

# Pneumatically Operated Valve

## Type 402 DN 15 - 50 (1/2" - 2")

**Type 402** pneumatically operated valve with plastic piston actuator normally closed (NC), normally open (NO) or double acting (DA). Various accessories are available for adjustments, control and regulation which can be assembled in the factory or on the job site afterwards.

The **piston actuator** in PA MXD6-GF is characterized by its compact construction, making 402 the ideal choice for applications requiring very frequent valve operation and long valve lifetime.

### Features

- Process media can be neutral and aggressive liquid and gaseous, dependent upon material selection of body and diaphragm
- Flow can be in either direction
- Insensitive to dirty or contaminated media
- Excellent flow characteristics
- Bubble tight sealing
- Installation can be in any position
- Eliminates water hammer
- Compact construction
- Maintenance free non corrosive actuator
- Control air connection in flow direction (optional)

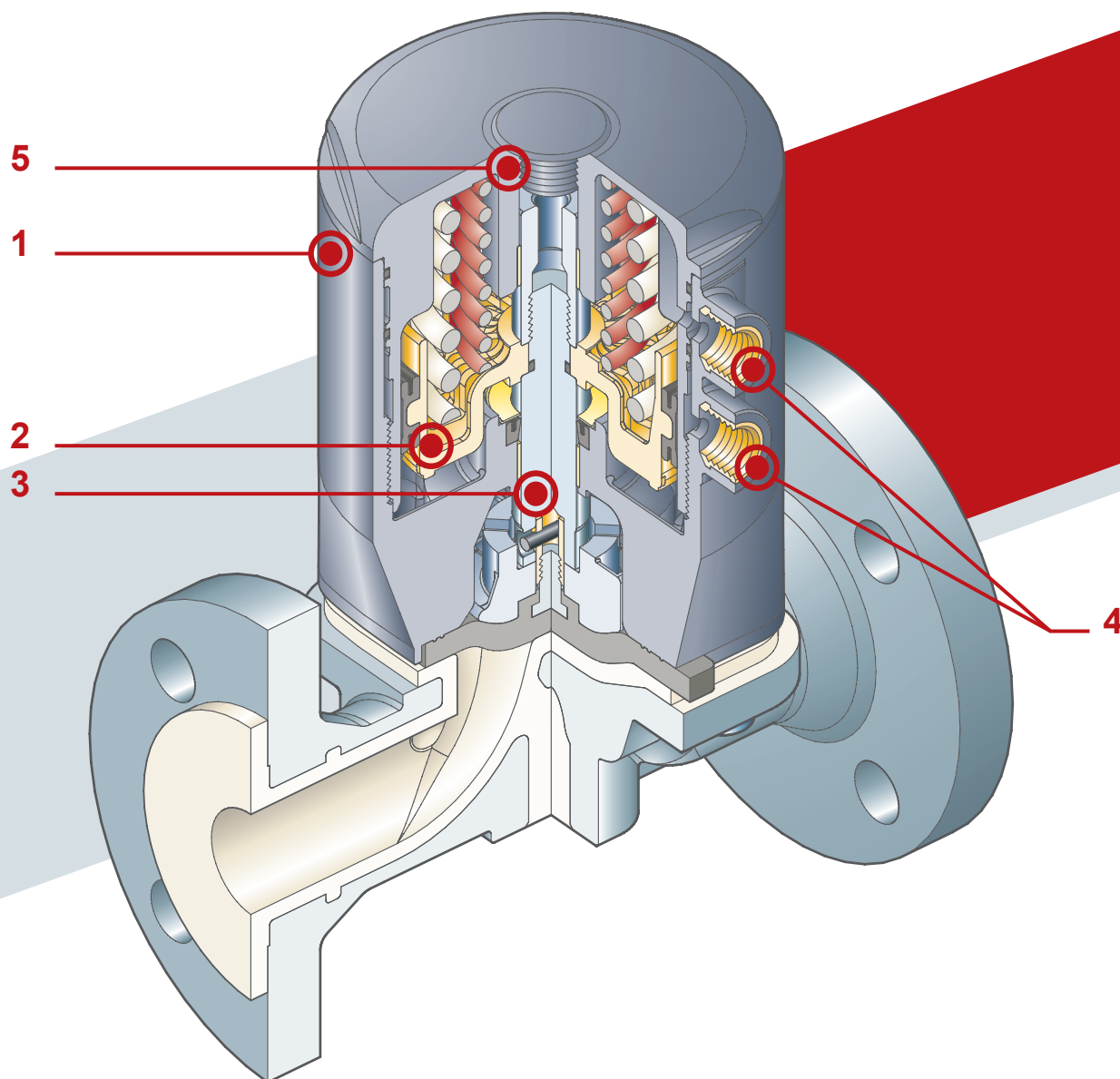
| Technical specifications                     |  |
|--|--|
| <b>Design</b>                                | Diaphragm Valve  |
| <b>Size range</b>                            | DN 15 - 50   |
| <b>Diaphragm size see page 11</b>            | MA 25 - 50   |
| <b>Body material</b>                         | Investment cast 1.4435/316L<br>S.G. iron EN-GJS-400-18-LT (GGG40.3)-PP-Lined<br>Cast iron EN-GJL-250 (GG 25)<br>Cast iron EN-GJL-250 (GG 25)-Hard-Rubber-Lined<br>Carbon steel EN-GP-240-GH (GS-C25) |
| <b>End connection standards see page 8-9</b> | <b>Threaded socket:</b> DIN ISO 228<br><b>Flange:</b> EN 1092 PN10/16, ANSI Class 125/150  |
| <b>Diaphragm material</b>                    | EPDM, PTFE, NBR, FPM   |
| <b>Max. working pressure</b>                 | 10 bar (150 PSI), DN 15 - 50   |
| <b>Temperature range</b>                     | -10 °C to +120 °C, depending on diaphragm and body material  |
| <b>Control functions</b>                     | Single acting (NC or NO) and double-acting (DA) pneumatic diaphragm actuator   |

