

## Globe Valve Metal

### Construction

The GEMÜ 534 pneumatically operated 2/2-way globe valve has a plastic piston actuator.

The valve spindle is sealed by a self-adjusting gland packing providing low maintenance and reliable valve spindle sealing even after a long service life. The wiper ring fitted in front of the gland packing protects it against contamination and damage.

### Features

- Valve bodies available in SG iron and stainless steel
- Flanged versions
- Suitable for inert and corrosive\* liquid and gaseous media
- Customized control valve versions
- Free from non-ferrous metals
- Versions according to ATEX on request

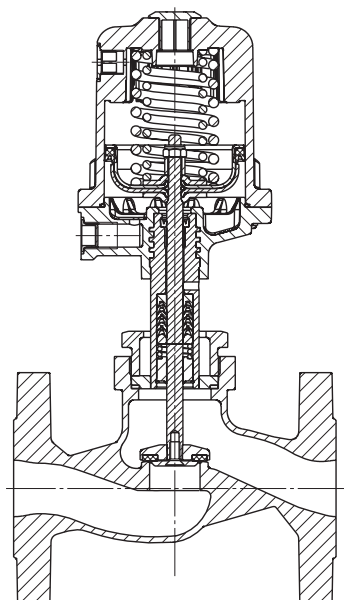
### Advantages

- Good flow capability and compact design
- Extensive range of accessories
  - Electrical position indicators
  - Combi switchboxes
  - Electro-pneumatic positioners/process controllers

\*see information on working medium on page 2



Sectional drawing



## Technical data

### Working medium

Corrosive, inert, gaseous and liquid media and steam which have no negative impact on the physical and chemical properties of the body and seal material.

Max. perm. pressure of working medium see table

Medium temperature -10° to 180° C

Max. permissible viscosity 600 mm<sup>2</sup>/s (cSt)

### Control medium

Inert gases

Max. perm. temperature of control medium 60° C

|                |                        |                       |
|----------------|------------------------|-----------------------|
| Filling volume | Actuator size 0 and 3: | 0.05 dm <sup>3</sup>  |
|                | Actuator size 1 and 4: | 0.125 dm <sup>3</sup> |
|                | Actuator size 2:       | 0.625 dm <sup>3</sup> |

### Ambient conditions

Max. ambient temperature 60° C

### Pressure / temperature correlation for globe valve bodies

| Connection code | Material code | Max. allowable pressure (barg) at temperature °C * |      |      |      |      |
|-----------------|---------------|--|------|------|------|------|
|                 |               | RT   | 50   | 100  | 150  | 200  |
| 8               | 90            | 16.0   | 16.0 | 16.0 | 15.5 | 14.7 |
| 8 (DN 50)       | 37            | 14.6   | 13.9 | 12.4 | 11.2 | 10.3 |
| 10 (DN 15-40)   | 37            | 25.0   | 23.7 | 21.3 | 19.2 | 17.7 |
| 39              | 90            | 16.0   | 16.0 | 16.0 | 15.5 | 14.7 |
| 39 (DN 15 - 40) | 37            | 19.0   | 19.0 | 16.0 | 14.8 | 13.6 |
| 39 (DN 50)      | 37            | 16.0   | 15.4 | 14.0 | 12.5 | 10.5 |

