



## Manually operated 2-way globe control valve

- Excellent control accuracy
- Exchangeable valve seats enable perfect coordination under the most demanding operating conditions
- Robust actuator with optional stroke limitation and locking
- Stainless steel valve body with flange, socket, clamp or welded connection

Product variants described in the data sheet may differ from the product presentation and description.

### Can be combined with

|                                                                                     |                                                                                     |   |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---|
|   | <b>Type 2301</b><br>Pneumatically operated<br>2-way Globe Control Valve             | ▶ |
|  | <b>Type 3361</b><br>Electromotive 2-way globe<br>control valve                      | ▶ |
|  | <b>Type 2921</b><br>Manually operated 2 1/2-way<br>globe valve                      | ▶ |
|  | <b>Type 2960</b><br>Manually operated 2-way<br>angle seat control valve             | ▶ |
|  | <b>Type 8802</b><br>Continuous control valve<br>systems ELEMENT – over-<br>view     | ▶ |
|  | <b>Type 8840</b><br>Modular process valve<br>cluster – distributor and<br>collector | ▶ |

### Type description

The Type 2961 control valve consists of a manual actuator and a globe valve body with exchangeable seats made of high-quality stainless steel. Each globe valve body can be equipped with up to 8 valve seat sizes and reaches the desired flow characteristic curve in interaction with parabolic cones. The precise spindle guide enables control, even under demanding operating conditions. A soft PTFE or PEEK seal guarantees reliable sealing. The actuator is made of high-quality plastic and is suitable for use in demanding environments. It possesses a visual position indicator and can be optionally equipped with stroke limitation and locking. The packing gland uses tried-and-tested V-seals and possesses spring compensation, which means that it does not need to be pulled back manually.

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## 1. General technical data

| Product properties                                                                                     |                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Dimensions                                                                                             | Further information can be found in chapter <a href="#">"4. Dimensions" on page 7.</a>                                             |
| Material                                                                                               | Further information can be found in chapter <a href="#">"3. Materials" on page 6.</a>                                              |
| Design                                                                                                 | Globe control valve                                                                                                                |
| Nominal diameter                                                                                       | DN 10...DN 100, NPS 3/8...NPS 4                                                                                                    |
| Flow direction                                                                                         | Flow to open (below seat)                                                                                                          |
| Performance data                                                                                       |                                                                                                                                    |
| Operating pressure                                                                                     | 0 bar(g)...25 bar(g) (see <a href="#">"5.1. Fluidic data" on page 12</a> )                                                         |
| Nominal pressure                                                                                       | PN 25 (DIN EN 1333), Class 150 (DIN EN 1759)                                                                                       |
| Seat leakage according to DIN EN 60534 - 4:2006                                                        | Leakage class II<br>Leakage class VI for PTFE and PEEK (see <a href="#">"5.1. Fluidic data" on page 12</a> )                       |
| K <sub>v</sub> value                                                                                   | 0.1 m³/h...140 m³/h (see <a href="#">"5.1. Fluidic data" on page 12</a> )                                                          |
| Operating characteristic                                                                               | Equal percentage                                                                                                                   |
| Medium data                                                                                            |                                                                                                                                    |
| Operating medium                                                                                       | Steam, water, neutral gases, alcohols, oils, fuels, hydraulic fluids, salt solutions, alkalis, organic solvents                    |
| Medium temperature                                                                                     | - 40 °C...+ 230 °C (see <a href="#">"5.2. Operating limits" on page 16</a> )                                                       |
| Viscosity                                                                                              | Max. 600 mm²/s                                                                                                                     |
| Product connections                                                                                    |                                                                                                                                    |
| <b>Port connection <sup>1)</sup></b>                                                                   |                                                                                                                                    |
| Flange connection                                                                                      | DIN EN 1092 - 1<br>ANSI B 16.5<br>JIS 10K                                                                                          |
| Threaded connection                                                                                    | G (DIN ISO 228 - 1)<br>NPT (ASME B1.20.1)<br>RC (ISO 7 - 1)                                                                        |
| Welded connection                                                                                      | DIN EN ISO 1127 / ISO 4200 / DIN 11866 series B<br>DIN 11850 - 2 / DIN 11866 series A<br>ASME BPE / DIN 11866 series C<br>SMS 3008 |
| Clamp connection                                                                                       | DIN 32676 series B (pipe: ISO 4200)<br>DIN 32676 series A (pipe: DIN 11850 - 2)<br>ASME BPE                                        |
| Approvals and conformities                                                                             |                                                                                                                                    |
| Further information can be found in chapter <a href="#">"2. Approvals and conformities" on page 4.</a> |                                                                                                                                    |
| Environment and installation                                                                           |                                                                                                                                    |
| Environmental factors                                                                                  | Protect the device from electromagnetic interference, UV radiation and, when used outdoors, from weather conditions.               |
| Ambient temperature                                                                                    | - 10 °C...+ 60 °C                                                                                                                  |
| Installation position                                                                                  | As required, preferably with actuator upright                                                                                      |

1.) Further variants are available on request.

## 2. Approvals and conformities

### 2.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available variants can be supplied with the below mentioned approvals or conformities.

### 2.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives. This includes the following directives:

- Pressure Equipment Directive 2014/68/EU

### 2.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

### 2.4. Explosion protection

| Approval                                                                                                                                                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |                    |    |    |                             |          |          |          |                     |                    |                    |                    |                            |          |          |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|----|----|-----------------------------|----------|----------|----------|---------------------|--------------------|--------------------|--------------------|----------------------------|----------|----------|----------|
| <br> | <p><b>Optional: Explosion protection (valid for the variable code PX51)</b><br/>As a category 2 device suitable for zone 1/21 and zone 2/22.</p> <p><b>ATEX:</b><br/>EPS 18 ATEX 2 008 X<br/>II 2G Ex h IIC T4...T2 Gb<br/>II 2D Ex h IIIC T135 °C...T300 °C Db</p> <p><b>IECEx:</b><br/>IECEx EPS 18.0007X<br/>Ex h IIC T4...T2 Gb<br/>Ex h IIIC T135 °C...T300 °C Db</p> <table><tr><td>Temperature class</td><td>T2</td><td>T3</td><td>T4</td></tr><tr><td>Maximum surface temperature</td><td>+ 300 °C</td><td>+ 200 °C</td><td>+ 135 °C</td></tr><tr><td>Ambient temperature</td><td>- 40 °C...+ 130 °C</td><td>- 40 °C...+ 130 °C</td><td>- 40 °C...+ 100 °C</td></tr><tr><td>Maximum medium temperature</td><td>+ 285 °C</td><td>+ 185 °C</td><td>+ 125 °C</td></tr></table> <p><b>Note:</b> The ambient and medium temperature range may be limited by non-ex-relevant specifications. Observe the Operating Instructions.</p> | Temperature class  | T2                 | T3 | T4 | Maximum surface temperature | + 300 °C | + 200 °C | + 135 °C | Ambient temperature | - 40 °C...+ 130 °C | - 40 °C...+ 130 °C | - 40 °C...+ 100 °C | Maximum medium temperature | + 285 °C | + 185 °C | + 125 °C |
| Temperature class                                                                                                                                                         | T2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | T3                 | T4                 |    |    |                             |          |          |          |                     |                    |                    |                    |                            |          |          |          |
| Maximum surface temperature                                                                                                                                               | + 300 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | + 200 °C           | + 135 °C           |    |    |                             |          |          |          |                     |                    |                    |                    |                            |          |          |          |
| Ambient temperature                                                                                                                                                       | - 40 °C...+ 130 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | - 40 °C...+ 130 °C | - 40 °C...+ 100 °C |    |    |                             |          |          |          |                     |                    |                    |                    |                            |          |          |          |
| Maximum medium temperature                                                                                                                                                | + 285 °C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | + 185 °C           | + 125 °C           |    |    |                             |          |          |          |                     |                    |                    |                    |                            |          |          |          |

### 2.5. Drinking water

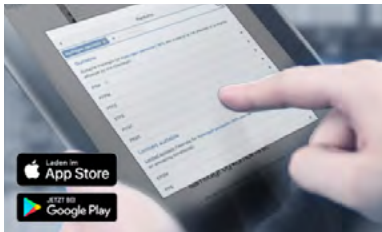
| Conformity                                                                          | Description                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><b>Suitable for use in drinking water applications</b><br/>The materials comply with the assessment principles (UBA) for materials in contact with drinking water (TrinkwasserV).</p> <p><b>Stainless steel body</b><br/>PF39: Suitable for products with medium temperature up to 85 °C (hot water)</p> |

