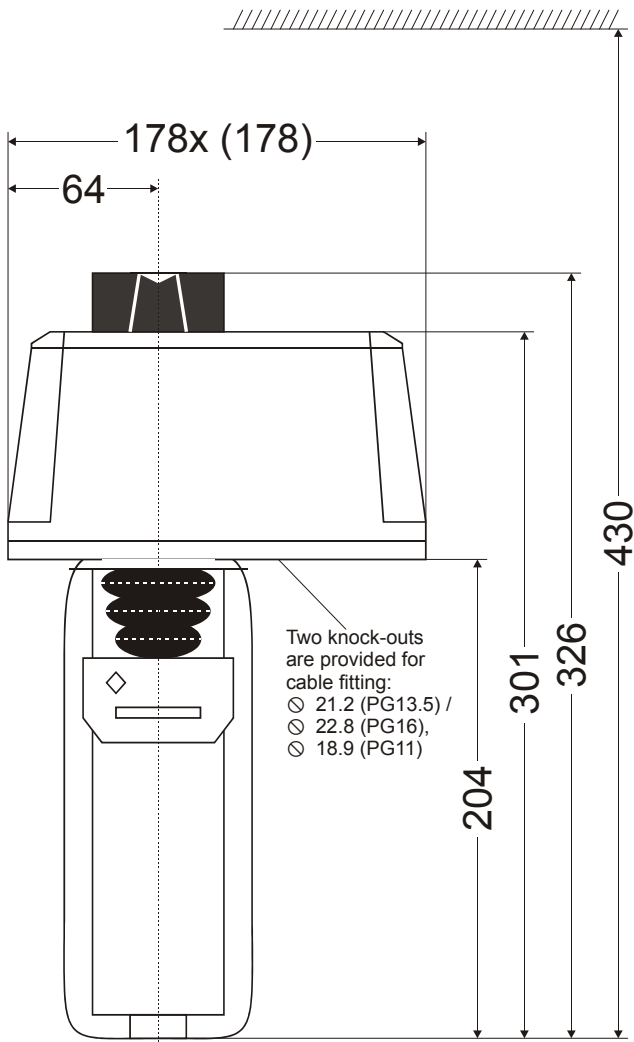


Fig. 4. ML6421B/ML7421B (dimensions in mm)

Pneumatic Actuators

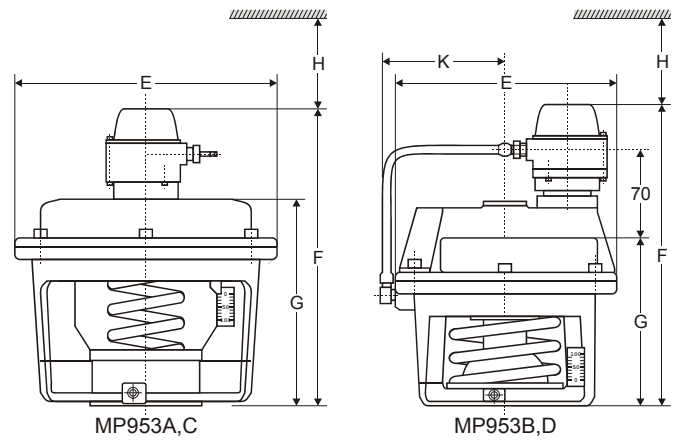


Fig. 5. MP953A,C/MP953B,D (dimensions in mm)

| 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 | | - |

Honeywell

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