\* The valves can be used down to -10°C RT = Room Temperature

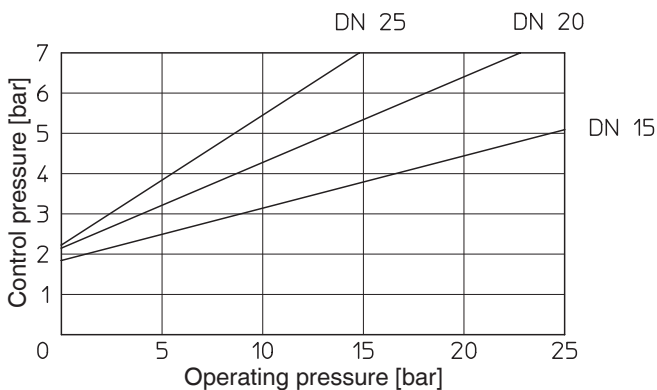
| Nominal size<br>[mm] | Max. operating pressure [bar]<br>Normally closed (NC) |                                 |                                 |                                 |                                  | Control pressure [bar]<br>Normally closed (NC) |   |            |   |            | Kv value<br>[m <sup>3</sup> /h] |
|----------------------|---|---------------------------------|---------------------------------|---------------------------------|----------------------------------|--|---|------------|---|------------|---------------------------------|
|                      | Actuator 0<br>piston<br>ø 50 mm                       | Actuator 3<br>piston<br>ø 50 mm | Actuator 1<br>piston<br>ø 70 mm | Actuator 4<br>piston<br>ø 70 mm | Actuator 2<br>piston<br>ø 120 mm | Actuator 0                                     | Actuator 3  | Actuator 1 | Actuator 4  | Actuator 2 |                                 |
| 15                   | 12.0  | 10                              | 25.0                            | 10                              | -                                | 4.8 - 7.0                                      | min. control pressure<br>see diagram<br>max. control pressure 7 bar | 5.5 - 7.0  | min. control pressure<br>see diagram<br>max. control pressure 7 bar | -          | 4.6                             |
| 20                   | 6.0   | 10                              | 20.0                            | 10                              | 25                               | 4.8 - 7.0                                      |   | 5.5 - 7.0  |   | 4.0 - 7.0  | 8.0                             |
| 25                   | 2.5   | 10                              | 10.0                            | 10                              | 25                               | 4.8 - 7.0                                      |   | 5.5 - 7.0  |   | 4.0 - 7.0  | 13.0                            |
| 32                   | -   | -                               | 7.0                             | 10                              | 20                               | -  |   | 5.5 - 7.0  |   | 4.0 - 7.0  | 22.0                            |
| 40                   | -   | -                               | 4.5                             | 10                              | 12                               | -  |   | 5.5 - 7.0  |   | 4.0 - 7.0  | 35.0                            |
| 50                   | -   | -                               | 3.0                             | 10                              | 10                               | -  | 5.5 - 7.0   | 5.0 - 7.0  | 50.0  |            |                                 |

All pressures are gauge pressures. The maximum operating pressure for valve body material EN-GJS-400-18-LT is 16 bar.  
Kv values determined acc. to IEC 534 standard, valve body material 1.4408 stainless steel and flanges EN 1092.  
The Kv value data refers to control function 1 (NC) and the largest actuator for each nominal size.  
Kv values may be different for other combinations. Consult GEMÜ.

## Operating pressure / Control pressure characteristics

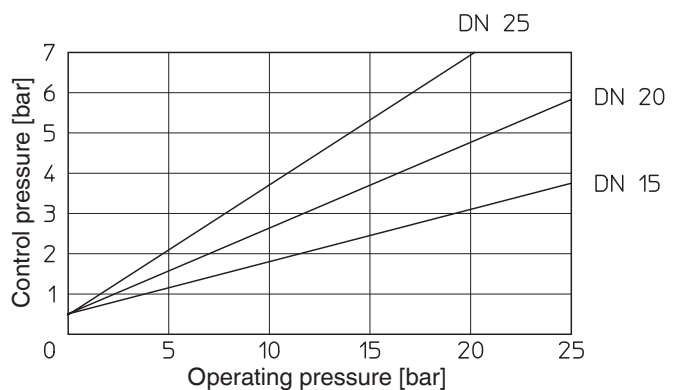
### Actuator size 0 / Normally open (NO) Flow direction: under the seat

min. control pressure dependent on operating pressure



### Actuator size 0 / Double acting (DA) Flow direction: under the seat

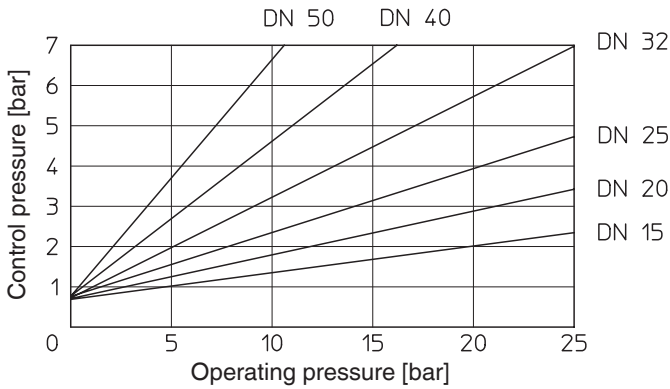
min. control pressure dependent on operating pressure