2.6. Foods and beverages/Hygiene

| Conformity                                                                        | Description                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FDA                                                                               | <b>FDA – Code of Federal Regulations (valid for the variable code PL02, PL03)</b><br>All wetted materials are compliant with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA) according to the manufacturer’s declaration. |
| USP                                                                               | <b>United States Pharmacopeial Convention (USP) (valid for the variable code PL04)</b><br>All wetted materials are biocompatible according to the manufacturer’s declaration.                                                                                      |
|  | <b>EC Regulation 1935/2004 of the European Parliament and of the Council (valid for the variable code PL01, PL02)</b><br>All wetted materials are compliant with EC Regulation 1935/2004/EC according to the manufacturer’s declaration.                           |
|  | <b>China food GB Standards of the People’s Republic of China (valid for the variable code PL10)</b><br>All wetted materials are compliant with the requirement of China food GB Standards according to the manufacturer’s declaration.                             |

3. Materials

3.1. Bürkert resistApp

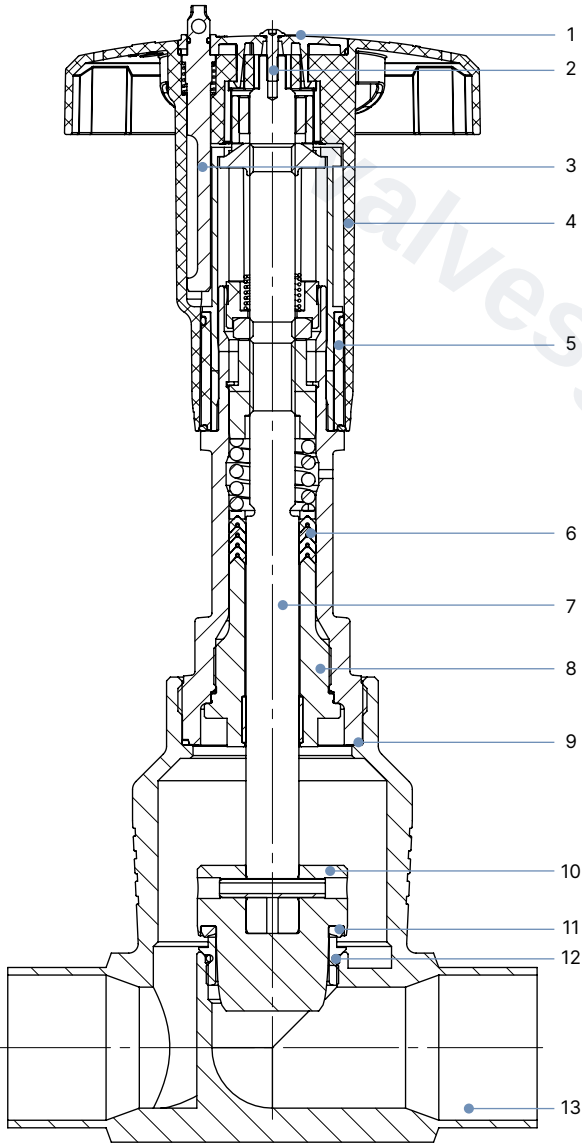


**Bürkert resistApp – Chemical resistance chart**

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start chemical resistance check](#)

3.2. Material specifications

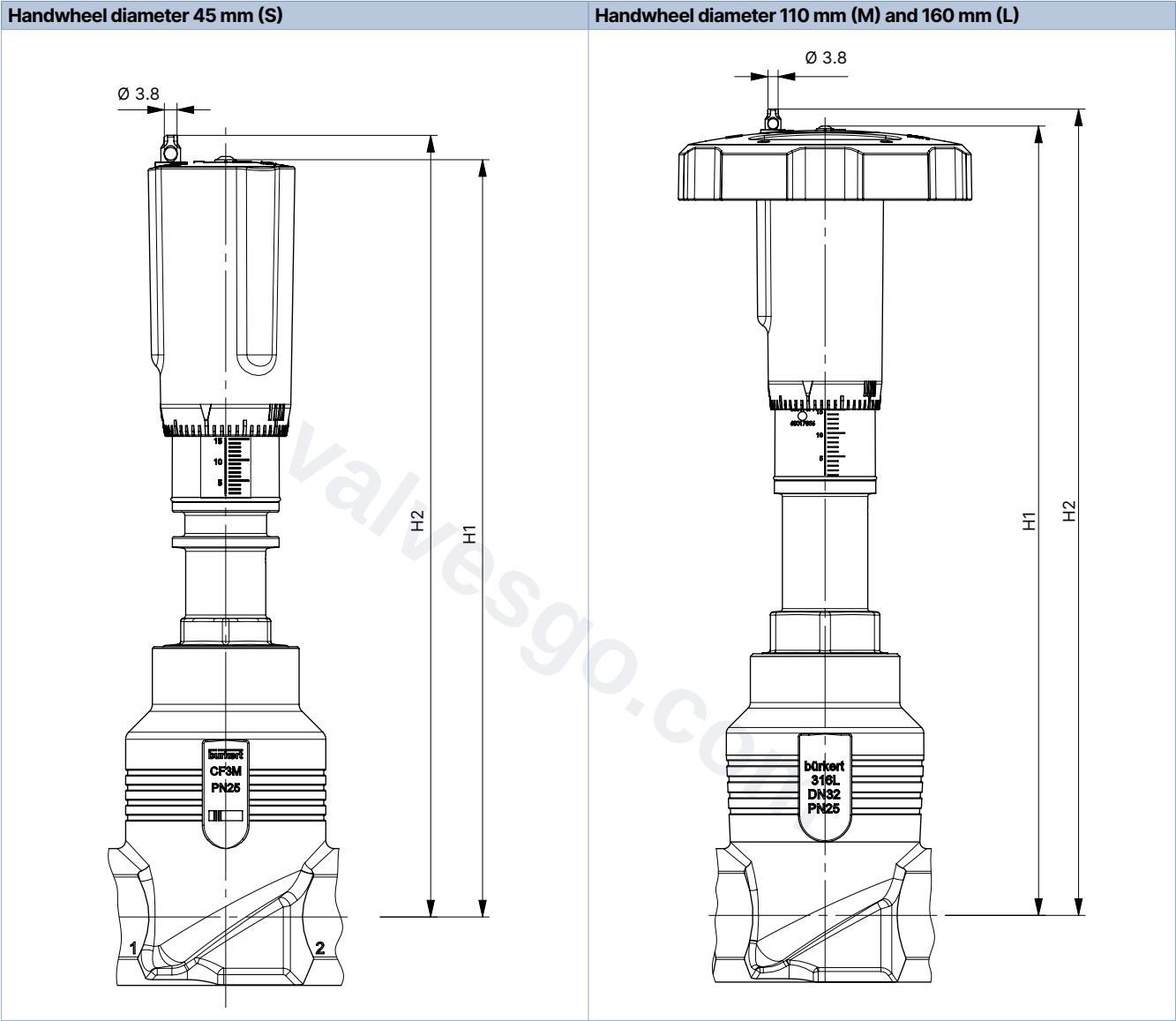


| Nr. | Element                              | Werkstoff                                       |
|-----|--------------------------------------|-------------------------------------------------|
| 1   | Cover                                | Polyamide (PA)                                  |
| 2   | Screw                                | Stainless steel 1.4301                          |
| 3   | Locking device                       | Stainless steel 1.4305                          |
| 4   | Handwheel                            | Polyphenylene sulphide (PPS)                    |
| 5   | Visual position indicator with scale | Polyamide (PA)                                  |
| 6   | Packing gland                        | PTFE V-rings (filled), with spring compensation |
| 7   | Stem                                 | Stainless steel 1.4401 or 1.4404                |
| 8   | Spindle guide                        | Stainless steel 1.4404 (316L), PTFE filled      |
| 9   | Housing seal                         | Graphite                                        |
| 10  | Control cone                         | 1.4571 (optionally hardened)                    |
| 11  | Seat seal (optional)                 | PTFE or PEEK                                    |
| 12  | Valve seat with O-ring               | Stainless steel 1.4571, EPDM                    |
| 13  | Valve body                           | Stainless steel 316L/CF3M                       |