**Note:** Possible actuator and valve body combinations see page 7.  
Ordering key see page 60.

| Technical specifications - pneumatic actuator |  |
|---|--|
| <b>Design</b>                                 | Plastic Piston Actuator  |
| <b>Actuator material</b>                      | PA MXD6-GF   |
| <b>Max. control air pressure</b>              | NC: 4,5 - 7 bar (65 - 100 PSI)<br>NO/DA: 4 - 5 bar (60 - 72 PSI)   |
| <b>Control media</b>                          | Dry or lubricated filtered compressed air. If using other fluids, contact the SED service center                     |
| <b>Filling volume</b>                         | MA25 = 0,17 NL (NC), 0,20 NL (NO/DA)<br>MA40 = 0,31 NL (NC), 0,34 NL (NO/DA)<br>MA50 = 0,68 NL (NC), 0,80 NL (NO/DA) |
| <b>Control media temperature</b>              | Max. 40 °C   |
| <b>Ambient temperature</b>                    | -20 °C to +50 °C   |
| <b>Accessories</b>                            | See page 54  |

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**1** Light and compact piston actuator in PA MXD6-GF with a diaphragm perimeter containment system that ensures the perfect compression of the hard rubber without any lateral expansions

**2** Piston in high strength PA MXD6-GF equipped with main gasket with lubrication system that allows up to 1 million valve operations to be performed without showing any signs of wear

**3** High strength **stainless steel stem** with floating pin connection between the actuator stem and diaphragm to prevent concentrated loads, improve the seal and extend its lifetime

**4** Easy to install, even in confined spaces: **compressed air inlets with G 1/4" threaded metal connections**, can be supplied in line with the piping