Operating pressure / Control pressure characteristics

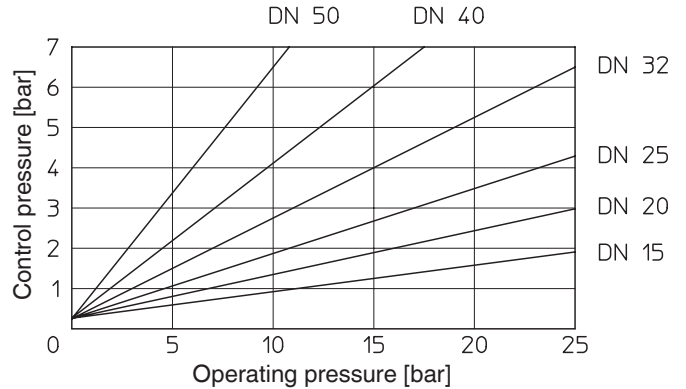
Actuator size 1 / Normally open (NO)  
Flow direction: under the seat

min. control pressure dependent on operating pressure



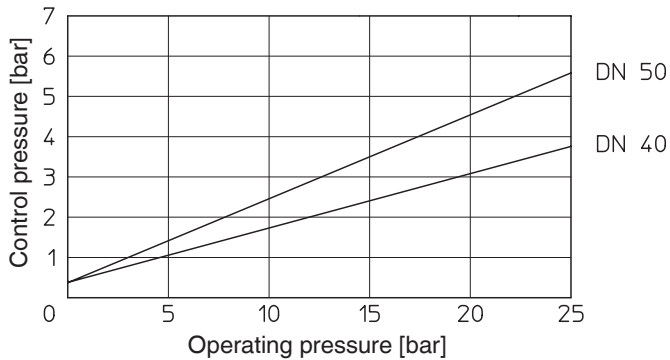
Actuator size 1 / Double acting (DA)  
Flow direction: under the seat

min. control pressure dependent on operating pressure



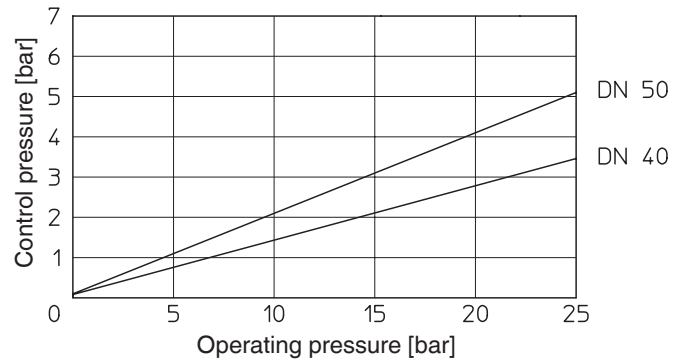
Actuator size 2 / Normally open (NO)  
Flow direction: under the seat

min. control pressure dependent on operating pressure



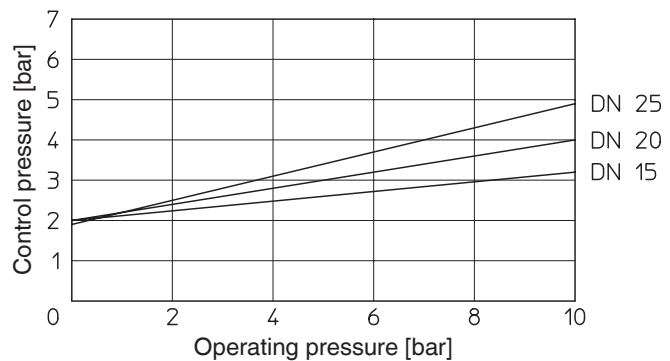
Actuator size 2 / Double acting (DA)  
Flow direction: under the seat

min. control pressure dependent on operating pressure



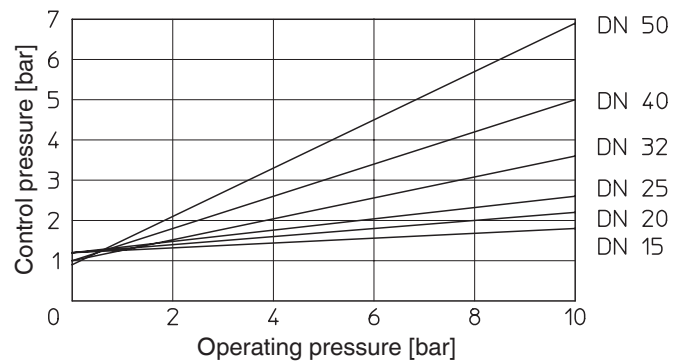
Actuator size 3 / Normally closed (NC)  
Flow direction: over the seat