4. Dimensions

4.1. Actuator

**Note:**  
Dimensions in mm, unless otherwise stated

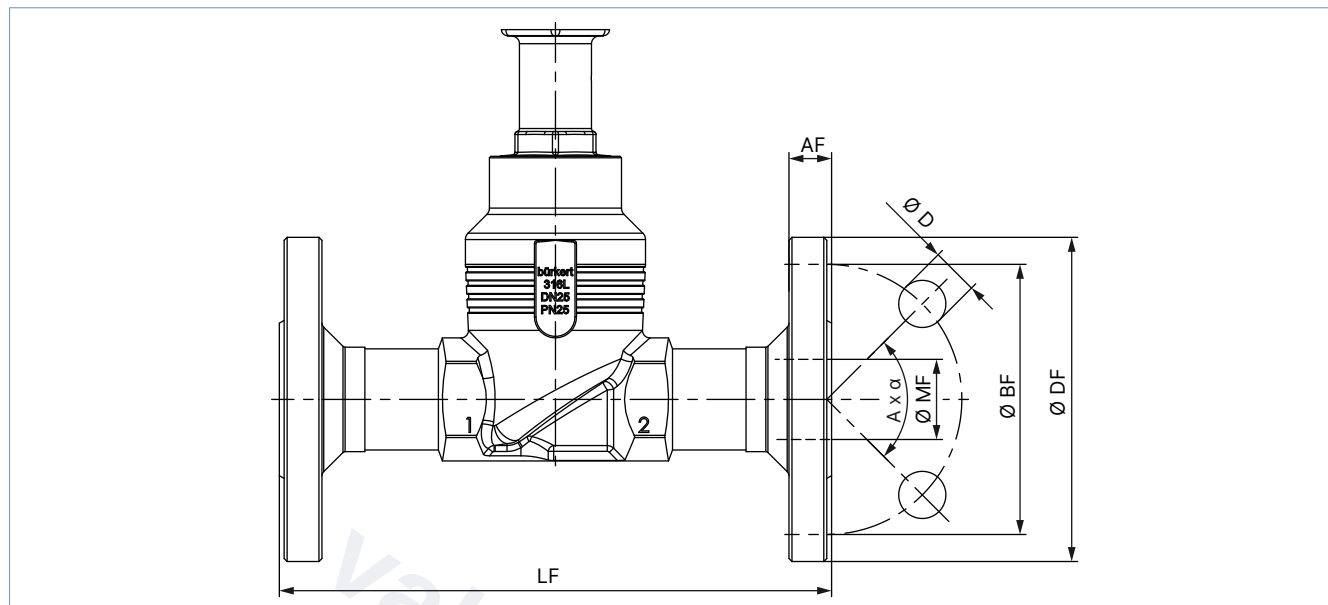


| Nominal connection size (pipe) |       | Handwheel diameter Ø | H1  | H2 (locking) |
|--------------------------------|-------|----------------------|-----|--------------|
| [DN]                           | [NPS] |                      |     |              |
| 15                             | ½     | 45 (S)               | 217 | 224          |
| 20                             | ¾     | 45 (S)               | 224 | 230          |
| 25                             | 1     | 45 (S)               | 228 | 234          |
| 32                             | 1 ¼   | 110 (M)              | 296 | 303          |
| 40                             | 1 ½   | 110 (M)              | 301 | 307          |
| 50                             | 2     | 110 (M)              | 307 | 313          |
| 65                             | 2 ½   | 160 (L)              | 361 | 368          |
| 80                             | 3     | 160 (L)              | 369 | 375          |
| 100                            | 4     | 160 (L)              | 379 | 385          |

#### 4.2. Body with flange connection

**Note:**

Dimensions in mm, unless otherwise stated

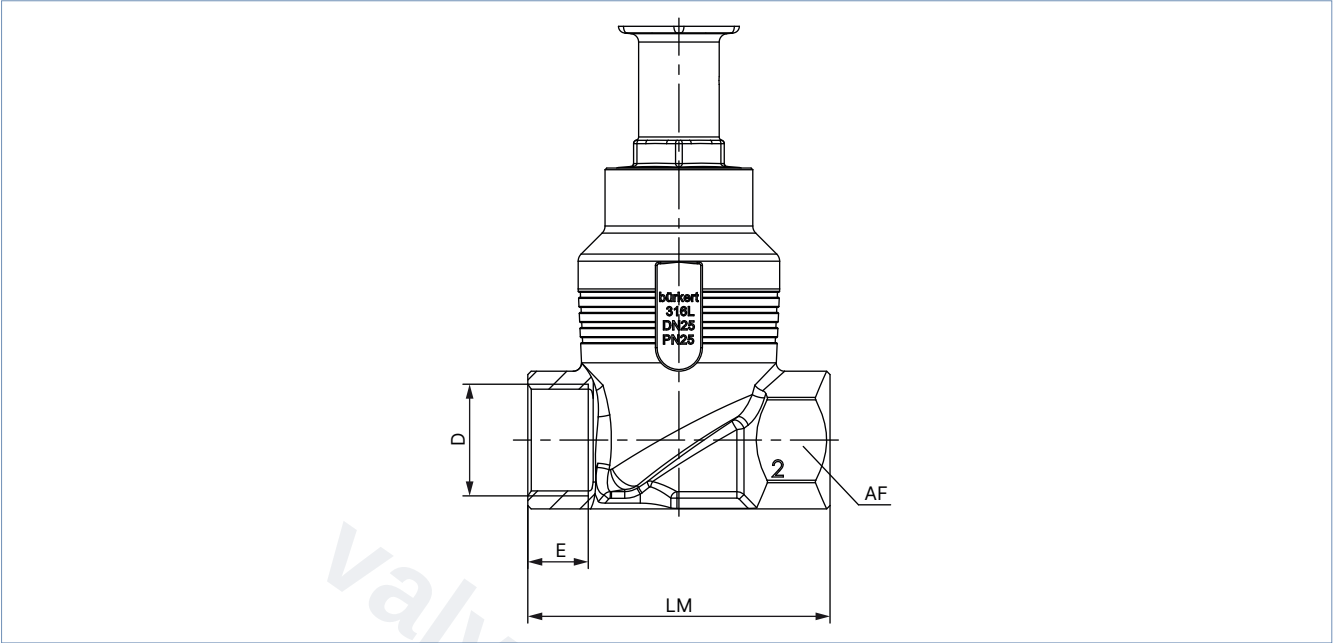


| Nominal diameter<br>(port connection) | DIN EN 1092 - 1 PN 25 FTF 1 according to DIN EN 558 - 1 |     |      |    |     |         |       | JIS 10K FTF 10 according to DIN EN 558 - 2 |     |      |    |     |         |       |
|---------------------------------------|---------------------------------------------------------|-----|------|----|-----|---------|-------|--------------------------------------------|-----|------|----|-----|---------|-------|
| DN                                    | Ø DF                                                    | LF  | Ø BF | AF | Ø D | A x α   | Ø MF  | Ø DF                                       | LF  | Ø BF | AF | Ø D | A x α   | Ø MF  |
| 10                                    | 90                                                      | 130 | 60   | 16 | 14  | 4 × 90° | 13.6  | —                                          | —   | —    | —  | —   | —       | —     |
| 15                                    | 95                                                      | 130 | 65   | 16 | 14  | 4 × 90° | 18.1  | 95                                         | 108 | 70   | 12 | 15  | 4 × 90° | 18.1  |
| 20                                    | 105                                                     | 150 | 75   | 18 | 14  | 4 × 90° | 23.7  | 100                                        | 117 | 75   | 14 | 15  | 4 × 90° | 23.7  |
| 25                                    | 115                                                     | 160 | 85   | 18 | 14  | 4 × 90° | 29.7  | 125                                        | 127 | 90   | 14 | 19  | 4 × 90° | 29.7  |
| 32                                    | 140                                                     | 180 | 100  | 18 | 18  | 4 × 90° | 38.4  | 135                                        | 140 | 100  | 16 | 19  | 4 × 90° | 38.4  |
| 40                                    | 150                                                     | 200 | 110  | 18 | 18  | 4 × 90° | 44.3  | 140                                        | 165 | 105  | 16 | 19  | 4 × 90° | 44.3  |
| 50                                    | 165                                                     | 230 | 125  | 20 | 18  | 4 × 90° | 56.3  | 155                                        | 203 | 120  | 16 | 19  | 4 × 90° | 56.3  |
| 65                                    | 185                                                     | 290 | 145  | 22 | 18  | 8 × 45° | 66.0  | 175                                        | 216 | 140  | 18 | 19  | 4 × 90° | 71.5  |
| 80                                    | 200                                                     | 310 | 160  | 24 | 18  | 8 × 45° | 81.0  | 185                                        | 241 | 150  | 18 | 19  | 8 × 45° | 84.3  |
| 100                                   | 235                                                     | 350 | 190  | 24 | 22  | 8 × 45° | 100.0 | 210                                        | 292 | 175  | 18 | 19  | 8 × 45° | 109.1 |