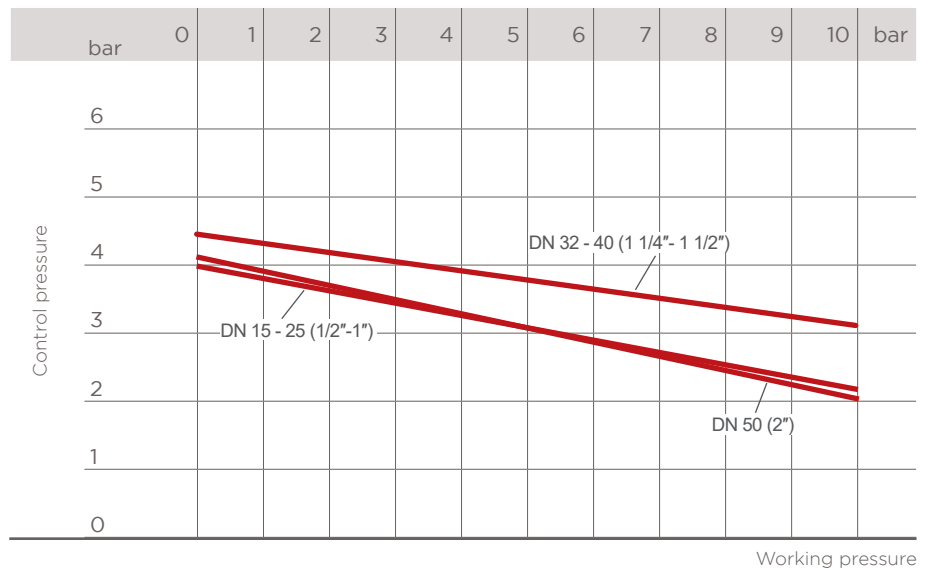
**5** Connection thread for assembly of **valve control equipment**

# Pneumatically Operated Valve

## Type 402 - Technical Data

### Control pressure according to Working pressure Type 402 NC

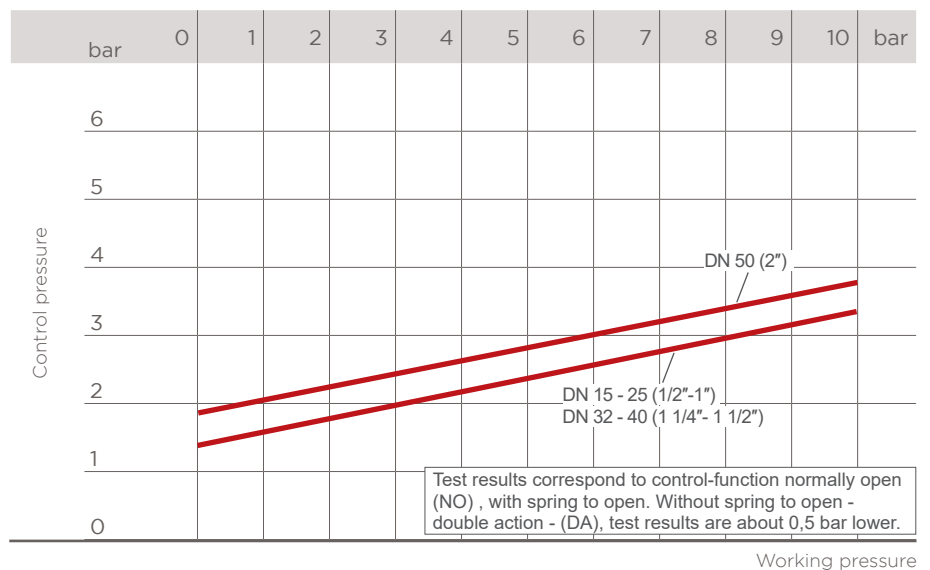
Minimum control pressure according to working pressure with EPDM, FPM diaphragm



### Control pressure according to Working pressure Type 402 NO-DA

Minimum control pressure according to working pressure with EPDM, FPM diaphragm.

Higher control pressure than required may affect the lifetime of the working diaphragm.