min. control pressure dependent on operating pressure



Actuator size 4 / Normally closed (NC)  
Flow direction: over the seat

min. control pressure dependent on operating pressure



## Order data

| Body configuration | Code |
|--------------------|------|
| 2/2-way body       | D    |

| Connection   | Code |
|--|------|
| <b>Flanges</b><br>Flanges EN 1092 / PN16 / form B<br>length EN 558, series 1<br>ISO 5752, basic series 1 | 8    |
| Flanges EN 1092 / PN25 / form B<br>length EN 558, series 1   | 10   |
| Flanges ANSI class 125/150 RF<br>length EN 558, series 1<br>ISO 5752, basic series 1                     | 39   |

| Valve body material                 | Code |
|-------------------------------------|------|
| 1.4408 Cast stainless steel         | 37   |
| EN-GJS-400-18-LT (GGG 40.3) SG iron | 90   |

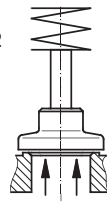
| Seat seal   | Code |
|---|------|
| FPM   | 4    |
| PTFE  | 5    |
| PTFE, glass reinforced                                  | 5G   |
| EPDM  | 14   |
| Other seat seals such as NBR, etc. available on request |      |

| Control function   | Code |
|--|------|
| Normally closed (NC)                                       | 1    |
| Normally open (NO)   | 2    |
| Double acting (DA)   | 3    |
| Double acting (normally open)<br>(only for control valves) | 8    |

| Actuator size              | Flow                | Code |
|----------------------------|---------------------|------|
| Actuator 0 piston ø 50 mm  | Flow under the seat | 0*   |
| Actuator 1 piston ø 70 mm  | Flow under the seat | 1*   |
| Actuator 2 piston ø 120 mm | Flow under the seat | 2*   |
| Actuator 3 piston ø 50 mm  | Flow over the seat  | 3    |
| Actuator 4 piston ø 70 mm  | Flow over the seat  | 4    |

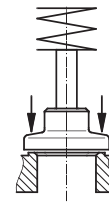
\* Preferred flow direction with incompressible liquid media to avoid "water hammer"

GEMÜ 534  
Actuators 0, 1, 2



Flow  
under the seat

GEMÜ 534  
Actuators 3, 4

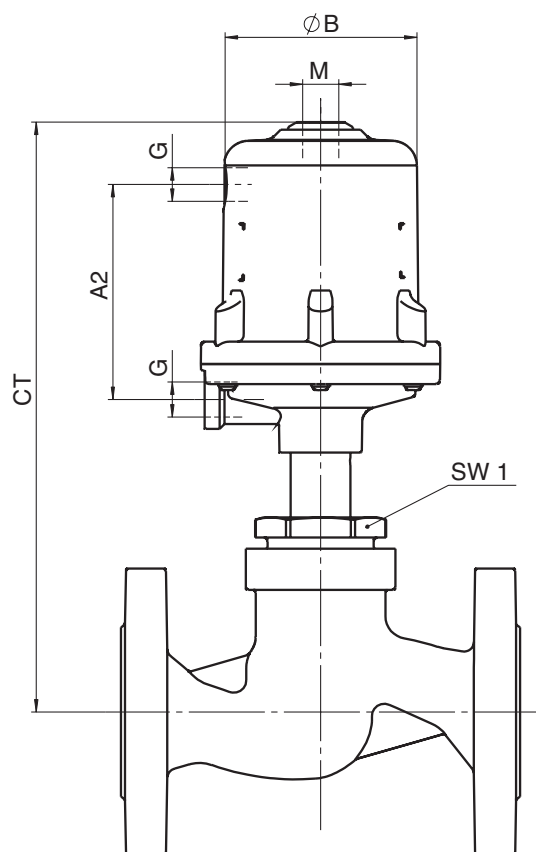


Flow  
over the seat

| Order example              | 534 | 25 | D | 8 | 90 | 5 | 1 | 1 | - |
|----------------------------|-----|----|---|---|----|---|---|---|---|
| Type                       | 534 |    |   |   |    |   |   |   |   |
| Nominal size               |     | 25 |   |   |    |   |   |   |   |
| Body configuration (code)  |     |    | D |   |    |   |   |   |   |
| Connection (code)          |     |    |   | 8 |    |   |   |   |   |
| Valve body material (code) |     |    |   |   | 90 |   |   |   |   |
| Seat seal (code)           |     |    |   |   |    | 5 |   |   |   |
| Control function (code)    |     |    |   |   |    |   | 1 |   |   |
| Actuator size (code)       |     |    |   |   |    |   |   | 1 |   |
| K number (code)            |     |    |   |   |    |   |   |   | - |