| Nominal diameter<br>(port connection) | ANSI B 16.5 Class 150 FTF 37 according to DIN EN 558 - 2 |     |       |      |      |         |       |
|---------------------------------------|----------------------------------------------------------|-----|-------|------|------|---------|-------|
| NPS                                   | Ø DF                                                     | LF  | Ø BF  | AF   | Ø D  | A x α   | Ø MF  |
| 1/2                                   | 89                                                       | 184 | 60.5  | 11.2 | 15.7 | 4 × 90° | 15.7  |
| 3/4                                   | 99                                                       | 184 | 69.9  | 12.7 | 15.7 | 4 × 90° | 20.8  |
| 1                                     | 108                                                      | 184 | 79.2  | 14.2 | 15.7 | 4 × 90° | 26.7  |
| 1 1/2                                 | 127                                                      | 222 | 98.6  | 17.5 | 15.7 | 4 × 90° | 40.9  |
| 2                                     | 152                                                      | 254 | 120.7 | 19.1 | 19.1 | 4 × 90° | 52.6  |
| 2 1/2                                 | 178                                                      | 276 | 139.7 | 22.3 | 19.1 | 4 × 90° | 62.7  |
| 3                                     | 190                                                      | 298 | 152.5 | 23.9 | 19.1 | 4 × 90° | 78.0  |
| 4                                     | 229                                                      | 352 | 190.5 | 23.9 | 19.1 | 8 × 45° | 102.4 |

4.3. Body with threaded connection

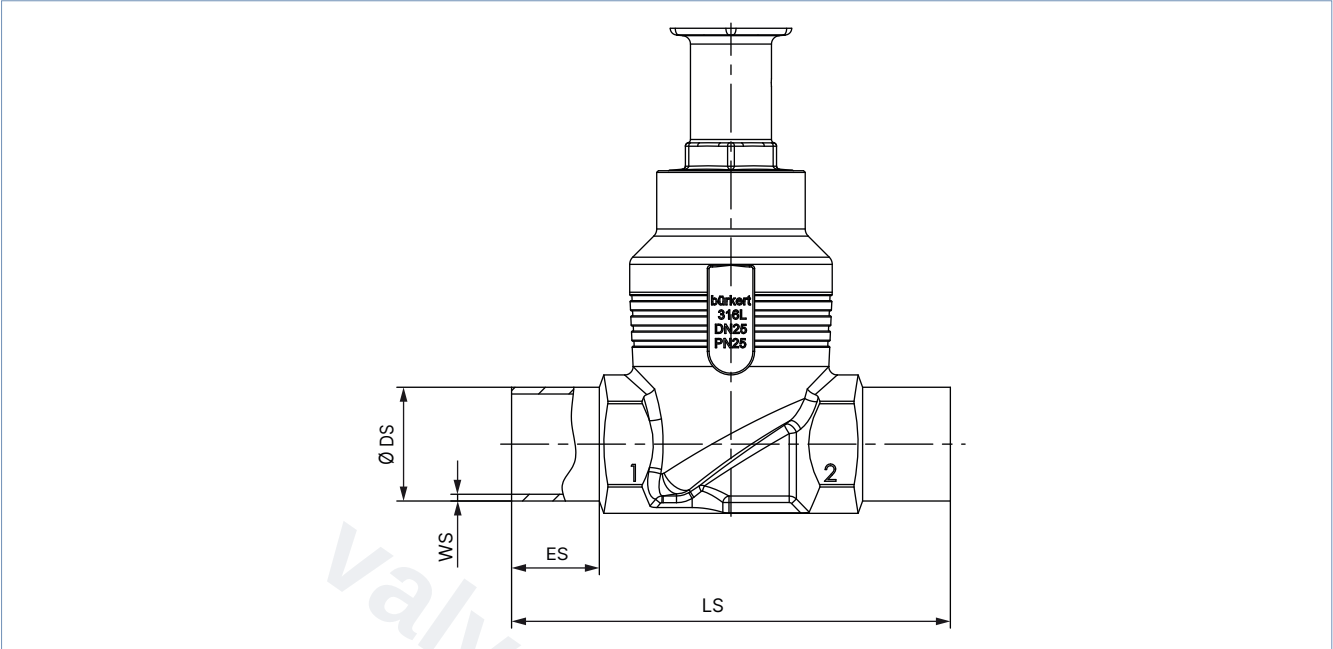
**Note:**  
Dimensions in mm, unless otherwise stated



| Nominal diameter<br>(port connection) |       | G (DIN ISO 228 - 1)<br>NPT (ASME B1.20.1)<br>RC (ISO 7 - 1) |       |      | LM  | AF  |
|---------------------------------------|-------|-------------------------------------------------------------|-------|------|-----|-----|
| DN                                    | D     | E                                                           |       |      |     |     |
|                                       | NPS   | [G]                                                         | [NPT] | [Rc] |     |     |
| 10                                    | 3/8   | 12                                                          | 10.3  | 10.1 | 65  | 27  |
| 15                                    | 1/2   | 14                                                          | 13.7  | 13.2 | 65  | 27  |
| 20                                    | 3/4   | 16                                                          | 14    | 14.5 | 75  | 34  |
| 25                                    | 1     | 18                                                          | 16.8  | 16.8 | 90  | 41  |
| 32                                    | 1 1/4 | 20                                                          | 17.3  | 19.1 | 110 | 50  |
| 40                                    | 1 1/2 | 22                                                          | 17.3  | 19.1 | 120 | 55  |
| 50                                    | 2     | 24                                                          | 17.6  | 23.4 | 150 | 70  |
| 65                                    | 2 1/2 | 26                                                          | 23.7  | 26.7 | 185 | 85  |
| 80                                    | 3     | 28                                                          | 30.5  | 29.8 | 205 | 100 |
| 100                                   | 4     | 32                                                          | 33    | 35.8 | 240 | 125 |