### K<sub>v</sub>100 flow coefficient

The K<sub>v</sub>100 flow coefficient is the Q flow rate of cubic meter per hour of water at a temperature of 20°C that will generate Δp = 1 bar pressure drop at a certain valve position.

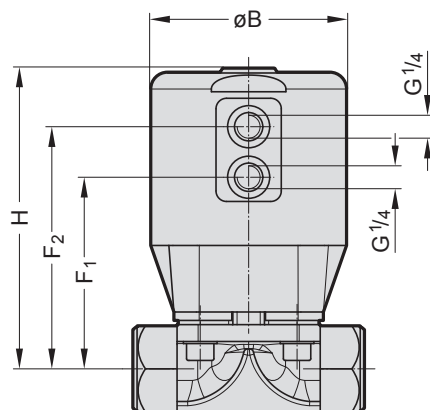
The K<sub>v</sub>100 values shown in the table are calculated with the valve completely open.

| DN | MA | Unlined |        | Hard rubber lined |        | Plastic lined |        |
|----|----|---------|--------|-------------------|--------|---------------|--------|
|    |    | Kv m³/h | Cv gpm | Kv m³/h           | Cv gpm | Kv m³/h       | Cv gpm |
| 15 | 25 | 7       | 8      | -                 | -      | 5             | 6      |
| 20 | 25 | 12      | 14     | 10                | 12     | 9             | 11     |
| 25 | 25 | 14      | 16     | 14                | 16     | 13            | 15     |
| 32 | 40 | -       | -      | 29                | 34     | 23            | 27     |
| 40 | 40 | 40      | 47     | 32                | 37     | 26            | 30     |
| 50 | 50 | 78      | 91     | 51                | 60     | 50            | 59     |

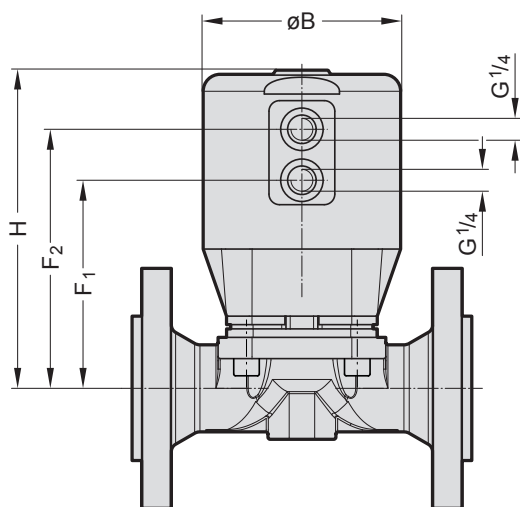
# Pneumatically Operated Valve

## Type 402 DN 15 - 50 (1/2" - 2")

### Threaded Socket



### Flanged



### Dimensions (mm)

| DN | MA | ØB  | Threaded Socket Version |                |     |           | Flanged Version |                |     |           |
|----|----|-----|-------------------------|----------------|-----|-----------|-----------------|----------------|-----|-----------|
|    |    |     | F <sub>1</sub>          | F <sub>2</sub> | H   | Weight kg | F <sub>1</sub>  | F <sub>2</sub> | H   | Weight kg |
| 15 | 25 | 95  | 84                      | 108            | 136 | 1,75      | 93              | 117            | 146 | 3,1       |
| 20 | 25 | 95  | 87                      | 111            | 139 | 1,86      | 93              | 117            | 146 | 4,0       |
| 25 | 25 | 95  | 91                      | 115            | 143 | 2,2       | 91              | 115            | 141 | 4,5       |
| 32 | 40 | 115 | 100                     | 124            | 162 | 3,6       | 96              | 120            | 154 | 8,0       |
| 40 | 40 | 115 | 103                     | 127            | 164 | 4,1       | 108             | 132            | 169 | 8,0       |
| 50 | 50 | 144 | 147                     | 171            | 215 | 7,0       | 149             | 173            | 211 | 13,0      |

**Note:** Valve body face to face (FTF) and flange dimensions see page 8.