

# V5025A

## FLANGED LINEAR VALVE PN25

### SPECIFICATION DATA



### GENERAL

These single-seated valves are suitable for use in conjunction with the 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) and can be operated by linear actuators ML6420/ML6425, ML7420/ML7425, or M6421/M7421 or by pneumatic actuators MP953.

### 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
- Easy mounting of direct-coupled electric and pneumatic actuators
- Approved according to DIN 32730 in DN15...80 in combination with ML6425/ML7425

### SPECIFICATIONS

|                                        |                                                                                            |
|----------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Action</b>                          | Stem down to close                                                                         |
| <b>Nominal pressure rating</b>         | PN25                                                                                       |
| <b>Flow characteristic</b>             | Equal percentage                                                                           |
| <b>Rangeability</b>                    | 50:1                                                                                       |
| <b>Leakage rate</b>                    | ≤0.05% of $k_{VS}$ (DN15...80)<br>≤0.1% of $k_{VS}$ (DN100...250)                          |
| <b>Stroke</b>                          | 20 mm (DN15...80)<br>38 mm (DN100...250)                                                   |
| <b>Valve body</b>                      |                                                                                            |
| End connections                        | Flanged per ISO 7005-2                                                                     |
| Material                               | Nodular iron (GGG40.3)                                                                     |
| <b>Dimensions</b>                      | See Fig. 1 on page 3                                                                       |
| <b>Trim</b>                            |                                                                                            |
| Seat                                   | Stainless steel                                                                            |
| Stem                                   | Stainless steel                                                                            |
| Plug                                   | Stainless steel, skirt-guided                                                              |
| <b>Packing</b>                         | Spring-loaded PTFE cone rings                                                              |
| <b>Medium temperature and pressure</b> | 2...120 °C (max. 2500 kPa)<br>120...160 °C (max. 2250 kPa)<br>160...200 °C (max. 2000 kPa) |
| <b>Max. temp. differential</b>         | 60 K (alternating hot/cold water)                                                          |
| <b>Medium</b>                          | water, water-glycol (max. 50%),<br>steam                                                   |

## SIZES AND FLOW CAPACITIES

| Order Number | Valve Size | kvs   |
|--------------|------------|-------|
| V5025A1035   | DN15       | 1.0   |
| V5025A1043   | DN15       | 1.6   |
| V5025A1050   | DN15       | 2.5   |
| V5025A1068   | DN15       | 4.0   |
| V5025A1076   | DN20       | 6.3   |
| V5025A1084   | DN25       | 10.0  |
| V5025A1092   | DN32       | 16.0  |
| V5025A1100   | DN40       | 25.0  |
| V5025A1118   | DN50       | 40.0  |
| V5025A1126   | DN65       | 63.0  |
| V5025A1134   | DN80       | 100.0 |
| V5025A1142   | DN100      | 160.0 |
| V5025A1159   | DN125      | 250.0 |
| V5025A1167   | DN150      | 360.0 |
| V5025A1182   | DN200      | 450.0 |
| V5025A1195   | DN250      | 630.0 |

## 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...250)

## ACTUATORS

### Electric Actuators

| 600 N (20 mm) | 600 N (20 mm),<br>spring return | 1800 N (38 mm) |
|---------------|---------------------------------|----------------|
| ML6420A       | ML6425A,B                       | ML6421B        |
| ML7420A       | ML7425A,B                       | ML7421B        |

### Pneumatic Actuators

| actuator |        | stroke | acting |         | positioner |
|----------|--------|--------|--------|---------|------------|
| model    | size   |        | direct | reverse |            |
| MP953A   | 5", 8" | 20 mm  | X      |         | yes        |
|          | 13"    | 38 mm  |        |         |            |
| MP953B   | 7"     | 20 mm  |        | X       | no         |
| MP953C   | 5", 8" | 20 mm  | X      |         |            |
|          | 13"    | 38 mm  |        |         |            |
| MP953D   | 7"     | 20 mm  |        | X       |            |