4.4. Body with welded connection

**Note:**  
Dimensions in mm, unless otherwise stated

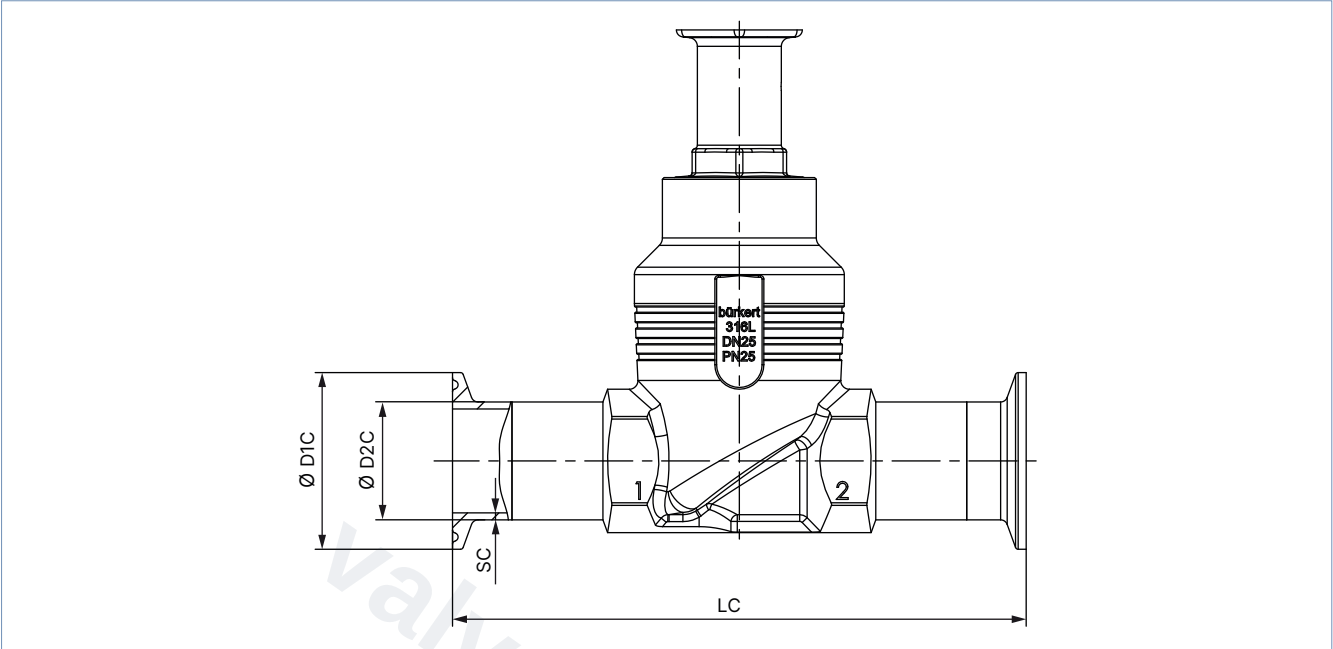


| Nominal diameter<br>(port connection) | ES | LS  | DIN EN ISO 1127 / ISO 4200 /<br>DIN 11866 series B |     | DIN 11850 - 2 / DIN 11866 series A /<br>DIN EN 10357 series A |     |
|---------------------------------------|----|-----|----------------------------------------------------|-----|---------------------------------------------------------------|-----|
| DN                                    |    |     | Ø DS                                               | WS  | Ø DS                                                          | WS  |
| 10                                    | 20 | 90  | 17.2                                               | 1.6 | 13                                                            | 1.5 |
| 15                                    | 20 | 90  | 21.3                                               | 1.6 | 19                                                            | 1.5 |
| 20                                    | 20 | 100 | 26.9                                               | 1.6 | 23                                                            | 1.5 |
| 25                                    | 26 | 130 | 33.7                                               | 2.0 | 29                                                            | 1.5 |
| 32                                    | 26 | 140 | 42.4                                               | 2.0 | 35                                                            | 1.5 |
| 40                                    | 26 | 150 | 48.3                                               | 2.0 | 41                                                            | 1.5 |
| 50                                    | 26 | 175 | 60.3                                               | 2.0 | 53                                                            | 1.5 |
| 65                                    | 26 | 210 | 76.1                                               | 2.3 | 70                                                            | 2.0 |
| 80                                    | 26 | 230 | 88.9                                               | 2.3 | 85                                                            | 2.0 |
| 100                                   | 26 | 260 | 114.3                                              | 2.6 | 104                                                           | 2.0 |

| Nominal diameter<br>(port connection) | ES | LS  | ASME BPE / DIN 11866 series C |      |
|---------------------------------------|----|-----|-------------------------------|------|
| NPS                                   |    |     | Ø DS                          | WS   |
| 1/2                                   | 20 | 90  | 12.7                          | 1.65 |
| 3/4                                   | 20 | 90  | 19.05                         | 1.65 |
| 1                                     | 20 | 100 | 25.4                          | 1.65 |
| 1 1/2                                 | 26 | 140 | 38.1                          | 1.65 |
| 2                                     | 26 | 150 | 50.8                          | 1.65 |
| 2 1/2                                 | 26 | 175 | 63.5                          | 1.65 |
| 3                                     | 26 | 210 | 76.2                          | 1.65 |
| 4                                     | 26 | 260 | 101.6                         | 2.11 |

4.5. Body with clamp connection

**Note:**  
Dimensions in mm, unless otherwise stated



| Nominal diameter<br>(port connection) | DIN 32676 A (Rohr: DIN 11850 - 2) |        |        |     | DIN 32676 B (Rohr: ISO 4200) |        |        |     |
|---------------------------------------|-----------------------------------|--------|--------|-----|------------------------------|--------|--------|-----|
|                                       | LC                                | Ø D2 C | Ø D1 C | SC  | LC                           | Ø D2 C | Ø D1 C | SC  |
| 15                                    | 126                               | 19     | 34     | 1.5 | 146                          | 21.3   | 50.5   | 1.6 |
| 20                                    | 136                               | 23     | 34     | 1.5 | 136                          | 26.9   | 50.5   | 1.6 |
| 25                                    | 173                               | 29     | 50.5   | 1.5 | 164                          | 33.7   | 50.5   | 2.0 |
| 40                                    | 193                               | 41     | 50.5   | 1.5 | 193                          | 48.3   | 64.0   | 2.0 |
| 50                                    | 218                               | 53     | 64     | 1.5 | 218                          | 60.3   | 77.5   | 2.0 |

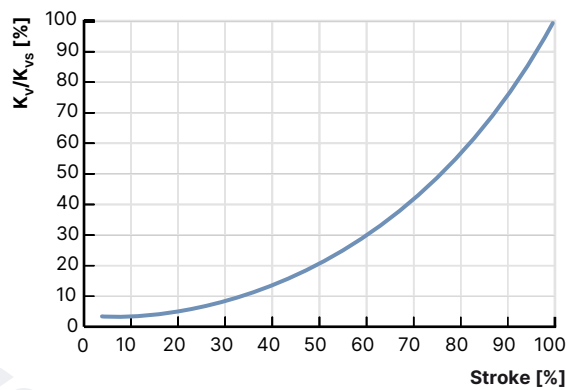
| Nominal diameter<br>(port connection) | ASME BPE |        |        |      |
|---------------------------------------|----------|--------|--------|------|
|                                       | LC       | Ø D2 C | Ø D1 C | SC   |
| 1/2                                   | 122      | 12.7   | 25.0   | 1.65 |
| 3/4                                   | 126      | 19.05  | 25.0   | 1.65 |
| 1                                     | 126      | 25.4   | 50.5   | 1.65 |
| 1 1/2                                 | 172      | 38.1   | 50.5   | 1.65 |
| 2                                     | 182      | 50.8   | 64.0   | 1.65 |
| 2 1/2                                 | 231      | 63.5   | 77.5   | 1.65 |
| 3                                     | 265      | 76.2   | 91.0   | 1.65 |
| 4                                     | 315      | 101.6  | 119.0  | 2.11 |

## 5. Performance specifications

### 5.1. Fluidic data

#### Flow characteristics

- Flow characteristic according to DIN EN 60534 - 2 - 4
- $K_{VR}$  value at 5 % of stroke for  $DN > 10$  mm  
 $K_{VR}$  value at 10 % of stroke for  $DN \leq 10$  mm
- $K_{VR}$  value = smallest  $K_V$  value, at which the tilt tolerance according to DIN EN 60534 - 2 - 4 is still maintained.



Equal percentage flow curve - detailed values please see below

**Overview of fluidic data for flow below seat (for liquids, steam and gases)**
**Note:**

- $K_v$  value [ $m^3/h$ ]: measurement with water according to DIN EN 60534 - 2 - 4
- Seat leakage according to DIN EN 60534 - 4
- Bürkert product filter (see **"7.2. Bürkert product filter" on page 19**)
- Info: Rules for decimal places implemented according to works standard