## Actuator dimensions / Installation dimensions

| Actuator dimensions - GEMÜ 534 [mm] |     |         |     |      |
|-------------------------------------|-----|---------|-----|------|
| Actuator size                       | øB  | M       | A2  | G    |
| 0 + 3                               | 72  | M16x1   | 70  | G1/4 |
| 1 + 4                               | 96  | M16x1   | 86  | G1/4 |
| 2                                   | 168 | M22x1.5 | 149 | G1/4 |



| Installation dimensions [mm] / weight of valve [kg] |            |                |              |                |             |            |             |
|---|------------|----------------|--------------|----------------|-------------|------------|-------------|
| DN  | SW1 metric | Actuator 0 + 3 |              | Actuator 1 + 4 |             | Actuator 2 |             |
|   |            | CT [mm]        | Gewicht [kg] | CT [mm]        | Weight [kg] | CT [mm]    | Weight [kg] |
| 15  | 36         | 190            | 3.1          | 218            | 3.6         | -          | 7.8         |
| 20  | 41         | 197            | 4.1          | 225            | 4.6         | 320        | 8.6         |
| 25  | 46         | 208            | 5.0          | 236            | 5.5         | 331        | 9.3         |
| 32  | 55         | -              | -            | 241            | 7.7         | 336        | 10.9        |
| 40  | 60         | -              | -            | 252            | 9.0         | 347        | 11.9        |
| 50  | 75         | -              | -            | 260            | 11.8        | 355        | 14.0        |

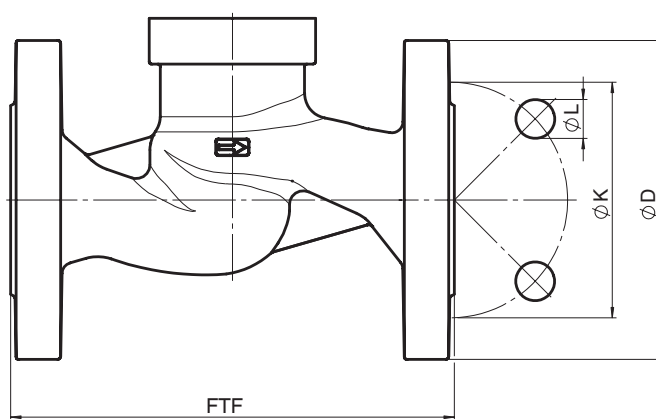
For materials see overview on last page

## Body dimensions [mm]

**Flanges, connection code 8, 10, 39**  
**Valve body material: 1.4408 (code 37), EN-GJS-400-18-LT (code 90)**

| DN | SW1 metric | L [mm] | Number of bolt holes | Connection code 8 + 10 |          |          | Connection code 39 |          |          |
|----|------------|--------|----------------------|------------------------|----------|----------|--------------------|----------|----------|
|    |            |        |                      | ø D [mm]               | ø K [mm] | ø L [mm] | ø D [mm]           | ø K [mm] | ø L [mm] |
| 15 | 36         | 130    | 4                    | 95                     | 65       | 14       | 89.0               | 60.5     | 15.7     |
| 20 | 41         | 150    | 4                    | 105                    | 75       | 14       | 98.6               | 69.8     | 15.7     |
| 25 | 46         | 160    | 4                    | 115                    | 85       | 14       | 108.0              | 79.2     | 15.7     |
| 32 | 55         | 180    | 4                    | 140                    | 100      | 18       | 117.3              | 88.9     | 15.7     |
| 40 | 60         | 200    | 4                    | 150                    | 110      | 18       | 127.0              | 98.6     | 15.7     |
| 50 | 75         | 230    | 4                    | 165                    | 125      | 18       | 152.4              | 120.7    | 19.1     |

For materials see overview below



### Overview of metal bodies for GEMÜ 534

| Connection code | 8  |    | 10 | 39 |    |
|-----------------|----|----|----|----|----|
|                 | 37 | 90 | 37 | 37 | 90 |
| DN 15           | -  | X  | X  | X  | X  |
| DN 20           | -  | X  | X  | X  | X  |
| DN 25           | -  | X  | X  | X  | X  |
| DN 32           | -  | X  | X  | X  | X  |
| DN 40           | -  | X  | X  | X  | X  |
| DN 50           | X  | X  | -  | X  | X  |

For further globe valves, accessories and other products, please see our Product Range catalogue and Price List.  
 Contact GEMÜ.



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