## CLOSE-OFF PRESSURE RATINGS (in kPa)

### Electric Actuators

| actuator                                  |        |        | valve size |      |      |      |      |      |       |       |       |       |       |
|-------------------------------------------|--------|--------|------------|------|------|------|------|------|-------|-------|-------|-------|-------|
| model                                     | stroke | force  | DN25       | DN32 | DN40 | DN50 | DN65 | DN80 | DN100 | DN125 | DN150 | DN200 | DN250 |
| ML6420A, ML6425A,B,<br>ML7420A, ML7425A,B | 20 mm  | 600 N  | 2500       | 2500 | 2500 | 2500 | 2500 | 2500 | --    | --    | --    | --    | --    |
| ML6421B, ML6421B                          | 38 mm  | 1800 N | --         | --   | --   | --   | --   | --   | 2500  | 2500  | 2500  | 2500  | 2500  |

### Pneumatic Actuators

| actuator       |                             |              | valve size |      |      |      |      |      |       |       |       |       |       |
|----------------|-----------------------------|--------------|------------|------|------|------|------|------|-------|-------|-------|-------|-------|
| model          | spring range                | air pressure | DN25       | DN32 | DN40 | DN50 | DN65 | DN80 | DN100 | DN125 | DN150 | DN200 | DN250 |
| MP953A,C (5")  | 28...77 kPa<br>(4...11 psi) | 115 kPa      | 2500       | 2500 | 2500 | 2500 | 2500 | --   | --    | --    | --    | --    | --    |
| MP953A,C (8")  | 28...77 kPa<br>(4...11 psi) | 115 kPa      | 2500       | 2500 | 2500 | 2500 | 2500 | 2500 | --    | --    | --    | --    | --    |
| MP953B,D (7")  | 55...90 kPa<br>(8...13 psi) | 0 kPa        | 2500       | 2500 | 2500 | 2500 | 2500 | 2500 | --    | --    | --    | --    | --    |
| MP953A,C (13") | 28...77 kPa<br>(4...11 psi) | 115 kPa      | --         | --   | --   | --   | --   | --   | 2500  | 2500  | 2500  | 2500  | 2500  |

## DIMENSIONS

### Valve

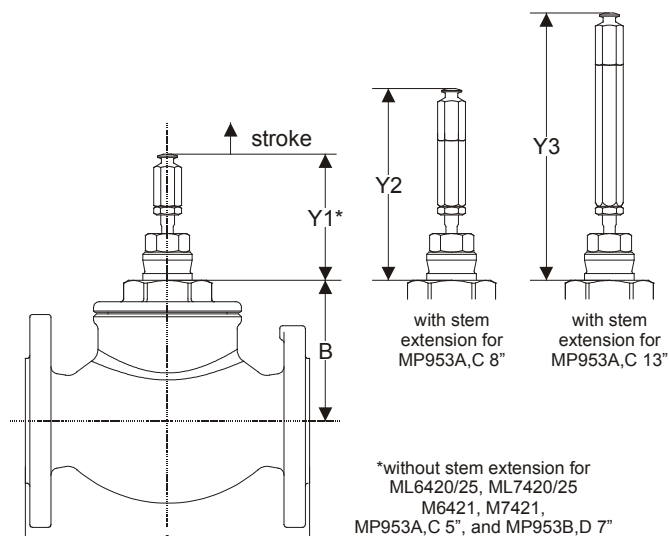
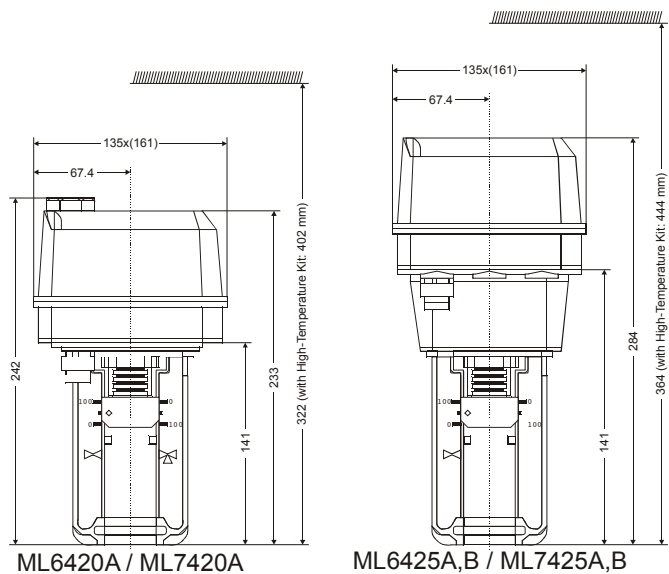