| Nominal diameter (pipe) |                 | Seat size | Hand-wheel diameter Ø | Operating pressure max. CF A (Seat leakage class) |         |         | Theoretical rangeability | K <sub>v</sub> value at stroke [m³/h] |       |       |       |       |       |       |       |       |       |       |        | K <sub>vs</sub> value |
|-------------------------|-----------------|-----------|-----------------------|---------------------------------------------------|---------|---------|--------------------------|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-----------------------|
|                         |                 |           |                       | Seat seal                                         |         |         |                          | 5 %                                   | 10 %  | 20 %  | 30 %  | 40 %  | 50 %  | 60 %  | 70 %  | 80 %  | 90 %  | 100 % | [m³/h] |                       |
| DN                      | NPS             | [mm]      | [bar(g)]              | Stainless steel                                   | PTFE    | PEEK    |                          |                                       |       |       |       |       |       |       |       |       |       |       |        |                       |
| 10                      | ¾ <sup>1)</sup> | 3         | 45 (S)                | 25 (II)                                           | –       | –       | 20:1                     | –                                     | 0.005 | 0.009 | 0.013 | 0.019 | 0.026 | 0.034 | 0.044 | 0.060 | 0.077 | 0.098 | 0.1    |                       |
|                         |                 | 3         | 45 (S)                | 25 (II)                                           |         |         | 20:1                     | –                                     | 0.009 | 0.015 | 0.023 | 0.033 | 0.046 | 0.063 | 0.085 | 0.11  | 0.16  | 0.22  | 0.2    |                       |
|                         |                 | 4         | 45 (S)                | 25 (II)                                           |         |         | 30:1                     | –                                     | 0.023 | 0.033 | 0.049 | 0.070 | 0.097 | 0.14  | 0.18  | 0.26  | 0.35  | 0.49  | 0.5    |                       |
|                         |                 | 6         | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 50:1                     | 0.005                                 | 0.007 | 0.011 | 0.045 | 0.085 | 0.16  | 0.26  | 0.41  | 0.65  | 1.1   | 1.25  | 1.25   |                       |
|                         |                 | 8         | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 0.060                    | 0.070                                 | 0.090 | 0.12  | 0.18  | 0.26  | 0.42  | 0.61  | 0.92  | 1.5   | 2.0   | 2.0   |        |                       |
|                         |                 | 10        | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 0.090                    | 0.11                                  | 0.13  | 0.19  | 0.30  | 0.48  | 0.73  | 1.0   | 1.6   | 2.3   | 2.7   | 2.7   |        |                       |
| 15                      | ½ <sup>2)</sup> | 3         | 45 (S)                | 25 (II)                                           | –       | –       | 20:1                     | –                                     | 0.005 | 0.009 | 0.013 | 0.019 | 0.026 | 0.034 | 0.044 | 0.060 | 0.077 | 0.098 | 0.1    |                       |
|                         |                 | 3         | 45 (S)                | 25 (II)                                           |         |         | 20:1                     | –                                     | 0.009 | 0.015 | 0.023 | 0.033 | 0.046 | 0.063 | 0.085 | 0.11  | 0.16  | 0.22  | 0.2    |                       |
|                         |                 | 4         | 45 (S)                | 25 (II)                                           |         |         | 30:1                     | –                                     | 0.023 | 0.033 | 0.049 | 0.070 | 0.097 | 0.14  | 0.18  | 0.26  | 0.35  | 0.49  | 0.5    |                       |
|                         |                 | 6         | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 50:1                     | 0.005                                 | 0.007 | 0.011 | 0.045 | 0.085 | 0.16  | 0.26  | 0.41  | 0.65  | 1.1   | 1.25  | 1.25   |                       |
|                         |                 | 8         | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 0.070                    | 0.080                                 | 0.11  | 0.13  | 0.19  | 0.27  | 0.43  | 0.63  | 0.95  | 1.6   | 2.1   | 2.1   |        |                       |
|                         |                 | 10        | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 0.090                    | 0.11                                  | 0.15  | 0.19  | 0.31  | 0.49  | 0.75  | 1.1   | 1.7   | 2.5   | 3.1   | 3.1   |        |                       |
| 20                      | ¾ <sup>2)</sup> | 15        | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 0.14                     | 0.17                                  | 0.22  | 0.35  | 0.52  | 0.80  | 1.2   | 1.8   | 2.7   | 3.7   | 4.3   | 4.3   |        |                       |
|                         |                 | 10        | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 50:1                     | 0.10                                  | 0.12  | 0.15  | 0.19  | 0.30  | 0.46  | 0.67  | 1.0   | 1.5   | 2.1   | 2.8   | 2.8    |                       |
|                         |                 | 15        | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 0.13                     | 0.17                                  | 0.21  | 0.32  | 0.48  | 0.71  | 1.0   | 1.5   | 2.3   | 3.4   | 4.4   | 4.4   |        |                       |
|                         |                 | 20        | 45 (S)                | 25 (II)                                           | 25 (VI) | 25 (VI) | 0.19                     | 0.24                                  | 0.29  | 0.42  | 0.64  | 0.97  | 1.4   | 2.0   | 2.9   | 4.2   | 5.9   | 5.9   |        |                       |

1.) Deviation for port connections according to ASME BPE: the next largest Nominal diameter (port connection) is used, e.g. NPS 1 instead of NPS ¾.

2.) According to the Pressure Equipment Directive 97/23/EC for compressible fluids of Group 1 (hazardous gases and vapours according to Article 3 No. 1.3 letter a first dash)

| Nominal diameter (pipe) |                   | Seat size | Hand-wheel diameter Ø | Operating pressure max. CF A (Seat leakage class) |                            |                            | Theoretical range-ability | K <sub>v</sub> value at stroke [m³/h] |       |       |       |       |       |       |       |       |       |       |        | K <sub>vs</sub> value |
|-------------------------|-------------------|-----------|-----------------------|---------------------------------------------------|----------------------------|----------------------------|---------------------------|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-----------------------|
|                         |                   |           |                       | Seat seal                                         |                            |                            |                           |                                       |       |       |       |       |       |       |       |       |       |       |        |                       |
|                         |                   |           |                       | Stain-less steel                                  | PTFE                       | PEEK                       |                           | 5%                                    | 10%   | 20%   | 30%   | 40%   | 50%   | 60%   | 70%   | 80%   | 90%   | 100%  | [m³/h] |                       |
| DN                      | NPS               |           | [mm]                  | [bar(g)]                                          |                            |                            |                           |                                       |       |       |       |       |       |       |       |       |       |       |        |                       |
| 25                      | 1                 | 3         | 45 (S)                | 25 (II)                                           | –                          | –                          | 20:1                      | –                                     | 0.005 | 0.009 | 0.013 | 0.019 | 0.026 | 0.034 | 0.044 | 0.060 | 0.077 | 0.098 | 0.1    |                       |
|                         |                   | 3         | 45 (S)                | 25 (II)                                           | –                          | –                          | 20:1                      | –                                     | 0.009 | 0.015 | 0.023 | 0.033 | 0.046 | 0.063 | 0.085 | 0.11  | 0.16  | 0.22  | 0.2    |                       |
|                         |                   | 4         | 45 (S)                | 25 (II)                                           | –                          | –                          | 30:1                      | –                                     | 0.023 | 0.033 | 0.049 | 0.070 | 0.097 | 0.14  | 0.18  | 0.26  | 0.35  | 0.49  | 0.5    |                       |
|                         |                   | 6         | 45 (S)                | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    | 50:1                      | 0.005                                 | 0.007 | 0.011 | 0.045 | 0.085 | 0.16  | 0.26  | 0.41  | 0.65  | 1.1   | 1.25  | 1.25   |                       |
|                         |                   | 8         | 45 (S)                | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    |                           | 0.070                                 | 0.080 | 0.11  | 0.13  | 0.19  | 0.27  | 0.43  | 0.63  | 0.95  | 1.6   | 1.8   | 1.8    |                       |
|                         |                   | 10        | 45 (S)                | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    |                           | 0.10                                  | 0.12  | 0.15  | 0.19  | 0.30  | 0.46  | 0.67  | 1.0   | 1.5   | 2.1   | 2.8   | 2.8    |                       |
|                         |                   | 15        | 45 (S)                | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    |                           | 0.13                                  | 0.17  | 0.21  | 0.33  | 0.48  | 0.72  | 1.1   | 1.5   | 2.4   | 3.5   | 4.6   | 4.6    |                       |
|                         |                   | 20        | 45 (S)                | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    |                           | 0.19                                  | 0.24  | 0.30  | 0.44  | 0.64  | 0.98  | 1.4   | 2.1   | 3.2   | 4.5   | 6.1   | 6.1    |                       |
|                         |                   | 25        | 45 (S)                | -                                                 | 25 (VI)                    | 25 (VI)                    |                           | 0.33                                  | 0.38  | 0.62  | 0.94  | 1.4   | 2.0   | 3.0   | 4.4   | 6.1   | 8.1   | 10.4  | 10.4   |                       |
| 32                      | 1 ¼ <sup>2)</sup> | 20        | 110 (M)               | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    | 0.22                      | 0.25                                  | 0.35  | 0.50  | 0.70  | 1.1   | 1.6   | 2.5   | 3.8   | 5.8   | 8.0   | 8.0   |        |                       |
|                         |                   | 25        | 110 (M)               | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    | 0.40                      | 0.47                                  | 0.73  | 1.1   | 1.6   | 2.5   | 3.7   | 5.4   | 7.5   | 10.3  | 13.0  | 13.0  |        |                       |
|                         |                   | 32        | 110 (M)               | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    | 0.48                      | 0.60                                  | 0.85  | 1.3   | 2.1   | 3.1   | 4.5   | 6.8   | 10.2  | 14.0  | 17.8  | 17.8  |        |                       |
| 40                      | 1 ½ <sup>2)</sup> | 25        | 110 (M)               | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    | 0.40                      | 0.50                                  | 0.75  | 1.1   | 1.7   | 2.6   | 3.8   | 5.6   | 8.0   | 10.7  | 13.6  | 13.6  |        |                       |
|                         |                   | 32        | 110 (M)               | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    | 0.48                      | 0.60                                  | 0.85  | 1.3   | 2.1   | 3.2   | 4.6   | 6.9   | 11.0  | 15.0  | 20.0  | 20.0  |        |                       |
|                         |                   | 40        | 110 (M)               | 25 (II)                                           | 25 (VI)                    | 25 (VI)                    | 0.60                      | 0.70                                  | 1.1   | 1.7   | 2.7   | 4.0   | 6.0   | 9.2   | 13.8  | 18.2  | 23.8  | 24.0  |        |                       |
| 50                      | 2 <sup>2)</sup>   | 20        | 110 (M)               | 25 (20) (II) <sup>1)</sup>                        | –                          | –                          | –                         | 0.14                                  | 0.25  | 0.38  | 0.57  | 0.85  | 1.3   | 1.9   | 2.8   | 4.1   | 6.0   | 6.3   |        |                       |
|                         |                   | 32        | 110 (M)               | 25 (20) (II) <sup>1)</sup>                        | –                          | –                          | 0.24                      | 0.31                                  | 0.51  | 0.76  | 1.1   | 1.7   | 2.5   | 3.6   | 5.3   | 7.9   | 11.8  | 12.0  |        |                       |
|                         |                   | 32        | 110 (M)               | 25 (20) (II) <sup>1)</sup>                        | 25 (20) (VI) <sup>1)</sup> | 25 (20) (VI) <sup>1)</sup> | 0.48                      | 0.60                                  | 0.90  | 1.3   | 2.1   | 3.2   | 4.6   | 6.9   | 11.6  | 16.0  | 21.0  | 21.0  |        |                       |
|                         |                   | 40        | 110 (M)               | 25 (20) (II) <sup>1)</sup>                        | 25 (20) (VI) <sup>1)</sup> | 25 (20) (VI) <sup>1)</sup> | 0.60                      | 0.70                                  | 1.0   | 1.7   | 2.6   | 4.0   | 5.9   | 9.2   | 14.0  | 18.9  | 24.5  | 24.5  |        |                       |
|                         |                   | 50        | 110 (M)               | 25 (20) (II) <sup>1)</sup>                        | 25 (20) (VI) <sup>1)</sup> | 20 (VI) <sup>1)</sup>      | 0.90                      | 1.1                                   | 1.9   | 2.9   | 4.5   | 6.8   | 10.5  | 15.5  | 22.0  | 29.5  | 37.0  | 37.0  |        |                       |
| 65                      | 2 ½ <sup>2)</sup> | 40        | 160 (L)               | 25 (15) (II) <sup>1)</sup>                        | 25 (15) (VI) <sup>1)</sup> | 25 (15) (IV) <sup>1)</sup> | 0.65                      | 0.75                                  | 1.1   | 1.8   | 2.8   | 4.3   | 6.5   | 10.4  | 16.0  | 22.0  | 29.0  | 29.0  |        |                       |
|                         |                   | 50        | 160 (L)               | 25 (15) (II) <sup>1)</sup>                        | 25 (15) (VI) <sup>1)</sup> | 20 (VI) <sup>1)</sup>      | 1.0                       | 1.2                                   | 2.0   | 3.1   | 4.8   | 6.7   | 9.7   | 16.0  | 24.0  | 35.0  | 45.0  | 45.0  |        |                       |
|                         |                   | 65        | 160 (L)               | 24 (15) (II) <sup>1)</sup>                        | 24 (15) (VI) <sup>1)</sup> | 14 (VI)                    | 1.6                       | 2.0                                   | 3.0   | 5.0   | 8.0   | 13.5  | 22.0  | 33.0  | 45.0  | 56    | 65    | 65    |        |                       |

| Nominal diameter (pipe) |                  | Seat size | Hand-wheel diameter Ø | Operating pressure max. CF A (Seat leakage class) |                               |                             | Theoretical range-ability | K <sub>v</sub> value at stroke [m³/h] |      |      |      |      |      |      |      |      |      |       | K <sub>vs</sub> value |
|-------------------------|------------------|-----------|-----------------------|---------------------------------------------------|-------------------------------|-----------------------------|---------------------------|---------------------------------------|------|------|------|------|------|------|------|------|------|-------|-----------------------|
|                         |                  |           |                       |                                                   |                               |                             |                           |                                       |      |      |      |      |      |      |      |      |      |       |                       |
| DN                      | NPS              |           | [mm]                  | [bar(g)]                                          |                               |                             |                           | 5 %                                   | 10 % | 20 % | 30 % | 40 % | 50 % | 60 % | 70 % | 80 % | 90 % | 100 % | [m³/h]                |
| 80                      | 3 <sup>2.)</sup> | 50        | 160 (L)               | 25 (12.5) (II) <sup>1.)</sup>                     | 25 (12.5) (VI) <sup>1.)</sup> | 20 (VI) <sup>1.)</sup>      | 50:1                      | 1.0                                   | 1.2  | 2.0  | 3.4  | 5.3  | 8.3  | 13.0 | 19.0 | 26.0 | 35.0 | 45.0  | 45.0                  |
|                         |                  | 65        | 160 (L)               | 24 (12.5) (II) <sup>1.)</sup>                     | 24 (12.5) (VI) <sup>1.)</sup> | 14 (12.5*) (VI)             |                           | 1.6                                   | 2.0  | 2.9  | 5.0  | 8.2  | 13.0 | 22.0 | 35.0 | 48.0 | 61   | 73    | 73                    |
|                         |                  | 80        | 160 (L)               | 16 (12.5) (II) <sup>1.)</sup>                     | 16 (12.5) (VI) <sup>1.)</sup> | 10 (VI)                     |                           | 2.5                                   | 3.4  | 6.3  | 10.7 | 16.0 | 27.0 | 42.5 | 58   | 73   | 87   | 100   | 100                   |
| 100                     | 4                | 65        | 160 (L)               | 24 (10) (II) <sup>1.)</sup>                       | 24 (10) (VI) <sup>1.)</sup>   | 14 (10) (VI) <sup>1.)</sup> |                           | 1.4                                   | 1.8  | 2.8  | 5.0  | 8.8  | 15.0 | 25.0 | 37.0 | 50   | 64   | 77    | 77                    |
|                         |                  | 80        | 160 (L)               | 16 (10) (II) <sup>1.)</sup>                       | 16 (10) (VI) <sup>1.)</sup>   | 10 (VI)                     |                           | 2.2                                   | 3.1  | 5.9  | 10.3 | 17.5 | 30.0 | 48.0 | 66   | 82   | 97   | 110   | 110                   |
|                         |                  | 100       | 160 (L)               | 10 (II)                                           | 10 (VI)                       | 6 (VI)                      |                           | 3.8                                   | 5.2  | 9.5  | 15.0 | 26.0 | 46.5 | 68   | 90   | 111  | 128  | 140   | 140                   |