Fig. 1. V5025A with stem extensions (dimensions in mm)

| valve size | A   | B   | Y <sub>1</sub> * | Y <sub>2</sub> * | Y <sub>3</sub> * |
|------------|-----|-----|------------------|------------------|------------------|
| DN15       | 130 | 95  | 89               | 133              | --               |
| DN20       | 150 |     |                  |                  |                  |
| DN25       | 160 |     |                  |                  |                  |
| DN32       | 180 | 99  |                  |                  |                  |
| DN40       | 200 |     |                  |                  |                  |
| DN50       | 230 |     |                  |                  |                  |
| DN65       | 290 | 101 | 133              | --               | 190              |
| DN80       | 310 | 106 |                  |                  |                  |
| DN100      | 350 | 150 |                  |                  |                  |
| DN125      | 400 | 156 | 133              | --               | 190              |
| DN150      | 480 | 157 |                  |                  |                  |
| DN200      | 600 | 165 | 133              | --               | 190              |
| DN250      | 730 | 172 | 133              | --               | 190              |

\*= Adjustment dimension. Valve in closed position.

### Electric Actuators



ML6420A / ML7420A

ML6425A,B / ML7425A,B

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

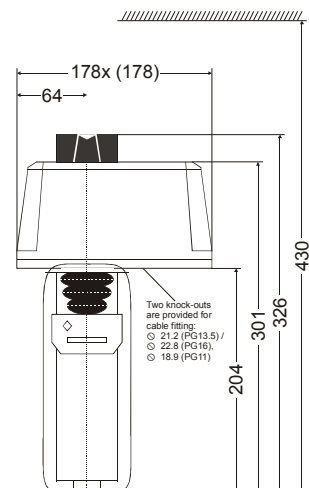


Fig. 3. M6421B / M7421B (dimensions in mm)

Pneumatic Actuators

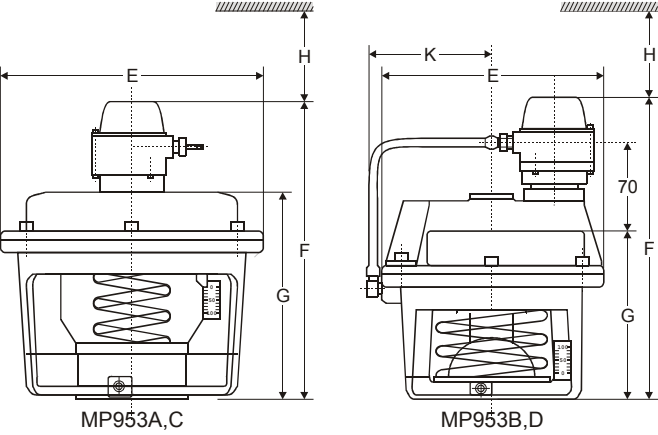


Fig. 4. MP953A,C / MP953B,D (dimensions in mm)

| 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 | --  |
| MP953C, 13" |     | --  | 255 |     | --  |
| MP953B, 7"  | 180 | 242 | --  | 120 | 107 |
| MP953D, 7"  |     | --  | 137 |     | --  |

**NOTE:** V5025A valves in combination with the following actuators are approved according to DIN 32730:

| Actuator O.S. No.                         | DIN Registration No. |
|-------------------------------------------|----------------------|
| ML6425A3006<br>ML6425A3014<br>ML7425A3005 | 1F16103              |