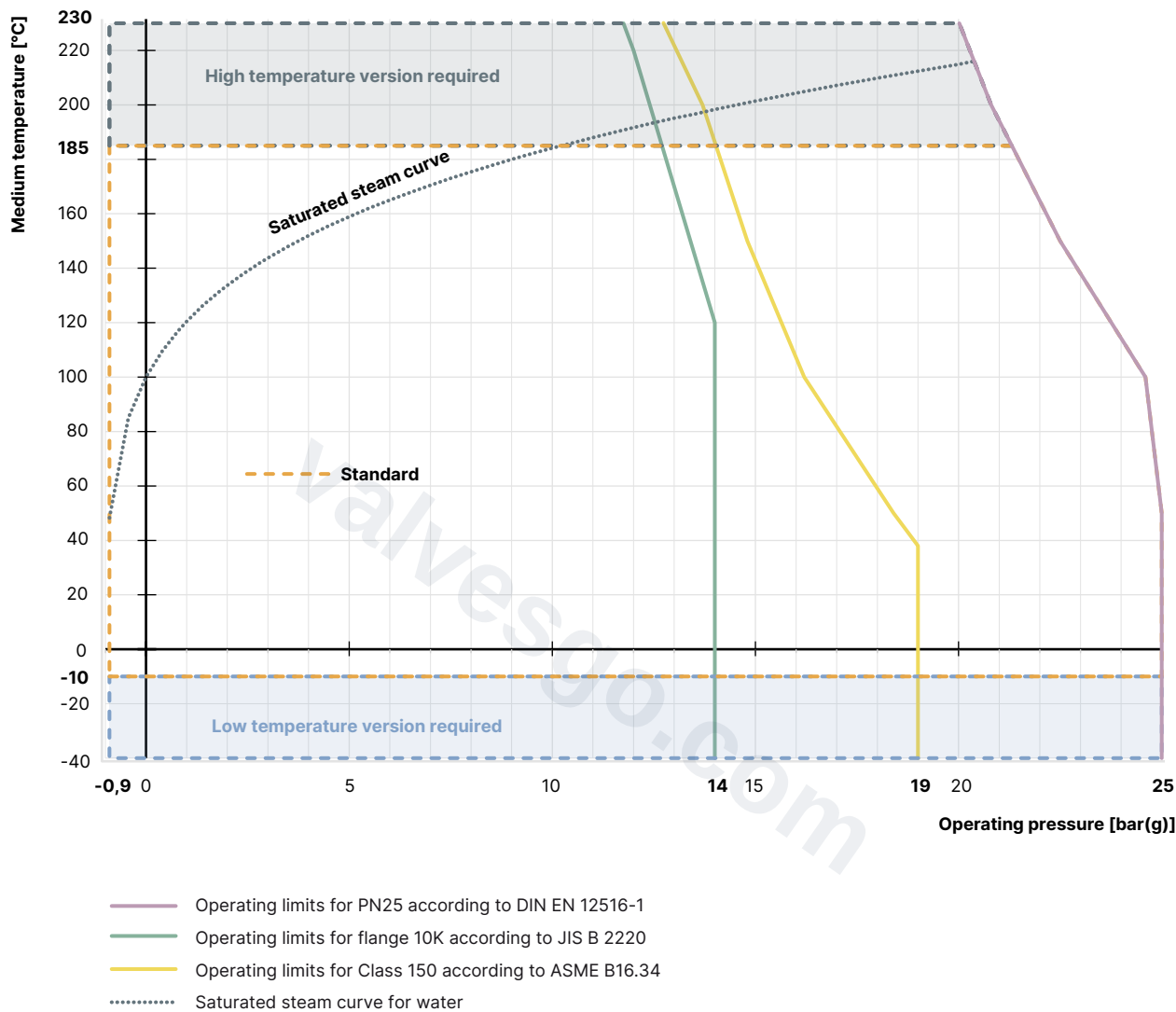
1.) According to the Pressure Equipment Directive 97/23/EC for compressible fluids of Group 1 (hazardous gases and vapours according to Article 3 No. 1.3 letter a first dash)

2.) Deviation for port connections according to ASME BPE: the next largest Nominal diameter (port connection) is used, e.g. NPS 1 instead of NPS ¾.

## 5.2. Operating limits

### Operating limits for medium temperature and operating pressure

In addition to the maximum operating pressures, the operating range of Bürkert process valves is limited by the nominal pressure according to the relevant standard.



### Operating limits for seat seal

| Tight sealing required                                        | Leakage class<br>(DIN EN 60534 - 4)                                                                                                                                                                                                                                                               | Medium temperature                                                                                           | Seat seal        |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------------------|
| No<br><br>An additional shut-off valve is recommended         | II (metal seals)<br><br>Metal-sealed valves have larger leakages (0.5% of the nominal flow rate are permissible).<br><br>Metallic seals are impervious even under demanding process conditions, but can wear more quickly with manually operated drives due to the rotating spindle when closing. | - 40 °C...+ 230 °C                                                                                           | Stainless steel  |
| Yes<br><br>An additional shut-off valve is often unnecessary. | VI (soft seals)<br><br>By using plastics as sealing material, the control valves can close tightly.<br><br>Their use is not recommended in cases of increased erosion due to demanding process conditions.                                                                                        | - 40 °C...+ 130 °C<br>(recommended for ≤ + 130 °C)<br><br>- 10 °C...+ 230 °C<br>(recommended for > + 130 °C) | PTFE<br><br>PEEK |

### Operating limits for optional variants

#### High-temperature variant

Thanks to an adaption of the packing gland, this variant is suitable for applications with steam, neutral gases and other heat transfer mediums up to + 230 °C.

#### Water variant

For applications with water up to + 200 °C, a special configuration of the packing gland increases service life significantly. It is recommended for water temperatures starting at + 85 °C.

#### Drinking water variant

Wetted materials are tested in contact with the medium are tested for suitability with drinking water up to + 85 °C.

#### Low-temperature variant

Suitable for minimum medium temperatures down to - 40 °C

## 6. Product design and assembly

### 6.1. Product features

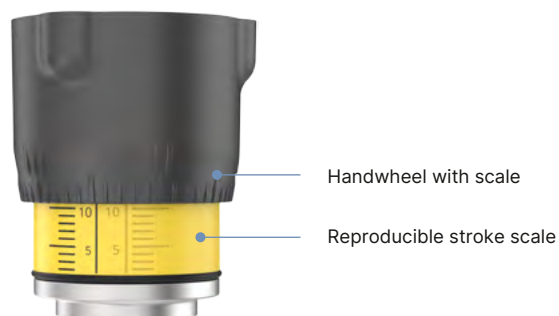
#### Note

Further information can be found in the **operating instructions Type 2961** ►.

#### Position indicator

When turning the handwheel counterclockwise, the reproducible stroke scale becomes visible between the attachment and the handwheel.

The scale on the handwheel, together with the stroke scale, enables reproducible adjustment of the flow rate.

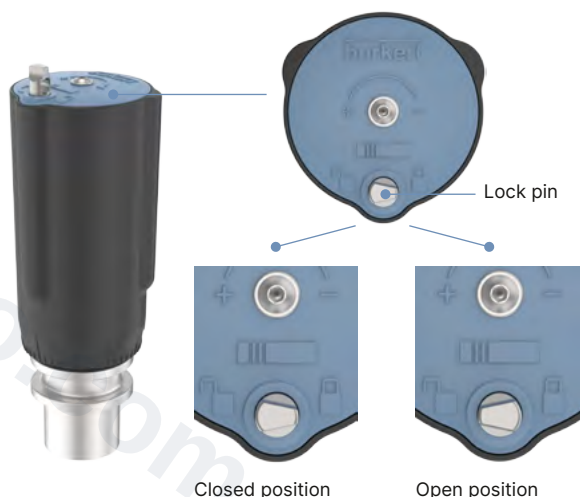


#### Interlock (optional)

The valve can be secured against unintentional or unauthorized operation.

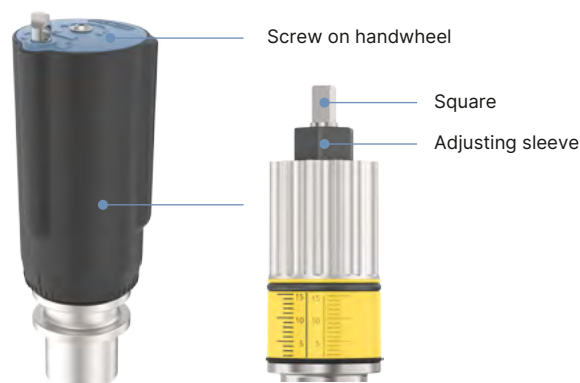
For this purpose, a securing pin can be pressed down and turned.

The locking pin has a hole (Ø 3.8) and can be secured with a padlock.



#### Stroke limitation (optional)

Both the minimum and the maximum position of the valve can be adjusted via an adjustment sleeve. The handwheel can be removed for this purpose.



7. Ordering information

7.1. Bürkert eShop



**Bürkert eShop – Easy ordering and quick delivery**

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

[Order online now](#)

7.2. Bürkert product filter



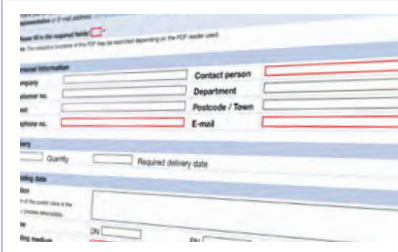
**Bürkert product filter – Get quickly to the right product**

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

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7.3. Bürkert Product Enquiry Form

**Note:**  
Please see our Product Enquiry Form for a full explanation of our specification key.



**Bürkert Product Enquiry Form – Your enquiry quickly and compactly**

Would you like to make a specific product enquiry based on your technical requirements? Use our Product Enquiry Form for this purpose. There you will find all the relevant information for your Bürkert contact. This will enable us to provide you with the best possible advice.

[Fill out the form now](#)

7.4. Ordering chart accessories

Standard accessories

| Description                        | Article no. |
|------------------------------------|-------------|
| 4 Lock, 3 mm Shackle Nylon Lockout | 93719475    |